Market Advisory Committee

Agenda

Meeting No.	63
Location:	IMO Board Room Level 17, Governor Stirling Tower, 197 St Georges Terrace, Perth
Date:	Wednesday 7th August 2013
Time:	2.00pm – 5.00pm

Item	Subject	Responsible	Time
1.	**WELCOME**	**Chair**	2 min
2.	**MEETING APOLOGIES / ATTENDANCE**	**Chair**	2 min
3.	**MINUTES FROM MEETING 61**	**Chair**	5 min
4.	**ACTIONS ARISING**	**Chair**	10 min
5.	**CONCEPT PAPERS**		
	a) CP_2013_04: Outage Planning – Phase 2	**IMO**	20 min
	b) CP_2013_05: Availability, Outages and Constraint Payments for Non-Scheduled Generators	**IMO**	20 min
6.	**MARKET RULES**		
	a) Market Rule Change Overview	**IMO**	5 min
	b) PRC_2012_23: Prudential Requirements (and associated Market Procedure)	**IMO**	15 min
	c) PRC_2013_10: Harmonisation of Supply-Side and Demand-Side Capacity Resources	**IMO**	15 min
7.	**MARKET PROCEDURES**		
	a) Overview	**IMO**	5 min
8.	**WORKING GROUPS**		
	a) Overview and membership updates	**IMO**	5 min

9.	**GENERAL BUSINESS**		
	a) System Management: Governor Action and LFAS	**SM**	10 min
10.	**NEXT MEETING: Wednesday 11th September 2013**		

INDEPENDENT MARKET OPERATOR

Market Advisory Committee

Minutes

Meeting No.	61
Location	IMO Board Room Level 17, Governor Stirling Tower, 197 St Georges Terrace, Perth
Date	Wednesday 12 June 2013
Time	2.05pm – 3.45pm

Attendees	Class	Comment
Allan Dawson	Chair	
Kate Ryan	Compulsory – IMO	
Noel Ryan	Compulsory – Network Operator	
Phil Kelloway	Compulsory – System Management	
Andrew Everett	Compulsory – Generator	
Stephen MacLean	Compulsory – Customer	
Andrew Sutherland	Discretionary – Generator	
Steve Gould	Discretionary – Customer	
Michael Zammit	Discretionary – Customer	
Geoff Gaston	Discretionary – Generator	
Peter Huxtable	Discretionary – Contestable Customer Representative	
Paul Hynch	Minister's appointee – Observer	Proxy
Nenad Ninkov	Discretionary – Customer	
Apologies	**Class**	**Comment**
Nerea Ugarte	Minister's appointee – Observer	
Shane Cremin	Discretionary – Generator	
Wana Yang	Economic Regulation Authority – Observer	
Also in attendance	**From**	**Comment**
Dean Sharafi	System Management	Observer
Sam Beagley	IMO	Presenter
Greg Ruthven	IMO	Observer
Erin Stone	IMO	Observer

Jenny Laidlaw	IMO	Presenter
Courtney Roberts	IMO	Observer
Aditi Varma	IMO	Observer
Natasha Cunningham	IMO	Minutes

Item	Subject	Action
1.	**WELCOME** The Chair opened the meeting at 2.05 pm and welcomed members to the 61st meeting of the Market Advisory Committee (MAC).	
2.	**MEETING APOLOGIES / ATTENDANCE** The following apologies were received: • Nerea Ugarte (Minister's appointee – Observer) • Shane Cremin (Discretionary – Generator) • Wana Yang (Economic Regulation Authority – Observer) The Chair introduced Ms Erin Stone as the new Team Leader (Rule and Procedure Changes) in the Development and Capacity team.	
3.	**MINUTES OF PREVIOUS MEETING** The minutes of MAC Meeting No. 59, held on 10 April 2013, were circulated prior to the meeting. The following points were raised by members during the meeting: ***Section 5c: PRC_2013_09: Incentives to Improve Availability of Scheduled Generators*** • Mr Andrew Everett requested that the minutes be amended to more accurately reflect his view in the fourth dot point that *"the IMO had the discretion to certify or not certify any of the Facilities in question and did not necessarily have to treat them all the same"* (page 7). The Chair agreed to amend the minutes and circulate it to Mr Everett for confirmation. • Mr Everett requested that the minutes be amended in the 18th dot point to say that *"Mr Everett noted that the Chair suggested to use 14.8% in calculating an average planned outage factor, however this had not been discussed by MAC members"* (page 9). ***Section 8: General Business*** • Mr Phil Kelloway requested that several points in this section be amended and agreed that he would draft the suggested amendments and send them to the IMO to incorporate into the final version of the minutes. • Mr Andrew Sutherland queried what were the next steps in relation to work being done on Load Following Ancillary Services (LFAS). Mr Kelloway noted that System Management and the IMO were in the process of understanding the drivers of LFAS to help inform	

	policy on an appropriate standard. • The Chair noted that he had sent the Public Utilities Office (PUO) a letter requesting policy guidance on the frequency keeping standards. The letter was distributed to all MAC members during the meeting. The Chair also noted his view that that the South West interconnected system (SWIS) should be operated in accordance with the Technical Rules, however acknowledged that System Management had adopted a different standard and considered it to be a whole of industry matter in deciding whether to move away from that standard. • Mr Everett requested the minutes be clarified such that it is noted that the MAC had afforded Collgar an opportunity on three occasions to demonstrate that it had been unfairly treated and it had failed each time to demonstrate this (page 13). *Action Points:* *Mr Kelloway to draft his suggested amendments in Section 8 and forward them to the IMO for review.* *The IMO to amend the minutes of Meeting No. 59 and circulate for final endorsement.*	**SM** **IMO**
4.	**ACTIONS ARISING** The following comments were noted on the action items: • **Item 61:** Ms Kate Ryan noted that an email had been sent to the Public Utilities Office (PUO) to address this item but that no response had yet been received. • **Item 22:** Ms Ryan suggested that this action item could be closed as the relevant workshop had been held, however Mr Kelloway requested that it remain open as System Management were likely to evaluate the types and levels of outages and would be able to provide this information to the MAC at a later time. • **Item 24:** Ms Ryan noted that the IMO and System Management LFAS Working Group were still undertaking analysis and was not yet in a position to present the findings to the MAC.	
4a.	**Responses to Collgar's request** Ms Ryan noted that the responses by MAC members to Collgar's request to bring forward the first review of the Relevant Level Methodology had been tabulated and circulated to MAC members.	
5a.	**CP_2013_10: DSM Harmonisation** The Chair introduced Mr Sam Beagley to present this concept paper. The following discussion points were noted: ***Issue 1 – Fuel Requirements*** • Mr Stephen MacLean sought clarification around the obligation on Scheduled Generators to have a fuel supply of 14 hours. Mr Beagley replied that a Scheduled Generator had to have the ability to operate at its full capacity for a period of 14 hours. He further noted that this had to be demonstrated to the IMO during the Certification of	

	Reserve Capacity process. • Mr Sutherland noted his concern regarding the proposed drafting for this issue, which did not appear to be consistent with the discussions at the Reserve Capacity Mechanism Working Group (RCMWG) or the discussion in the concept paper. Mr Greg Ruthven agreed that the IMO would review and revise accordingly. • Discussion ensued on the proposed fuel requirement arrangements. The main issues raised were: ➢ removing the prescriptive aspects in the proposed amendments and giving the IMO discretion in ascertaining what the reasonable fuel requirements should be, taking into account the differences between Facilities (i.e. diesel peaker versus gas peaker). ➢ the IMO had correctly captured the sentiments of the RCMWG in the discussion of the issue, however the drafting of the rules were not consistent with these outcomes. ***Issue 2 – Revised DSM Availability Requirements*** • Mr Geoff Gaston noted his concern with how System Management may interpret "best endeavours" in the minimum notice period for dispatch. Discussion ensued around the premise that System Management should not feel that it could not dispatch if it was unable to provide a "best endeavours" day ahead notice. • Ms Jenny Laidlaw suggested an alternative approach, namely a requirement for a Dispatch Advisory to the market if there was likelihood of a Demand Side Programme (DSP) being required in the next balancing horizon. The MAC generally supported this suggestion. • Mr Kelloway noted that System Management would most likely issue a Dispatch Advisory in this circumstance anyway. • Mr MacLean suggested that the tabulated requirements could be incorporated into the relevant procedures and be excluded from the rules according to the degree of consultation considered appropriate to amend them. • Mr Stephen Gould suggested that the phrase "unlimited" be removed from the proposed table and replaced / quantified by the actual numbers of hours per year and dispatch events per year. ***Issue 3 – "Real-Time" Telemetry Service for DSPs*** • Mr Peter Huxtable queried what the cost per site would be with regards to the implementation of a telemetry service. • Mr Kelloway responded that it was pertinent to ascertain what the benefits would be in conjunction with what costs would be incurred. • Mr Beagley noted that following discussion with System Management it was determined that there was more than one option to achieve this, some more automated than others. He further stated his understanding resulting from the RCMWG, that real-time telemetry was required to achieve the benefits of this package of	

	reforms more broadly. • Mr Kelloway noted that if DSPs were in the Balancing Merit Order (BMO) and were treated exactly the same as generators than the standard required would be the same as a generator however DSPs are not included in BMO. ***Issue 6 – Dispatch of DSPs outside nominated availability*** • Mr Michael Zammit noted his concerns with the drafting around capacity refunds as he did not believe that it adequately reflected what was discussed in the RCMWG meetings. He indicated his view that refunds should link to the Reserve Capacity Mechanism, not an energy price. Mr Beagley replied that the IMO is currently looking at three options and that the suggested changes to the formula in clause 4.26.3A were still under consideration by the IMO. • The Chair invited Mr Zammit to provide his thoughts to the IMO. • Mr MacLean suggested that it might be beneficial in papers which had multiple issues, to set out the proposed rule changes under each relevant issue. • Mr Gaston queried whether a generator would be required to generate at its maximum level, which may be above its level of certified capacity, before facilities on the Non-Balancing Dispatch Merit Order were dispatched. MAC members agreed that this was the case although there would be no refunds as a consequence of not being available for capacity over and above a Facility's certified level. ***Issue 7 – Relationship between IRCR and Relevant Demand*** • Mr Gaston queried whether the Individual Reserve Capacity Requirement (IRCR) was adjusted to reflect any excess capacity, noting that this would mean that the IRCR may be higher than the physical capabilities of a Facility. Mr Ruthven noted this point raised by Mr Gaston. *Action Point: The IMO to review the proposal and drafting and amend accordingly before the Pre Rule Change Proposal is submitted to the MAC.*	**IMO**
6a.	**Market Rule Change Overview** Ms Ryan provided an update to the MAC on the current Rule Change Proposals under consultation and development.	
6b.	**PRC_2013_09: Incentives to Improve Availability of Scheduled Generators** The Chair introduced Ms Laidlaw to present the proposal. The following discussion points were noted: • Ms Laidlaw presented the Pre Rule Change Proposal and provided an update to the MAC about the changes since the previous MAC meeting in April. • Ms Laidlaw noted her concern that if the Planned Outage threshold was exceeded, Market Participants may not have an incentive to apply for a Planned Outage and that this issue was currently being	

	addressed in phase two of the work to implement the recommendations of the Outage Planning Review. • Ms Ryan noted that while there may not be a refund impact on the participant clearly there was a benefit to the market and to System Management to know in advance when a piece of equipment will be unavailable. She noted that the incentive to apply for a planned outage need to be retained. • MAC members discussed the issue and the Chair clarified that the obligations around reporting Planned Outages had not been changed, that the physical requirements in notifying System Management had not been changed; rather the financial incentives had changed. • Mr Kelloway sought clarification of the timing of the outage planning phase two work. Ms Laidlaw responded that the IMO were working on both pieces of work concurrently and that the commencement dates had not yet been determined. • Mr Kelloway considered that participants, particularly System Management would require clarity about what happens when a participant had exceeded their Planned Outage threshold. Ms Laidlaw responded that whilst the IMO could not guarantee the same day commencement it would be quite rare for a Facility to breach the Planned Outage cap for the Reserve Capacity Obligation Quantity (RCOQ) reduction any time soon given that any Planned Outages which had been undertaken before the commencement date would not be counted towards the rolling cap. • Mr Huxtable queried in relation to the requirement for a Market Participant to pay for a report required by the IMO for Facilities with high levels of outages, whether there were similar reports in the market or a consistent approach to payments. Ms Ryan responded that it was common to have a regulator who required a report about a certain participant's behaviour and have the participant pay for it. • The Chair noted that rather than it being commissioned by the participant who had had the outages, the report would be commissioned by the IMO given its status as independent, therefore the costs and invoices will be borne by the IMO, and then it had been suggested that the IMO seek reimbursement from the participant in question. Ms Laidlaw noted that these reports would not be automatic. That is, they would only be required if a Facility had had a very high level of outages, the IMO had already requested a report and after reading the report, the IMO considered that it was necessary for an independent assessment. • Mr Everett questioned when the IMO would be undertaking consultation with relevant Market Participants who had indicated that the thresholds were incorrect. Ms Laidlaw replied that the IMO would undertake a healthy consultation process and would be happy to start these discussions with the relevant parties by late next week. • Mr Sutherland queried whether the proposed drafting in clause 4.12.6(b) is correct in stipulating that a Consequential Outage would be included in the count of RCOQ adjusted Planned Outages. Ms Laidlaw responded that the drafting only meant to apply to a	

	Planned Outage for which the RCOQ had been reduced. *Action Point: The IMO to submit PRC_2013_09 into the formal process and progress the proposal under the Standard Rule Change Process with an extended consultation period.*	**IMO**
6c.	**PRC_2013_02: Clarification of the Minimum TES calculation** Ms Laidlaw presented the proposal to the MAC. The following discussion points were noted: • The Chair and Mr MacLean both sought clarification that the operating systems were calculating the Minimum TES appropriately. Ms Laidlaw confirmed that the systems were calculating Minimum TES correctly and that this error was a simple typographical error in the Market Rules. *Action Point: The IMO submit PRC_2013_02 into the formal process and progress the proposal under the Fast Track Rule Change Process.*	**IMO**
7.	**MARKET PROCEDURES** Ms Ryan presented the status of the current Market Procedures and noted that it was the IMO's intention to distribute both the rule and procedure change proposal for Prudential Requirements at the next MAC meeting. She also noted that the Market Procedures for Loss Factors and the IMS Interface had both commenced.	
8a.	**WORKING GROUPS** Ms Ryan noted that Ms Fiona Edmonds had replaced Ms Debra Rizzi as the Alinta representative on both the both the IMO and the System Management Procedure Change Working Groups.	
9.	**GENERAL BUSINESS** • Mr Sutherland queried whether the IMO had the opportunity to review Resource Plans for Non-Scheduled Generators (item 5a from the previous MAC minutes). Ms Ryan responded that the IMO is intending to undertake analysis as part of the work in the Market Rules Evolution Plan on enhancements to the Balancing Market in the second half of the year, which would incorporate this issue. • Mr Sutherland noted his concerns about the current limitations and lack of information of Non-Scheduled Generators in the BMO, which was affecting outcomes in the LFAS market. • Mr Sutherland also indicated a desire to see the LFAS window shifted closer to the balancing window. • The Chair noted that the IMO's Market Operation team were in the process of trying to improve forecasting accuracy.	
CLOSED: The Chair declared the meeting closed at 3.45 pm.		

Agenda item 4: 2013 MAC Action Points

Legend:

Shaded	Shaded action points are actions that have been completed since the last MAC meeting.
Unshaded	Unshaded action points are still being progressed.
Missing	Action items missing in sequence have been completed from previous meetings and subsequently removed from log.

#	Year	Action	Responsibility	Meeting arising	Status/Progress
61	2012	The IMO to contact the PUO to seek clarification and advice on the Metering Code and the confidentiality status of data captured by Notional Wholesale Meters.	IMO	Dec	Email sent to PUO 5 April 2013 and followed-up on 18 July 2013. PUO to provide response by early August.
22	2013	System Management to provide details at the PRC_2013_09 discussion forum regarding the types and level of outage requests it receives.	SM	Apr	
24	2013	The IMO/SM Working Group to share finding of the LFAS working group at the next MAC meeting.	IMO/SM	Apr	
25	2013	Mr Kelloway to draft his suggested amendments in Section 8 of the April 2013 MAC minutes and forward them to the IMO for review.	SM	Jun	Completed.
26	2013	The IMO to amend the minutes of Meeting No. 59 and circulate for final endorsement.	IMO	Jun	Completed.

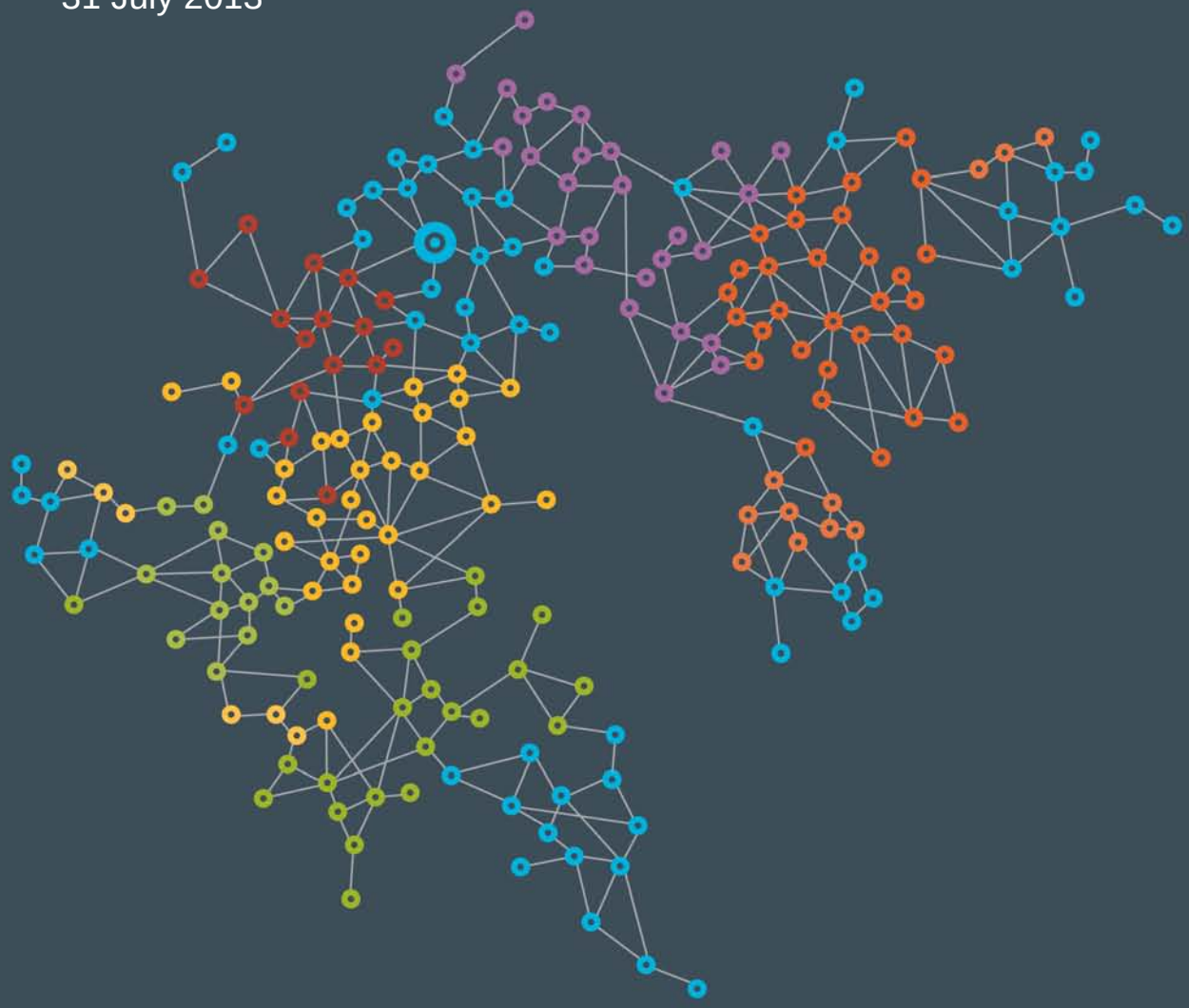
#	Year	Action	Responsibility	Meeting arising	Status/Progress
27	2013	The IMO to review the proposal and drafting for CP_2013_10: DSM Harmonisation and amend accordingly before the Pre Rule Change Proposal is submitted to the MAC.	IMO	Jun	Completed. PRC_2013_10: Harmonisation of Supply-Side and Demand-Side Capacity Resources on August MAC agenda.
28	2013	The IMO to submit PRC_2013_09: Incentives to Improve Availability of Scheduled Generators into the formal process and progress the proposal under the Standard Rule Change Process with an extended consultation period.	IMO	Jun	Completed. PRC_2013_09: Incentives to Improve Availability of Scheduled Generators was published on 18 June 2013.
29	2013	The IMO submit PRC_2013_02: Clarification of the Minimum TES Calculation into the formal process and progress the proposal under the Fast Track Rule Change Process.	IMO	Jun	Completed. RC_2013_02: Clarification of the Minimum TES Calculation was published on 17 June 2013 under the Fast Track Rule Change Process and is due to commence on 1 August 2013.

INDEPENDENT MARKET OPERATOR

Concept Paper: Outage Planning Phase 2 – Outage Process Refinements

CP_2013_04

31 July 2013



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1. Introduction

1.1. Background

In accordance with clause 3.18.18 of the Wholesale Electricity Market (WEM) Rules (Market Rules), during 2011 the Independent Market Operator (IMO) completed the first five year review of the outage planning process as described in the Market Rules and supported by the Power System Operation Procedure (PSOP): Facility Outages (2011 Outage Planning Review).

The review, completed by PA Consulting in October 2011, assessed the performance of the outage planning process since market start against the Wholesale Market Objectives. The review included an assessment of the need for, and the nature of, any reforms to the outage planning process. Overall, PA Consulting concluded the WEM outage planning process was working well, but could benefit from some "fine tuning" in the areas of outage planning information transparency and the technical functioning of the outage planning process[1].

Following on from the completion of the review, the IMO began to consider a range of reforms to the outage planning process. In addition to the recommendations made by PA Consulting, the IMO also considered several outage planning issues that were either identified internally or else raised by members of the Market Advisory Committee (MAC) in response to an IMO request in June 2012. A summary of the original PA Consulting recommendations and the additional issues identified is available in Appendix 1 of this concept paper.

The IMO has undertaken a phased approach to implementing reforms to the outage planning process. The first set of reforms was progressed through the Rule Change Proposal: Transparency of Outage Information (RC_2012_11). The Amending Rules for RC_2012_11, which are due to commence on 1 October 2013, will introduce new standards for the disclosure of information relating to outages of Scheduled Generators and Non-Scheduled Generators, aimed at improving transparency in the market. Improvements to the level of information disclosure in the market place on outages are expected to improve the efficiency of the market and allow for enhanced risk management. In turn, these changes should result in more efficient pricing outcomes, to the benefit of both Market Participants and energy consumers. Further details are available on the following webpage: http://www.imowa.com.au/RC_2012_11.

The second phase of the reform process, currently under consideration by the IMO and the subject of this concept paper, concerns:

- technical changes to the outage planning process, aimed at providing greater flexibility for Rule Participants in outage planning; and
- clarification of the obligations on Rule Participants around the outage planning process.

This concept paper is intended to:

- provide background information and context on the 2011 Outage Planning Review;
- provide an update on the status of the outage planning issues in the consolidated list

[1] PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. iii

provided to MAC members in the papers for the 11 July 2012 MAC meeting;

- discuss the recommendations and issues considered by the IMO, in consultation with System Management, as part of this second phase of the reform process;
- outline the IMO's proposed response to the recommendations and issues considered in this phase; and
- provide stakeholders with an opportunity to engage in the reforms via the MAC process by providing a discussion framework and inviting comment on pertinent issues.

1.2. Structure of document

The remainder of the document is structured as follows:

- section 2 provides an overview of outage planning in the WEM;
- section 3 provides a summary of the 2011 Outage Planning Review findings and recommendations;
- section 4 provides a summary of the progress to date in addressing PA Consulting's recommendations and the additional outage planning issues and recommendations identified since the completion of the review;
- section 5 discusses the recommendations and issues considered as part of the second phase of the outage planning reform process, and outlines the IMO's proposed response, including proposed amendments to the Market Rules, to address these recommendations and issues; and
- section 6 outlines the next steps in the outage planning reform process.

2. Overview of Outage Planning in the WEM

Outage planning is a critical feature of robust electricity system management, and is essential for ensuring adequate system reliability and supply. However, outage planning is a complex process which typically involves detailed and comprehensive pre-planning to minimise the frequency and length of outages in the system. Consequently, to ensure the WEM is able to operate effectively, an outage planning process is provided for in the Market Rules.

The legislative framework for the outage planning process in the WEM is principally contained in two documents:

- the Market Rules: specifically, sections 3.18 and 3.19, which prescribe the outage scheduling and approval processes; and
- the PSOP: Facility Outages, which puts into practice the operation of the processes outlined in sections 3.18 and 3.19 of the Market Rules.

The outage planning process is divided into two components. The first is the outage scheduling process. This covers the long-term component of outage planning and requires Market Participants to submit outage plans to System Management up to three years in advance of the proposed

outage.

The second, short-term component is the outage approval process. The outage approval process requires Market Participants to apply to System Management to approve previously scheduled outages (Scheduled Outages) or unscheduled, "opportunistic" outages (Opportunistic Maintenance).

Further details of the outage planning and approvals process are outlined in the 2011 Outage Planning Review – Final Report[2], the Market Rules[3] and the PSOP: Facility Outages[4].

3. 2011 Outage Planning Process Review

3.1. 2011 Review

Clause 3.18.18 of the Market Rules requires the IMO, in conjunction with System Management, to complete a review of the outage planning processes against the Wholesale Market Objectives at least once in every five year period from the commencement of the energy market. Each review must include a technical study of the effectiveness of the criteria in clause 3.18.11 and a broad consultation with Rule Participants.

In fulfilment of its obligations, the IMO engaged PA Consulting to undertake the review of outage planning process. The review entailed an initial round of meetings with those involved in the outage planning process, a review of outage planning processes against the Wholesale Market Objectives, analysis of available relevant data and the subsequent development of recommendations. PA Consulting undertook extensive stakeholder consultations throughout the review process, including convening a public workshop.

PA Consulting delivered its Final Report to the IMO in October 2011.

3.2. Outcomes of the Review

Overall, PA Consulting found that the outage planning process had been working well since market start, from both the perspective of System Management as the operator of the process, and Market Generators and Western Power as the users of the process.

Building on this finding, ultimately PA Consulting concluded that the outage planning process was not in need of any wholesale change, but would stand to benefit from a degree of "fine-tuning" in certain areas[5]. The IMO considers this is an important point to note when considering the recommendations: *any changes arising from this review should seek to consolidate the strength in the current design of the outage planning process, and the performance of the outage planning process to date.*

Broadly, PA Consulting's recommendations were focused on four areas:

- improved disclosure of outage information;

[2] Available at http://www.imowa.com.au/5yearoutageplanningreview
[3] Available at http://www.imowa.com.au/market-rules
[4] Available at http://www.imowa.com.au/sm_psop
[5] PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 13

- generator and network outage planning interaction, including recommendations relating to System Management's obligations around records of relevant system components, and a review of the Electricity Transfer Access Arrangements between Western Power and Market Generators;

- outage approval timelines, including the recommendations on the timeframe between System Management granting an approval and the outage commencing, the cut-off times for On the Day Opportunistic Maintenance (ODOM) requests, changes to the nature of generator assurances about availability sought by System Management, and the ability for Opportunistic Maintenance to span two Trading Days; and

- consideration of the Reserve Margin, in particular if the level at which the Reserve Margin is being set is resulting in economic inefficiencies or compromises to system security.

4. Progress to date and additional issues

The IMO considered that increasing outage planning information transparency was a more significant reform than implementing the technical changes PA Consulting recommended to "fine tune" the outage planning process. Accordingly the first phase of the reform process was focused on changes to provide greater transparency of outage information. A Concept Paper: 2011 Outage Planning Review Recommendations – Information Transparency (CP_2012_01) was presented to the MAC at its 13 June 2012 meeting, followed by a Pre Rule Change Proposal at the 11 July 2012 meeting.

The Rule Change Proposal: Transparency of Outage Information (RC_2012_11) was submitted into the rule change process on 30 July 2012. The Amending Rules for RC_2012_11 were approved by the IMO Board on 16 April 2013 and are due to commence on 1 October 2013.

The IMO, in consultation with System Management, has now commenced the second phase of the reform process.

During the MAC discussion of CP_2012_01, it was agreed that the IMO should provide to MAC members the list of issues to be considered in Phase 2 of the outage planning reforms, and that MAC members should provide to the IMO any additional issues they wished to have included on the list for consideration.

Following the completion of this consultation process, the IMO updated the list of issues to reflect the feedback provided by MAC members. A revised issues list was presented to the MAC at its 11 July 2012 meeting.

Since the July 2012 MAC meeting, some of the recommendations and issues on the list have been addressed by the IMO and System Management. The IMO and System Management have however identified and added to the list a number of further issues around the outage planning process.

An updated list, showing all the outage planning process recommendations and issues identified to date and their current status, is available in Appendix 1 of this concept paper. A brief summary of the issues already addressed or to be addressed separately is provided below. The remaining recommendations and issues fall within the scope of this concept paper and are discussed in section 5.

4.1. Recommendations and issues already addressed

4.1.1. Improved disclosure of outage information - Scheduled Generators and Non-Scheduled Generators

As noted above, the Amending Rules for RC_2012_11 will commence on 1 October 2013. The amendments provide for the publication by the IMO of timely information on Planned Outages, Forced Outages and Consequential Outages of Scheduled Generators and Non-Scheduled Generators.

To ensure that the outage information provided by System Management to the IMO is as timely and accurate as possible, System Management is currently progressing amendments to the PSOP: Facility Outages, to strengthen the requirements on Market Participants to record outage information in the System Management Market Information Technology System (SMMITS) in a timely manner.

4.1.2. Reserve Margin – Consideration of fuel composition

PA Consulting recommended in its Final Report that, in the interests of transparency, System Management should consider expanding the PSOP: Facility Outages to include how fuel composition factors into its considerations in the outage approval process.

As part of the Procedure Change Proposal: Replaced PSOPs: Competitive Balancing and Load Following Market 3 (PPCL0023), System Management amended section 9 of the PSOP: Facility Outages to provide the recommended clarification of how it considered fuel in its evaluation of Outage Plans. The amended PSOP commenced on 1 July 2012.

4.1.3. Generator and network outage planning interaction - Role of ETACs

In its discussion of generation and network outage planning and their interaction, PA Consulting expressed the view that the Electricity Transfer Access Contract (ETAC) which exists between the Network Operator and each of the generators should play the primary role in managing the interaction between the Network Operator and affected generators. Specifically, it should set out clearly the rights and obligations of each party in the event of a transmission outage which affects the generator.

PA Consulting recommended that the ETACs should be reviewed, to ensure that they provide a sound basis for the management of the interaction between transmission outages and the transmission services provided by the Network Operator to the Market Participants.

As neither the IMO nor System Management has any involvement in the determination of ETACs, on 28 August 2012 the IMO sent a letter to Western Power advising it of PA Consulting's recommendation.

In its response to the IMO, dated 12 October 2012, Western Power expressed the view that the high level provisions of the ETAC relating to the interaction of transmission outages and network services are sufficient. However, Western Power considered that the detailed management of outage scheduling is an operational matter and did not agree with PA Consulting's statement that "ETACs should play the primary role in managing the interaction between the network operator and affected generators". A copy of Western Power's response to the IMO is available on the following webpage: http://www.imowa.com.au/5yearoutageplanningreview.

4.1.4. Incentives for plant availability

The Economic Regulation Authority (ERA) made the following recommendation on the outage planning process in its 2011 Report to the Minister for Energy on the effectiveness of the WEM[6]:

> *The incentives for plant availability created by the inter-relationship between the Reserve Capacity Mechanism and Reserve Capacity Refund payments should be reviewed by the Reserve Capacity Mechanism Working Group (RCMWG). Specifically, the working group should consider whether the design of the Reserve Capacity Mechanism provides appropriate incentives for plant availability and whether a refund regime that links refund payments to system conditions would improve incentives for availability.*

The IMO has addressed the ERA's concerns through the progression of the Rule Change Proposal: Incentives to Improve Availability of Scheduled Generators (RC_2013_09). RC_2013_09 was submitted into the rule change process on 18 June 2013. In its 2012 Report to the Minister the ERA noted its support for the actions taken by the IMO to address this issue[7].

The IMO also intends to progress changes to the Market Rules to implement a dynamic Reserve Capacity refund regime, in line with the recommendation arising from the work of the RCMWG.

4.1.5. Clarification of Planned Outage limit in clause 4.27.3

Clause 4.27.3 specifies that a Market Participant holding Capacity Credits for a Facility which "has been unavailable due to Planned Outages for more than 1000 hours during the preceding 12 calendar months" may, in certain circumstances, be required to file performance monitoring reports with the IMO. The IMO identified that the definition of Planned Outage in this clause should be enhanced to make it clear that both full and partial outages were to be considered (and how).

This issue has also been addressed in RC_2013_09: Incentives to Improve Availability of Scheduled Generators.

4.1.6. Inclusion of clause 3.18.2A facilities in Forced and Consequential Outage Definitions

The IMO identified that the definition of a Forced Outage in clause 3.21.1 and of a Consequential Outage in clause 3.21.2 should be extended to include facilities to which clause 3.18.2A relates. The definitions referred only to Facilities and items of equipment on the list described in clause 3.18.2 (Equipment List), which are required to be subject to outage scheduling by System Management. Clause 3.18.2A refers to various small generator facilities that are not included on the Equipment List but are still required to report Forced Outages and Consequential Outages.

The amendments to clauses 3.21.1 and 3.21.2 were progressed through the Rule Change Proposal: Consequential Outage Correction (RC_2012_04). The Amending Rules for RC_2012_04 commenced on 1 September 2012.

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[6] ERA, 2011 Annual Wholesale Electricity Market Report for the Minister for Energy, p. xxiii
[7] ERA, 2012 Wholesale Electricity Market Report for the Minister for Energy, p. 11

4.2. Recommendations and issues to be addressed separately

4.2.1. Improved disclosure of outage information – transmission and distribution network

Due to concerns about excessive costs, complexity and implementation delays, the scope of the final proposal for RC_2012_11 was narrower than that of the original Rule Change Proposal, which also sought to include transmission and distribution network outages. The IMO however intends to continue investigating options to increase the transparency and availability of outage information in these areas separately.

4.2.2. Definition of a Forced Outage

The IMO identified a need to clarify the definition of a Forced Outage in the Market Rules, to cover anything that either limits:

- System Management's ability to dispatch a facility; or
- a facility's physical capacity to generate,

which is not the result of a Planned Outage or a Consequential Outage.

This issue is being addressed in a separate Concept Paper: Availability, Outages and Constraint Payments for Non-Scheduled Generators (CP_2013_05).

5. Recommendations and issues considered in Phase 2

5.1. Timelines for Opportunistic Maintenance requests

In its Final Report, PA Consulting recommended that:

- the IMO should give consideration to an amendment to clause 3.19.2(b) to the effect that on-the-day Opportunistic Maintenance may be requested any time on the Trading Day or after 10:00 am on the Scheduling Day; and
- the IMO should propose a rewording of clause 3.19.3A(b) to the effect that Opportunistic Maintenance can be granted over any 24 hour period, irrespective of whether it overlaps Trading Days.

A number of Market Participants have further suggested that the IMO remove the 24 hour limit on Opportunistic Maintenance altogether, so that a Planned Outage of any length could be requested at any time.

The IMO does not agree with the removal of the 24 hour limit on Opportunistic Maintenance. As noted by PA Consulting, removing all time constraints on Opportunistic Maintenance risks undermining the scheduled maintenance process and the incentive to apply for an outage at the earliest possible time. In particular, the change would tend to reduce the visibility of significant upcoming outages to other Market Participants, reducing their ability to assess these outages and amend their own plans accordingly. Removing the 24 hour limit would also make it easier for a Market Participant to use a Planned Outage to avoid Capacity Cost Refunds. The IMO is not convinced that the benefits of additional flexibility would outweigh these risks.

The IMO does however agree that the changes recommended by PA Consulting will improve the efficiency of outage planning process, by removing two unnecessary restrictions on Opportunistic Maintenance requests. Accordingly the IMO proposes to amend the Market Rules to:

- allow requests for Opportunistic Maintenance to be made during the period between 10:00 am on the Scheduling Day and the start of the Trading Day; and

- allow Opportunistic Maintenance requests to be for any period, up to 24 hours in length, which starts within the relevant Trading Day.

It should be noted that the IMO is not proposing any change to the requirement under clause 3.19.4 for System Management to approve or reject a Planned Outage request and inform the participant of its decision *as soon as practicable*. The IMO notes that System Management has documented its timelines for the approval of outage requests in the PSOP: Facility Outages. The timelines give a participant certainty about when it can expect a response from System Management to an outage approval request submitted at a specific time. For example, System Management commits to respond to an Opportunistic Maintenance request submitted between 6:00 am and 10:00 am on the Scheduling Day by 12:00 pm on that Scheduling Day.

The IMO does not propose that the changes should create any additional resourcing requirements for System Management. Instead the IMO proposes that System Management revise its current approval timelines to provide as flexible a result as possible given its current staffing arrangements. For example, during preliminary discussions with the IMO, System Management suggested that it should have no difficulty in processing Opportunistic Maintenance requests received between 10:00 am and 3:00 pm on the Scheduling Day by 5:00 pm on that day, one hour before the Balancing Horizon is extended to cover the relevant Trading Day.

It should also be noted that System Management will retain the ability to reject an Opportunistic Maintenance request if it is unable to assess the impact of the request in the time available. Market Participants will need to bear this in mind when making such requests, particularly as the proposed amendments will allow Opportunistic Maintenance requests to be made for periods that extend well into the day after the Trading Day in which the outage commences.

5.2. Interaction between Outages and Balancing Submissions

Under the current Market Rules, an on-the-day Opportunistic Maintenance (ODOM) outage requested under clause 3.19.2(b) “must not require any changes in scheduled energy or ancillary services”. Prior to 1 July 2012, System Management was able to determine the compliance of an Independent Power Producer (IPP) Facility with this requirement from its Resource Plan. However, since the implementation of the Balancing Market the determination is not so simple, as the scheduled output of an IPP Facility is no longer determined by its Resource Plan but by its relative position in the Balancing Merit Order (BMO).

Although a Market Participant may bid capacity that is intended to be unavailable due to an ODOM request at a high price (to limit the likelihood that it will be dispatched), the capacity is still available for dispatch, which in some situations may force System Management to exercise discretion in determining whether an ODOM request meets the requirements of clause 3.19.2(b)(ii). Further, in order to allow Forecast BMOs to be as accurate as possible it is essential that Market Participants provide the market, through their Balancing Submissions, with as much forewarning as possible of capacity that is expected to be unavailable for dispatch due to an outage.

For these reasons, the IMO considers that in general any capacity subject to a Planned Outage request should appear as “unavailable” in the Forecast BMO. The only exception to this general rule would be for a Facility undertaking a Commissioning Test after significant maintenance, where the Facility may still be on a Planned Outage.

The reason for requiring the relevant capacity to be bid as unavailable prior to approval of the outage is that it is expected these requests will be approved more often than not, and so making the capacity unavailable in the BMO earlier will improve transparency and the likely accuracy of the forecast Balancing Price. This approach also removes the requirement on System Management to exercise discretion about the likelihood of a Balancing Facility being dispatched based on its position in the Forecast BMO.

The IMO therefore proposes the following arrangements.

- If a Market Participant has requested a Planned Outage then it must bid the capacity to be de-rated as unavailable for any relevant Trading Intervals in the Balancing Horizon.

- If a Market Participant wishes to apply for Opportunistic Maintenance for a period within the current Balancing Horizon, it must first amend its Balancing Submissions to make the relevant capacity unavailable.

- System Management must not approve a Planned Outage request if the capacity to be de-rated is available in the Forecast BMO for any of the relevant Trading Intervals.

- If System Management rejects a request for a Planned Outage covering Trading Intervals in the Balancing Horizon, then if the Market Participant has time (i.e. before Balancing Gate Closure) it must amend its Balancing Submissions to make the capacity available or else log a Forced Outage.

The Market Rules currently allow a request for Opportunistic Maintenance to be made up to one hour before the proposed start of the outage. Under the above arrangements, if a request was rejected after Balancing Gate Closure then the Market Participant would be required to log a Forced Outage and the capacity would not be available to System Management for dispatch. There are several possible approaches for dealing with this concern, including:

- continuing with the current deadline for Opportunistic Maintenance requests, on the basis that Market Participants should be able to manage this risk, particularly following the implementation of RC_2012_11;

- setting a deadline for approving or rejecting Opportunistic Maintenance requests of at least 30 minutes before Balancing Gate Closure for the first Trading Interval of the outage (i.e. 2.5 hours before the start of the outage, which may reduce to one hour with the proposed move to half hour gate closure) – this would ensure that a Market Participant has time to amend its Balancing Submission if a request is rejected; or

- setting a slightly longer deadline, for example one hour before Balancing Gate Closure for the first Trading Interval, to allow time for a Market Participant whose request is rejected to amend its Balancing Submission and for other Market Participants to see the revised Forecast BMO before Balancing Gate Closure.

Discussion Point 1: the IMO seeks the views of MAC members on the appropriateness of the current deadline for the submission and approval of Opportunistic Maintenance requests, and the proposed alternatives.

5.3. Advanced approval of Scheduled Outages

In its Final Report, PA Consulting recommended that "System Management should consider amendments to the PSOP: Facility Outages and, if necessary, the Market Rules to allow a limited number of advanced-approval outages per Facility per year". The recommendation was made in response to concerns raised by Market Participants, who suggested that a two day window for the approval of Scheduled Outages may be too short for the following reasons:

- Market Participants may have to fly in specialists to undertake the maintenance - these specialists often require more than two days notice, and may be flown in only to realise that the outage has been moved to another date or rejected; and

- to cover its bilateral obligations, a Market Participant may need to purchase bilateral contracts for the duration of a Scheduled Outage. In the event that the outage does not proceed, the participant may end up with surplus contracts.

Alinta, in feedback provided to the IMO in June 2012, noted its concern that clause 3.19.12, which allows Market Participants to apply for compensation where an outage logged more than 12 months in advance is cancelled in the 48 hours leading up to the start of the outage, fails to achieve its intended purpose. For example, if a major Planned Outage was cancelled by System Management even within three to four weeks prior to its anticipated commencement date, Alinta suggested that the Market Participant would likely incur significant unavoidable costs (e.g. maintenance crews, potential environmental and occupational health impacts and bilateral purchases). For this reason, Alinta considered that the "48 hour rule" should be amended to allow the Market Participant to specify the minimum required notice period, which should be limited to a specified maximum period, for example 30 days.

After considering the recommendations and discussing the current arrangements with System Management, the IMO is not convinced that the recommended changes are justified, for the following reasons.

- System Management has advised the IMO that it can, and often does approve Scheduled Outages earlier than two days prior to the start of the outage. However, System Management is never able to guarantee that an approved outage will be able to proceed, and may always need to reject an outage it has previously approved to ensure system security and reliability. The IMO notes that there are strict rules governing the circumstances under which System Management can reject a Scheduled Outage, whether approved or accepted.

- With the improved outage transparency provided by the implementation of RC_2012_11, Market Participants will be able to assess the relative priority of their Scheduled Outages and the likelihood that a particular outage may be cancelled. This will allow Market Participants to better assess and manage the risks associated with undertaking major maintenance activities.

- System Management has advised the IMO that the cancellation of a Scheduled Outage

requested over a year in advance is an extremely rare event. It is unclear as to the extent to which this issue is actually affecting Market Participants, based on evidence provided to the IMO to date.

- Finally, increasing the minimum notice period for the cancellation of Scheduled Outages above 48 hours would shift the costs of outages cancelled within the extended notice period from the relevant Market Participant to the market as a whole. The IMO is not convinced that further socialising these costs would better achieve the Wholesale Market Objectives.

For these reasons, the IMO does not propose any change to the Market Rules around the early approval or cancellation of Scheduled Outages.

5.4. Criteria for approval of Planned Outages

PA Consulting raised two concerns about the implicit requirement in the PSOP: Facility Outages for a Facility to be available prior to a Planned Outage commencing. The PSOP states that "System Management may at its sole discretion require a Market Participant's or Network Operator's authorised personnel included in the relevant contact list to make a written declaration that the unit is available prior to the outage commencing".

PA Consulting supported System Management's efforts to identify and reject outage requests made principally to avoid exposure to refunds rather than to perform (discretionary) maintenance, but suggested that the current PSOP requirement:

- *creates an incentive to apply for outages which are longer than needed:* PA Consulting noted that while the requirement to be available while requesting an outage translates to an inability to extend an existing outage, there is no such prohibition on shortening outage periods. PA Consulting considered that this asymmetry creates an incentive to apply for an outage period longer than is likely to be required, which in turn can reduce the availability of outage slots for other Market Participants[8]; and

- *adds cost to the provision of generation:* In particular, PA Consulting considered that the inability to apply for Opportunistic Maintenance while on a Forced Outage means that generators are compelled to make their plant available again as soon as possible, so as to minimise Reserve Capacity refund payments. Specifically, this encourages them to make short term temporary fixes to the problem, then apply for an outage to fix the problem properly whereas it would have made most sense to fix the problem properly in the first instance.

PA Consulting recommended that:

- System Management should develop for consideration by the IMO proposed changes to sections 13.5, 14.7 and 15.5 of the PSOP: Facility Outages to the effect that the written declaration pertain to the period of the outage, rather than a period prior to the outage commencing;

[8] System Management has advised that in practice it does approve some extensions to Scheduled Outages, using its discretion as to whether to require an availability declaration.

- given the interaction with the capacity market and the incentive for Market Participants to manipulate the Market Rules to avoid exposure to Reserve Capacity refunds, the requirement to provide a written declaration should be mandatory; and

- in the interests of transparency and facilitating compliance monitoring, all such declarations should be published by System Management.

Additionally System Management, in feedback provided to the IMO, sought greater clarity on its obligations with respect to:

- clause 3.18.7, which requires Outage Plans submitted by a Market Participant or Network Operator to represent its good faith intention to remove from service, or de-rate, the relevant Facility of item of equipment, for maintenance; and

- clause 3.19.3A(c), which permits System Management to decline to approve an Opportunistic Maintenance request where it considers the request has been made principally to avoid exposure to Reserve Capacity refunds, rather than to perform maintenance.

In particular, System Management sought clarity around the approval of extensions to Scheduled Outages. System Management also suggested that its ability to reject an Opportunistic Maintenance request under clause 3.19.3A(c) should be extended to cover Scheduled Outages.

On the other hand, some Market Participants have proposed that the criteria for granting a Planned Outage should not include any consideration of the current availability of the Facility, e.g. a Market Participant could seek approval for a Scheduled Outage or Opportunistic Maintenance, subject to the normal timelines and consideration of the reserve margin, regardless of the physical state of the Facility. Some participants have further suggested that it should be possible to convert a Forced Outage to a Planned Outage retrospectively where the reserve margin was sufficient at the time of the outage.

The IMO does not agree that the availability of a Facility should be ignored when considering a request to approve a Planned Outage, for the following reasons.

- Market Generators receive Reserve Capacity payments in return for making their Facilities available to the market. While a reasonable level of maintenance is necessary, the IMO's view is that where a Facility's capacity is not available to the market due to a plant failure it is not providing the service for which it is being paid, and so some amount of Reserve Capacity refund is appropriate. The IMO notes that the proposed implementation of a dynamic Reserve Capacity refund regime will allow the actual refund levels to better reflect the relative value of the de-rated capacity at the time of the outage, as well as providing an additional incentive to improve reliability through the proposed mechanism for redistributing Reserve Capacity refunds.

- Allowing Market Participants to avoid refunds associated with plant failures reduces the incentives for Market Participants to maintain a high level of plant availability and to retire unreliable or obsolete Facilities.

- Even where the reserve margin is adequate, the unavailability of capacity can increase clearing prices in the Short Term Energy Market (STEM) and Balancing Market, particularly where the de-rating is unexpected. By reducing the reserve margin, the unexpected

de-rating of capacity also increases the risk that a further generation plant failure may result in a price spike.

- Information about whether an outage is discretionary (and so can be cancelled or recalled if necessary) or not assists System Management in maintaining system security and reliability.

The IMO therefore considers that a Market Participant with capacity unavailable to the market due to plant issues should be liable for Reserve Capacity refunds, albeit at a rate that is better sculpted to reflect the prevailing reserve margin.

The IMO agrees with PA Consulting that the requirement on a Market Participant requesting a Planned Outage should be that the relevant capacity would otherwise be available during the outage period requested, rather than prior to it. In other words, if the request was rejected by System Management the Market Participant should not be in a position where it needed to log a Forced Outage for the relevant period. The IMO also agrees with System Management that it is reasonable for this requirement to apply to both Scheduled Outages and Opportunistic Maintenance.

The IMO considers that the requirement to be "otherwise available" should extend beyond the specific situations in which System Management currently requests a written availability declaration. Accordingly, the IMO proposes to strengthen the Market Rules to support the following arrangements.

- By requesting approval for a Planned Outage, a participant would be deemed to be making a declaration of its "good faith expectation" that the relevant capacity (which may be part or all of the Facility's capacity) would be otherwise available for dispatch for the duration of the proposed outage. Two exceptions would be permitted:
    - where a Planned Outage is timed to align with a network outage, and the Facility would otherwise be subject to a Consequential Outage; and
    - where a Scheduled Outage is the extension of a previous Scheduled Outage. Initially, no limit is proposed to the length of such extensions, to avoid encouraging Market Participants to request Scheduled Outages that are longer than necessary[9]. The IMO would monitor outage extensions for any abuse of this flexibility and, if necessary, propose further amendments to the Market Rules to set an overall time limit for these exemptions.
- Generally there should be no requirement for participants to provide written availability declarations, as these would be implicit in the request for approval of the outage.
- If a Facility experiences a Forced Outage after a Planned Outage has been approved but before the outage commences, then this would not affect the status of the Planned Outage.
- If a Facility experiences a Forced Outage during the period between requesting and receiving approval for a Planned Outage, the participant would be required to cancel the

[9] Note that approval of an extension outage would still be subject to the other requirements for a Scheduled Outage, such as those relating to the timing of the request and the impact on the reserve margin.

Planned Outage if it considers that the implicit availability declaration it made when it requested the approval of the outage no longer held.

- System Management will be able to reject a Planned Outage request (either for a Scheduled Outage or Opportunistic Maintenance) if it considers that the outage has not been requested to undertake maintenance or that the de-rated capacity would not otherwise be available for dispatch for the duration of the proposed outage (except in the two exceptions described above).

5.5. Obligations to participate in the outage planning process

PA Consulting recommended that "System Management should consider changes to clause 3.18.2(c)(i) to the effect that the Equipment List should be constrained to *all transmission network Registered Facilities that could limit the output of a generating facility or the participation of Demand Side Management during a planned outage*". This would remove the requirement on System Management to manage outages for transmission network equipment with no real impact on overall system security and reliability, resulting in a more efficient allocation of its resources.

Further to PA Consulting's recommendation, System Management suggested there is a need to develop a clear approach for the inclusion of network equipment in the Equipment List (e.g. SWIS circuit based rather than equipment asset based, whether only market relevant circuits should be included or all SWIS circuits, and if the former what designates market relevant). System Management considered it is also important to agree on the naming of network equipment items to be included on the Equipment List, so they can more easily be identified by Market Participants and their IT systems.

In a paper addressing two MAC action items about distribution network outages (2012-11 and 2011-29), provided to MAC members on 9 April 2013[10], System Management outlined the current outage planning arrangements for the distribution system and raised concerns about:

- potential impacts of distribution network outages on the Associated Loads of a Demand Side Programme (DSP);
- uncertainty about whether the current arrangements, whereby distribution connected generators are given three Business Days notice of distribution network outages, meets the requirements under section 3.18 for the coordination of network outages affecting other Registered Facilities (in particular clause 3.18.6(h));
- obligations on DSPs in respect of Forced Outages and Consequential Outages; and
- potential delays in a distribution connected Registered Facility receiving the notifications it requires from Western Power within the 15 calendar day window for providing notice of a Consequential Outage.

Lastly, the IMO has identified a need to clarify the obligations in the Market Rules around requesting (or reporting, where appropriate) Planned Outages and providing advance notice of a Forced Outage where appropriate.

[10] Available on the following webpage: http://www.imowa.com.au/MAC_59.

5.5.1. Demand Side Programmes and Associated Loads

Currently there is some ambiguity in the Market Rules about the definition of an outage and the outage planning obligations for a DSP. In particular, there is some uncertainty around whether a DSP is experiencing an Outage when:

- it is not consuming electricity at its Relevant Demand level; and/or
- it does not reduce its consumption in response to a Dispatch Instruction.

The IMO considers a DSP that is not consuming at its Relevant Demand level is not undergoing an Outage. While a consistently low consumption level for a DSP may be an issue that needs to be considered in relation to its Reserve Capacity Obligations, the outage framework is not appropriate for this purpose. For example, it would be absurd for System Management to refuse permission for a DSP to reduce its consumption due to a low reserve margin. It should be noted that the telemetry requirements for DSPs being proposed in the Pre Rule Change Proposal: Harmonisation of Supply-Side and Demand-Side Capacity Resources (PRC_2013_10) would provide System Management with improved visibility of the current consumption levels of each DSP.

Further, the IMO considers that a DSP should be expected to make its capacity available (i.e. reduce its consumption) whenever it is dispatched by System Management, as it is not subject to the periodic maintenance requirements affecting generators and network equipment. For this reason, the IMO considers a Market Participant should not be able to request (or notify) System Management of a Planned Outage of a DSP.

Finally, it seems unlikely that a DSP provider would in practice volunteer that a DSP would not reduce its consumption over a period if dispatched by System Management. The IMO therefore does not consider it would be beneficial to implement rules to support this concept.

Based on these considerations, the IMO does not consider that DSPs or their Associated Loads need to be included on the Equipment List, or to log Planned Outages or Forced Outages. The IMO proposes to amend the Market Rules to clarify that DSPs are not required to be included on the Equipment List and that the normal outage scheduling processes are not applicable to DSPs.

5.5.2. Transmission network equipment

The IMO agrees with PA Consulting and System Management that it is inefficient to require System Management to schedule outages for components of the transmission network which do not affect system security and reliability. The IMO also supports System Management's suggestion that the Equipment List should contain logical "SWIS circuits" rather than individual equipment assets, and considers that System Management is best placed to define these circuits and develop (in conjunction with the IMO and Rule Participants) an appropriate naming convention for them.

However, the IMO does not consider there is any need to include a transmission circuit on the Equipment List because an outage of that circuit might affect either:

- the Associated Load of a DSP; or
- a generation system other than a generation system included in the Equipment List or a generation system to which clause 3.18.2A relates.

Accordingly the IMO proposes to amend clause 3.18.2(c)(i) to require the Equipment List to include *all transmission circuits that could limit the output of a Scheduled Generator, Non-Scheduled Generator or generation system to which clause 3.18.2A relates.*

5.5.3. Distribution network equipment

Due to the complexity and redundancy in the distribution system, it may not be appropriate to identify specific items of distribution network equipment, or even distribution network "circuits", on the Equipment List. Instead, the IMO proposes the following arrangements.

- The Network Operator will be required to follow the standard outage scheduling process for any outage of the distribution system that would limit the output of a Scheduled Generator, Non-Scheduled Generator or generation system to which clause 2.30B.2(a) applies, that is on the Equipment List. This could be achieved by including a conceptual distribution "circuit" on the Equipment List for each generator on the list, but the exact method will be decided in consultation with System Management during the development of the Pre Rule Change Proposal. The outage requests should be made with reference to the generator affected.

- The Network Operator will be required to notify System Management and the relevant Market Participant of a proposed outage of the distribution system that will limit the output of a Scheduled Generator, Non-Scheduled Generator or generation system to which clause 2.30B.2(a) applies, that is not on the Equipment List. A notification is to be provided at least three Business Days in advance of the proposed outage.

- The requirements around the reporting of Forced Outages for distribution system equipment are less certain, and will depend on the extent to which System Management requires this information to be provided by the Network Operator proactively, either for the "real time" management of system security and reliability, or to assist in the determination of Consequential Outages for distribution connected Facilities. For example, it may be appropriate to require the Network Operator to report Forced Outages of the distribution system that affect a generation system on the Equipment List.

Discussion Point 2: the IMO seeks the views of MAC members on the extent to which a Network Operator should be required to proactively report Forced Outages of its distribution system.

5.5.4. Requirement to follow the outage planning process

The obligation on a Rule Participant to request (or report, as appropriate) a Planned Outage prior to undertaking discretionary maintenance is not explicit in the Market Rules, although it is implied by various clauses such as clause 3.19.8, which obliges a participant to comply with System Management's decision to reject an outage request, except where this would endanger the safety of any person, damage equipment, or violate an applicable law.

While previously this has not been considered an issue due to the financial advantages of being granted a Planned Outage, with the progression of RC_2013_09 a generator that has breached its 36 month Planned Outage limit will be liable for Facility Reserve Capacity Deficit Refunds for a Planned Outage, reducing the financial incentive to follow the normal outage processes.

The IMO proposes to strengthen the Market Rules as necessary to clarify the requirement for a

participant to follow the outage scheduling processes, and in particular to request a Planned Outage before making capacity unavailable to perform discretionary maintenance.

5.5.5. Early notification of Forced Outages

The requirement on a participant to inform System Management of a Forced Outage or Consequential Outage under clause 3.21.4 does not explicitly account for situations where the participant is aware that the outage will occur prior to its commencement, for example where System Management has rejected a request to extend a Scheduled Outage and the participant is aware that the Facility will be unable to return to service by the end of the current Planned Outage.

The IMO proposes to amend clause 3.21.4 to clarify that a participant must inform System Management of a Forced Outage or Consequential Outage as soon as practicable after it becomes aware of the outage, which may be before the start of that outage.

5.6. Other issues

The IMO has identified several minor issues relating to outage planning in the Market Rules, which it proposes to correct as part of Phase 2 of the reform process. These include issues 17, 18 and 20 in Appendix 1 of this concept paper.

The IMO also considers that two of the recommendations listed in Appendix 1 are actually general design principles, which will need to be taken into account in the development of any Rule Change Proposals or Procedure Change Proposals for Phase 2. These are:

- issue 14: the ability to be on a partial Forced Outage at the same time as being on a partial Planned Outage needs to be clarified in the Market Rules and PSOP; and
- issue 20: “Greater clarification of the outage approval process”.

6. Next steps

The IMO recommends that the MAC:

- discuss the actions proposed by the IMO in response to the recommendations and issues considered in this concept paper;
- consider the specific discussion points raised in sections 5.2 and 5.5.3; and
- note that the IMO will:
    - continue working with System Management to refine details and costings for the proposals outlined in this concept paper; and
    - prepare a Pre Rule Change Proposal to be presented to the MAC in October 2013.

Appendix 1. Update on List of Issues presented at 11 July 2012 MAC meeting

(Note: new issues identified since 11 July 2012 are shown in red, while issues outside the scope of Phase 2 are shaded in grey.)

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
Information Disclosure				
1	PA Consulting	The IMO, in conjunction with System Management and Market Participants, should develop a change to the Market Rules establishing System Management's obligations with respect to the disclosure of information on Planned Outages. Corresponding protocols within the PSOP: Facility Outages should be made, setting out how the new obligations are to be discharged by System Management. The type of information should include: • The status of the Planned Outage, the equipment affected, the time periods affected, the capacity involved and the resultant net operating margin. • Information on historic Forced and Planned outages. • Information on major network outages, including whether any generators are unable to generate due to the outage. The frequency of the information published should be sufficient to inform participants about the extent to which the system can accommodate both longer term and short term opportunistic outages. The form and mode of publication is likely to be web-based, probably using the existing SMMITS system. Information should be readily downloadable, with numerical and graphical representations.	• Publication of information will help generators 'self-sort' their planned outages to preserve the reliability of the electricity system (efficient allocation of resources). • Reduces pressure on System Management to resolve/facilitate conflicts in outage requests. • Would improve transparency and confidence in outage planning processes. • Would bring WEM in line with global norms.	Progressed in Phase 1 for Scheduled Generators and Non-Scheduled Generators, through the Rule Change Proposal: Transparency of Outage Information (RC_2012_11). The Amending Rules for RC_2012_11 will commence on 1 October 2013. Increased transparency of outage information for other facility types to be progressed in a separate phase.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
Reserve Margin				
2	PA Consulting	System Management should consider expanding the PSOP to include how fuel composition might factor into its considerations in the outage approval process	• To improve transparency and confidence in the outage approval process.	Included into revised PSOP: Facility Outages (PPCL0023). The amended PSOP commenced on 1 July 2012.
Generation and network outage planning and interaction				
3	PA Consulting	System Management should consider changes to clause 3.18.2(c)(i) to constrain the Equipment List to "all transmission network Registered Facilities that could limit the output of a generating facility or the participation of Demand Side Management during a planned outage".	• Would allow System Management to manage only the transmission network equipment that would have an impact on the output of a generating facility during a planned outage (i.e. more efficient allocation of SM resources).	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.5.2 of this report.
4	PA Consulting	ETACs between Western Power and generators should be reviewed to ensure that they provide a sound basis for the management of the interaction between transmission outage and the transmission services provided by the Network Operator to the Market Participants.	• Network outages should be coordinated with generators. • ETACs should play the primary role in managing the interaction between the network operator and affected generators. • Should set out the rights and obligations of each party in the event of a Transmission outage which affects Generation.	Refer to section 4.1.3 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
Outage approval process, timelines and constraints				
5	PA Consulting	System Management should consider amendments to the PSOP and, if necessary, the Market Rules to allow a limited number of advanced-approval outages per Facility per year. These advanced-approval outages would be subject to the normal outage scheduling process.	• Participants have indicated current timelines can be insufficient. • Participants often submit their Resource Plans for a Trading Day without knowing whether their outage request will be approved. • Participants may get left with surplus bilateral contracts for outage that doesn't proceed. • Participants may have set in place logistical arrangements for maintenance to proceed only to find their outage plan is turned down.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.3 of this report.
6	PA Consulting	The IMO should consider amending clause 3.19.2(b) to the effect that on-the-day Opportunistic Maintenance may be requested any time on the Trading Day or after 10:00 am on the Scheduling Day.	• Will improve the interaction of day-ahead and on-the-day opportunistic maintenance outage timelines. • Improve market participant maintenance planning and certainty.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.1 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
7	PA Consulting/ System Management	System Management should develop for consideration by the IMO proposed changes to Section 13.5, 14.7 and 15.5 of the PSOP: Facility Outages to the effect that the written declaration pertain to the period of the outage, rather than a period prior to the outage commencing. The requirement to provide a written declaration should be mandatory. All such declarations should be published by System Management. Heads of power provided under the Market Rules to allow System Management to require a declaration of a Facility's availability (in MW).	• Time periods requested for in outage applications will align more closely with time periods needed for the outage. • Would allow generators to fix problems properly in the first instance.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.4 of this report.
8	PA Consulting	The IMO should propose a rewording of clause 3.19.3A(b) to the effect that Opportunistic Maintenance can be granted over any 24 hour period, irrespective of whether it overlaps Trading Days.	• Would allow maintenance that is opportunistic and short term to span two days (e.g. from 10:00 am to 10:00 am). • Would better achieve the intent of the clause to ensure that requests for Opportunistic Maintenance are in fact opportunistic in nature.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.1 of this report.
9	Griffin Energy/ System Management	Ability to convert Forced Outages to Planned Outages System Management requests clarification of the principle in clause 3.19.3A which allows System Management to decline an Opportunistic Maintenance request where it considers it has been made principally to avoid capacity refunds. A similar clause is required for Scheduled Outages.		To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.4 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
10	System Management	Clarity around approval of Planned Outage extensions. System Management raises the following issues for consideration: • Availability at the commencement of the extension? • When an extension is considerably longer than the initial outage duration which originally involved a small risk of non-return to service?	• Improved clarity of the outage approval process. • Reduced incentives to request longer outages than necessary. • Avoidance of the use of Planned Outages to avoid Reserve Capacity refunds.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.4 of this report.
11	Alinta	Removal of artificial distinction between different categories of Planned Outages and providing System Management with greater flexibility in approving Planned Outages. Specifically, Alinta considers that System Management should be able to consider and approve a "planned" outage request based solely on an assessment of the proposed outage against the criteria specified in clause 3.18.11 - provided System Management considered it had sufficient time prior to the proposed commencement of the outage to adequately assess the outage request. As part of removing the distinctions between the different "categories" of "planned" outages (i.e. moving towards a single definition of a planned outage), the existing limitations inherent in the different outage categories should be removed. For example, restrictions on the duration of an outage, other than when deemed necessary based on an assessment against the criteria in clause 3.18.11, should be removed. Further, and again other than as an outcome of an assessment against the criteria in clause 3.18.11, System Management should not be able to decline a request for an outage simply because a Facility had suffered a Forced Outage. *Note interaction of this recommendation with Issue 6, 7 and 8.*	• Improved efficiency of overall outage approval process. • Removal of Opportunistic Maintenance would simplify the outage approval process.	To be considered as part of Phase 2 of the IMO's implementation. Refer to sections 5.1 and 5.4 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
12	ERA	The incentives for plant availability created by the inter-relationship between the Reserve Capacity Mechanism and the Reserve Capacity Refund payments should be reviewed by the Reserve Capacity Mechanism Working Group. Specifically, the Working Group should consider whether the design of the Reserve Capacity Mechanism provides appropriate incentives for plant availability and whether a refund regime that links refund payments to system conditions would improve incentives.	• Improved availability of Scheduled Generators to the market.	In progress. Refer to section 4.1.4 of this report.
Rule Clarifications				
13	IMO internal	The definition of a Forced Outage should be clarified in the Market Rules to cover anything that either limits: • System Management's ability to dispatch a facility; or • a facility's physical capacity to generate, which is not the result of a Planned Outage or Consequential Outage.	• Improved integrity of the Market Rules and greater clarity over what constitutes a Forced Outage.	Addressed in the Concept Paper: Availability, Outages and Constraint Payments for Non-Scheduled Generators (CP_2013_05). Refer to section 4.2.2 of this report.
14	IMO internal	The ability to be on a partial Forced Outage at the same time as being on a partial Planned Outage needs to be clarified in the Market Rules and PSOP.	• Improved integrity of the Market Rules and better understanding of how the processes apply for partial outages	This is a general design principle which will be taken into account in the development of any Rule Change Proposals or Procedure Change Proposals for Phase 2. Refer to section 5.6 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
15	IMO internal	Clause 3.21.4 requires that Forced Outages and Consequential Outages must be logged by the Participant where applicable for facilities: • "on the list described in clause 3.18.2" the Equipment List; and • "to which clause 3.18.2A relates" - generators or Intermittent Loads under 10MW nameplate capacity. However, clauses 3.21.1 and 3.21.2 define Forced/Consequential Outages as outages to facilities on the list described in clause 3.18.2. The IMO to consider expanding the definitions of Forced/Consequential Outage to include both sets of facilities that are required to log them.	• Improved integrity of the Market Rules.	Addressed through the Rule Change Proposal: Consequential Outage Correction (RC_2012_04). Refer to section 4.1.6 of this report.
16	IMO internal	With regard to clause 4.27.3 (which specifies which Facilities may be required to file reports for Reserve Capacity performance monitoring), the definition of a Planned Outage should be clarified to make it clear that these can include both full and partial outages.	• Improved integrity of the Market Rules.	Addressed through the Rule Change Proposal: Incentives to Improve Availability of Scheduled Generators (RC_2013_09). Refer to section 4.1.5 of this report.
17	IMO internal	As Planned Outages by Facility are now public information (under the Amending Rules resulting from RC_2011_10 which removed the SWIS Restricted Confidentiality Class), clause 3.18.5D may be redundant.	• Improved integrity of the Market Rules.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.6 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
18	IMO internal	There is some circularity between clauses 3.18.4 and 3.19.1. Clause 3.18.4 requires System Management to "maintain an outage schedule, containing information on all Scheduled Outages". Clause 3.19.1 defines Scheduled Outage as meaning outage in the outage schedule. This circularity could be addressed by amending clause 3.18.4 to "…maintain an outage schedule~~, containing information on all Scheduled Outages~~ that contains details of each Outage Plan: (a) that System Management has accepted, or accepted under certain circumstances, under clause 3,18.13; and (b) that the IMO has directed System Management to include in the outage schedule, under clause 3.18.15(f)".	• Improved integrity of the Market Rules.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.6 of this report.
19	Griffin Energy	Greater clarification of outage approval process. *Note that this will be provided through consideration of the issues relating to the outage approval timelines and constraints noted above and the other recommended clarifications to the process.*	• Improved integrity of the Market Rules and PSOPs.	This is a general design principle which will be taken into account in the development of any Rule Change Proposals or Procedure Change Proposals for Phase 2. Refer to section 5.6 of this report.
20	IMO internal	There are a number of other minor and typographical changes to clauses relating to the outage planning process that have been identified by the IMO.	• Improved integrity of the Market Rules.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.6 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
21	Alinta	Consider whether clause 3.19.12 achieves its intended purpose of compensating Market Participants where any outage logged more than 12 months in advance is cancelled in the 48 hours leading up to the start of the outage. Alinta considers the 48 hour rule should be amended to allow the Market Participant to specify the minimum required notice period (restricted to a maximum duration – e.g. 30 days).	• Ensure adequate compensation for cancelled outages is provided.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.3 of this report.
22	System Management	There is a need to develop a clear approach for inclusion of equipment in the Equipment List (e.g. SWIS circuit based rather than equipment asset based, whether only market relevant circuits should be included or all SWIS circuits, and if the former what designates market relevant). It is also important to agree on the naming of equipment to be included so that it can more easily be identified by other Market Participants and their IT systems.	• Improved clarity and usefulness of the Equipment List. • Improved ease of administration of the Equipment List. • More efficient allocation of System Management resources.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.5 of this report.

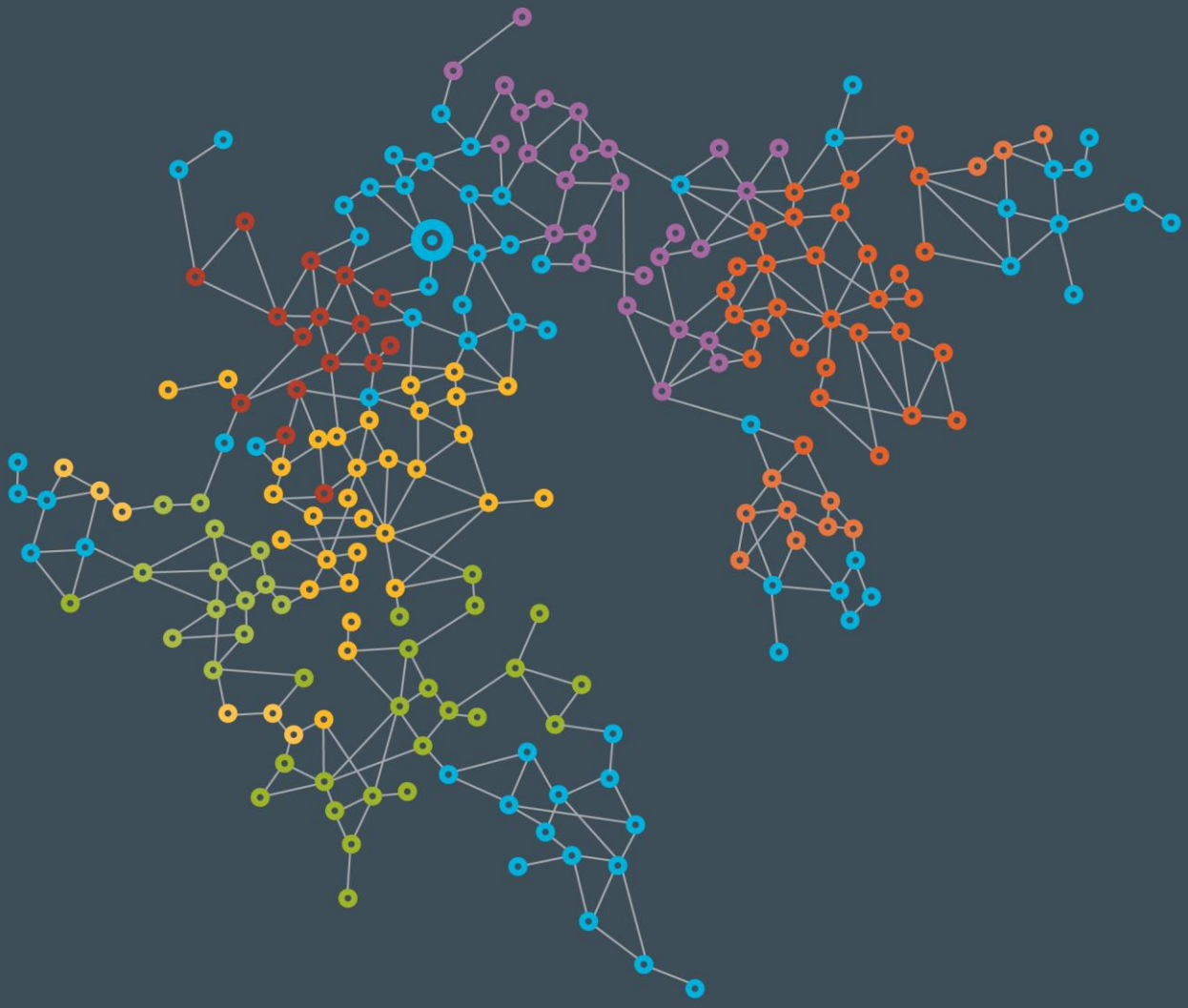
Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
23	System Management	In a paper addressing MAC Action Items 2012-11 and 2012-29 (distributed to MAC members on 9 April 2013), System Management outlined the current distribution outage planning arrangements and raised concerns about: • potential impacts of distribution network outages on the Associated Loads of a DSP; • uncertainty about whether the current arrangements, whereby distribution connected generators are given three Business Days notice of distribution network outages, meets the requirements under section 3.18 for the coordination of network outages affecting other Registered Facilities (in particular clause 3.18.6(h)); • obligations on DSPs in respect of Forced and Consequential Outages; and • potential delays in a distribution connected Registered Facility receiving the notifications it requires from Western Power within the 15 calendar day window for providing notice of a Consequential Outage.	• Improved clarity of the outage planning processes for distribution network equipment and DSPs. • More efficient allocation of Rule Participant Resources. • Improved provision of information required by Market Participants with distribution connected generators to meet their obligations in relation to outages.	To be considered as part of Phase 2 of the IMO's implementation. Refer to sections 5.5.1 and 5.5.3 of this report.
24	IMO internal	The obligation on a participant to request (or report, as appropriate) a Planned Outage prior to undertaking discretionary maintenance is not explicit in the Market Rules, although it is implied by various clauses such as 3.19.8. While previously this has not been considered an issue due to the financial advantages of being granted a Planned Outage, with the progression of RC_2013_09 a generator that has breached its 36 month Planned Outage limit will be liable for Facility Reserve Capacity Deficit Refunds for a Planned Outage, reducing the financial incentive to follow the normal process.	• Improved integrity of the Market Rules. • Ensure clear incentives to request/report Planned Outages.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.5.4 of this report.

Id	Recommended by	Issue/Recommendation	Intended outcomes/objective	Status
25	IMO internal	The requirement on a participant to inform System Management of a Forced Outage or Consequential Outage in clause 3.21.4 does not explicitly account for situations where the participant is aware that the outage will occur prior to the start of the outage, for example where System Management has rejected a request to extend a Scheduled Outage and the facility will be unable to return to service by the end of the current Planned Outage.	• Improved integrity of the Market Rules. • Ensure transparency of outage information in the market by ensuring timely reporting of Forced Outages.	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.5.5 of this report.
26	IMO	There is a lack of clarity in the current Market Rules about the interactions between Outages and the reporting of capacity as "unavailable" in a Balancing Submission.	• Improved integrity of the Market Rules. • Improved transparency and forewarning of upcoming outages. • Reduction of the need for System Management to exercise discretion in determining whether an Opportunistic Maintenance request meets the requirements of clause 3.19.2(b)(ii).	To be considered as part of Phase 2 of the IMO's implementation. Refer to section 5.2 of this report.

INDEPENDENT MARKET OPERATOR

Concept Paper 2013_05: Availability, Outages and Constraint Payments for Non-Scheduled Generators

August 2013



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1. Background

This Concept Paper intends to bring together a number of issues related to the calculation of constrained on/off compensation that should be paid to Market Participants. Specifically, the IMO has identified a number of issues that require amendments to the Wholesale Electricity Market Rules (Market Rules):

1. The definition of an Outage is currently not clear enough to ensure that, for a generating system, all circumstances where capacity is unavailable because of an Internal or External Constraint is logged as an Outage. This has resulted in spurious constrained off compensation payments.

2. The calculation of Outages is designed to apply to Scheduled Generators and do not adequately consider Non-Scheduled Generators. This has resulted in uncertainty about the determination of the quantity of de-rating for an Outage of a Non-Scheduled Generator.

3. The uncertainty for Market Participants with respect to the quantity of de-rating that should be logged has led to varying quality data being entered into the system. This has made it difficult for the IMO to determine an appropriate level of Certified Reserve Capacity for these Facilities.

4. The IMO is required to provide each Facility's Reserve Capacity Obligation Quantity (RCOQ) to enable System Management to calculate the de-rating of a Scheduled Generator. However, the IMO cannot practically meet this obligation due to the complexities of determining a Facility's RCOQ, such as taking into account its staffing levels. The IMO currently provides the MW value of Capacity Credits as an alternative measure.

5. There is some ambiguity with respect to the time period by which Market Participants must log final details of an Outage. In addition, the Market Rules do not specifically allow Outages to be logged outside of the time period. The data for all Outages should be logged for the IMO to be able to accurately calculate a Facility's Certified Reserve Capacity.

6. Currently, contrary to the intention of the Market Rules, constrained on/off compensation is paid to Market Participants where a Facility is non-compliant with a Dispatch Instruction. The intention of the payment is to provide compensation only when a Facility is dispatched Out of Merit, not when a Dispatch Instruction is not followed.

These issues, together with the IMO's proposed solutions are discussed in more detail in the following section.

2. Issues to be addressed

2.1. Requirement to log all Outages

Currently the Market Rules define an Outage as:

…means a Forced Outage, a Planned Outage or a Consequential Outage.

Clause 3.21.1 defines a Forced Outage as:

…any outage of either a facility or item of equipment on the list described in 3.18.2 or a Facility or generation system to which 3.18.2A relates that has not received System Management's approval.

Clause 3.19.11 defines a Planned Outage as:

…an outage, including Opportunistic Maintenance that is approved by System Management under clause 3.19.4.

Clause 3.21.2 defined a Consequential Outages as:

…an outage of either a facility or item of equipment on the list described in 3.18.2 or a Facility or generation system to which 3.18.2A relates that has not received System Management's approval, but which System Management determines:

a) Was caused by a Forced Outage to another rule Participant's equipment and would not have occurred if the other Rule Participant's equipment did not suffer a Forced Outage; or

b) Was caused by a planned outage to a Network Operator's equipment and would not have occurred if the Network Operator's equipment did not undertake the Planned Outage,

but excludes any outage deemed not to be a Consequential Outage in accordance with clause 3.21.10.

Together, these clauses define the different types of Outages that can occur in the Wholesale Electricity Market (market). Clause 3.18.7 of the Market Rules makes the requirement to log an Outage clear, as it applies to Planned Outages as a result of Internal Constraints. However, the IMO has identified a number of scenarios where the Market Rules currently do not provide adequate guidance to Market Participants to determine if an Outage should be logged or not, particularly as they apply to unplanned Outages and External Constraints:

1. Where a Facility is able to provide capacity but, due to a network constraint, the network is unable to accept its capacity while maintaining operation within the Technical Envelope (i.e. ensuring a safe, reliable and stable network).

2. Where a Facility's production is limited to reduce the potential of damage to the Facility or to ensure safety of its workers. For example, a wind farm may have an automatic trip in place for periods of extreme wind.

3. Where a Non-Scheduled Generator may be unable to provide capacity without the appropriate fuel (e.g. at night for solar generation and during low wind periods for wind farms).

This lack of clarity around the requirement to log Outages has resulted in an inconsistent approach and spurious payments of constrained off compensation to Market Participants.

Dispatch is currently scheduled on an end of interval value. The Theoretical Energy Schedule (TES) bridges the gap between this instantaneous output and the total energy generated in the Trading Interval. TES is then compared with the final meter readings (Sent Out Metered Schedule) for the purposes of constrained on/off compensation calculations.

As part of the settlement process, the IMO calculates the Minimum TES for each Facility. The Minimum TES reflects the maximum energy that could have been dispatched from Balancing Submission Price-Quantity Pairs, given its available capacity with a price less than the Balancing Price, taking into consideration the start of interval MW quantity and the ramp rate.

The IMO uses the Minimum TES to determine whether the amount produced is in merit, meaning that a Facility has been dispatched in accordance with the Balancing Merit Order, or Out of Merit, meaning a Facility is not dispatched in accordance with the Balancing Merit Order. The Market Participant is paid the Balancing Price for all in merit quantities, but for all Out of Merit quantities, the Market Participant must be compensated.

If Outages have not been logged, they will not be taken into consideration in the Minimum TES Calculation, meaning the Minimum TES is higher than it should be. Therefore, when it is compared to the Sent Out Metered Schedule in the Downward Out of Merit Generation[1] calculation, it is possible that the Facility will be determined to have been dispatched Out of Merit and the Market Participant is paid constrained off compensation.

Recommendation

In order to address the spurious constrained off compensation payments, the IMO proposes to provide further clarity around the definition of an Outage.

The IMO's position is that, where a Facility is not able to generate electricity, cannot export electricity, and/or the network cannot safely accept electricity, an Outage should be logged. If this Outage has not been approved by System Management, it will be logged as a Forced Outage.

Therefore, the IMO proposes to amend the definition of an Outage to ensure that it encompasses, for a generation system:

a) a reduction in a Facility's physical capacity to generate electricity, other than in the case of a Non-Scheduled Generator where the reduction in capacity is the result of a reduction in wind, sun, biomass or another fuel source approved by the IMO;

b) a reduction in the quantity of a Facility's electricity available for System Management to dispatch, for example a reduction in output as a result of potential danger to a Facility as a result of high wind speeds; and

c) a reduction in the quantity a Facility can export as a result of an External Constraint (including a system or network constraint) where a Consequential Outage may be logged.

Furthermore, the IMO also proposes to require any capacity not covered by an Outage to be made available.

[1] Downward Out of Merit is where a Facility generated less than its expected in merit quantity due to the dispatch of the Balancing Submission Price-Quantity Pair with a price equal to or below the Balancing Price.

These Outages once logged, will be provided by System Management to the IMO and therefore, included in the calculation of the Minimum TES for each Facility. This will improve the accuracy of the TES and thereby remove incorrect constrained on/off payments without manual intervention.

2.2. Quantity of de-rating for a Non-scheduled Generator

The Market Rules require Market Participants and the Network Operator to inform System Management of an Outage of a Facility or item on the equipment list, or a Facility with capacity less than 10MW, as soon as practicable.

Clause 3.21.4 of the Market Rules outlines the information that must be provided to System Management with respect to an Outage. This includes the time the Outage commenced, an estimate of the time the Outage is expected to end, the cause of the Outage, the Facility or items affected and the expected quantity of de-rating. However, currently this clause can only be applied to Scheduled Generators by requiring the expected quantity of de-rating to be determined in accordance with clause 3.21.5.

Clause 3.21.5 requires a Market Participant or Network Operator to provide the maximum capacity for each affected Facility or item of equipment as determined, by reference to its maximum capacity provided in the Standing Data under in Appendix 1(b)(iv). This section of Appendix 1 outlines the Standing Data required for Scheduled Generators only, resulting in ambiguity about how to determine the quantity of de-rating of a Non-Scheduled Generator for the purposes of Outage calculations.

Clause 3.21.6 provides the process by which System Management determines the MW de-rating of a Facility as the result of an Outage. Currently, Market Participants enter outage data on a sent out basis at 15 degrees Celsius. System Management then converts the value to a sent out basis at 41 degrees Celsius and adjusts it based on the Facility's RCOQ. System Management then calculate the total de-rating as a result of Forced, Planned and Consequential Outages under clauses 3.21.6(b) to 3.21.6(d) and provides this for each Facility to the IMO as required under clauses 7.3.4 and 7.13.1A(b).

However, the application of clause 3.21.6 to determine the quantity of Outage for Non-Scheduled Generators is currently inappropriate because Non-Scheduled Generators have an RCOQ of zero. This results in negative Outage quantities, where the MW de-rating of a Facility is greater than its RCOQ.

Recommendation

The IMO proposes that clause 3.21.5 should specifically apply to Scheduled Generators and an alternative calculation for Non-Scheduled Generators be introduced. It is proposed that the Market Rules will require, for a Non-Scheduled Generator, a Market Participant to calculate the quantity of de-rating by reference to the maximum capacity provided in the Standing Data under Appendix 1(e)(iiiA).

In addition, the IMO proposes that clause 3.21.6 is specified to only apply to Scheduled Generators, and an alternative calculation of a Facility's Outage for a Non-Scheduled Generator is introduced. It is expected that this calculation will simply be the greater of zero and the sum of all Forced, Planned or Consequential Outages.

The IMO will require System Management to provide the raw MW de-rating for Scheduled and

Non-Scheduled Generators together with the current RCOQ-adjusted values provided for Scheduled Generators. It should also be clarified that this data is to be used in calculating the Minimum TES.

The IMO also proposes to ensure that all Outages are factored into System Management's calculation of a Non-Scheduled Generator's expected quantity (for use in calculating the Minimum TES) by amending clause 7.7.5B to specify the inclusion of all Outages. The IMO also recommends the revision of section 5.5.5 of the *Power System Operation Procedure (PSOP): Dispatch* to provide greater clarity on calculation of the expected quantity.

2.3. Setting Certified Reserve Capacity for Non-Scheduled Generators

The rule change, *RC_2013_09: Incentives to Improve Availability of Scheduled Generators* was developed to allow the IMO more flexibility in assigning Certified Reserve Capacity to Scheduled Generators that display excessive outage rates over a three-year period. The proposed Amending Rules in RC_2013_09 change the IMO's process for setting a Facility's Certified Reserve Capacity under clause 4.11.1(h) and Reserve Capacity performance monitoring under section 4.27 of the Market Rules.

The introduction of greater incentives for Market Participants to maximise the availability of their capacity should equally apply to Non-Scheduled Generators. However, clause 4.11.1(h) is unable to be applied under the current Market Rules, as the calculations of Planned Outage rates and Forced Outage rates referred to in this clause currently only consider the application to a Scheduled Generator.

The *PSOP: Facility Outages* contains the calculations of both the Forced Outage Rate and the Planned Outage Rate that clause 4.11.1(h) refers to. These calculations rely on the Outage MW being equated to the MW value of Capacity Credits. While this works for a Scheduled Generator, for a Non-Scheduled Generator, it is likely that the maximum capacity will be significantly greater than the Capacity Credits, resulting in a nonsensical outcome.

Recommendation

Given the above proposed amendments, the IMO considers it appropriate to propose further amendments to those in RC_2013_09 to align the incentives to improve availability of Scheduled Generators and Non-Scheduled Generators.

The IMO proposes that, for the purposes of calculating the Planned Outage Rate and the Forced Outage Rate for a Non-Scheduled Generator, the Outage quantity is specified as the MW quantity by which the maximum capacity of a Facility is reduced (as determined in section 2.2).

The IMO also proposes that, with the increasing significance of these calculations, they should be transferred from the *PSOP: Facility Outages* into an Appendix of the Market Rules.

2.4. Quantity of de-rating for a Scheduled Generator

Under clause 3.21.6(e), the IMO must provide System Management with the RCOQ for each Facility as currently applicable. This is used in System Management's calculation of the Outage quantity for Scheduled Generators to determine the amount of de-rating that will affect the Facility's expected quantity, as opposed to its maximum quantity.

However, practically, the IMO cannot determine in advance of a Trading Interval each Facility's RCOQ. For example, the RCOQ must account for staffing and other restrictions on the ability of the Facility to provide energy. While this is not practical, it is also not necessary.

To date, the IMO has provided System Management with a Facility's MW value of Capacity Credits as a proxy for its RCOQ. While there is a difference between the two values, it is not expected to result in significantly different outcomes for the purpose of calculating a Facility's Outage value.

Recommendation

The IMO proposes to amend clause 3.21.6(e) of the Market Rules to align to current practice by requiring the IMO to provide each Facility's MW value of Capacity Credits, rather than its RCOQ.

In addition, the IMO proposes to amend clauses 3.21.6(b) to (d) to reflect this.

2.5. Clarification of timeframes for providing information of Outages

Clause 3.21.7 provides the timeframe under which Market Participants or Network Operators must provide full and final details of the relevant Planned, Forced or Consequential Outage to System Management. However, based on the current drafting, it is unclear which Trading Day the 15 day timeframe should start.

Furthermore, the obligation to provide full and final details of an Outage no later than 15 calendar days following the Trading Day on which the Outage commenced is impractical to apply to extended Outages. For example, if an Outage is expected to continue for 20 days, a Market Participant cannot be expected to provide full and final details of the entire Outage before it is finished.

Clause 7.13.1A requires System Management to provide the IMO with the Outage data for a Trading Day within 15 Business Days. Currently, the drafting of this clause does not allow System Management to accept or provide to the IMO any information for Outages logged after the 15 calendar days.

Recommendation

The IMO proposes to amend clause 3.21.7 to be consistent with clause 3.21.8. This will provide a reference to 15 calendar days following the Trading Day on which the Outage commenced.

The IMO also proposes that, given its reference to full and final details, clause 3.21.7 should specifically refer to a particular Trading Day affected by the Outage. This provides Market Participants with the ability to update the Outage information for each affected Trading Day on a rolling basis until the conclusion of the Outage, but retains the requirement to provide final details for each affected Trading Day within the 15 day timeframe.

In order to ensure that the IMO is aware of all Outages, the IMO proposes to amend the Market Rules to require Market Participants to log all outages, even after the 15 day timeframe has lapsed. This amendment will also require System Management to provide this information to the IMO. The record of all Outage data is necessary for the accurate calculation of Certified Reserve Capacity and to ensure compliance with the Market Rules.

2.6. Removing constrained on/off compensation for non-compliance

Currently Scheduled Generators receive constrained on/off compensation when they are clearly non-compliant with Dispatch Instructions issued by System Management. This is based on the inherent assumption in the Market Rules that the only reason a generator would deviate from its TES is because of an Outage, or if they were dispatched Out of Merit.

Currently Scheduled Generators who are non-compliant with Dispatch Instructions have constrained on/off compensation included in the initial settlement amount, with a determination on compliance happening after settlement. The IMO Compliance team is responsible for investigating the merit of any constrained on/off compensation.

Recently, there have been a number of situations where these (often large) incorrect payments have been included in the initial settlement. As they are only then only able to be removed as part of the first or second adjustment, the delays will result in an inequity resulting from the time value of money. Furthermore, the payment could result in an increase in the required level of Credit Support to be provided by the Market Participant.

Recommendation

As constrained on/off compensation is intended to be paid only when a Facility is dispatched Out of Merit, the IMO proposes to make a number of changes to the Out of Merit calculations under 6.16A.1 and 6.16A.2 to remove the instances resulting in incorrect payments before they are processed.

The IMO proposes to amend the Upward Out of Merit Generation calculation in clause 6.16A.1(a) to ensure that in a Trading Interval for a Balancing Facility it equals:

> Subject to clause 6.16A.1(b), the lower of:
>
> I. the Sent Out Metered Schedule; and
>
> II. the quantity that would have been produced if the Facility had complied with the issued Dispatch Instructions; less
>
> the Maximum TES.

It is also proposed that clause 6.16A.1(b) is amended to account for the scenario where the Upwards Out of Merit Generation equals zero where the Maximum TES is greater than the Sent Out Metered Schedule.

Similarly, the IMO proposes to amend the Downward Out of Merit Generation calculation in clause 6.16A.2(a) to ensure that in a Trading Interval for a Balancing Facility it equals:

> Subject to clause 6.16A.2(b), the Minimum TES less the greater of:
>
> I. the Sent Out Metered Schedule; and
>
> II. the quantity that would have been produced if the Facility had complied with the issued Dispatch Instructions.

It is also proposed that clause 6.16A.2(b) is amended to account for the scenario where the Downward Out of Merit Generation equals zero where the Sent Out Metered Schedule is greater than the Minimum TES.

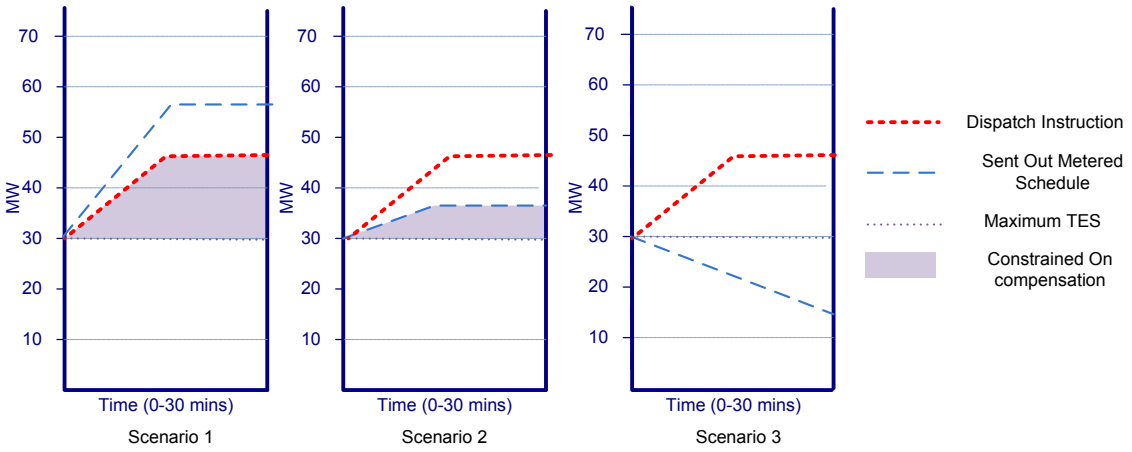

Figure 1: Upwards Out of Merit Scenarios

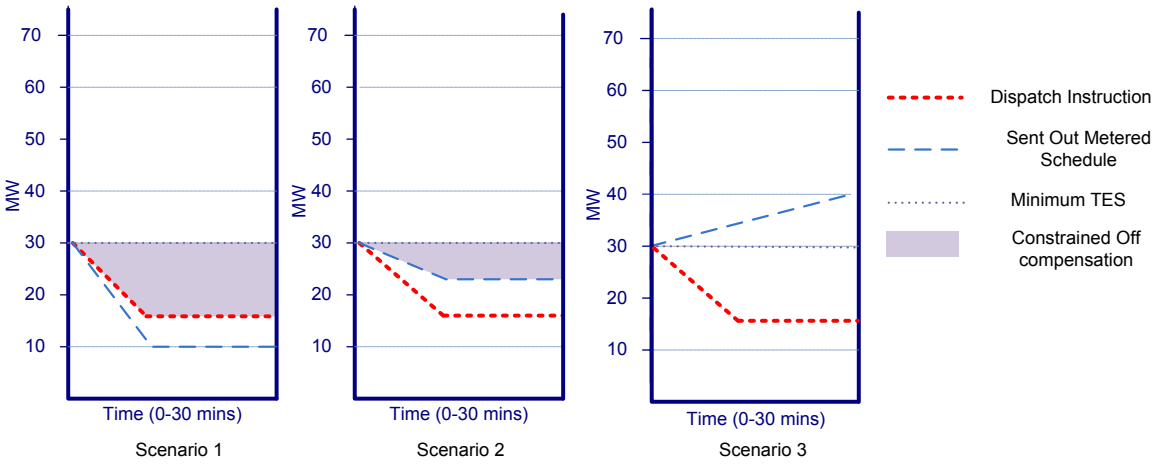

Figure 2: Downwards Out of Merit Scenarios

Figures 1 and 2 show the resulting constrained on/off compensation payments following the proposed amendments to clause 6.16A. The amendments will ensure that:

1. the Market Participant will only be compensated for the quantity issued under the Dispatch Instructions despite the potential to produce more than this quantity (scenario one);

2. the Market Participant will only be compensated for the quantity produced if it is unable to provide the quantity required in the Dispatch Instruction (scenario two); and

3. the Market Participant will not have to pay the IMO compensation (i.e. get negative compensation) for any negative quantity, however, these scenarios will instead be dealt with under the IMO's market surveillance and compliance regime (scenario three).

The above proposed amendments will result in the Minimum TES reflecting all Outages of a Facility as provided in the Dispatch Schedule, thereby also ensuring that Market Participants are

not paid Out of Merit compensation when a Facility is unavailable. The IMO will calculate a Facility's Minimum TES by reference to its Dispatch Schedule. This will require the IMO to calculate the Dispatch Schedule from the Dispatch Instructions provided by System Management. This will require changes to the IMO's IT and settlement systems and processes.

The IMO also notes that following the initial Dispatch Instruction, System Management is currently able to issue a second Dispatch Instruction. This is often used to reflect the expected output when a Facility is unable to comply with a Dispatch Instruction, to rectify the non-compliance as required under clause 7.7.6B. The IMO would need to be able to differentiate these 'rectification Dispatch Instructions' from others. The IMO will work with System Management to identify an appropriate solution.

The IMO also proposes that the Maximum and Minimum TES and Out of Merit calculations are moved to an Appendix and presented as a mathematical formula for clarity.

3. Assessment against Wholesale Market Objectives

The IMO considers that the Market Rules as a whole, if amended to reflect the recommendations above, will not only be consistent with the Wholesale Market Objectives but also generally allow the Market Rules to better achieve Wholesale Market Objectives (a), (c) and (d).

The concepts in this paper are designed to align the treatment of Scheduled Generators and Non-Scheduled Generators as far as practicable with respect to availability, Outages and constraint payments. On this basis, the IMO's assessment is presented below:

a) *to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system*

The IMO considers that the proposed changes will ensure that all limitations on a Facility's capacity to generate will be more accurately reflected in a Facility's Minimum TES, thereby improving the accuracy of constrained off compensation and the assignment of Certified Reserve Capacity to Facilities. This will ensure that significant costs as a result of inaccurate compensation payments are not borne by the market.

The IMO considers that the proposed amendments also provide greater clarity and transparency with respect to existing obligations in the Market Rules. This will better equip Market Participants to comply with their obligations.

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*

The proposed changes are expected to improve consistency between Scheduled and Non-Scheduled Generators, by providing alternative calculations for Non-Scheduled Generators, consistent with the obligations on Scheduled Generators. In addition, the IMO considers that the resulting clarity around Non-Scheduled Generators' obligations will improve the ability for the IMO to avoid discrimination between Facility Classes.

d) *to minimise the long-term cost of electricity supplied to customers from the South West interconnected system*

Currently, a significant proportion of the IMO's legal and compliance resources are investigating the merit of compensation payments and ensuring the recovery of incorrect payments. However, the proposed amendments will ensure that the majority of these incorrect payments are not made in the initial settlement process, thereby remove the need for many of these investigations, reducing the long-term compliance cost to the IMO.

The IMO considers that the proposed amendments are consistent with the remaining Objectives.

4. Practicality and Cost of Implementation

There are expected to be some costs associated with making and testing the necessary changes to the IMO's settlement and IT systems with respect to the proposed amendments to constrained on/off compensation. The IMO will provide stakeholders with an estimate of the cost of these changes during the consultation periods provided in the rule change process.

There may be costs to System Management associated with the provision of the MW de-rating of each Facility by Trading Interval and the identification of Dispatch Instructions that resolve non-compliances.

There are not expected to be any significant costs for Market Participants.

Agenda Item 6a: Overview of Market Rule Changes

Below is a summary of the status of Market Rule Changes that are either currently being progressed by the IMO or have been registered by the IMO as potential Rule Changes to be progressed in the future.

Rule changes: Formally submitted (see appendix 1)	31st July 2013
Fast track with Consultation Period open	0
Standard Rule Changes with 1st Submission Period Open	1
Fast Track Rule Changes with Consultation Period Closed (final report being prepared)	0
Standard Rule Changes with 1st Submission Period Closed (draft report being prepared)	0
Standard Rule Changes with 2nd Submission Period Open	2
Standard Rule Changes with 2nd Submission Period Closed (final report being prepared)	3
Rule Changes - Awaiting Minister's Approval and/or Commencement	3
Total Rule Changes Currently in Progress	**9**

The Market Development Team recently reviewed its issues log for the Market Rules in order to develop a proposed work schedule for the next six to 12 months. The Market Development team anticipates progressing the following matters to the MAC over coming months.

Issue	Likely timing
Outage Planning – Phase 2	Pre Rule Change Proposal – October MAC Meeting
Availability, Outages and Constraint Payments for NSGs	Pre Rule Change Proposal – October MAC meeting
Reserve Capacity Refunds and Price (package from RCMWG)	Concept Paper or Pre Rule Change Proposal – October MAC Meeting
Market Rules Evolution Plan	Clarification of issues and prioritisation – October MAC Meeting
Enhancements to Balancing Market (options for STEM, Bilaterals and Resource Plans from MREP)	Discussion Paper and/or presentation – October MAC

Issue	Likely timing
Dispatch Issues (from log)	Concept Paper or PRC – late 2013/early 2014
Emissions Intensity Index (MREP)	Concept Paper or PRC – late 2013/early 2014

Please note these timings are only indicative and may be affected by other issues that arise (e.g. any rule changes required to support the merger of Verve and Synergy*).*

The IMO also notes that it keeps logs of potential issues that may require rule changes, minor and typographical issues and rule change suggestions that is updated on a regular basis. These logs form the basis of the IMO's future rule change work program, including development of the Market Rules Evolution Plan.

APPENDIX 1: FORMALLY SUBMITTED RULE CHANGES (Current as of 31st July 2013)

Standard Rule Change with First Submission Period Open

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2013_09	18/06/2013	Incentives to Improve Availability of Scheduled Generators	IMO	Submissions close	13/08/2013

Standard Rule Change with Second Submission Period Open

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2013_08	21/05/2013	Market Participant Fees – Clarification of GST Treatment	IMO	Submissions close	28/08/2013
RC_2013_11	14/05/2013	Selection of the 12 Peak Trading Intervals used for the Calculation of IRCR	IMO	Submissions close	21/08/2013

Standard Rule Change with Second Submission Period Closed

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2012_03	27/03/2013	Assignment of Capacity Credits to Network Control Facilities	IMO	Final Rule Change Report Published	06/08/2013
RC_2012_10	22/06/2012	Limits to Early Entry Capacity Payments	Synergy	Final Rule Change Report Published	27/08/2013
RC_2013_05	09/04/2013	LoadWatch, EOI and RDQ Provision	IMO	Final Rule Change Report Published	14/08/2013

Standard Rule Change Awaiting Commencement

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2012_11	30/07/2012	Transparency of Outage Information	IMO	Commencement	01/10/2013
RC_2012_22	11/12/2013	Commitment and De-commitment Notification Requirements	System Management	Commencement	01/09/2013
RC_2013_02	17/06/2013	Clarification of the Minimum TES calculation	IMO	Commencement	01/08/2013

Agenda item 6b: Cover Paper – Proposed Amendments to Prudential Requirements

Background

The IMO presented the pre Rule Change Proposal: Prudential Requirements (PRC_2012_23) to the MAC on 20 March 2013 to address issues related to the determination of Credit Limits, calculation of Outstanding Amount, the concepts of Typical Accrual and Margin Call and the list of factors for assessing the expected value of transactions.

The MAC requested the IMO to conduct analysis on the impact of shortening the time-period of historical data used in Credit Limit determinations from 48 months to 24 months. The IMO circulated the analysis to individual Market Participants and notified the MAC on 9 May 2013.

Recent developments

As noted in Agenda Item 6(a) the IMO has commenced work on investigating options for improvements to the energy markets (including the STEM), to bring to a future MAC meeting. As a result, the IMO has formed the view that components of the prudential security report (such as the calculation of Outstanding Amount and the proposed concept of Net Forecast Liability) should be reviewed once future changes to the STEM have been developed. Additionally, the IMO has identified other issues while conducting a review of all clauses related to prudential obligations (clauses 2.37 to 2.43).

Therefore, the IMO has revised the pre Rule Change Proposal to exclude the proposed concept of Net Forecast Liability and include other issues identified in prudential obligations.

Further, the IMO has simultaneously proposed amendments to the associated *Market Procedure: Prudential Requirements* to allow the MAC to assess the revised pre Rule Change Proposal as a package. The IMO is seeking to make the rules principles-based and move the prescriptive detail to the Procedure.

Attachments

The IMO has attached the:

1. pre Rule Change Proposal;
2. draft Procedure Change Proposal; and
3. draft revised Market Procedure.

Recommendation

The IMO requests that the MAC:

- discuss the attached documents; and
- agree to the submission of the pre Rule Change Proposal into the formal process.

Wholesale Electricity Market
Pre Rule Change Proposal Form

Change Proposal No: *PRC_2012_23*
Received date: *TBA*

Change requested by:

Name:	Allan Dawson
Phone:	9254 4333
Fax:	9254 4399
Email:	allan.dawson@imowa.com.au
Organisation:	IMO
Address:	Level 17, Governor Stirling Tower, 197 St. Georges Terrace, Perth
Date submitted:	*TBA*
Urgency:	*2-medium*
Change Proposal title:	Prudential Requirements
Market Rule(s) affected:	Numerous

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: Group Manager, Development & Capacity
PO Box 7096
Cloisters Square, Perth, WA 6850
Fax: (08) 9254 4339
Email: market.development@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:

Background

The IMO manages the prudential requirements of Market Participants as set out in Chapter 2 of the Market Rules and the related *Market Procedure: Prudential Requirements*. The prudential requirements included in the Market Rules include concepts such as:

- **Credit Limit** – The maximum amount expected to be owed by a Market Participant to the IMO as determined in accordance with clause 2.37.4.

- **Credit Support** – The benefit of an obligation in writing or a cash deposit (as required under clause 2.38.4) in an amount not less than the Credit Limit, which is held by the IMO on behalf of the Market Participant, and which may be drawn on in the event of that Market Participant failing to settle an Invoice or other specified circumstances as specified in clause 9.23.1.

- **Trading Limit** –The ceiling amount determined as 0.87 of the Market Participant's total Credit Support below which the Market Participant is able to trade freely in the market (clause 2.39.1).

- **Outstanding Amount** – The aggregate of the amounts payable by the Market Participant to the IMO, less the aggregate amounts payable by the IMO to the Market Participant (clause 2.40.1).

- **Trading Margin** – The amount by which a Market Participant's Trading Limit exceeds its Outstanding Amount (clause 2.41.1)which triggers a Margin Call.

- **Margin Call** – The requirement for a Market Participant to provide a Security Deposit or additional Credit Support to cover possible losses in accordance with clause 2.42.4.

Prudential security for each Market Participant is held by the IMO to reduce the credit risk and consequential financial impact of default by a Market Participant on the Wholesale Electricity Market (WEM). The prudential process is principally designed to ensure that, if a Market Participant defaults by failing to settle its Short Term Electricity Market (STEM) or Non-STEM invoice amounts on a due date, the IMO will hold sufficient prudential security from that Market Participant so as to cover that Market Participant's exposure without short paying the market.

In accordance with the Market Rules, the IMO must determine each Market Participant's Credit Limit and Trading Margin. The IMO must also monitor these values to ensure that a Market Participant's exposure risk is not greater than the Credit Support provided. If at any time, the Market Participant's market exposure becomes greater than its Trading Limit as determined by the Credit Support provided by the Market Participant, the IMO may make a Margin Call or increase a Market Participant's Credit Limit, and therefore the required level of Credit Support to reduce the credit risk to the market.

Issues Description and Proposed Amendments

The IMO has identified a number of areas in the Market Rules where clarification is required to ensure that there is no ambiguity around the prudential obligations of either Market Participants or the IMO.

In addition, the IMO has taken the opportunity to improve the integrity of the Market Rules to ensure that they are principles-based, in line with good regulatory practice. This has resulted in the prescriptive detail being moved to the *Market Procedure: Prudential Requirements*[1].

The rationales for the proposed amendments are discussed in the sections below.

A. **Credit Limit determination**

The IMO considers that there are three aspects of the Credit Limit determination that should be clarified:

(a) Clauses 2.37.1, 2.37.2 and 2.37.3 require the IMO to determine, review and revise a Credit Limit for each Market Participant. The IMO proposes that these clauses are amended to strengthen the linkages between the obligations and the processes to be undertaken. It should be noted that these clauses are Reviewable Decisions under the Electricity Industry (Wholesale Electricity Market) Regulations 2004 (Regulations).

(b) Clause 2.37.4 currently states that the Credit Limit is a predicted amount, not expected to be exceeded more than once in a 48 month period.

[1] Amendments to the Market Procedure are discussed in the draft Procedure Change Proposal, which has been developed in parallel to this pre Rule Change Proposal and attached for further information.

In practice, the IMO uses historical data to predict future behaviour for Credit Limit determinations. The IMO uses up to 48 months of historical Settlement data, or a reasonable estimate if data is unavailable, as an estimation of a Market Participant's future exposure in the market by calculating the anticipated maximum exposure over 70 days. This represents the highest 15-day STEM exposure and the highest 70-day Non-STEM exposure, and therefore represents the theoretical maximum amount that the Market Participant has already reached. The IMO then uses its discretion to consider other factors such as previous defaults in payments or other Suspension Events to increase the Credit Limit determination appropriately.

Using the anticipated maximum exposure to benchmark a Market Participant's Credit Limit as an amount that will not be exceeded over a 70-day period has proved to be a robust, predictable and repeatable tool for both Market Participants and the IMO. Therefore, the IMO proposes amendments to the expectation of owed amounts in this clause to clarify that the Credit Limit is the amount owed over any 70-day period and increase transparency of the IMO's calculation of a Market Participant's Credit Limit.

(c) Currently, the IMO determines the Credit Limit for a Market Participant by taking into account various factors specified in clause 2.37.4(a) to (j). A number of these factors have been less practical in application than the use of actual data or objective and reasonable estimations, including:

- Clauses 2.37.4(a), (c) and (h), which require complex statistical calculations which are resource intensive and unlikely to result in a corresponding improvement in the determined amount.

- Clause 2.37.4(d), which requires the IMO to take into account the processes set out in clauses 2.32 (Rule Participant Suspension and Deregistration), 9.23 (Default) and 9.24 (Settlement in Default situations) implying that the IMO is required to adjust Credit Limits to include financial cover to allow for the period from Market Participant default to deregistration. However in practice, such an adjustment would result in a significant increase to prudential security.

- Clause 2.37.4(j), which requires the IMO to take into account any past breaches of the Market Rules. However, it is not clear how the IMO would translate a Market Participant's prior breaches into a financial value to be used to adjust a Credit Limit.

The proposed Amending Rules for clause 2.37.4 (read together with the draft revised Market Procedure) will increase transparency of the IMO's calculation of Market Participants' Credit Limits by reflecting the current practice[2] in the Market Rules.

In addition, the IMO proposes to move the more prescriptive detail currently included in the Market Rules to the Market Procedure and renumber the clauses to improve accessibility and the integrity of the Market Rules. The IMO also proposes to amend clause 2.37.8 (proposed to be renumbered to 2.37.7) to strengthen its linkage to the Market Procedure.

Proposed Amendments

[2] The IMO's current calculation of a Market Participant's Credit Limit considers all relevant factors that can be quantified using actual data or reasonable estimations.

2.37.1. The IMO must determine a Credit Limit for each Market Participant in accordance with clause 2.37.4.

2.37.2. Subject to clauses 2.37.3 and 2.42.7, ~~T~~the IMO may review and revise a Market Participant's ~~revise the~~ Credit Limit ~~of a Market Participant~~ at any time.

2.37.3. The IMO must review each Market Participant's ~~the~~ Credit Limit ~~of a Market Participant~~ at least once each year.

2.37.4. Subject to clauses 2.37.5 and 2.37.6, the Credit Limit for a Market Participant is the dollar amount determined by the IMO as being equal to the amount that the IMO reasonably expects will not be exceeded over any 70 day period, where this amount is:

(a) the maximum net amount owed by the Market Participant to the IMO over the 70 day period;

(b) determined by applying the factors set out in clause 2.37.5; and

(c) calculated in accordance with the Market Procedure referred to in clause 2.43.1.

~~2.37.4. The Credit Limit for each Market Participant is the dollar amount determined by the IMO as being equal to the maximum net amount that the Market Participant is expected to owe the IMO over any 70 day period where this amount is not expected to be exceeded more than once in a 48 month period. When determining the Credit Limit for a Market Participant the IMO must take into account:~~

~~(a) the average level and volatility of the Balancing Price and the STEM Clearing Price for the previous 48 months, or such shorter time period as data is available for;~~

~~(b) the metered quantity data for the Market Participant, or an estimate of their expected generation and consumption where no meter data is available;~~

~~(c) the correlation between the Relevant Dispatch Quantity and the Balancing Price;~~

~~(d) the length of the settlement cycle and the process set out in clauses 9.23, 9.24 and 2.32;~~

~~(e) a reduction in the Credit Limit reflecting applicable bilateral contract purchase quantities, where these quantities are the historical bilateral contract submissions, or an estimate of the Market Participant's expected bilateral contract levels where no historical bilateral contract submission data is available;~~

~~(f) the historical STEM sales and purchases, or an estimate of the Market Participant's expected STEM sales and purchases where no historical STEM sale and purchase data is available;~~

~~(fA) the historical level of payments under clause 9.8.1 or an estimate of the Market Participant's expected level of payments under clause 9.8.1 where no historical payment data is available;~~

~~(g) the expected level of Ancillary Service payments;~~

~~(h) the statistical distribution of the accrued amounts that may be owed to the IMO;~~

~~(i) the degree of confidence that the Credit Limit will be large enough to meet large defaults; and~~

~~(j) any past breach of the Regulations or these Market Rules by, the Market Participant or a related entity of the Market Participant.~~

2.37.5 When determining a Market Participant's Credit Limit the IMO must take into account:

(a) the Market Participant's historical level of payments based on metered quantity data for the Market Participant, or an estimate of the Market Participant's future level of payments based on its expected generation and consumption quantities where no metered quantity data is available;

(b) the Market Participant's historical level of payments based on its Bilateral Contract sale and purchase quantities as reflected in historical bilateral contract submissions, or an estimate of the Market Participant's future level of payments based on its expected Bilateral Contract sale and purchase quantities where no historical bilateral contract submission data is available;

(c) the Market Participant's historical level of STEM settlement payments under clause 9.6.1, or an estimate of the Market Participant's future level of STEM settlement payments based on its expected STEM sales and purchases where no historical STEM settlement payment data is available;

(d) the Market Participant's historical level of Reserve Capacity settlement payments under clause 9.7.1, or an estimate of the Market Participant's future level of Reserve Capacity settlement payments based on its number of Capacity Credits where no historical Reserve Capacity settlement payment data is available;

(e) the Market Participant's historical level of Balancing settlement payments under clause 9.8.1, or an estimate of the Market Participant's future level of Balancing settlement payments based on its expected transactions in the Balancing Market where no historical Balancing settlement payment data is available;

(f) the Market Participant's historical level of Ancillary Service settlement payments under clause 9.9.1, or an estimate of the Market Participant's future level of Ancillary Service settlement payments based on its expected

Ancillary Service provision where no historical Ancillary Service settlement payment data is available;

(g) the Market Participant's historical level of Outage Compensation settlement payments under clause 9.10.1, or an estimate of the Market Participant's future level of Outage Compensation settlement payments based on its expected level of Outages where no historical Outage Compensation settlement payment data is available;

(h) the Market Participant's historical level of Reconciliation settlement payments under clause 9.11.1, or an estimate of the Market Participant's future level of Reconciliation settlement payments where no historical Reconciliation settlement payment data is available;

(i) the Market Participant's historical level of Market Participant Fee settlement payments under clause 9.13.1, or an estimate of the Market Participant's future level of Market Participant Fee settlement payments based on its expected generation or consumption quantities where no historical Market Participant Fee settlement payment data is available;

(j) the length of the settlement cycle; and

(k) any other factor that the IMO considers relevant.

~~2.37.5. A Market Participant must notify the IMO as soon as practicable where it considers that:~~

~~(a) its metered consumption quantities in a Trading Month will significantly exceed the amount assumed in the last calculation of its Credit Limit; or~~

~~(b) its quantity of electricity purchased bilaterally in a Trading Month will be significantly lower than assumed in the last calculation of its Credit Limit.~~

2.37.6. In determining a Market Participant's Credit Limit under clause 2.37.4, the IMO may, to the extent it considers relevant, take into account a minimum amount that the IMO considers would adequately protect the Wholesale Electricity Market if a Suspension Event were to occur in relation to that Market Participant.

2.37.7. The IMO must notify each Market Participant of its Credit Limit, including any revised Credit Limit under clause 2.37.2. The IMO must provide details of the basis for the determination of the Credit Limit (with references to the factors specified in clause 2.37.5 and the Market Procedure referred to in clause 2.43.1).

2.37.8. A Market Participant must notify the IMO as soon as practicable where it considers that:

(a) its metered consumption quantities in a Trading Month will significantly exceed the amount assumed in the last calculation of its Credit Limit; or

(b) its quantity of electricity purchased bilaterally in a Trading Month will be significantly lower than assumed in the last calculation of its Credit Limit.

~~2.37.6. [Blank]~~

~~2.37.7. [Blank]~~

~~2.37.8. The IMO must notify each Market Participant of their Credit Limit, and provide details of the basis for the determination of the Credit Limit.~~

B. Notification of any change in circumstances affecting a Market Participant's Credit Limit

Clause 2.37.5 of the Market Rules (proposed to be renumbered as clause 2.37.8) requires a Market Participant to notify the IMO of any changes in its circumstances that would affect its Credit Limit. Currently, the Market Rules only contemplate situations that affect a Market Customer's risk in the WEM (sub-clauses 2.37.5 (a) and (b)). They do not consider situations where Market Generators may also need to vary their bilateral position in the market. Furthermore, clause 2.37.5 only considers circumstances in which a Market Participant's Credit Limit would be increased, such as increases in metered consumption quantities and bilateral purchases. However, it ignores circumstances that may justify a decrease in a Market Participant's Credit Limit.

The IMO has received requests from Market Participants to amend the Market Rules to allow for both increases and decreases of a Market Participant's Credit Limit. The IMO considers that the intent of this clause was to limit the risk of exposure to the financial impact of a Market Participant defaulting. The reverse was not included, in the understanding that, where circumstances had changed with the potential to result in a decrease in a Market Participant's Credit Limit, the Market Participant would have an incentive to inform the IMO.

The IMO proposes that clause 2.37.5 should be clarified to ensure that Market Participants are aware that the IMO should be notified of information that may result in either an increase or decrease of its Credit Limit. The detail considering different circumstances that warrant a Market Participant's notification to the IMO are proposed to be moved to the Market Procedure.

It should be noted that clause 2.37.5 has an associated civil penalty under the Regulations.

Proposed Amendment

2.37.~~5~~8. A Market Participant must notify the IMO as soon as practicable where ~~it considers that:~~any of the circumstances specified in the relevant Market Procedure for the purposes of this clause (which are circumstances that may result in an increase or decrease in a Market Participant's Credit Limit) have occurred or may occur.~~:~~

~~(a) its metered consumption quantities in a Trading Month will significantly exceed the amount assumed in the last calculation of its Credit Limit; or~~

~~(b) its quantity of electricity purchased bilaterally in a Trading Month will be significantly lower than assumed in the last calculation of its Credit Limit.~~

C. Guidelines for determining the expected value of a transaction

Clause 2.37.9 requires the IMO to provide guidelines, consistent with the methodology for determining Credit Limits, for determining the expected value of a transaction in the Market Procedure. These guidelines were intended to be used by the IMO and Market Participants to assess whether a Market Participant's Trading Margin will be exceeded following a submission. Under clause 2.41.2, a Market Participant must use the guidelines to determine if a submission can be made. Under clause 2.41.3 the IMO has the right to reject a submission where, using the guidelines, the submission could result in the Market Participant's Trading Margin being exceeded.

The Market Procedure does not currently include any guidelines to calculate the expected value of a transaction.

Assessment of an appropriate guideline to calculate the expected value of a transaction has led the IMO to conclude that a definitive and prescriptive guideline is not practicable given the way in which submissions are made and liabilities arise in the WEM. This consideration, together with the requirement for the guideline to be consistent with the methodology for determining Credit Limits, has led the IMO to propose amendments to clause 2.37.9 to include a set of factors to be taken into account when determining the expected value of a transaction, rather than guidelines. These factors should then be included in the Market Procedure.

The IMO also proposes that clause 2.37.9 is more appropriately positioned with clauses 2.41.2 and 2.41.3, which are directly related to the use of the expected value of a transaction calculation (proposed to be renumbered as clause 2.41.5).

These proposed amendments should also be reflected in clause 2.43.1 which provides the head of power for the *Market Procedure: Prudential Requirements*.

Proposed Amendments

~~2.37.9. The IMO must develop guidelines in the Market Procedure referred to in clause 2.43 for determining the expected value of a transaction. The guidelines must be consistent with the methodology that the IMO uses to determine Credit Limits for Market Participants.~~

2.41.2. A Market Participant must not make any submission to the IMO where the transaction contemplated by the submission, if valued according to the list of factors referred to in clause 2.41.5, could result in ~~the Trading Margin of~~ the Market Participant's Trading Margin being exceeded~~, were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9~~.

2.41.3. The IMO may reject any submission from a Market Participant where in the IMO's opinion the transaction contemplated by the submission, if valued according to the list of factors referred to in clause 2.41.5, could result in ~~the Trading Margin of~~ the Market Participant's Trading Margin being exceeded~~, were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9~~.

2.41.5. The IMO must publish in the Market Procedure referred to in clause 2.43.1, a list of factors to be taken into account for determining the expected value of a transaction. The factors must be consistent with the methodology that the IMO uses to determine Credit Limits for Market Participants.

2.43.1. The IMO must develop a Market Procedure dealing with:

...

(e) ~~guidelines~~ the list of factors to be taken into account for assessing the expected value of transactions;

(f) issuing of Margin Calls; and

(g) other matters relating to clauses 2.37 to 2.42,

...

D. **Accounting for voluntary prepayments in the calculation of the Outstanding Amount**

The IMO calculates a Market Participant's Outstanding Amount at any point in time to assess its current liability and therefore, the level of financial risk to the market.

In accordance with clause 2.40.1, the IMO calculates the Outstanding Amount as the net aggregate of all amounts payable, including unpaid invoices and amounts for which a Settlement Statement has not yet been issued.

Under clause 2.41.1, the IMO calculates a Market Participant's Trading Margin as the amount by which its Trading Limit exceeds its Outstanding Amount at that time. The Market Participant must maintain a sufficiently high Trading Margin in order to participate in the WEM. This ensures that the IMO holds sufficient Credit Support to cover a Market Participant's liabilities. In order to increase its Trading Margin, a Market Participant may make a voluntary prepayment to reduce its Outstanding Amount. The value of this prepayment is reflected in the Outstanding Amount by way of a reduction in the forthcoming Invoice.

The current process followed for receiving voluntary prepayments is not well defined and therefore, has the potential to expose the WEM to any financial risk arising out of Suspension Events such as a payment default or insolvency of a Market Participant. Assessment of the current process has indicated that, to remove this risk, the IMO is required to ensure that any amount held as a prepayment must be applied for the specific purpose of reducing the Market Participant's Outstanding Amount.

Therefore, the IMO proposes to expand clause 2.40.1 to include voluntarily prepaid amounts in the calculation of Outstanding Amount. In addition, the process for handling these monies has been detailed in the draft revised Market Procedure. The proposed amendments will reduce the financial risk associated with Suspension Events and provide assurance to Market Participants on the application of any prepayments.

Proposed Amendments

2.40.1. The Outstanding Amount for a Market Participant at any time equals the total amount calculated as follows:

(a) ~~[Blank]~~

~~(b) the total amount calculated as follows:~~

~~i.~~ the aggregate of the amounts payable by the Market Participant to the IMO under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached; less

(b) ~~ii.~~ the aggregate of the amounts payable by the IMO to the Market Participant under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached~~.~~; less

(c) the aggregate of any amounts paid by the Market Participant to the IMO for the purpose (to be specified by the Market Participant in accordance with the Market Procedure referred to in clause 2.43.1) of reducing the Outstanding Amount and increasing the Trading Margin on each day during the period from the Trading Day on which the Outstanding Amount is calculated up to and including either the next STEM Settlement Date or the next Non-STEM Settlement Date whichever settlement date occurs first.

E. Typical Accrual and the amount of Margin Call

A Margin Call represents a requirement for a Market Participant to provide a Security Deposit or additional Credit Support to cover possible losses in the event that a Market Participant's Trading Margin falls below zero. The IMO must determine the amount of the Margin Call as the Outstanding Amount less the Typical Accrual under clause 2.42.3.

The Typical Accrual is defined in clause 2.42.2 as the amount that the IMO determines would have been the Outstanding Amount at that time, resulting from the application of average prices and quantities, as applied to the most recent determination of the Market Participant's Credit Limit. In other words, to determine the Typical Accrual, the IMO must calculate what the Outstanding Amount for the Market Participant would have been, at the time of the determination, if it was calculated using average prices and quantities rather than as described in clause 2.40.1.

In practice, the IMO has found that the concept of the Typical Accrual is complex and may not produce a more reliable estimate compared to the Outstanding Amount determined under clause 2.40.1. In instances where a Market Participant's Trading Margin reaches zero, the IMO has sought to increase the Market Participant's Credit Limit, which requires additional Credit Support to be provided and therefore reduces the exposure to the market.

The IMO proposes to remove the concept of the Typical Accrual and amend clause 2.42.3 to indicate that the amount of the Margin Call is the amount that will raise the Trading Margin to zero. This is in line with the proposed amendments to the determination of a Market Participant's Credit Limit. The result of the IMO's proposed amendments is that the amount of the Margin Call would be determined based on the Market Participant's most recent

Trading Margin and the available Credit Support held by the IMO.

Clause 2.42.7 also stipulates that following a Margin Call, the IMO must review and increase the Credit Limit 'in line with the amount of the Margin Call'. In some circumstances, the Margin Call amount (as calculated above) may not constitute an adequate increase to protect the WEM from financial risk. The IMO therefore proposes to amend clause 2.42.7 to remove the specified amount of increase and provide for a Credit Limit review to be undertaken after a Margin Call is made. The Credit Limit review should be performed in accordance with the methodology specified in clause 2.37.4.

Finally, the IMO also notes that clause 2.42.4 obligates a Market Participant to take certain actions within *one Business Day* from the issuance of a Margin Call Notice. The IMO considers that this time period should be changed to 24 hours to ensure that the time lag and the associated financial risk to the market is minimised.

Proposed Amendments

2.42.1. If, at any time, a Market Participant's Trading Margin is less than ~~drops to~~ zero ~~or below~~, then the IMO may issue a Margin Call Notice to the Market Participant, specifying the amount of the Margin Call.

2.42.2. [Blank]~~The Typical Accrual for a Market Participant at any time is the amount that the IMO determines would have been the Outstanding Amount of the Market Participant at that time if the prices and quantities applying to amounts payable by the Market Participant were equal to the average prices and quantities as applied in the most recent determination of the Market Participant's Credit Limit.~~

2.42.3. The amount of the Margin Call must be the amount that will increase the Market Participant's Trading Margin to zero.~~equal to the Market Participant's Outstanding Amount less the Market Participant's Typical Accrual.~~

2.42.4. ~~Where a Margin Call Notice is issued, the~~A Market Participant must respond within 24 hours after receiving a ~~one Business Day from the~~ Margin Call Notice ~~being issued respond to the Margin Call~~ by either:

(a) paying to the IMO in cleared funds a Security Deposit as contemplated under clause 2.38.4(b); or

(b) ensuring the IMO has the benefit of additional Credit Support of the kind contemplated by clause 2.38.4(a),

in the amount of the Margin Call.

2.42.7. ~~Where t~~The IMO ~~issues a Margin Call Notice, it~~ must review a ~~the~~ Market Participant's Credit Limit within 30 Business Days after issuing a Margin Call Notice to that Market Participant.~~of the relevant Market Participant and increase the Credit Limit in line with the amount of the Margin Call.~~

11 Glossary

~~**Typical Accrual**: The amount determined in accordance with clause 2.42.2.~~

Margin Call Notice: A notification by the IMO to a Market Participant that the Market Participant's Trading Margin ~~has dropped below~~ is less than zero, and requiring the payment of a Margin Call.

F. Credit Support arrangements

Credit Support is required under clause 2.38.4 of the Market Rules to be held by the IMO on behalf of the Market Participant, to be drawn down in the event of that Market Participant failing to settle an Invoice or another circumstance specified in clause 9.23.4(b). Clauses 2.38.1, 2.38.2 and 2.38.3 outline a Market Participant's obligations related to providing Credit Support and clause 2.38.4 specifies the form of a Credit Support arrangement.

The IMO considers that each of these clauses should be amended to improve the integrity of the drafting and provide additional clarity to Market Participants around their obligations. The issues proposed to be addressed include:

(a) Clause 2.38.1 currently specifies that where a Market Participant does not meet the Acceptable Credit Criteria, it must provide Credit Support in an amount not less than its Credit Limit. This clause has combined two separate obligations: first, that the Credit Support must always be an amount not less than the Credit Limit; and second, that some other form of Credit Support must be arranged when at any time Acceptable Credit Criteria are not met. It is proposed that this clause is amended to clarify that the obligation to provide Credit Support is necessary irrespective of whether the Acceptable Credit Criteria are met.

(b) Clause 2.38.2 currently obligates a Market Participant to renew its Credit Support at least 10 Business Days before the existing Credit Support expires. While it is important to retain the obligation of renewing Credit Support before the expiry of existing Credit Support, the IMO proposes to move the more administrative and prescriptive processes and timelines to the Market Procedure.

(c) Clause 2.38.3 currently specifies situations which necessitate the provision of replacement Credit Support. The IMO proposes that the prescriptive detail included in the clause should be moved to the Market Procedure. Further, the time limit for providing replacement Credit Support should be changed from one Business Day to 24 hours to ensure that the time lag and the associated financial risk to the market is minimised.

The IMO proposes to amend the drafting of each of these clauses to clearly specify a Market Participant's obligations and to move prescriptive detail to the Market Procedure.

The IMO also notes that clauses 2.38.1, 2.38.2 and 2.38.3 have associated civil penalties under the Regulations.

Proposed Amendments

2.38.1. ~~Where at any time a Market Participant does not meet the Acceptable Credit Criteria set out in clause 2.38.6, then the~~ A Market Participant~~,~~ must ensure that, at all times, the IMO holds the benefit of Credit Support that is:

(a) in the form specified in clause 2.38.4; and

(b) in an amount not less than ~~its~~ the most recently determined Credit Limit for that Market Participant.

2.38.2. Where a Market Participant's existing Credit Support is due to expire or cease to have effect for any other reason~~terminate~~, then that Market Participant must~~, at least 10 Business Days before the time when the existing Credit Support will expire or terminate,~~ ensure that the IMO holds the benefit of ~~a~~ replacement Credit Support that:

(a) is in the form specified in clause 2.38.4;

(b) is in an amount not less than the level required under clause 2.38.1(b); and

(c) ~~that will~~ becomes effective when ~~at the expiry of~~ the existing Credit Support expires or otherwise ceases to have effect.

2.38.3. Where a Market Participant's Credit Support~~Limit~~ is affected by any of the circumstances specified in the Market Procedure referred to in clause 2.43.1 for the purposes of this clause ~~increased, or where the existing Credit Support is no longer current or valid (for example, because the credit support provider ceases to meet the Acceptable Credit Criteria) or where some or all of the Credit Support has been drawn on by the IMO in accordance with these Market Rules~~, then that Market Participant must ensure that the IMO holds the benefit of ~~a~~ replacement Credit Support that:

(a) is in the form specified in clause 2.38.4;

(b) is in an amount not less than the level required under clause 2.38.1(b); and

(c) becomes effective within 24 hours after the Market Participant first becomes aware of the relevant change in circumstance (whether by reason of the Market Participant's own knowledge or a notification by the IMO)~~one Business Day~~.

2.38.4. The Credit Support for a Market Participant must be:

(a) an obligation in writing that:

i. is from a ~~c~~Credit ~~s~~Support provider, who must be an entity which meets the Acceptable Credit Criteria and which itself is not a Market Participant;

ii. is a guarantee or bank undertaking in a form prescribed by the IMO;

iii. is duly executed by the ~~c~~Credit ~~s~~Support provider and delivered unconditionally to the IMO;

iv. constitutes valid and binding unsubordinated obligations to the ~~c~~Credit ~~s~~Support provider to pay to the IMO amounts in accordance with its terms which relate to ~~obligations of~~ the relevant Market Participant's obligations under the Market Rules; and

v. permits drawings or claims by the IMO up to a stated amount; or

(b) a cash deposit ("**Security Deposit**") made with the IMO by or on behalf of the Market Participant.

G. List of entities meeting Acceptable Credit Criteria

In accordance with clause 2.38.7, the IMO maintains a list of entities (Credit Support providers) meeting Acceptable Credit Criteria on the Market Web Site. The IMO determines that a Credit Support provider meets the Acceptable Credit Criteria based on documents provided by a Market Participant when submitting Credit Support to the IMO.

Clause 2.38.7(a) obligates entities to provide evidence of meeting the Acceptable Credit Criteria every 12 months. The IMO proposes to improve the drafting of this clause to clarify that the obligation of providing the IMO with evidence that the Credit Support provider continues to meet the Acceptable Credit Criteria should be placed appropriately on the Market Participant, rather than the provider. Additionally, the details around the process for a Market Participant to provide such evidence and the IMO's monitoring of the list of entities that meet the Acceptable Credit Criteria should be moved to the Market Procedure.

Proposed Amendments

2.38.7. The IMO must maintain on the Market Web Site a list of entities which:

(a) ~~have provided~~ the IMO is satisfied, based on evidence provided by Market Participants in the previous 12~~twelve~~ months, ~~with evidence satisfactory to the IMO that they~~ meet the Acceptable Credit Criteria outlined in clause 2.38.6; or

(b) the IMO has determined in its absolute discretion meet the Acceptable Credit Criteria outlined in clause 2.38.6.

H. Corresponding changes to relevant Market Rules for Reserve Capacity Security

The Market Rules that relate to a Market Participant providing Reserve Capacity Security under clause 4.13 are similar to those that relate to Credit Support. Specifically:

- the Credit Support or Reserve Capacity Security must be provided either as a Security Deposit or as an obligation underwritten by entities meeting the Acceptable Credit Criteria;

- the replacement Credit Support or Reserve Capacity Security must be provided without any time lag; and

- the amount of the Credit Support or Reserve Capacity Security should be at least equal to the most recently determined Credit Limit or Reserve Capacity Security.

The IMO proposes to replicate the proposed amendments related to prudential obligations in the relevant clauses in section 4.13, as they apply to Reserve Capacity Security. The IMO also proposes to make appropriate amendments to the Market Procedure: Reserve Capacity Security[3].

Further, the IMO notes that clauses 4.13.3 and 4.13.4 have associated civil penalties under the Regulations.

Proposed Amendments

4.13.1. Where the IMO assigns Certified Reserve Capacity to a Facility that is yet to enter service (or re-enter service after significant maintenance or having been upgraded), the relevant Market Participant must ensure that the IMO holds the benefit of a Reserve Capacity Security that is:

(a) in the form specified in clause 4.13.5; and

(b) in an amount determined under clause 4.13.2(a) by the date and time specified in clause 4.1.13.

4.13.2C Where under clause 4.13.2B the IMO notifies a Market Participant that excess Reserve Capacity Security is currently held, then a Market Participant may replace the existing Reserve Capacity Security with a replacement Reserve Capacity Security~~. The replacement Reserve Capacity Security~~ which must:

(a) be in the form specified in clause 4.13.5;

(b) be in an amount not less than the amount required under clause 4.13.2(b); and

(~~b~~c) become effective before the IMO returns any excess Reserve Capacity Security.

4.13.3. Where a Market Participant's existing Reserve Capacity Security is due to ~~terminate~~ expire or cease to have effect for any other reason and after that ~~termination~~ expiration the Market Participant will continue to have an obligation to ensure the IMO holds the benefit of a Reserve Capacity Security under clause 4.13.1, then that Market Participant must ensure that the IMO holds the benefit of a replacement Reserve Capacity Security that~~. The replacement Reserve Capacity Security must~~:

[3] The proposed amended Market Procedure: Reserve Capacity Security will be presented at a later date during the rule change process.

(a) is in the form specified in clause 4.13.5;

(b) ~~be~~ is an amount not less than the amount required under clause 4.13.2; and

(~~b~~c) becomes effective when~~before the termination of~~ the existing Reserve Capacity Security expires or otherwise ceases to have effect.

4.13.4. Where a Market Participant's Reserve Capacity Security is affected by any of the circumstances specified in the Market Procedure referred to in clause 4.13.8 for the purposes of this clause ~~no longer current or valid (for example, because the Reserve Capacity Security provider ceases to meet the Acceptable Credit Criteria)~~, then that Market Participant must ensure that the IMO holds the benefit of a replacement Reserve Capacity Security that:

(a) is in the form specified in clause 4.13.5;

(b) is in an amount not less than the level required under clause 4.13.2; and

(c) becomes effective within 24 hours after the Market Participant first becomes aware of the relevant change in circumstance (whether by reason of the Market Participant's own knowledge or a notification by the IMO)~~one Business Day~~.

4.13.5. The Reserve Capacity Security for a Market Participant must be:

(a) an obligation in writing that:

i. is from a Reserve Capacity Security provider, who must be an entity which meets the Acceptable Credit Criteria and which itself is not a Market Participant;

ii. is a guarantee or bank undertaking in a form prescribed by the IMO;

iii. is duly executed by the Reserve Capacity Security provider and delivered unconditionally to the IMO;

iv. constitutes valid and binding unsubordinated obligations to the Reserve Capacity Security provider to pay to the IMO amounts in accordance with its terms which relate to ~~the obligations of~~ the relevant Market Participant's obligations under the Market Rules to pay compensation under clause 4.13.11; and

v. permits drawings or claims by the IMO up to a stated amount; or

(b) if the IMO in its discretion considers it an acceptable alternative in the circumstances to the obligation under clause 4.13.5(a), a cash deposit ("**Security Deposit**") made with the IMO (on terms acceptable to the IMO in its discretion) by or on behalf of the Market Participant.

11 Glossary

Reserve Capacity Security: The reserve capacity security to be provided for a Facility that:

(a) has the meaning given in clause 4.13.5; and
(b) is as calculated and re-calculated under clause 4.13 and clause 4.28C.

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2. Explain the reason for the degree of urgency:

The IMO has determined that this Rule Change Proposal is of medium urgency and proposes it is progressed through the Standard Rule Change Process.

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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)

The IMO has reproduced the Prudential Requirements section of the Market Rules in Appendix 1 to facilitate a holistic view and better understanding of the proposed amendments.

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

The Rule Change Proposal would allow the Market Rules to impact the Wholesale Market Objectives, as described below.

Impact	Market Objectives
Allow the Market Rules to better address the objective	a
Consistent with objective	b, c, d, e
Inconsistent 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;

(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.

The IMO believes the proposed amendments to the prudential requirements will allow the Market Rules to better achieve Wholesale Market Objective (a) as it will:

- increase transparency in the WEM and reduce barriers to entry by providing more information on a Market Participant's Credit Limit determination, thereby promoting economic efficiency;
- provide clarity on the Outstanding Amount and the inclusion of voluntary prepayments which will promote accuracy in monitoring Trading Margins and making Margin Calls, thereby minimising the potential financial risk to the WEM; and
- allow better timelines and handling processes around Credit Support arrangements which will reduce overall risk created in the WEM due to Suspension Events, thereby promoting overall prudential security.

The IMO considers that the proposal is consistent with the remaining Wholesale Market Objectives.

The proposed amendments will also improve the overall integrity of the Market Rules by employing a principles-based approach, moving the more prescriptive detail into the Market Procedure. It will also improve the linkages between the Market Rules and the Market Procedure.

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

Costs

The move to dynamic monitoring of prudential liabilities will require some changes within the Settlement system and its integration with the Wholesale Electricity Market System (WEMS). A formal costing for these IT changes has not yet been obtained by the IMO. However, it is expected that any costs will be outweighed by the benefits to the market.

It is not anticipated this change will result in any additional IT expenses to Market Participants.

Benefits

The proposed amendments allow for more transparency with respect to Credit Limit determinations, improved monitoring of prudential liabilities and better processes around

handling Credit Support. This will reduce the potential financial risk to the WEM and may lead to lower Credit Support requirements for some Market Participants. The proposed changes will also allow a more responsive and robust Margin Call process.

Appendix 1: Proposed Amending Rules: Prudential Requirements

Prudential Requirements

2.37. Credit Limit

2.37.1. The IMO must determine a Credit Limit for each Market Participant in accordance with clause 2.37.4.

2.37.2. Subject to clauses 2.37.3 and 2.42.7, ~~T~~the IMO may review and revise a Market Participant's ~~revise the~~ Credit Limit ~~of a Market Participant~~ at any time.

2.37.3. The IMO must review each Market Participant's ~~the~~ Credit Limit ~~of a Market Participant~~ at least once each year.

2.37.4. Subject to clauses 2.37.5 and 2.37.6, the Credit Limit for a Market Participant is the dollar amount determined by the IMO as being equal to the amount that the IMO reasonably expects will not be exceeded over any 70 day period, where this amount is:

(a) the maximum net amount owed by the Market Participant to the IMO over the 70 day period;

(b) determined by applying the factors set out in clause 2.37.5; and

(c) calculated in accordance with the Market Procedure referred to in clause 2.43.1.

~~2.37.4. The Credit Limit for each Market Participant is the dollar amount determined by the IMO as being equal to the maximum net amount that the Market Participant is expected to owe the IMO over any 70 day period where this amount is not expected to be exceeded more than once in a 48 month period. When determining the Credit Limit for a Market Participant the IMO must take into account:~~

~~(a) the average level and volatility of the Balancing Price and the STEM Clearing Price for the previous 48 months, or such shorter time period as data is available for;~~

~~(b) the metered quantity data for the Market Participant, or an estimate of their expected generation and consumption where no meter data is available;~~

~~(c) the correlation between the Relevant Dispatch Quantity and the Balancing Price;~~

~~(d) the length of the settlement cycle and the process set out in clauses 9.23, 9.24 and 2.32;~~

~~(e) a reduction in the Credit Limit reflecting applicable bilateral contract purchase quantities, where these quantities are the historical bilateral contract submissions, or an estimate of the Market Participant's expected bilateral contract levels where no historical bilateral contract submission data is available;~~

~~(f) the historical STEM sales and purchases, or an estimate of the Market Participant's expected STEM sales and purchases where no historical STEM sale and purchase data is available;~~

~~(fA) the historical level of payments under clause 9.8.1 or an estimate of the Market Participant's expected level of payments under clause 9.8.1 where no historical payment data is available;~~

~~(g) the expected level of Ancillary Service payments;~~

~~(h) the statistical distribution of the accrued amounts that may be owed to the IMO;~~

~~(i) the degree of confidence that the Credit Limit will be large enough to meet large defaults; and~~

~~(j) any past breach of the Regulations or these Market Rules by, the Market Participant or a related entity of the Market Participant.~~

2.37.5 When determining a Market Participant's Credit Limit the IMO must take into account:

(a) the Market Participant's historical level of payments based on metered quantity data for the Market Participant, or an estimate of the Market Participant's future level of payments based on its expected generation and consumption quantities where no metered quantity data is available;

(b) the Market Participant's historical level of payments based on its Bilateral Contract sale and purchase quantities as reflected in historical bilateral contract submissions, or an estimate of the Market Participant's future level of payments based on its expected Bilateral Contract sale and purchase quantities where no historical bilateral contract submission data is available;

(c) the Market Participant's historical level of STEM settlement payments under clause 9.6.1, or an estimate of the Market Participant's future level of STEM settlement payments based on its expected STEM sales and purchases where no historical STEM settlement payment data is available;

(d) the Market Participant's historical level of Reserve Capacity settlement payments under clause 9.7.1, or an estimate of the Market Participant's future level of Reserve Capacity settlement payments based on its number of Capacity Credits where no historical Reserve Capacity settlement payment data is available;

(e) the Market Participant's historical level of Balancing settlement payments under clause 9.8.1, or an estimate of the Market Participant's future level of Balancing settlement payments based on its expected transactions in the Balancing Market where no historical Balancing settlement payment data is available;

(f) the Market Participant's historical level of Ancillary Service settlement payments under clause 9.9.1, or an estimate of the Market Participant's future level of Ancillary Service settlement payments based on its expected Ancillary Service provision where no historical Ancillary Service settlement payment data is available;

(g) the Market Participant's historical level of Outage Compensation settlement payments under clause 9.10.1, or an estimate of the Market Participant's future level of Outage Compensation settlement payments based on its expected level of Outages where no historical Outage Compensation settlement payment data is available;

(h) the Market Participant's historical level of Reconciliation settlement payments under clause 9.11.1, or an estimate of the Market Participant's future level of Reconciliation settlement payments where no historical Reconciliation settlement payment data is available;

(i) the Market Participant's historical level of Market Participant Fee settlement payments under clause 9.13.1, or an estimate of the Market Participant's future level of Market Participant Fee settlement payments based on its expected generation or consumption quantities where no historical Market Participant Fee settlement payment data is available;

(j) the length of the settlement cycle; and

(k) any other factor that the IMO considers relevant.

~~2.37.5. A Market Participant must notify the IMO as soon as practicable where it considers that:~~

~~(a) its metered consumption quantities in a Trading Month will significantly exceed the amount assumed in the last calculation of its Credit Limit; or~~

~~(b) its quantity of electricity purchased bilaterally in a Trading Month will be significantly lower than assumed in the last calculation of its Credit Limit.~~

2.37.6. In determining a Market Participant's Credit Limit under clause 2.37.4, the IMO may, to the extent it considers relevant, take into account a minimum amount that the IMO considers would adequately protect the Wholesale Electricity Market if a Suspension Event were to occur in relation to that Market Participant.

2.37.7. The IMO must notify each Market Participant of its Credit Limit, including any revised Credit Limit under clause 2.37.2. The IMO must provide details of the basis for the determination of the Credit Limit (with references to the factors specified in clause 2.37.5 and the Market Procedure referred to in clause 2.43.1).

2.37.8. A Market Participant must notify the IMO as soon as practicable where it considers that:

(a) its metered consumption quantities in a Trading Month will significantly exceed the amount assumed in the last calculation of its Credit Limit; or

(b) its quantity of electricity purchased bilaterally in a Trading Month will be significantly lower than assumed in the last calculation of its Credit Limit.

~~2.37.6. [Blank]~~

~~2.37.7. [Blank]~~

~~2.37.8. The IMO must notify each Market Participant of their Credit Limit, and provide details of the basis for the determination of the Credit Limit.~~

~~2.37.9. The IMO must develop guidelines in the Market Procedure referred to in clause 2.43 for determining the expected value of a transaction. The guidelines must be consistent with the methodology that the IMO uses to determine Credit Limits for Market Participants.~~

2.38. Credit Support

2.38.1. ~~Where at any time a Market Participant does not meet the Acceptable Credit Criteria set out in clause 2.38.6, then the~~ A Market Participant~~,~~ must ensure that, at all times, the IMO holds the benefit of Credit Support that is:

(a) in the form specified in clause 2.38.4; and

(b) in an amount not less than ~~its~~ the most recently determined Credit Limit for that Market Participant.

2.38.2. Where a Market Participant's existing Credit Support is due to expire or cease to have effect for any other reason~~terminate~~, then that Market Participant must~~, at least 10 Business Days before the time when the existing Credit Support will expire or terminate,~~ ensure that the IMO holds the benefit of ~~a~~ replacement Credit Support that:

(a) is in the form specified in clause 2.38.4;

(b) is in an amount not less than the level required under clause 2.38.1(b); and

(c) ~~that will~~ becomes effective when ~~at the expiry of~~ the existing Credit Support expires or otherwise ceases to have effect.

2.38.3. Where a Market Participant's Credit Support~~Limit~~ is affected by any of the circumstances specified in the Market Procedure referred to in clause 2.43.1 for

the purposes of this clause ~~increased, or where the existing Credit Support is no longer current or valid (for example, because the credit support provider ceases to meet the Acceptable Credit Criteria) or where some or all of the Credit Support has been drawn on by the IMO in accordance with these Market Rules~~, then that Market Participant must ensure that the IMO holds the benefit of ~~a~~ replacement Credit Support that:

(a) is in the form specified in clause 2.38.4;

(b) is in an amount not less than the level required under clause 2.38.1(b); and

(c) becomes effective within 24 hours after the Market Participant first becomes aware of the relevant change in circumstance (whether by reason of the Market Participant's own knowledge or a notification by the IMO)~~one Business Day~~.

2.38.4. The Credit Support for a Market Participant must be:

(a) an obligation in writing that:

i. is from a ~~c~~Credit ~~s~~Support provider, who must be an entity which meets the Acceptable Credit Criteria and which itself is not a Market Participant;

ii. is a guarantee or bank undertaking in a form prescribed by the IMO;

iii. is duly executed by the ~~c~~Credit ~~s~~Support provider and delivered unconditionally to the IMO;

iv. constitutes valid and binding unsubordinated obligations to the ~~c~~Credit ~~s~~Support provider to pay to the IMO amounts in accordance with its terms which relate to ~~obligations of~~ the relevant Market Participant's obligations under the Market Rules; and

v. permits drawings or claims by the IMO up to a stated amount; or

(b) a cash deposit ("**Security Deposit**") made with the IMO by or on behalf of the Market Participant.

2.38.5. Where Credit Support is provided as a Security Deposit in accordance with clause 2.38.4(b), it will accrue interest daily at the Bank Bill Rate, and the IMO must pay the Market Participant the interest accumulated at the end of each calendar month less any liabilities and expenses incurred by the IMO, including bank fees and charges.

2.38.6. An entity meets the Acceptable Credit Criteria if it is:

(a) either:

i. under the prudential supervision of the Australian Prudential Regulation Authority; or

ii. a central borrowing authority of an Australian State or Territory which has been established by an Act of Parliament of that State or Territory;

(b) resident in, or has a permanent establishment in, Australia;

(c) not an externally-administered body corporate (within the meaning of the Corporations Act), or under a similar form of administration under any laws applicable to it in any jurisdiction;

(d) not immune from suit;

(e) capable of being sued in its own name in a court of Australia; and

(f) has an acceptable credit rating, being either:

i. a rating of A-1 or higher for short term unsecured counterparty obligations of the entity, as rated by Standard and Poor's (Australia) Pty. Limited; or

ii. a rating of P-1 or higher for short term unsecured counterparty obligations of the entity, as rated by Moodys Investor Services Pty. Limited.

2.38.7. The IMO must maintain on the Market Web Site a list of entities which:

(a) ~~have provided~~ the IMO is satisfied, based on evidence provided by Market Participants in the previous 12~~twelve~~ months, ~~with evidence satisfactory to the IMO that they~~ meet the Acceptable Credit Criteria outlined in clause 2.38.6; or

(b) the IMO has determined in its absolute discretion meet the Acceptable Credit Criteria outlined in clause 2.38.6.

2.38.8 The IMO must monitor the entities included on the list described in clause 2.38.7 against the requirements in clause 2.38.6 (f).

2.38.9 The IMO may remove the name of an entity from the list described in clause 2.38.7 at any time if the IMO considers that the entity no longer meets the Acceptable Credit Criteria defined in clause 2.38.6.

2.39. Trading Limit

2.39.1. The Trading Limit for a Market Participant is to equal the prudential factor specified in clause 2.39.2 multiplied by the total amount which can be drawn or claimed under, or applied from, its Credit Support.

2.39.2. The prudential factor is 0.87.

2.40. Outstanding Amount

2.40.1. The Outstanding Amount for a Market Participant at any time equals the total amount calculated as follows:

(a) ~~[Blank]~~

~~(b) the total amount calculated as follows:~~

~~i.~~ the aggregate of the amounts payable by the Market Participant to the IMO under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached; less

(b) ~~ii.~~ the aggregate of the amounts payable by the IMO to the Market Participant under these Market Rules, including amounts for all past periods for which no Settlement Statement has yet been issued, and whether or not the payment date has yet been reached~~.~~; less

(c) the aggregate of any amounts paid by the Market Participant to the IMO for the purpose (to be specified by the Market Participant in accordance with the Market Procedure referred to in clause 2.43.1) of reducing the Outstanding Amount and increasing the Trading Margin on each day during the period from the Trading Day on which the Outstanding Amount is calculated up to and including either the next STEM Settlement Date or the next Non-STEM Settlement Date whichever settlement date occurs first.

2.40.2. The amounts to be used for the purposes of making the calculation under clause 2.40.1(b)(i) and (ii) will be the actual amounts for which Settlement Statements have been issued by the IMO and the IMO's reasonable estimate of other amounts.

2.41. Trading Margin

2.41.1. The Trading Margin for a Market Participant at any time equals the amount by which its Trading Limit exceeds its Outstanding Amount at that time.

2.41.2. A Market Participant must not make any submission to the IMO where the transaction contemplated by the submission, if valued according to the list of factors referred to in clause 2.41.5, could result in ~~the Trading Margin of~~ the Market Participant's Trading Margin being exceeded~~, were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9~~.

2.41.3. The IMO may reject any submission from a Market Participant where in the IMO's opinion the transaction contemplated by the submission, if valued according to the list of factors referred to in clause 2.41.5, could result in ~~the Trading Margin of~~ the Market Participant's Trading Margin being exceeded~~, were the transaction to be valued according to the expected value guidelines referred to in clause 2.37.9~~.

2.41.4. The IMO may notify a Market Participant at any time of the level of their Trading Margin.

2.41.5. The IMO must publish in the Market Procedure referred to in clause 2.43.1, a list of factors to be taken into account for determining the expected value of a transaction. The factors must be consistent with the methodology that the IMO uses to determine Credit Limits for Market Participants.

2.42. Margin Call

2.42.1. If, at any time, a Market Participant's Trading Margin is less than ~~drops to~~ zero ~~or below~~, then the IMO may issue a Margin Call Notice to the Market Participant, specifying the amount of the Margin Call.

2.42.2. [Blank]~~The Typical Accrual for a Market Participant at any time is the amount that the IMO determines would have been the Outstanding Amount of the Market Participant at that time if the prices and quantities applying to amounts payable by the Market Participant were equal to the average prices and quantities as applied in the most recent determination of the Market Participant's Credit Limit.~~

2.42.3. The amount of the Margin Call must be the amount that will increase the Market Participant's Trading Margin to zero.~~equal to the Market Participant's Outstanding Amount less the Market Participant's Typical Accrual.~~

2.42.4. ~~Where a Margin Call Notice is issued, the~~A Market Participant must respond within 24 hours after receiving a ~~one Business Day from the~~ Margin Call Notice ~~being issued respond to the Margin Call~~ by either:

(a) paying to the IMO in cleared funds a Security Deposit as contemplated under clause 2.38.4(b); or

(b) ensuring the IMO has the benefit of additional Credit Support of the kind contemplated by clause 2.38.4(a),

in the amount of the Margin Call.

2.42.5. The IMO may cancel a Margin Call Notice at any time. The cancellation of a Margin Call Notice does not affect the IMO's rights to issue a further Margin Call Notice on the same grounds that gave rise to the original Margin Call Notice.

2.42.6. Where a Market Participant fails to comply with clause 2.42.4 the provisions of clause 9.23 apply.

2.42.7. ~~Where t~~The IMO ~~issues a Margin Call Notice, it~~ must review a ~~the~~ Market Participant's Credit Limit within 30 Business Days after issuing a Margin Call

Notice to that Market Participant.~~of the relevant Market Participant and increase the Credit Limit in line with the amount of the Margin Call.~~

2.43. Prudential Market Procedure

2.43.1. The IMO must develop a Market Procedure dealing with:

...

(e) ~~guidelines~~the list of factors to be taken into account for assessing the expected value of transactions;

(f) issuing of Margin Calls; and

(g) other matters relating to clauses 2.37 to 2.42,

...

11 Glossary

~~**Typical Accrual**: The amount determined in accordance with clause 2.42.2.~~

Margin Call Notice: A notification by the IMO to a Market Participant that the Market Participant's Trading Margin ~~has dropped below~~ is less than zero, and requiring the payment of a Margin Call.

INDEPENDENT MARKET OPERATOR

Wholesale Electricity Market Procedure Change Proposal

Procedure Change ID: PC_2013_04

Change requested by

Name:	Martin Maticka
Phone:	9254 4340
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Email:	martin.maticka@imowa.com.au
Organisation:	IMO
Address:	Level 17, Governor Stirling Tower, 197 St. Georges Terrace, Perth
Date submitted:	*TBA*
Urgency:	*2-medium*
Procedure change title:	Changes to Market Procedure: Prudential Requirements
Market Procedure(s) affected:	Market Procedure: Prudential Requirements

Introduction

The IMO or System Management, as applicable, may initiate the Procedure Change Process by developing a Procedure Change Proposal. Rule Participants may notify the IMO or System Management, as applicable, where they consider an amendment or replacement of a Market Procedure would be appropriate.

If an Amending Rule requires the IMO or System Management to develop new Market Procedures or to amend or replace existing Market Procedures, then the IMO or System Management, as applicable, is responsible for the development, amendment, or replacement of Market Procedures so as to comply with the Amending Rule.

Market Procedures:

(a) must:

i. be developed, amended or replaced in accordance with the process in the Wholesale Electricity Market (WEM) Rules (Market Rules);

ii. be consistent with the Wholesale Market Objectives;

iii. be consistent with the Market Rules, the Electricity Industry Act and the Regulations; and

(b) may be amended or replaced in accordance with clause 2.10 and must be amended or replaced in accordance with clause 2.10 where a change is required to maintain consistency with Amending Rules.

The Wholesale Market Objectives 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.

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

Independent Market Operator
Attn: Group Manager, Development and Capacity
PO Box 7096, Cloisters Square
Perth WA 6850
Fax: (08) 9254 4399
Email: market.development@imowa.com.au

Details of Procedure Change Requested

1. Provide a reason for the proposed new, amended or replacement Market Procedure:

Background

The *Market Procedure: Prudential Requirements* provides further detail on issues related to the:

(a) determination of a Market Participant's Credit Limit;

(b) notification of any changes in circumstances affecting Credit Limits;

(c) arrangements for Market Participant's to provide Credit Support;

(d) management of a list of entities that meet the Acceptable Credit Criteria;

(e) application of a Market Participant's voluntary prepayments to its Outstanding Amount;

(f) concept of a Market Participant's Trading Margin and the calculation and method of making a Margin Call; and

(g) list of factors for assessing the expected value of transactions.

The IMO has developed the pre Rule Change Proposal *PRC_2012_23: Prudential Requirements* to provide further clarification of the obligations of Market Participants and the IMO with respect to prudential security and managing the financial exposure to the market. In addition, the proposed amendments in the pre Rule Change Proposal and this draft Procedure Change Proposal will ensure that the Wholesale Electricity Market (WEM) Rules (Market Rules) are principles-based by moving the more prescriptive detail to the Market Procedure.

The IMO has simultaneously drafted proposed amendments to Chapter 2 of the Market Rules and the Market Procedure to facilitate the Market Advisory Committee (MAC) to assess the proposed amendments in their entirety.

It should be noted that the Market Procedure has not been amended since 2008, necessitating substantial changes to implement the proposed Amending Rules from PRC_2012_23 and reflect the IMO's new standards in style, language and formatting. As a result, the IMO has not provided a marked-up copy of the draft revised Market Procedure.

The key areas that the IMO proposes more substantive amendments to are discussed below.

Proposed Amendments

1. Credit Limit determinations

Clause 2.37 of the Market Rules requires the IMO to determine, review and revise a Credit Limit for each Market Participant. PRC_2012_23 proposes to make amendments to strengthen the linkages between obligations and move the prescriptive detail for determining a Market Participant's Credit Limit to the Procedure.

Specifically, PRC_2012_23 seeks to amend clause 2.37.4 so that the Credit Limit:

(a) is determined as the maximum amount owed by a Market Participant over a 70 day period, making the Credit Limit calculation predictable, repeatable and robust;

(b) is calculated by taking into account various factors as laid out in proposed amendments to clause 2.37.5; and

(c) is supported by an obligation on the IMO to provide the Market Participant with details of the factors used in making the determination (as proposed in clause 2.37.7).

Consequently, the IMO has reviewed the Market Procedure with respect to Credit Limit determinations to:

(a) provide greater transparency around the application of various factors in determining Credit Limits under section 2 of the Market Procedure;

(b) provide further detail on the calculation of the Credit Limit for different types of Market Participants under section 2.2 and 2.3 of the Market Procedure; and

(c) improve the IMO's process of notifying Market Participants of their Credit Limits under section 2.7 of the Market Procedure.

The IMO has also included the amendments to the Market Procedure to reflect the Amending Rules made in *RC_2010_11: Removal of Network Control Services Expression of Interest and Tender Process* by removing the references to Credit Limits for Network Operators which are required to fund Network Control Service Contracts.

2. Time period of historical settlement data used in Credit Limit determination

In determining Credit Limits, the IMO uses historical data to predict future behaviour. The IMO currently uses settlement data from the previous 48 months to form the basis of a Market Participant's Credit Limit. The IMO has received suggestions from Market Participants that this time period is too long and therefore does not adequately represent current circumstances and behaviours.

To assess the impact of the proposed reduction in the time period, the IMO has examined the results of the last two annual Credit Limit reviews performed in 2010 and 2011. Using the current 48-month time span, the analysis shows that approximately 50% of Credit Limits were set based on settlement data within the later 24 months. The remaining 50% were set based on settlement data in the first 24 months of the 48-month time span. This indicates that half the Market Participants would have had their Credit Limits set at a lower level under the proposed shorter time span. This is likely to have resulted in reduced prudential financing costs to those Market Participants.

While the proposed amendments may result in the IMO holding a lower level of prudential security, the regular monitoring of Market Participants' Trading Margins and the increased ability for the IMO to make Margin Calls at short notice will reduce financial risk of default to the market.

Based on considerations as discussed above, the IMO proposes that the time period of historical data to be used in Credit Limit determination should be reduced to a maximum of 24 months. A time period of up to 24 months captures two samples of peak periods (including two summer seasons). A shorter time period would not offer enough peak periods and would reduce further if exceptional events (for example price spikes due to Varanus Island) had to be factored out.

The IMO proposes to amend section 2.2 of the Market Procedure which details the process to be followed. More specifically, the amendments to step 2.2.3 reflect the proposed change in time span from 48 to 24 months.

3. Notification of any change in circumstances affecting a Market Participant's Credit Limit

Currently, clause 2.37.5 only contemplates situations where a Market Customer's prudential risk may be affected, resulting in an increase in its Credit Limit. The clause does not take into account situations where Market Generators may need to vary their bilateral position in the Balancing Market. The exclusion of circumstances affecting Market Generators in clause 2.37.5 does not provide the IMO with an opportunity to revise their Credit Limit accordingly. Furthermore, this clause does not contemplate situations where a decrease in a Market Participant's Credit Limit may be considered.

In PRC_2012_23, the IMO proposes to amend clause 2.37.5 (renumbered to 2.37.8) to require a Market Participant to advise the IMO of information that may result in either an increase or decrease in the Market Participant's Credit Limit. The details on different circumstances that warrant a Market Participant's notification to the IMO are proposed to be moved to the Market Procedure.

The IMO proposes a non-exhaustive list of circumstances that may affect a Market Participant's Credit Limit, in which case a Market Participant must notify the IMO, in section 2.8 of the Market Procedure.

4. Accounting for voluntary prepayments in the calculation of the Outstanding Amount

PRC_2012_23 clarifies that Market Participants are allowed to make voluntary prepayments to reduce their Outstanding Amount and consequently increase their Trading Margin to securely transact in the WEM. The current processes around handling these monies are not well-defined and therefore present a financial risk to the market, as they relate to Suspension Events such as a payment default or insolvency of a Market Participant.

The current Market Procedure does not specifically address prepaid amounts. The IMO proposes to amend section 5.1 of the Market Procedure to detail the obligations on Market Participants and the IMO and the process to be followed for handling voluntary prepayments.

The IMO proposes amendments to the Market Procedure to require a Market Participant wishing to make a prepayment to complete a form (included in Appendix 2 of the Market Procedure) stating that the amount can only be applied to reducing the Market Participant's Outstanding Amount and increasing the Trading Margin. The proposed amendments also require the IMO to adjust this amount in the upcoming Invoice and appropriately reduce the Outstanding Amount in the prudential security report available through the Market Participant Interface on the WEM System.

5. Credit Support arrangements

In PRC_2012_23, the IMO proposes to amend clauses 2.38.1, 2.38.2 and 2.38.3 to:

(a) provide clarity to Market Participants with respect to their obligations to provide and maintain an appropriate level of Credit Support;

(b) change the timelines in all relevant clauses from one Business Day to 24 hours to minimise the associated risk to the WEM; and

(c) retain the principles in the Market Rules and move the prescriptive detail around timelines for providing Credit Support and circumstances which may necessitate replacement Credit Support to the Market Procedure.

As a result, the IMO proposes amendments to section 3 of the Market Procedure to:

(a) include a time by which a Market Participant must provide Credit Support to the IMO; and

(b) provide greater clarity around the processes to be followed by Market Participants and the IMO to ensure that adequate Credit Support is maintained at all times.

6. List of factors to assess the expected value of transactions

In PRC_2012_23, the IMO proposes to include a list of factors to be taken into account when determining the expected value of a transaction.

To facilitate this, the IMO proposes to include this list in Appendix-1 of the Market Procedure.

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2. Provide the wording of the amended Procedure

The proposed draft amended Market Procedure is provided as an attachment.

---

3. Describe how the proposed changes to the Market Procedure would be consistent with the Market Rules, the Electricity Industry Act and Regulations

The proposed draft amended Market Procedure has been reviewed as a whole by the IMO to ensure compliance of the Procedure with the relevant provisions in the:

- Electricity Industry Act;
- Regulations; and
- Market Rules

4. Describe how the proposed changes to the Market Procedure would be consistent with the Wholesale Market Objectives

The steps described in the proposed draft amended Market Procedure will facilitate the prudential obligations to be met by Market Participants and the IMO as described in clauses 2.37 to 2.42 of the Market Rules.

The IMO considers that the proposed amendments to the Market Procedure support the amendments proposed to the Market Rules in PRC_2012_23, which better achieve Wholesale Market Objective (a). The IMO also considers that the amended draft Market Procedure, as a whole, is consistent with the remaining Wholesale Market Objectives.

Procedure Change ID: PC_2013_04

Received Date:

INDEPENDENT
MARKET
OPERATOR

Market Procedure:
Prudential Requirements

ELECTRICITY INDUSTRY ACT 2004

ELECTRICITY INDUSTRY

(WHOLESALE ELECTRICITY MARKET)

REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

COMMENCEMENT:

This Market Procedure took effect from 8:00am (WST) on the

same date as the Wholesale Electricity Market Rules.

VERSION HISTORY

Version	Effective Date	Notes
1	12 September 2006	Market Procedure for Prudential Requirements
2	15 October 2008	Amendments to Market Procedure resulting from PC_2008_08
3	XX Month 2013	Amendments to Market Procedure resulting from PC_2013_04

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1 PROCEDURE OVERVIEW

1.1 Relationship with the Market Rules

1.1.1 This Prudential Requirements Market Procedure (Procedure) should be read in conjunction with clauses 2.37 to 2.43 of the Wholesale Electricity Market (WEM) Rules (Market Rules).

1.1.2 Reference to particular Market Rules within the Procedure in bold and square brackets **[Clause XX]** are current as of 1 July 2013. These references are included for convenience only, and are not part of this Procedure.

1.2 Purpose of this Procedure

1.2.1 This Procedure outlines:

(a) how the IMO will determine Credit Limits;

(b) how the IMO will assess persons against the Acceptable Credit Criteria;

(c) the arrangement for Credit Support, including:

i. the form of acceptable guarantees and bank letters of credit;

ii. where and how the IMO will hold cash deposits and how the costs and fees of holding cash deposits will be met;

iii. the application of monies drawn from Credit Support in respect of amounts owed by the relevant Market Participant to the IMO;

(d) how Trading Margins will be calculated;

(e) factors to be taken into account in determining the expected value of transactions;

(f) how Margin Calls will be issued; and

(g) other matters relating to clauses 2.37 to 2.42 of the Market Rules.

1.3 Application of this Procedure

1.3.1 This Procedure applies to the IMO and Market Participants.

1.4 Associated Market Procedures and Market Documents

1.4.1 The following Market Procedures are associated with this Procedure:

(a) Participant Registration and Deregistration Market Procedure;

(b) Settlements Market Procedure; and

(c) Reserve Capacity Security Market Procedure.

1.4.2 The following Market Documents are associated with this Procedure:

(a) Bank Undertaking for Credit Support;

(b) Guarantee for Credit Support;

(c) Security Deposit Deed for Credit Support;

(d) Security Deposit Deed for Credit Support, provided by Third Party;

(e) Form for submitting voluntary prepayments; and

(f) Acceptable Credit Criteria form;

(g) List of entities meeting Acceptable Credit Criteria

1.4.3 The following user guides are associated with this Procedure:

(a) Market Participant Registration Software User Guide[1].

1.5 Conventions Used

1.5.1 In this Procedure, the conventions specified in clauses 1.3 - 1.5 of the Market Rules apply.

1.5.2 The appendices contained within this Procedure form part of the Procedure and are legally enforceable.

1.6 Terminologies and Definitions

1.6.1 A word or phrase defined in the Electricity Industry Act, the Electricity Industry (Wholesale Electricity Market) Regulations or the Market Rules has the same meaning when used in this Procedure. In addition the following defined terms have the meaning given.

Table 1 – Defined Terms

Term	Definition
Due Date	Due Date is the date notified by the IMO in respect of a step in this Market Procedure where the Due Date is specified

2 APPLICATION OF CLAUSE 2.37.4

2.1 Credit Limit determination

2.1.1 When determining a Market Participant's Credit Limit in accordance with clauses 2.37.2 or 2.37.3, the IMO must take into account the principles laid out in clause 2.37.4. **[Clause 2.37.1]**

2.1.2 The IMO must apply clause 2.37.4 as follows:

(a) For a Market Participant for which at least three full months of settled Non-STEM data are available, the IMO must determine a Credit Limit in accordance with step 2.2 of this Procedure.

(b) For a Market Participant for which no settled Non-STEM data are available, the IMO must determine an initial Credit Limit in accordance with step 2.3 of this Procedure.

2.2 Credit Limit determination for a Market Participant for which at least three months of settled Non-STEM data are available

2.2.1 The IMO must identify when a minimum of three full months of settled data in Non-STEM become available for a Market Participant.

2.2.2 Within five Business Days after making the identification in step 2.2.1, the IMO must determine a Credit Limit for the Market Participant using the methodology detailed in step 2.2.5.

2.2.3 The IMO must determine a Market Participant's Anticipated Maximum Exposure (AME) using up to 24 months of available settlement data from the period

[1] http://imowa.com.au/n144.html

preceding the date on which the Credit Limit is determined, in the order of steps listed below:

(a) For each settled Trading Month, the IMO must calculate the trading day Non-STEM exposure for the Market Participant. This trading day exposure consists of Reserve Capacity settlement amount, balancing settlement amount, Ancillary Service settlement amount, Outage Compensation settlement amount, Reconciliation Settlement amount and the applicable Market Participant Fee settlement amount. This is calculated as:

$$\left\{\frac{\left[RCSA(p,m) + ASSA(p,m) + COCSA(p,m) + RSA(p,m) + MPFSA(p,m) + \sum_{i=1}^{n} BSA(p,d,t)\right]}{n}\right\}$$

Where

$RCSA(p,m)$ is the Reserve Capacity settlement amount for Market Participant p for Trading Month m calculated as per clause 9.7.1;

$ASSA(p,m)$ is the Ancillary Service settlement amount for Market Participant p for Trading Month m calculated as per clause 9.9.1;

$COCSA(p,m)$ is the Outage Compensation settlement amount for Market Participant p for Trading Month m calculated as per clause 9.10.1;

$RSA(p,m)$ is the Reconciliation Settlement amount for Market Participant p for Trading Month m calculated as per clause 9.11.1;

$MPFSA(p,m)$ is the applicable Market Participant Fee settlement amount for Market Participant p for Trading Month m calculated as per clause 9.13.1;

$\sum_{i=1}^{n} BSA(p,d,t)$ is the sum over *n* days, of the balancing settlement amounts for Market Participant p for all Trading Intervals t of Trading Day d calculated as per clause 9.8.1; and

n is the number of Trading Days in Trading Month *m*.

(b) Using each day's Non-STEM exposure, the IMO must calculate the total running 70 day exposure, for all consecutive 70 day periods up to the last day of the most recently settled Trading Month.

(c) The IMO must determine the highest running 70 day exposure as the Market Participant's 70 day maximum exposure in Non-STEM.

(d) If the Market Participant participated in STEM over that period, the IMO must calculate the trading day STEM exposure for the Market Participant. This is calculated as:

$$\left\{\frac{STEMSA(p,w)}{m}\right\}$$

Where

$STEMSA(p,w)$ is the STEM settlement amount for Market Participant p for Trading Week w calculated as per clause 9.6.1; and

m is the number of Trading Days in Trading Week w.

(e) Using each day's STEM exposure, the IMO must calculate the total running 15 day exposure, for all consecutive 15 day periods up to the last day of the most recently settled Trading Week.

(f) The IMO must determine the highest running 15 day exposure as the Market Participant's 15 day maximum exposure in STEM.

(g) The AME is equal to the sum of the 70 day maximum Non-STEM exposure and 15 day maximum STEM exposure.

2.2.4 The IMO may in its absolute discretion, decide to apply an amount in accordance with clauses 2.37.5(k) or 2.37.6, if it reasonably considers that its inclusion will adequately protect the Market in the event that a Market Participant defaults.

2.2.5 The IMO must set a Market Participant's Credit Limit as the sum of the AME determined in step 2.2.3 and any amount determined in step 2.2.4.

2.3 Credit Limit determination for a Market Participant for which no settled Non-STEM data are available

2.3.1 Before a new Market Participant with no settled Non-STEM data participates in the WEM, the IMO must determine an initial Credit Limit for that Market Participant in accordance with step 2.3.4.

2.3.2 The IMO must determine the type of Market Participant and refer to the requisite steps in accordance with Table 2.

Table 2 – Credit Limit determination steps by type of Market Participant

No.	Type of Market Participant	Procedure Step:
(a)	Market Generator (new or existing adding new Facility)	2.4
(b)	Market Customer (new or existing acquiring new consumers)	2.5
(c)	Market Participant that is both a Market Generator and a Market Customer	Sum of the amounts determined at (a) and (b) in this table (after accounting for any offset amounts)
(d)	Market Participant that has a Demand Side Programme [2] (new or existing adding a Demand Side Programme)	Sum of the amounts determined at (a), (b) or (c) if applicable and 2.6 (after accounting for any offset amounts)

2.3.3 The IMO may in its absolute discretion, decide to apply an amount in accordance with clauses 2.37.5(k) or 2.37.6, if it reasonably considers that its inclusion will adequately protect the WEM in the event that a Market Participant defaults.

2.3.4 The IMO must set a Market Participant's initial Credit Limit as the sum of the amount determined in accordance with step 2.3.2 and any amount determined in step 2.3.3.

[2] Note that under the Market Rules, a Market Participant wishing to register a Demand Side Programme, must register itself as a Market Customer

2.3.5 When the IMO identifies that a minimum of three full months of settled Non-STEM data are available for a new Market Participant, the IMO must determine the Credit Limit for that Market Participant using the methodology described in step 2.2.

2.4 Credit Limit determination for a new Market Generator or an existing Market Generator adding new Facility(s)

2.4.1 If not already submitted at the time of Facility Registration, a new Market Generator or an existing Market Generator adding new facility(s) must, by the agreed Due Date, provide the following data to the IMO:

(a) The minimum stable generation and the maximum output (estimated maximum output for Non-Scheduled Generators) of its Facility(s);

(b) The Certified Reserve Capacity of its Facility(s);

(c) The actual or estimated amount of energy in Bilateral Contracts; and

(d) The actual or estimated amount of Capacity Credits it intends to trade bilaterally.

2.4.2 The IMO must make reasonable estimations for the following:

(a) Average Balancing Price;

(b) Average LFAS Price;

(c) Percentage of time the Facility(s) is expected to run;

(d) Monthly Reserve Capacity Price; and

(e) Percentage of Forced Outages that the Facility(s) may experience.

2.4.3 Based on the data provided in step 2.4.1, the IMO must reasonably assume:

(a) The maximum quantity of the energy to be bought in Balancing Market over 70 days;

(b) The maximum amount of Market Fees and Ancillary Service payments over 70 days; and

(c) The maximum quantity of potentially unavailable capacity over 70 days.

2.4.4 Using the data in step 2.4.2 and assumptions in step 2.4.3, the IMO must determine an amount for the new Market Generator or the existing Market Generator adding new Facility(s).

2.5 Credit Limit determination for a new Market Customer or an existing Market Customer that has acquired new Load(s)

2.5.1 If not already submitted at the time of Participant Registration, a new Market Customer must, by the agreed Due Date, provide the following data to the IMO:

(a) The actual or forecast amount of energy contracted to sell to Load(s);

(b) The actual or estimated amount of energy to be purchased under Bilateral Contracts; and

(c) The actual or estimated amount of Capacity Credits it intends to trade bilaterally.

2.5.2 The IMO must make reasonable estimations for the following:

(a) Average Balancing Price;

(b) Average LFAS Price;

(c) Monthly Reserve Capacity Price; and

(d) Individual Reserve Capacity Requirement

2.5.3 Based on the data provided in step 2.5.1, the IMO must reasonably assume:

(a) The maximum quantity of energy to be bought in the Balancing Market over 70 days;

(b) The maximum amount of Market Fees and Ancillary Service payments over 70 days; and

(c) The maximum quantity of Capacity Credits to be bought from the IMO over 70 days.

2.5.4 Using the data in step 2.5.2 and assumptions in step 2.5.3, the IMO must determine an amount for the new Market Customer or the existing Market Customer acquiring new Load(s).

2.6 Credit Limit determination for a Market Participant that has a Demand Side Programme

2.6.1 If not already submitted at the time of Facility Registration, a Market Participant with a Demand Side Programme must, by the agreed Due Date, provide the following data to the IMO:

(a) The megawatt quantity of Associated Loads to the Demand Side Programme;

(b) The Certified Reserve Capacity of its Facilities; and

(c) The actual or estimated amount of Capacity Credits it intends to trade bilaterally.

2.6.2 The IMO must make reasonable estimations for the following:

(a) Percentage of time the Demand Side Programme is expected to perform;

(b) Monthly Reserve Capacity Price; and

(c) Refund factor based on the Refund Table in clause 4.26.1

2.6.3 Based on the data provided in step 2.6.1, the IMO must reasonably assume:

(a) The maximum quantity of potential unavailable capacity over 70 days.

2.6.4 Using the data in step 2.6.2 and assumptions in step 2.6.3, the IMO must determine an amount for a Market Participant with a Demand Side Programme.

2.7 Notifying Market Participant of its Credit Limit [Clause 2.37.7]

2.7.1 Within one Business Day after determining a Market Participant's Credit Limit, the IMO must:

(a) notify the Market Participant, in writing via email or letter, stating the amount of the Credit Limit and the basis for the determination with specific references to the factors listed in clauses 2.37.5 and 2.37.6 **[Clause 2.37.7]**;

(b) notify the Market Participant if it is required to submit any Credit Support and the Due Date by which the Credit Support must become duly effective; and

(c) update the requisite information for the Market Participant in the Wholesale Electricity Market System (WEMS).

2.8 Changes in circumstances affecting a Market Participant's Credit Limit [Clause 2.37.8]

2.8.1 A Market Participant must notify the IMO as soon as practicable, in writing via email or letter, where it becomes aware that any change in its circumstances may warrant a revision of its Credit Limit **[Clause 2.37.8]**. Such circumstances include, but are not limited to:

(a) For a Market Customer:

i. Expected increases in metered consumption quantities;

ii. Acquisition of new large Loads;

iii. Expected decreases in quantity of electricity purchased bilaterally;

(b) For a Market Generator:

i. Expected decreases in metered generation quantities;

ii. Acquisition of new Facilities;

iii. Expected decreases in quantity of electricity sold bilaterally;

iv. Material fuel supply disruptions;

(c) Any other event that may affect a Market Participant's commercial position in the WEM.

2.8.2 Notwithstanding the obligation in step 2.8.1, a Market Participant may submit a request to the IMO, in writing via email or letter, to consider revising its Credit Limit. The Market Participant must provide reasons and evidence for requesting a revision of its Credit Limit.

2.8.3 If the IMO decides to revise the Credit Limit for a Market Participant in response to a notification received in step 2.8.1or a request received in step 2.8.2, then the IMO must determine the revised Credit Limit in accordance with step 2.2 or step 2.3, as applicable.

2.8.4 If the IMO decides not to revise the Credit Limit for a Market Participant in response to a notification received in step 2.8.1or request received in step 2.8.2, then the IMO must notify the Market Participant its reasons for not doing so in writing via email or letter, as soon as practicable.

3 CREDIT SUPPORT

3.1 Amount of Credit Support

3.1.1 Where a Market Participant receives a notification in step 2.7.1 requesting the submission of Credit Support, the Market Participant must ensure that the amount of Credit Support provided is no less than the most recent Credit Limit determined and notified by the IMO. **[Clause 2.38.1]**

3.2 Timeline for providing Credit Support

3.2.1 Before a new Market Participant participates in the WEM, it must provide duly effective Credit Support to the IMO according to the timelines given in Table 3.

Table 3 – Timeline for providing Credit Support by type of Market Participant

Id.	Type of Market Participant	Timeline for providing Credit Support
(a)	New Market Generator	Before the Facility undertakes a Commissioning Test
(b)	Existing Market Generator adding new Facility	Before the new Facility undertakes a Commissioning Test
(c)	Market Customer (with a retail base)	After evidence of an approved Electricity Transfer Access Contract (ETAC) is provided to the IMO and before the Market Customer participates in WEM
(d)	Existing Market Customer adding new Load(s)	After an ERA approved expansion/extension policy is provided to the IMO and before electricity is supplied to the new Load(s)
(e)	Market Customer with a Demand Side Programme	Before Reserve Capacity Obligation Quantity becomes applicable

3.3 Maintaining Credit Support

3.3.1 At least 10 Business Days before the expiry of the existing Credit Support, a Market Participant may provide replacement Credit Support to the IMO in an amount not less than its most recently determined Credit Limit. Notwithstanding, the Market Participant must ensure that the replacement Credit Support becomes effective at the expiry of the existing Credit Support. **[Clause 2.38.2]**

3.3.2 Where a Market Participant becomes aware that its Credit Support is affected by any of the circumstances as laid out in step 3.3.3, it must:

(a) notify the IMO in writing via email or letter immediately after becoming aware; and

(b) provide duly effective replacement Credit Support in an amount not less than its most recently determined Credit Limit, within 24 hours of becoming aware. **[Clause 2.38.3]**

3.3.3 For the purposes of clause 2.38.3, circumstances that may invoke actions in step 3.3.2 include, but are not limited to:

(a) Existing Credit Support is no longer current or valid;

(b) Credit Limit has been increased;

(c) Credit Support provider no longer meets any of the Acceptable Credit Criteria;

(d) Some or all of the existing Credit Support has been drawn upon by the IMO;

(e) Credit Support provider ceases to or threatens to cease to carry on providing Credit Support in relation to the Market Participant;

(f) Credit Support provider in relation to the Market Participant becomes insolvent or is dissolved.

3.3.4 Where the IMO becomes aware that circumstances (as laid out in step 3.3.3) exist in relation to a Market Participant, it must:

(a) notify the Market Participant in writing via email or letter immediately after becoming aware; and

(b) require the Market Participant to provide duly effective replacement Credit Support in an amount not less than its most recently determined Credit Limit, within 24 hours of the notification. **[Clause 2.38.3]**

3.4 Credit Support arrangement

3.4.1 A Market Participant must ensure that its Credit Support arrangement meets the requirements of clause 2.38.4.

3.4.2 A Market Participant must provide Credit Support by way of:

(a) guarantee or bank undertaking, in accordance with the process detailed in Section 3.5 of this Procedure and in accordance with clause 2.38.4(a) of the Market Rules; or

(b) Security Deposit, in accordance with the process detailed in Section 3.6 of this Procedure and in accordance with clause 2.38.4(b) of the Market Rules.

3.5 Submitting guarantees or bank undertakings

3.5.1 On receiving a notification in step 2.7.1 requesting the submission of Credit Support, a Market Participant must download a copy of the following documents from the Market Web Site[3]:

(a) Proforma deed for guarantee or bank undertaking, as applicable; and

(b) Acceptable Credit Criteria form[4] (this is not required if the bank or Treasury Corporation is on the list of entities meeting Acceptable Credit Criteria, as published on the Market Web Site).

3.5.2 At least 30 Business Days before the date for Credit Support as specified in the timeline in Table 3 becomes due, a Market Participant must submit to the IMO hard copies of:

[3] http://www.imowa.com.au/n5705.html

[4] Refer to step 4.1 of the Procedure on completing the Acceptable Credit Criteria form

(a) a completed proforma deed for guarantee or bank undertaking for an amount not less than the most recently determined Credit Limit for the Market Participant; and

(b) a completed Acceptable Credit Criteria Form for the credit support provider (if applicable).

3.5.3 A completed guarantee or bank undertaking must meet the following criteria:

(a) It is in the form approved by the IMO and published on the Market Web Site; and

(b) It has been executed by a Treasury Corporation (in the case of a guarantee) or a bank (in the case of a bank undertaking), that meets the Acceptable Credit Criteria.

3.5.4 A Market Participant must ensure that the guarantee or bank undertaking is consistent with the most recent proforma version available on the Market Web Site and is only modified to the extent contemplated in the proforma version. The IMO must not accept any variations from the proforma version available on the Market Web Site.

3.5.5 At the same time as providing a guarantee or bank undertaking to the IMO, a Market Participant must also provide to the IMO:

(a) contact details of at least two individuals at the bank or Treasury Corporation whom the IMO can contact in regard to making a call on the Credit Support; and

(b) any special procedure that the bank or Treasury Corporation requires the IMO to follow when calling on the Credit Support.

3.5.6 When providing hard copies of a guarantee or bank undertaking to the IMO, the Market Participant must agree on a place of delivery with the IMO and hand over the document to the IMO in person.

3.5.7 If the Market Participant is not able to hand over the document in person, it must be provided to the IMO by courier or registered mail, requiring a signature on receipt.

3.5.8 The IMO must provide a written receipt to the Market Participant at the time of receiving the guarantee or bank undertaking.

3.5.9 The IMO requires that the Treasury Corporation issuing the guarantee or the bank issuing the bank undertaking must be able to provide cleared funds up to the amount of the Credit Support within 90 minutes of the IMO making a call on the Credit Support. The Market Participant must ensure that processes are in place for the bank or Treasury Corporation to release funds within 90 minutes of the IMO making a call on the Credit Support. Failure by the bank or Treasury Corporation to do so constitutes a breach of clause 2.38.4(a) and a Suspension Event in respect of that Market Participant under clause 9.23.1.

3.6 Submitting Security Deposits

3.6.1 On receiving a notification in step 2.7.1, a Market Participant must download a copy of the following documents from the Market Web Site[5]:

[5] http://www.imowa.com.au/n5705.html

(a) Proforma deed for Security Deposit; and

(b) Security Deposit Instructions.

3.6.2 At least 30 Business Days before the date for Credit Support as specified in the timeline in Table 3 becomes due, a Market Participant must submit two signed originals of a completed Security Deposit deed to the IMO.

3.6.3 A completed Security Deposit deed must meet the following criteria:

(a) It is in the form approved by the IMO; and

(b) It has been executed by or on behalf of the Market Participant.

3.6.4 A Market Participant must ensure that the Security Deposit deed is consistent with the most recent proforma version available on the Market Web Site and is only modified to the extent contemplated in the proforma version. The IMO must not accept any variations from the proforma version available on the Market Web Site.

3.6.5 When providing hard copies of a Security Deposit deed to the IMO, the Market Participant must agree on a place of delivery with the IMO and hand over the document to the IMO in person.

3.6.6 If the Market Participant is not able to hand over the document in person, it must be provided to the IMO by courier or registered mail, requiring a signature on receipt.

3.6.7 The IMO must provide a written receipt to the Market Participant at the time of receiving the Security Deposit deed. The IMO must sign the two originals of the Security Deposit deed and return one signed original to the Market Participant.

3.6.8 The IMO requires that the Market Participant provide the amount of Credit Support in cleared funds by 5:00 PM on the date the Credit Support is due (as determined in Table 3), in accordance with Security Deposit Instructions. Failure by a Market Participant to provide both the completed Security Deposit deed and cleared funds constitutes a breach of clause 2.38.4 and a Suspension Event in respect of that Market Participant under clause 9.23.1.

3.7 The IMO's process of reviewing Credit Support arrangements

3.7.1 On receiving completed documentation from a Market Participant for Credit Support, the IMO must review the Credit Support arrangement to:

(a) determine whether it is compliant with clause 2.38.4(a) of the Market Rules and section 3.5 of this Market Procedure, if the Credit Support is in the form of a guarantee or bank undertaking; or

(b) determine whether it is compliant with clause 2.38.4(b) of the Market Rules and section 3.6 of this Market Procedure, if the Credit Support is in the form of a Security Deposit.

3.7.2 The IMO may, at its discretion, request more information by a Due Date from the Market Participant to support its Credit Support arrangement. The Market Participant must provide the relevant information by the Due Date.

3.7.3 Within five Business Days of the later of the date in step 3.7.1 and 3.7.2, the IMO must, in writing via email or letter:

(a) notify the Market Participant that the Credit Support is either:

i. compliant with the Market Rules and this Procedure; or

ii. not compliant with the Market Rules or this Procedure, in which case the IMO must provide reasons as to why the Credit Support is not compliant.

(b) where further arrangements have to be made such as provide cleared funds as a Security Deposit or issue instructions to the bank or Treasury Corporation to release funds within 90 minutes of the IMO making a claim, require the Market Participant to complete these steps before 5:00 PM on the date the Credit Support is due (as determined in Table 3).

3.7.4 If a Market Participant receives a notification of non-compliance in accordance with step 3.7.3(a)ii), the Market Participant must re-submit a Credit Support arrangement in accordance with clause 2.38.4 of the Market Rules and step 3.4 of this Procedure.

3.8 Further steps by the IMO on Credit Support arrangements

3.8.1 Where the Credit Support is a guarantee or bank undertaking, then at the same time as the IMO issues notice of compliance to the Market Participant in step 3.7.3(a)i), the IMO must notify the Treasury Corporation or the bank in writing via email or letter, that the Credit Support has been provided in accordance with clause 2.38.4(a) of the Market Rules and this Market Procedure.

3.8.2 After the IMO notifies the Market Participant and the Treasury Corporation or the bank, as applicable, in step 3.8.1, the IMO must place the completed guarantee or bank undertaking in a bank safe box, as soon as practicable.

3.8.3 Where the Credit Support is provided as a Security Deposit, then immediately after cleared funds have been received by the IMO, the IMO must initiate the process for registration of the security interest on the Personal Property Securities Register in accordance with the Personal Property Securities Act 2009 (Cth) (PPSA)[6]. As part of this process the IMO must deduct any fees incurred in registering the security interests from the balance of the Security Deposit, and the IMO must send a notice of the verification statement (containing the details of the registration) to the Credit Support provider and the Market Participant as soon as practicable.

3.8.4 Upon completion of step 3.8.3, the IMO must place the completed Security Deposit deed in a bank safe box, as soon as practicable.

3.9 Replacing a Credit Support arrangement

3.9.1 A Market Participant may replace the form of Credit Support provided (for example from a Security Deposit to a bank undertaking) by notifying the IMO in writing via email or letter.

3.9.2 A Market Participant must include in its notification provided in step 3.9.1:

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6 The Personal Property Securities Act 2009 (Cth) (PPSA) enables any person to register its security interests on the Personal Property Securities Register (PPSR). The PPSR is a real-time electronic notice board which allows individuals and organisations to search and register security interests in personal property (see www.ppsr.gov.au for more information). For the purposes of the PPSA, any cash in a bank account (Security Deposit) under the control of the IMO pursuant to a Security Deposit deed that is provided to the IMO for the purposes of Credit Support (Clause 2.38.4(b)) or Reserve Capacity Security (Clause 4.13), is a form of "personal property". The IMO's interest in the Security Deposit is a "security interest", and the Security Deposit deed secures payment and performance obligations by a Market Participant.

(a) The form of replacement Credit Support to be provided;

(b) Demonstration that the replacement Credit Support will meet the requirements of clause 2.38.4;

(c) The date on which documents regarding the replacement will be provided to the IMO, where the date must be at least 10 Business Days before the expiry date of the existing Credit Support held by the IMO.

3.9.3 The IMO must assess the replacement Credit Support arrangement in accordance with step 3.7.

3.10 Holding Security Deposits and Associated Costs

3.10.1 Where the IMO receives Credit Support in the form of a Security Deposit, it must:

(a) invest any Security Deposit payments on behalf of the relevant Market Participant;

(b) maintain individual cash deposit accounts for Security Deposits separate from IMO operating funds account;

3.10.2 The IMO must credit the interest earned daily at the Bank Bill Rate on the balance of the Security Deposit to the relevant Market Participant's bank account on a monthly basis and deduct any costs and fees associated with holding the Security Deposit from the balance of the Security Deposit, including bank fees and charges. **[Clause 2.38.5]**

3.10.3 The IMO may provide written advice to a Market Participant on a monthly basis regarding the interest earned at the Bank Bill Rate and the deduction of any accrued costs and fees.

3.11 Application of Monies Drawn Down

3.11.1 The IMO may draw upon the Credit Support it holds, the benefit of:

(a) applying it to satisfy amounts owing by the relevant Market Participant, in relation to a Security Deposit; or

(b) exercising the IMO's rights under the Market Rules, which include drawing or claiming an amount to satisfy amounts owing by the relevant Market Participant, in relation to guarantees and bank undertakings.

3.11.2 The IMO may apply the monies drawn from Security Deposit or guarantees or bank undertakings in respect of any of the following:

(a) in the case of a Suspension Event, as defined in clause 9.23.1 of the Market Rules, for the amount which the IMO determines is actually or contingently owed by the Market Participant to the IMO under the Market Rules **[Clause 9.23.4];**

(b) in the case when a Market Participant fails to make a payment under the Market Rules to the IMO before it is due, for an amount to meet the payment **[Clause 9.24.1]**;

(c) in the event that insolvency laws require the IMO to disgorge or repay an amount, or pay an amount equivalent to an amount paid by a Market Participant, for the amount disgorged, paid or repaid [Clause 9.24.2].

4 ACCEPTABLE CREDIT CRITERIA

4.1 Completing the Acceptable Credit Criteria Form

4.1.1 Where a Market Participant elects to provide a Credit Support other than a Security Deposit and the credit support provider is not included on the current list of entities that meet the Acceptable Credit Criteria (available on the Market Web Site), the Market Participant must arrange for the completion of an Acceptable Credit Criteria Form, outlining that an entity meets the Acceptable Credit Criteria outlined in clause 2.38.6, from either:

(a) the Market Participant's external solicitors; or

(b) the entity's external solicitors.

A copy of the Acceptable Credit Criteria Form is available on the following Market Web Site: http://www.imowa.com.au/n5705,205.html

4.1.2 In arranging for the completion of the Acceptable Credit Criteria Form under step 4.1.1, a Market Participant is responsible for arranging a firm of solicitors to undertake all necessary investigations to enable a partner of the firm to sign the Acceptable Credit Criteria Form. They may be the solicitors for the Market Participant or the solicitors for the credit support provider.

4.1.3 Before submitting an Acceptable Credit Criteria Form, a Market Participant may submit a request to the IMO to confirm whether a particular firm of solicitors meets its requirements.

4.1.4 The IMO must respond in writing via email or letter, to a request received in step 4.1.3 within one Business Day.

4.1.5 A completed Acceptable Credit Criteria Form is one that adheres to clause 2.38.6, in that the form:

(a) has an affirmative response to each of the six statements;

(b) has been completed with the full details of the entity to which it applies; and

(c) has been signed by a partner from a reputable commercial law firm which is acceptable to the IMO.

4.1.6 A Market Participant submitting a completed Acceptable Credit Criteria Form must submit it along with its Credit Support arrangement (which would be either a bank undertaking or a guarantee).

4.2 Maintaining the list of entities that meet the Acceptable Credit Criteria

4.2.1 In accordance with clause 2.38.7, the IMO must publish and maintain on the Market Web Site, a list of entities which meet the Acceptable Credit Criteria **[Clause 2.38.7]**

4.2.2 To determine that the entities mentioned on the list meet the Acceptable Credit Criteria, the IMO may assess any evidence provided by any Market Participants in the previous 12 months or may make its own judgment. **[Clause 2.38.7 (a) or (b)]**

4.2.3 Where the IMO assesses an Acceptable Credit Criteria Form received from a Market Participant in the previous 12 months and deems the entity to meet the Acceptable Credit Criteria, then the IMO must include that entity in the list of entities meeting the Acceptable Credit Criteria.

4.2.4 Every quarter, the IMO must monitor whether the entities included on the list continue to have acceptable credit ratings as specified in clause 2.38.6(f). The IMO must update the date and any changes on the list as soon as practicable after it is satisfied that the list contains the most current information. **[Clause 2.38.8]**

4.2.5 Where the IMO assesses that an entity no longer meets the Acceptable Credit Criteria, it may at any time remove the entity from the list of entities that meet the Acceptable Credit Criteria. **[Clause 2.38.9]**

4.2.6 Where the IMO removes an entity from the list of entities that meet the Acceptable Credit Criteria, it must notify all Market Participants in writing via email or letter, within one Business Day of that removal. If a Market Participant's Credit Support is affected by the notification, it must provide valid replacement Credit Support in accordance with step 3.3.2.

5 PRUDENTIAL SECURITY

5.1 Outstanding Amount

5.1.1 In accordance with clause 2.40.1(a) and (b), the IMO must calculate the Outstanding Amount for a Market Participant as follows:

(a) Unpaid invoices (A): sum of all STEM and Non-STEM invoices that have been issued to the Market Participant and remain unpaid on the current date

(b) Actual net exposure (B): sum of STEM and Non-STEM trade imbalances representing transactions that have occurred but have not yet been invoiced to the Market Participant, calculated as follows:

*STEM Daily Trade Imbalance * DP + Non-STEM Daily Trade Imbalance * DP*

(c) Forecast exposure (C): sum of STEM and Non-STEM trade imbalances forecasted for the period from the current date up to and including the next Non-STEM Settlement Date

*STEM Daily Trade Imbalance*DF + Non-STEM Daily Trade Imbalance*DI*

(d) Outstanding Amount= A+B+C

where;

STEM Daily Trade Imbalance is the average of all STEM transactions, STEMSA, for Market Participant p that have occurred over the past 30 days from the day this calculation is performed:

$$\frac{\sum_{d=1}^{30} STEMSA(p,d)}{30}$$

Non-STEM Daily Trade Imbalance is the average of the most recent initial Non-STEM invoiced amount over n days, n being the number of Trading Days in Trading Month m

$$\frac{[(RCSA(p,m) + BSA(p,m) + ASSA(p,m) + COCSA(p,m) + RSA(p,m) + MPFSA(p,m)]}{n}$$

DP is the number of days since last invoice;

DF is the number of days till the next STEM Settlement Date, up to a maximum of 15 days;

DI is the number of days till the next Non-STEM Settlement Date, up to a maximum of 70 days;

RCSA(p,m) is the Reserve Capacity settlement amount for Market Participant p for Trading Month m, as calculated in clause 9.7.1;

BSA(p,m) is the sum of all balancing settlement amounts for Market Participant P as calculated in clause 9.8.1, for all Trading Days in Trading month m;

ASSA(p,m) is the Ancillary Service settlement amount for Market Participant p for Trading Month m, as calculated in clause 9.9.1;

COCSA(p,m) is the Outage Compensation settlement amount for Market Participant p for Trading Month m, as calculated in clause 9.10.1;

RSA(p,m) is the Reconciliation Settlement amount for Market Participant p for Trading Month m, as calculated in clause 9.11.1; and

MPFSA(p,m) is the applicable Market Participant Fee settlement amount for Market Participant p for Trading Month m, as calculated in clause 9.13.1.

5.1.2 A Market Participant may make voluntary prepayments to the IMO, at any time, in consideration for reducing the Market Participant's Outstanding Amount by completing the form for submitting pre-payments (provided in Appendix 2) and providing cleared funds to the IMO **[Clause 2.40.1(c)]**.

5.1.3 The IMO must hold a Market Participant's voluntary prepayments in a bank account in the Market Participant's name till the next Invoicing Date and apply it to reduce that Market Participant's Outstanding Amount by offsetting it in the most recent Invoice issued to that Market Participant.

5.2 Trading Margin

5.2.1 The IMO must calculate the Trading Margin for a Market Participant as the difference between its Trading Limit and its Outstanding Amount **[Clause 2.41.1]**.

5.2.2 Notwithstanding any other analyses and considerations, a Market Participant wishing to make a submission in the WEM contemplating a transaction must take

into account the factors set out in Appendix 1 to determine, whether that transaction could result in the Market Participant's Trading Margin being exceeded.

5.2.3 If a Market Participant determines that the assessment conducted in step 5.2.2 could result in its Trading Margin being exceeded, the Market Participant must not make such a submission to the WEM **[Clause 2.41.2]**.

5.2.4 The IMO may reject a submission from a Market Participant if the IMO's assessment, taking into account the factors listed in Appendix 2, indicates that the transaction could result in the Market Participant's Trading Margin being exceeded **[Clause 2.41.3]**.

5.3 Margin Call

5.3.1 On any day that a Market Participant's Trading Margin is zero, the IMO may decide to make a Margin Call by issuing a Margin Call Notice **[Clause 2.42.1]**.

5.3.2 The IMO must issue a Margin Call Notice, in writing via email or letter, in which the IMO must specify the Margin Call amount and include a deadline of 24 hours for the Market Participant to provide the Margin Call amount.

5.3.3 The IMO must determine the Margin Call amount as that amount which will increase the Market Participant's Trading Margin to zero, at the time the Margin Call Notice is issued **[Clause 2.42.3]**.

5.3.4 A Market Participant must within 24 hours from the date of issue of the Margin Call Notice, respond to the Margin Call by either:

(a) providing a Security Deposit, in cleared funds, to the IMO equivalent to the amount of the Margin Call. The Security Deposit must be made in accordance with clause 2.38.4(b) and step 3.6 of this Market Procedure; or

(b) providing additional Credit Support in the form of a guarantee or bank undertaking equivalent to the amount of the Margin Call. The guarantee or bank undertaking must be made in accordance with clause 2.38.4(a) and step 3.5 of this Market Procedure. **[Clause 2.42.4]**

5.3.5 If a Market Participant fails to comply with clause 2.42.4, then the IMO must apply clause 9.23 to that Market Participant **[Clause 2.42.6]**.

5.3.6 The IMO may cancel a Margin Call Notice at any time, by notifying the Market Participant in writing via email or letter. The IMO reserves the right to issue a further Margin Call Notice for the same reasons that gave rise to the cancelled Margin Call Notice **[Clause 2.42.5]**.

5.3.7 Where the IMO issues a Margin Call Notice, it must review the Credit Limit of the Market Participant within 30 Business Days from the date on which the Margin Call Notice was issued **[Clause 2.42.7].** The IMO must review the Credit Limit using step 2.2 or step 2.3 of this Procedure.

5.4 Prudential security report

5.4.1 By 5:00 PM every day, the IMO must ensure that the prudential security report for every Market Participant is updated on the Market Participant interface in WEMS. The prudential security report must have updated values for:

(a) Unpaid invoices, taking into account any cleared voluntary prepayments;

(b) Outstanding Amount; and

(c) Trading Margin

6 OTHER MATTERS

6.1 Amendments to Proforma Documents

6.1.1 The IMO may, in its absolute discretion, amend and publish on the Market Web Site any market documents listed in step 1.4.2.

6.1.2 If the IMO amends and publishes a market document prior to a Market Participant's provision of Credit Support under this Procedure, the IMO must apply the amended and published version of that market document to assess compliance of the Credit Support.

APPENDIX 1: FACTORS TO BE TAKEN INTO ACCOUNT IN DETERMINING THE EXPECTED VALUE OF A TRANSACTION [CLAUSE 2.41.5]

These factors are intended to provide guidance that would enable a Market Participant or the IMO to determine the expected value of a transaction that would, were the transaction to be valued taking into account to the expected value factors:

(1) enable a Market Participant to ascertain that a contemplated transaction could result in the Market Participant's Trading Margin being exceeded and therefore that the submission must not be made (clause 2.41.2); or

(2) enable the IMO to ascertain that a contemplated transaction could result in the Market Participant's Trading Margin being exceeded and therefore that the submission may be rejected (clause 2.41.3).

Where a Market Participant or the IMO is assessing whether a transaction contemplated by a submission could result in a Market Participant's Trading Limit being exceeded, Market Participants and the IMO must:

a. take into account all information that is reasonably available, making reasonable assumptions and estimations where necessary, taking into account the Market Participant's normal commercial position and trading activities and any unusual circumstances that may exist at the time; and

b. arrive at a value using reasonable estimates of the Market Participant's current and forecast STEM and Non-STEM exposure, taking into account relevant prevailing, recent and/or anticipated:

   I. Outstanding Amounts;

   II. Unpaid invoices;

   III. STEM and Non-STEM trading activities and invoiced amounts;

   IV. STEM, Balancing and Reserve Capacity prices;

   V. Ancillary Services charges;

   VI. Reconciliation charges;

   VII. Forced Outages and the Refund Table; and

   VIII. Material changes in market conditions.

In terms of assessing whether a proposed transaction contemplated by a submission could result in a Market Participant's Trading Limit being exceeded, the IMO would consider it reasonable if, for example:

- A Market Participant used actual Outstanding Amounts and unpaid invoices when considering the contemplated submission in terms of assessing current and expected liabilities arising from trading activities;

- A Market Participant used recent actual or average daily, weekly or monthly prices over the preceding three month period when considering the contemplated submission in terms of assessing current and expected liabilities arising from STEM, Balancing and Reserve Capacity prices;

- A Market Participant used recent actual or average Ancillary Services and Reconciliation charges over the preceding three month period when considering the contemplated submission in terms of current and expected Ancillary Services and Reconciliation charges;

- A Market Participant used prevailing Forced Outage refund rates and actual time on Forced Outage when considering the contemplated submission in terms of current and expected Forced Outage refunds; and

- A Market Participant took reasonable account of changes in market conditions, including but not limited to fuel availability, system demand, market prices, or any circumstance that was having or could reasonably be expected to have a material effect on market conditions.

APPENDIX 2: PROFORMA FOR MAKING VOLUNTARY PREPAYMENTS

VERSION 1.0

PROFORMA FOR VOLUNTARY PREPAYMENTS UNDER CLAUSE 2.40.1(c)

THIS FORM is made the day of 20 .

BETWEEN

[Insert name and ABN of Market Participant] of *[insert address]* (**"Depositor"**)

AND

INDEPENDENT MARKET OPERATOR (ABN 95 221 850 093) of Level 17, 197 St Georges Terrace, Perth, Western Australia 6000 (**"IMO"**)

PURSUANT to clause 2.40.1(c) of the Wholesale Electricity Market Rules, a cash sum of *[insert amount in words]* Australian Dollars is deposited or paid by the Market Participant for the purpose of reducing its Outstanding Amount and increasing its Trading Margin.

EXECUTED by

[insert name and signature of authorised signatory]

On behalf of *[insert name and ABN of Market Participant]*

Wholesale Electricity Market
Pre Rule Change Proposal

Rule Change Proposal ID: **PRC_2013_10**
Date received: **TBA**
Change requested by:

Name:	Allan Dawson
Phone:	9254 4333
Fax:	9254 4399
Email:	allan.dawson@imowa.com.au
Organisation:	IMO
Address:	Level 17, 197 St Georges Tce, Perth 6000
Date submitted:	TBA
Urgency:	Medium
Change Proposal title:	Harmonisation of Supply-Side and Demand-Side Capacity Resources
Market Rules affected:	Clauses 2.13.9, 2.29.9A, 4.5.12, 4.5.13, 4.10.1, 4.10.2, 4.11.1, 4.11.4, 4.12.2, 4.12.4, 4.12.8, 4.25.1, 4.25.13, 4.26.2CA, 4.26.3A, 6.12.1, 7.6.10, 7.7.10 and 7.10.4, 7.11.1 and 7.11.5 Glossary, Appendix 1, 3 and 5.

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: Group Manager, Development and Capacity
PO Box 7096
Cloisters Square, Perth, WA 6850
Fax : (08) 9254 4339
Email : market.development@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 Rule Change

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

Background

The Reserve Capacity Mechanism (RCM) is a mechanism to support the Wholesale Electricity Market (WEM) in the South West interconnected system (SWIS) in ensuring there is sufficient Reserve Capacity to meet reliability targets. The RCM allows for capacity to be provided by the addition of supply-side resources (predominantly thermal generators) or through reductions in demand, known as Demand Side Management (DSM).

The Reserve Capacity Mechanism Working Group (RCMWG) was established in February 2012 to assess the issues highlighted by the Lantau Group in its report "*Review of RCM: Issues and Recommendations*".[1] [This report was commissioned by the IMO Board to analyse the effectiveness and efficiency of the RCM]. One of the key topics discussed during the RCMWG meetings was the harmonisation of rules relating to supply-side and demand-side capacity resources. Key considerations in these discussions were:

- the fuel requirements for generators;
- the minimum availability requirements for DSM;
- real-time data requirements for DSM; and
- alignment between the Individual Reserve Capacity Requirement (IRCR) and

[1] http://www.imowa.com.au/f5415,2873688/09._Agenda_Item_8_Lantau_Report.pdf

- Relevant Demand (RD) for a customer providing DSM.

While not unanimously accepted, the RCMWG members generally supported the changes proposed in this pre Rule Change Proposal.

Substantial analysis was conducted by Dr Richard Tooth of Sapere Research Group to support the RCMWG. Three reports on the *Performance Requirements for Demand-Side and Supply-Side Capacity Resources* were presented by Dr Tooth at RCMWG meetings. These reports together with the Working Group's discussions and analysis are available on the Market Web Site: http://www.imowa.com.au/n5415.html.

This pre Rule Change Proposal discusses seven key issues for which changes to the Market Rules may be required to improve harmonisation of the rules relating to demand-side and supply-side capacity. These issues and proposed changes to the Market Rules are detailed below.

Issue 1 – Fuel requirements for generators

To receive Certified Reserve Capacity in relation to a Scheduled Generator, a Market Participant must currently demonstrate that the fuel storage, supply and transport arrangements for the generator are sufficient to allow 14 hours of continuous operation. The fuel requirements that are placed on Scheduled Generators stem from clause 4.11.1(a) of the Market Rules, which states:

"…the Certified Reserve Capacity for a Scheduled Generator for a Reserve Capacity Cycle must not exceed the IMO's reasonable expectation of the amount of capacity likely to be available, after netting off capacity required to serve Intermittent Loads, embedded loads and Parasitic Loads, for Peak Trading Intervals on Business Days [...] assuming an ambient temperature of 41^{O} C"

This rule has been interpreted to mean that an applicant for Certified Reserve Capacity must demonstrate that its fuel storage, supply and transport arrangements are sufficient for the IMO to reasonably expect that the Facility can maintain 14 hours of continuous operation. However, this obligation is not consistent across different sources of generation capacity. For example, this requirement on gas-fuelled peaking generators is particularly onerous.

The third report[2] by Dr Tooth for the RCMWG considered the commercial incentives to ensure that adequate fuel supplies are maintained for Scheduled Generators.

The analysis concluded that there are currently sufficient commercial incentives for Scheduled Generators to provide reliable supply, irrespective of the fuel requirements in clause 4.11.1(a). The combination of the market for energy, ancillary services and capacity refunds provide incentives for Market Generators to ensure the availability of their Facilities, including the availability of sufficient fuel for operation. The RCMWG noted that the value of capacity refunds currently varies according to the time of year, time of day and day of the week. The RCMWG considered that a dynamic capacity refund mechanism would enhance the incentives to ensure the availability of adequate fuel for Scheduled Generators[3].

The RCMWG concluded that the fuel requirement could be relaxed if it expected that the Facility owner would have sufficient incentives to take appropriate measures to ensure that fuel would be available.

[2] http://www.imowa.com.au/f5415,2873627/Combined_Papers_Mtg_5.pdf

[3] The IMO is currently undertaking the analysis to support a Rule Change Proposal on dynamic refunds recommended by the RCMWG.

Proposal

The IMO proposes to relax the requirement for Facilities to have "firm fuel" supply contracts in place. This will be achieved through amending clauses 2.13.9, 4.10.1(e)(v), 4.10.2, 4.11.1, 4.12.2(d), 4.25.1(a) and 4.25.13 of the Market Rules in accordance with the proposed Amending Rules.

The IMO also proposes to amend the *Market Procedure: Certification for Reserve Capacity* prior to the commencement of the proposed Amending Rules discussed in this pre Rule Change Proposal.

As the rule changes in issue 1 relate to certification, the IMO proposes to commence these changes by the first quarter of 2014 in preparation for certification for the 2014 capacity cycle.

Proposed Amending Rules

2.13.9. System Management must monitor Rule Participants for breaches of the following clauses:

(a) [Blank]

(b) clauses 3.4.6 and 3.4.8;

(c) clauses 3.5.8 and 3.5.10;

(d) clauses 3.6.5 and 3.6.6B;

(e) clauses 3.16.4, 3.16.7, and 3.16.8A;

(f) clauses 3.17.5 and 3.17.6;

(g) clause 3.18.2(f);

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

(gB) clauses 3.21B.1 and 3.21B.2;

(h) ~~clause 4.10.2, where System Management is instructed by the IMO under clause 4.25.13~~[Blank];

(hA) clause 7.2.5;

(hB) clause 7.5.5;

(i) clause 7.7.6(b);

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

(k) clause 7.11.7.

…

4.10.1. Each Market Participant must ensure that information submitted to the IMO with an application for certification of Reserve Capacity pertains to the Reserve Capacity Cycle to which the certification relates, is supported by documented evidence and includes, where applicable, the following information:

…

(e) for a generation system other than an Intermittent Generator:

…

v. ~~subject to clause 4.10.2,~~ details of primary and any alternative fuels, including:

1. where the Facility has primary and alternative fuels:

i. the process for changing from one fuel to another; and

ii. the fuel or fuels which the Facility is to use in respect of the application for Certified Reserve Capacity; and

2. details and evidence of both firm and any non-firm fuel supplies ~~and the factors that determine restrictions on fuel availability that could prevent the Facility operating at its full capacity~~;

…

~~4.10.2. For the purpose of clause 4.10.1(e)(v), an applicant may not claim that a Facility has an alternative fuel unless the Facility has on-site storage, or uninterruptible supply of that fuel, sufficient to maintain 12 hours of operation at the level of capacity specified in clause 4.10.1(e)(ii).~~

…

4.11.1. Subject to clauses 4.11.7 and 4.11.12, the IMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle for which an application for Certified Reserve Capacity has been submitted in accordance with clause 4.10:

(a) subject to clause 4.11.2, the Certified Reserve Capacity for a Scheduled Generator for a Reserve Capacity Cycle must not exceed the IMO's reasonable expectation of the amount of capacity likely to be available, after netting off capacity required to serve Intermittent Loads, embedded loads and Parasitic Loads, ~~for Peak Trading Intervals on Business Days~~ in the period from:

i. the start of December for Reserve Capacity Cycles up to and including 2009; or

ii. the Trading Day starting on 1 October for Reserve Capacity Cycles from 2010 onwards,

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 41^{o}C;

…

4.12.2. A Market Participant holding Capacity Credits must also comply with the following obligations:

(a) the Market Participant must comply with outage planning obligations specified in clauses 3.18, 3.19, 3.20 and 3.21;

(b) the Market Participant must submit to tests of availability of capacity and inspections conducted in accordance with clause 4.25; and

(c) the Market Participant must comply with Reserve Capacity performance monitoring obligations in accordance with clause 4.27~~; and~~.

~~(d) the Market Participant must, in relation to each Facility assigned Certified Reserve Capacity on the basis of having an alternative fuel available, maintain adequate fuel for 12 hours of operation except on any Trading Day for which the IMO has waived this requirement in response to a Planned Outage or in the event of an extended Forced Outage.~~

…

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

(a) in the case of a generation system, during the term the Reserve Capacity Obligations apply, operate at a level equivalent to its Required Level, adjusted to the level of Capacity Credits currently held, at least once during each of the following periods and such operation must be achieved on each type of fuel ~~available to that Facility~~ notified under clause 4.10.1(e)(v)(1)(ii):

i. 1 October to 31 March; and

ii. 1 April to 30 September; and

…

~~4.25.13. The IMO must monitor at all times the on-site fuel storage of each Scheduled Generator required to comply with clause 4.10.2. The IMO may:~~

~~(a) require the relevant Market Participant to submit a weekly report of the current fuel level;~~

~~(b) have a representative of the IMO conduct an on-site inspection to verify the fuel storage level; and~~

~~(c) instruct System Management to use its SCADA systems to monitor the fuel storage level and to report any failure of any Market Participant to comply with clause 4.10.2 to the IMO.~~

Issue 2 – Revised DSM availability requirements

The key amendments relating to the DSM harmonisation analysis completed on behalf of the RCMWG were proposed changes to the DSM availability requirements.

Dr Tooth presented his initial analysis on *Performance Requirements for Demand-Side and Supply-Side Capacity Resources*[4] at the April 2012 RCMWG meeting. This first report

[4] http://www.imowa.com.au/f5415,2873678/Combined_RCMWG_Mtg_3_Papers.pdf

examined the current performance requirements of both demand-side and supply-side resources and the impact of harmonisation. Additionally, the report discussed such issues as the design and use of Availability Classes and the current limitations on the use of DSM.

The first report provided two recommendations for the RCMWG to consider to ensure the effective harmonisation of demand-side and supply-side capacity. They were:

1. modify the minimum availability requirements for DSM; and
2. refine other DSM performance requirements.

The second report[5] by Dr Tooth was presented at the July 2012 RCMWG meeting. This report analysed the following key aspects of the DSM availability requirements:

- changes to the number of dispatch events for a Demand Side Programme (DSP);
- the hours of availability for DSPs;
- the use of Availability Classes;
- the start and finish times for DSP availability; and
- a reduction in the notice period for dispatch.

These key availability requirements were discussed at the July and September 2012 RCMWG meetings. The RCMWG members agreed to progress changes to implement the DSM availability requirements for the 2014 Reserve Capacity Cycle outlined in Table 1 below.

Table 1: Minimum availability requirements for DSM

Requirement	Current Rule	Proposed Change
Days of Availability	All Business Days	All Business Days
Dispatch events per year	At least 6	5 x 52 = 260 – (public holidays) = 250*
Hours per day	4 hours	6 hours
Total hours available per year	24 hours	250 x 6 = 1,500 hours*
Earliest Start	12:00 PM	10:00 AM
Latest Finish	8:00 PM	8:00 PM
Minimum notice period of dispatch	4 hours	2 hours [Dispatch Advisory may be released by System Management within 24 hours of the capacity requirement] **

*** These requirements will no longer be limited under the Market Rules; figures provided are indicative of the maximum requirement for a DSP.**
**** The introduction of a Dispatch Advisory was suggested by the June 2013 MAC during the development of the pre Rule Change Paper.**

In the second report, Dr Tooth presented a conceptual analysis that explored the probability of increased dispatch frequency of DSPs under the expanded availability requirements presented in Table 1. This analysis found that having greater flexibility to dispatch DSPs is likely to result in more dispatch events, but not necessarily increase the amount of DSM capacity used overall. Dr Tooth found that the key scenarios that require the use of DSM

[5] http://www.imowa.com.au/f5415,2873627/Combined_Papers_Mtg_5.pdf

capacity do not change regardless of the availability of the resource. Thus, it was concluded that the change in availability requirements would not a have a material impact on the dispatch frequency of DSPs.

The changes to the availability requirements for DSM proposed above have implications for the Availability Class definitions in the Market Rules. Since the final RCMWG meeting the IMO has assessed the implementation options. This assessment indicated that the best approach was to maintain the concept of Availability Classes but reduce the current four classes to two, as follows:

1. Availability Class 1 - Capacity that is available all the time (with the exception of Outages), which would include all Scheduled Generators, all Non-Scheduled Generators and any DSM Facilities that specified that they were available all the time; and

2. Availability Class 2 - All other DSM capacity.

The reduction of four Availability Classes to two will affect the calculation of the Availability Class quantities under clause 4.5.12 of the Market Rules. The IMO engaged PA Consulting to conduct analysis on the extent of the impact. PA Consulting found that:

- the increased availability limits, as outlined in this pre Rule Change Proposal, will lead to a decrease in the minimum generation capacity requirement, and an equivalent increase in the DSM capacity limit (in Availability Class 2); and

- the primary drivers in achieving the decrease in the minimum generation capacity are the removal of the restrictions surrounding dispatch events and hours of availability.

The full report completed by PA Consulting is attached to this pre Rule Change Proposal in Appendix 1.

The proposed changes captured in Table 1 will also affect the calculation of the DSP Capacity Cost Refund under clause 4.26.3A of the Market Rules. Where a DSP is issued with a Dispatch Instruction and fails to curtail as dispatched, the current refund for a DSP for a Trading Interval is:

12 * (Monthly Reserve Capacity Price) * (Capacity Shortfall) / (2 * H)

where H is the maximum number of hours per year that the DSP is available.

This formula requires the DSP to pay a refund according to the proportion of its annual availability that it has failed to deliver, providing a strong incentive for DSPs to meet Dispatch Instructions in full. The magnitude of the refund decreases as the annual hours of availability for the DSP increase.

The removal of the cap on annual availability (H in the formula above) requires that this formula be modified. In order to ensure that it is consistent with the equivalent for supply-side capacity resources, the IMO considers that the magnitude of the refund for a DSP should be reflective of that faced by generators. As such, the IMO proposes to link the new refund formula to the Refund Table in clause 4.26.1 of the Market Rules.

The IMO also considers it appropriate to retain the current concept, that a DSP that offers lower availability should face a higher refund for a single Trading Interval. Under the proposed changes, DSPs would not be able to stipulate the maximum number of dispatch hours per year, but availability may vary according to the maximum dispatch hours per day. When applied to the amended formula the IMO proposes to multiply the refund rate by

(24/H), where H is the maximum dispatch hours per day for the DSP.

The proposed change to the refund calculation in clause 4.26.3A is provided in the proposed Amending Rules below.

Proposal

The IMO proposes to amend clauses 2.29.9A, 4.5.12, 4.10.1, 4.11.4, 4.12.4, 4.26.3A, 7.7.10, 7.11.1 and 7.11.5 and Appendix 1 and 3 of the Market Rules to account for the amendments to availability requirements.

The IMO also proposes to amend the defined term; Availability Class, to factor in the reduction from four classes to two.

Commencement of the proposed rules changes in issues two will require separate commencement dates in order to affect the 2014 Capacity Cycle. Rule changes that relate to certification will be required in the first quarter of 2014, while changes to the operation of DSM can be delayed until mid-2016 to be in effect for 1 October 2016.

Proposed Amending Rules

2.29.9A. The IMO must not register a Demand Side Programme where the minimum notice period required for dispatch exceeds twofour hours as specified in Standing Data.

…

4.5.12. For the second and third Capacity Years of the Long Term PASA Study Horizon, the IMO must determine the following information:

(a) the forecast capacity, in MW, required for more than 24 hours per year, 48 hours per year and 72 hours per year, determined from the Availability Curve for the Capacity Year developed under clause 4.5.10l; [Blank]

(b) the minimum capacity required to be provided by generation Availability Class 1 capacity if Power System Security and Power System Reliability is to be maintained. This minimum capacity is to be set at a level such that if:

i all Demand Side Management Availability Class 2 capacity (excluding Interruptible Load used to provide Spinning Reserve to the extent that it is anticipated to provide Certified Reserve Capacity), were activated during the Capacity Year so as to minimise the peak demand during that Capacity Yyear; and

ii the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11 were to be applied to the load scenario defined by clause 4.5.12(b)(i), then

it would be possible to satisfy the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11, as applied in clause 4.5.12(b)(ii), using, to the extent that the capacity is anticipated to provide Certified Reserve Capacity, the anticipated installed generating Availability Class 1 capacity, the anticipated Interruptible Load capacity available as Spinning Reserve and, to the extent that further generation Availability

Class 1 capacity would be required, an appropriate mix of ~~generation~~ Availability Class 1 capacity to make up that shortfall; and

(c) the capacity associated with ~~each~~ Availability Class 2, where this is equal to the Reserve Capacity Target for the Capacity Year less the minimum capacity required to be provided by Availability Class 1 capacity under clause 4.5.12(b).~~:~~

~~i. the capacity quantity associated with Availability Class 4 is the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 24 hours per year;~~

~~ii. the capacity quantity associated with Availability Class 3 is:~~

~~1. the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 48 hours per year; less~~

~~2. the capacity quantity associated with Availability Class 4;~~

~~iii. the capacity quantity associated with Availability Class 2 is:~~

~~1. the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 72 hours per year; less~~

~~2. the sum of the capacity quantities associated with each of Availability Class 3 and Availability Class 4;~~

~~iv. the capacity quantity associated with Availability Class 1 is:~~

~~1. the Reserve Capacity Target for the Capacity Year; less~~

~~2. the sum of the capacity quantities associated with each of Availability Class 2, Availability Class 3 and Availability Class 4.~~

…

4.10.1. Each Market Participant must ensure that information submitted to the IMO with an application for certification of Reserve Capacity pertains to the Reserve Capacity Cycle to which the certification relates, is supported by documented evidence and includes, where applicable, the following information:

(f) for Interruptible Loads, Demand Side Programmes and Dispatchable Loads:

i. the Reserve Capacity the Market Participant expects to make available from each of up to 3 blocks of capacity;

ii. ~~the maximum number of hours per year the Interruptible Load, Demand Side Programme or Dispatchable Load is available to provide Reserve Capacity, where this must be at least 24 hours;~~ [Blank];

iii. the maximum number of hours per day that the Interruptible Load, Demand Side Programme or Dispatchable Load is available to provide Reserve Capacity if issued a Dispatch Instruction~~called~~, where this must be~~:~~

~~1.~~ not less than ~~four~~ six hours; ~~and~~

~~2. not more than the maximum of the periods specified in clause 4.10.1(f)(vi);~~

iv. ~~the maximum number of times the Interruptible Load, Demand Side Programme or Dispatchable Load can be called to provide Reserve Capacity during a 12 month period, where this must be at least six times;~~ [Blank];

v. the minimum notice period required for dispatch of the Interruptible Load, Demand Side Programme or Dispatchable Load, where this must not be more than ~~4~~ two hours; and

vi. the periods when the Interruptible Load, Demand Side Programme or Dispatchable Load can be dispatched, which must include the period between ~~noon~~ 10:00 AM and 8:00 PM on all Business Days;

…

4.11.4. Subject to clause 4.11.12, when assigning Certified Reserve Capacity to an Interruptible Load, Demand Side Programme or Dispatchable Load, the IMO must ~~indicate what~~ assign the Availability Class to apply ~~is applicable~~ to that Certified Reserve Capacity as follows: ~~where this Availability Class must~~

(a) ~~reflect the maximum number of hours per year that the capacity will be available and must not be~~ Availability Class 1 where the IMO reasonably expects the Facility to be available to be dispatched for all Trading Intervals in a Capacity Year, allowing for Outages and any restrictions on the availability specified by the applicant under clause 4.10.1(g); or

(b) Availability Class 2 otherwise.

…

4.12.4. Subject to clause 4.12.5, where the IMO establishes the initial Reserve Capacity Obligation Quantity to apply for a Facility for a Trading Interval:

…

(c) for Interruptible Loads, Demand Side Programmes and Dispatchable Loads, except where otherwise precluded by this clause 4.12.4, the Reserve Capacity Obligation Quantity:

i. ~~will equal zero once the capacity has been dispatched under clause 7.6.1C(d) for the number of hours per year that are specified under clause 4.10.1(f)(ii);~~[Blank]

ii. will equal zero for the remainder of a Trading Day in which the capacity has been dispatched under clause 7.6.1C(d) for the number of hours per day that are specified under clause 4.10.1(f)(iii);

iii. ~~will equal zero once the capacity has been dispatched under clause 7.6.1C(d) for the maximum number of times per year specified under clause 4.10.1(f)(iv);~~[Blank]

iv. must account for staffing and other restrictions on the ability of the Facility to curtail energy upon request; and

v. will equal zero for Trading Intervals which fall outside of the periods specified in clause 4.10.1(f)(vi).

…

4.26.3A. The Demand Side Programme Capacity Cost Refund for Trading Month m for a Demand Side Programme is equal to the lesser of:

(a) twelve times the Monthly Reserve Capacity Price for Trading Month m multiplied by the number of Capacity Credits associated with the Facility, less all Demand Side Programme Capacity Cost Refunds applicable to the Facility in previous Trading Months falling in the same Capacity Year as Trading Month m; and

(b) the sum of:

i. the sum over all Trading Intervals t in Trading Month m of:

~~12 * Monthly Reserve Capacity Price * S / (2 * H)~~

(24 / H) * TIRR * S

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 per Trading Day that the Facility is available to provide Reserve Capacity ~~that the Facility was certified to be available~~ in accordance with clause 4.10.1(f)(iii); and

TIRR is the Off-Peak Trading Interval Rate or Peak Trading Interval Rate applicable to Trading Interval t; and

ii. the Facility Reserve Capacity Deficit Refund for Trading Month m for the Facility~~, determined in accordance with clause 4.26.1A~~.

…

7.7.10. When System Management has issued a Dispatch Instruction or an Operating Instruction to a Demand Side Programme to decrease its consumption, System Management may issue a further instruction terminating the requirement for the Demand Side Programme to decrease its consumption providing that~~:~~

~~(a)~~ the further instruction is issued at least ~~four~~two hours before it is to come into effect~~.~~; ~~and~~

~~(b) the minimum period for which the Demand Side Programme is instructed to decrease its consumption is not less than two hours.~~

…

7.11. Dispatch Advisories

7.11.1. A Dispatch Advisory is a communication by System Management to Market Participants, Network Operators and the IMO that there has been, or is likely to be, an event that will require the dispatch of Demand Side Programmes, ~~of~~ Facilities Out of Merit or will restrict communication between System Management and any of the Market Participants, Network Operators, or the IMO.

…

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;

(g) System Management expects to issue a Dispatch Instruction Out of Merit including, for the purpose of this clause, issuing a Dispatch Order to the Verve Energy Balancing Portfolio in accordance with clause 7.6.2, which will result in Out of Merit dispatch of the Verve Balancing Portfolio;

(h) System Management expects to use LFAS Facilities other than in accordance with the LFAS Merit Order under clause 7B.3.8; ~~or~~

(i) the system is in, or is expected to be in, a High Risk Operating State or an Emergency Operating State~~.~~; or

(j) System Management expects to issue a Dispatch Instruction to a Demand Side Programme within the next 24 hours.

…

Availability Class: Means either Availability Class 1 or Availability Class 2 or both, as applicable.~~Any one of 4 classes of annual availability of Reserve Capacity set out in clause 4.5.12(c), where each class corresponds to Reserve Capacity being available from a Facility for not more than a specified number of hours per year.~~

Availability Class 1: means the Availability Class assigned by the IMO to Certified Reserve Capacity under clause 4.11.4(a).

Availability Class 2: means the Availability Class assigned by the IMO to Certified Reserve Capacity under clause 4.11.4(b).

Off-Peak Trading Interval Rate: means the rate determined for the applicable Off-Peak Trading Interval under the Refund Table.

Peak Trading Interval Rate: means the rate determined for the applicable Peak Trading Interval under the Refund Table.

Refund Table: The table titled “Refund Table” and set out in ~~Chapter 4~~clause 4.26.1.

Appendix 1: Standing Data

This Appendix describes the Standing Data to be maintained by the IMO for use by the IMO in market processes and by System Management in dispatch processes.

Standing Data required to be provided as a pre-condition of Facility Registration and which Rule Participants are to update as necessary, is described in clauses (a) to (i).

Standing Data not required to be provided as a pre-condition of Facility Registration but which the IMO is required to maintain, and which Rule Participants are to update as necessary, includes the data described in clauses (j) to (m).

…

(h) for a Demand Side Programme:

i. [Blank]

ii. evidence that the communication and control systems required by clause 2.35 are in place and operational;

iii. the maximum amount of load that can be curtailed;

iv. the maximum duration of any single curtailment;

v. [Blank]

vi. for a Demand Side Programme that is registered to a Market Participant other than Verve Energy, data comprising:

1. a Consumption Decrease Price for Peak Trading Intervals; and

2. a Consumption Decrease Price for Off-Peak Trading Intervals,

where these prices must be expressed in units of $/MWh to a precision of $0.01/MWh;

vii. the minimum response time before the Demand Side Programme can begin to respond to an instruction from System Management to change its output;

viii. ~~the maximum number of hours per year the Demand Side Programme can be curtailed;~~ [Blank]

ix. the Trading Intervals where the Demand Side Programme can be curtailed;

x. any restrictions on the availability of the Demand Side Programme;

xi. the normal ramp up and ramp down rates as a function of output level, if applicable; and

xii. emergency ramp up and ramp down rates, if applicable.~~; and~~

~~xiii. the maximum number of times that the Demand Side Programme can be curtailed during the term of its Capacity Credits.~~

Appendix 3: Reserve Capacity Auction & Trade Methodology

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.

The parameter “a” denotes the active Availability Class where “a” can have a value of {1,or 2~~, 3, 4~~}. Availability Class 1 has the highest availability requirement, followed by Availability Class 2~~, Availability Class 3 and then Availability Class 4~~. All Certified Reserve Capacity is assigned an Availability Class. However the algorithms in this appendix allow capacity from ~~an~~ Availability Class ~~with higher availability~~1 to be used in place of capacity from ~~an~~ Availability Class ~~with lower availability~~2. ~~For example, a~~Any capacity accepted from Availability Class 1 that is in excess of the capacity requirement for Availability Class 1 will be available to meet the capacity requirement for Availability Class 2.

~~All Certified Reserve Capacity associated with Interruptible Loads, Demand Side Programmes or Dispatchable Loads is assigned an Availability Class according to the following table, where "Hours of Availability" is the maximum number of hours of availability per year specified for the relevant Facility under clause 4.10.1(f)(ii).~~

~~Hours of Availability~~	~~Availability Class (i.e. value of "a")~~
~~>= 72~~	~~2~~
~~>=48 and <72~~	~~3~~
~~>=24 and <48~~	~~4~~

~~All other Certified Reserve Capacity is automatically in Availability Class 1.~~

The following algorithm applies for both the testing of bilateral trades and for the auction. Terminology that differs in each case is

- "offers"
  - For the testing of bilateral trades the "offer" is a proposed bilateral transaction (as specified in clause 4.14.1 for each Facility or block).
  - For an auction an "offer" is a "Reserve Capacity Offer".
- the capacity requirements of Availability Class "a"
  - For the testing of bilateral trades, for Availability Class a = 1 this is the greater of zero and Q[a] – X[a] while for Availability Classes a = 2~~, 3 or 4~~, this is the greater of zero and (Q[a]– X[a] - Y[a-1]) where

    Q[a] is the quantity associated with Availability Class "a" in clause 4.5.12(b) or clause 4.5.12(c).

    X[a] is the total quantity of

    i Certified Reserve Capacity to be provided by Facilities subject to Network Control Service Contracts and by Facilities under Long Term Special Price Arrangements during the period to which the Reserve Capacity Requirement applies; plus

    ii the amount of Capacity Credits assigned under clause 4.28C for the period to which the Reserve Capacity Requirement applies

    where the capacity is certified as belonging to Availability Class "a" and is not subject to a bilateral trade.

    Y[a] represents the amount by which (X[a] + Y[a-1]) exceeds Q[a], with the exception that Y[0] = 0.

- For an auction this is the same as the capacity requirement for the case of bilateral trades except that it is reduced by the amount of capacity accepted as a bilateral trade.

The algorithm is as follows:

Step 1: Start with a = 1

Step 2: Let the set of active offers comprise all offers from Availability Class “a”.

Step 2A: In the case of bilateral trade offers, accept offers from operating facilities and committed facilities and remove them from the set of active offers.

Step 3: Accept offers from the set of active offers in order of

- In the case of testing bilateral schedules, decreasing availability.
- In the case of the Rreserve Ccapacity Aauction, increasing price

until the capacity requirements of Availability Class “a” are fully covered or until there are no offers left unaccepted in the set of active offers.

Where two or more offers are tied with respect to the selection criteria such that accepting all but one of them would result in the total capacity selected exceeding the total capacity requirement of the Availability Class then the tied offers are to be accepted according to the following rules until the tie is resolved.

- In the case of the Rreserve Ccapacity Aauction, offers from operating facilities and committed facilities are to be accepted ahead of facilities that are not yet committed; then
- Offers are to be accepted in decreasing order of capacity offered; then
- Offers for capacity that was included in an Expression of Interest are to be accepted ahead of capacity that was not; then
- Offers are to be accepted in the order of the time the offers were received, with the earlier offer being taken first; and then
- Offers are to be accepted in the order the capacity secured Certified Reserve Capacity;

Step 4: If all offers in the set of active offers have been accepted but the capacity requirements of Availability Class “a” have not been covered, then record the difference as the capacity shortfall for Availability Class “a”.

Step 5: Remove all offers accepted in Step 3 from the set of active offers.

Step 6: If a = 42 then go to Step 8A otherwise increase a by 1.

Step 7: Add all offers from Availability Class “a” to the set of active offers.

Step 8: Return to Step 2A.

Step 8A: In the case of the auction only:

- The Reserve Capacity Price must equal the price of the highest priced offer accepted; and
- In the special case where the Reserve Capacity Price is zero and there are offers with a price of zero that have not been accepted, then accept those offers with zero price.

Step 9: Report the offers accepted

Step 10: For each Availability Class report the capacity shortfall:

- In the case of testing bilateral schedules, this indicates the amount to be procured in the auction.
- In the case of the Reserve Capacity Auction, this indicates the amount to be procured through supplementary capacity.

Step 11: End.

In the case of the auction only:

- While leaving the Reserve Capacity Price unchanged, the IMO must exchange one or more offers not accepted for one or more offers accepted in the auction if
    - the total capacity scheduled in the auction exceeds the Reserve Capacity Auction Requirement by more than 100 MW;
    - the Reserve Capacity Price exceeds zero,
    - the exchange produces the maximum possible reduction in the total value of offers accepted;
    - the exchange does not create an overall Reserve Capacity shortfall where none existed;
    - in the event that a capacity shortfall exists in one or more Availability Classes, the exchange will not shift a shortfall from an Availability Class with low availability to an Availability Class with high availability; and
    - this would not result in an existing facility, or a committed facility being excluded.

Issue 3 – Real-time telemetry service for DSPs

System Management currently has information regarding a DSP's likely availability provided through the certification process but does not have real-time information on the availability and performance of DSPs. This lack of information about a DSP's circumstances at any time means that System Management is likely to be less confident in the use of DSM, and may result in the inefficient use of DSPs. The availability of real-time information would increase System Management's ability to maintain the security and reliability of the SWIS.

The RCMWG members agreed that real-time information should be provided to System Management on the availability and performance of each DSP, rather than each of the underlying loads. The IMO notes that there are expected to be costs both to DSPs in providing it and System Management in gathering, delivering and using this real-time information. However, in the interest of harmonisation, there is a benefit to the consistent provision of real-time information on availability and performance of DSPs.

Without the implementation of a real-time telemetry service, the benefits of the other issues identified in this pre Rule Change Proposal are somewhat limited. With this in mind, the IMO engaged System Management to assist in identifying and assessing the possible options to receive and use the required data. System Management provided three suggested options.

Option 1 - SCADA feed for DSPs

This option requires the installation of an interface to Western Power's SCADA system and changes to the SCADA system to include acceptance of real-time updates of aggregated load information from DSPs. System Management has indicated that the real-time data received via SCADA will also need to be incorporated into the System Operations Control User Interface and may also require changes to the Dispatch Planning Tool.

System Management has advised that the process for requesting SCADA changes is managed by Western Power. Initial requests by DSP providers would need to be forwarded to Western Power to be scheduled with other maintenance and upgrade work as appropriate. Participants may also be required to install real-time monitoring equipment at each of their load sites, and an aggregation system at a site representing the DSP itself.

System Management has advised that it would only accept one reading for each DSP, with aggregation of individual load data (prior to insertion into SCADA) to be the responsibility of the DSP.

Option 2 – B2B Web Service for DSM Loads

System Management has indicated that this option would make use of the existing B2B Web Service functionality in its *System Management Automated Real-Time System*.

This approach involves the creation of a DSP Load Web Service that is capable of accepting real-time aggregated load data from DSP providers. The real-time data received would need to be stored in the Operational Data Store, incorporated into the System Operations Control User Interface and may also be required by the Dispatch Planning Tool.

Option 3 – Smart meter readings

A further option would utilise real-time data available from the roll-out of smart meters. This option has the potential to be relatively cheap. However, System Management has indicated that it is likely to be the least reliable solution and may involve some delay in data. There are a range of different options for utilising meter data, most of which would involve the Meter Data Agent and will likely require changes to the Metering Code.

A tentative cost analysis of all three options was completed by System Management and is provided in the table below.

Table 2: Cost analysis for provision of real-time DSP data

Option	Cost	Implementation Time
1. SCADA feed for DSPs	$6000 per DSP created within the SCADA/ PI system. 21 DSPs registered with the IMO ~ $126,000 Cost of interface installed at DSP ~ $30-$100k (at DSP expense) Updating of the SOCUI to include DSP readings including design, development, testing, training, procedure updates ~ $82,000 **Total Cost ~ $208,000**	10 – 12 months
2. B2B Web Service for DSM Loads	Development of Web Service to accept real-time DSP readings ~ $62,000 Updating of the SOCUI to include DSP readings including design, development, testing, training, procedure updates ~ $82,000 **Total Cost ~ $144,000**	10 – 12 weeks
3. Smart meter readings	**Total Cost ~ $160,000**	Unknown

Proposal

The IMO proposes to amend the Market Rules and relevant Procedures to require that all DSPs provide a telemetry service to enable provision of real-time information on its availability and performance to System Management. This is intended to take effect from the start of the 2014 Reserve Capacity Cycle, with all procedural changes in place by 1 October 2016.

Specifically, the IMO proposes to leverage off clause 2.35.4 of the Market Rules, which requires System Management, Market Participants and Network Operators to comply with the communications and control system requirements necessary to support the dispatch process. This approach will require details of the data requirements to be added to the relevant Power System Operation Procedure.

The IMO also proposes to amend clause 7.10.4 which currently excludes DSPs from System Management's monitoring of compliance with Dispatch Instructions in accordance with clause 7.10.1. The amendment will remove this exclusion.

The IMO will continue to work with System Management to ensure the required amendments to the relevant Procedures occur prior to the commencement of any rule change discussed in this pre Rule Change Proposal.

Based on the provisional information provided by System Management and the existing systems available to the market, the IMO recommends Option 2 as the preferred method for achieving the outcomes discussed in issue three. It is expected that Option 2 will be the most cost effective and reliable method for System Management to receive and use real-time data from DSPs regarding performance and availability.

Proposed Amending Rules

7.10.4. System Management must monitor the behaviour of Market Participants with Registered Facilities to assess whether they are complying with clause 7.10.1 in accordance with its Monitoring and Reporting Protocol~~, except where it relates to a Demand Side Programme~~.

Note: No change required to clause 2.35.4.

Issue 4 – The "Third Day" Rule

Under clause 4.12.8, a DSP that has been dispatched on two consecutive days will have a Reserve Capacity Obligation Quantity (RCOQ) of zero on the third day. By having a RCOQ of zero the DSP is not subject to capacity refunds.

Scenarios in which a DSP may be required for three consecutive days include:

- a major fuel disruption, in which DSPs may be required to help manage a risk to fuel stocks; and
- a series of very hot days coupled with some unexpected large Outages.

This is inconsistent with the obligations for the provision of supply-side capacity. Therefore, the RCMWG members agreed to remove this restriction on the dispatch of a DSP.

Proposal

The IMO proposes to remove clause 4.12.8 from the Market Rules. This is intended to take effect from the start of the 2014 Reserve Capacity Cycle, with all procedural changes in place by 1 October 2016.

Proposed Amending Rules

~~4.12.8. Where a Demand Side Programme is dispatched under clause 7.6.1C(d) to a level equal to its Reserve Capacity Obligation Quantity on two consecutive days the Reserve Capacity Obligation Quantity for the third consecutive day will be zero.~~

Issue 5 – Non-Balancing Dispatch Merit Order

The Non-Balancing Dispatch Merit Order (DMO) currently orders the dispatch of Non-Balancing Facilities (including DSPs) by price. In the event that one or more DSPs have the same price, they are then ordered from largest to smallest by Facility size.

The RCMWG members agreed that ranking Facilities according to size was inappropriate and created a disincentive for DSPs to aggregate Loads. Instead, the RCMWG members agreed to replace it with a ranking based on the time since its last dispatch.

Another issue identified by the IMO is that the current Non-Balancing DMO does not remove Facilities that have an RCOQ of zero. This makes it difficult for System Management to dispatch Facilities in the Non-Balancing DMO. As such, the IMO has explored the option to improve the Non-Balancing DMO by ranking Facilities in priority order from top to bottom as follows:

- Facilities that have an RCOQ > 0:
    - order by price, from lowest to highest;
    - where tied on price, order by the time since last dispatch, from longest time to shortest time; and
    - where tied on the time since last dispatch, as randomly assigned by the IMO to break the tie;
- Facilities with an RCOQ of zero, according to price, time since last dispatch and random assignment (as above).

This approach would result in two Non-Balancing DMOs being generated for each Trading Interval for the Trading Day, one for decreases in consumption and one for increases. The current process results in four Non-Balancing DMOs being created each Trading Day (decreases and increases in consumption for both Peak Trading Intervals and Off-Peak Trading Intervals).

The requirement for System Management to provide dispatch data to the IMO, and subsequently the requirement for the IMO to release the Non-Balancing DMOs, will remain a daily occurrence.

It should be noted that the IMO may not have access to the most recent dispatch data required to calculate a real-time Non-Balancing DMO. This issue is graphically depicted in Figure 1 below. It is anticipated that the Non-Balancing DMOs issued by the IMO for a Trading Day will not be able to account for any Dispatch Instructions issued to DSPs on the preceding Trading Day. This limitation is a reflection on the availability of data and the current maturity of the market to allow a shorter period between the delivery of a Non-Balancing DMO and the Trading Day or Trading Interval.

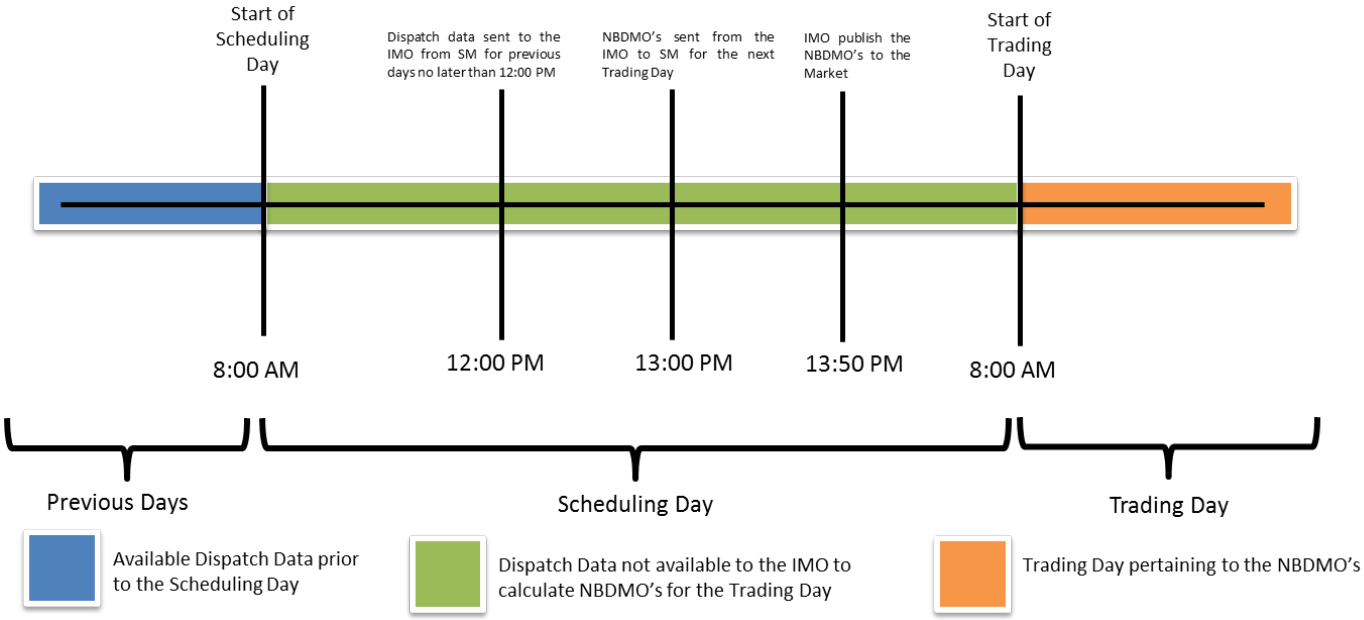

Figure 1: Timeframes for issuing the Non-Balancing Dispatch Merit Orders

Proposal

The IMO proposes to implement changes to the Market Rules so that Facilities in the Non-Balancing DMO are ranked based on the time since last dispatch, rather than Facility size. This principle will be achieved by amending clause 6.12.1.

The amendments to clause 6.12.1 will also ensure the Non-Balancing DMO relegates a Facility with an RCOQ of zero below any Facility with a positive RCOQ. The approach will provide System Management with a more robust and "user friendly" Non-Balancing DMO.

The amendments to this clause will not change the daily obligations on System Management or the IMO to provide or publish data pertaining to the Non-Balancing DMO, but will allow the Non-Balancing DMO to be more reflective of the actual demand-side capacity available for each Trading Day.

These changes are intended to take effect from the start of the 2014 Reserve Capacity Cycle, with all procedural changes in place by 1 October 2016.

Proposed Amending Rules

6.12.1.

(a) By 1:30 PM on the Scheduling Day (or within 40 minutes of a closing time extended in accordance with clause 6.5.1(b)) the IMO must determine the Non-Balancing Dispatch Merit Orders identified in clauses 6.12.1(b) and~~to~~ 6.12.1(~~e~~c) for the Trading Day. A Non-Balancing Dispatch Merit Order lists the order in which the Dispatchable Loads and Demand Side Programmes of Market Participants other than Verve Energy will be issued Dispatch Instructions by System Management under clause 7.6.1C(d) to increase or decrease consumption, as applicable.

(b) A Non-Balancing Dispatch Merit Order for a decrease in consumption relative to the quantities included in the applicable Resource Plan (or the current operating level of a Facility not included in a Resource Plan) ~~during Peak~~for a Trading Interval~~s. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order~~ must:

i. ~~this Non-Balancing Dispatch Merit Order must~~ list all Demand Side Programmes and Dispatchable Loads registered by Market Participants other than Verve Energy; and

ii. ~~this Non-Balancing Dispatch Merit Order must~~ be determined by ranking the Registered Facilities referred to in clause 6.12.1(b)(i)~~ in increasing order of the Consumption Decrease Price for Peak Trading Intervals.~~as follows:

1. Registered Facilities with a Reserve Capacity Obligation Quantity greater than zero in that Trading Interval ranked in increasing order of the Consumption Decrease Price applicable to that Trading Interval; followed by

2. Registered Facilities with a Reserve Capacity Obligation Quantity of zero in that Trading Interval, ranked in increasing order of the Consumption Decrease Price applicable to that Trading Interval.

(c) A Non-Balancing Dispatch Merit Order for an increase in consumption relative to the quantities included in the applicable Resource Plan ~~during Peak~~for a Trading Interval~~s. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order~~ must:

i. ~~this Non-Balancing Dispatch Merit Order must~~ list all Dispatchable Loads registered by Market Participants other than Verve Energy; and

ii. ~~this Non-Balancing Dispatch Merit Order must~~ be determined by ranking the Registered Facilities referred to in clause 6.12.1(c)(i) in increasing order of the Consumption Increase Price ~~for~~ applicable to that ~~Peak~~ Trading Interval~~s~~.

(d) ~~A Non-Balancing Dispatch Merit Order for a decrease in consumption relative to quantities included in the applicable Resource Plan (or the current operating level of a Facility not included in a Resource Plan) during Off-Peak Trading Intervals. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order:~~

~~i. this Non-Balancing Dispatch Merit Order must list all Demand Side Programmes and Dispatchable Loads registered by Market Participants other than Verve Energy; and~~

~~ii. this Non-Balancing Dispatch Merit Order must be determined by ranking the Registered Facilities referred to in clause 6.12.1(d)(i) in increasing order of the Consumption Decrease Price for Off-Peak Trading Intervals;~~[Blank]

(e) ~~A Non-Balancing Dispatch Merit Order for an increase in consumption relative to the quantities included in the applicable Resource Plan during Off-Peak Trading Intervals. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order:~~

~~i. this Non-Balancing Dispatch Merit Order must list all Dispatchable Loads registered by Market Participants other than Verve Energy; and~~

~~ii. this Non-Balancing Dispatch Merit Order must be determined by ranking the Registered Facilities referred to in clause 6.12.1(e)(i) in increasing order of the Consumption Increase Price for Off-Peak Trading Intervals.~~ [Blank]

(f) Where the prices described in Standing Data for two or more Registered Facilities are equal, then, for the purposes of determining the ranking in any Non-Balancing Dispatch Merit Order, the IMO must rank those~~a~~ Registered Facilit~~y~~ies in decreasing order of the time since the Facility was last issued with a Dispatch Instruction ~~with a greater load registered in Standing Data in items (h)(iii) or (i)(iii) of Appendix 1 before a Registered Facility with a lesser load~~. In the event of a tie, the IMO will randomly assign priority to break the tie.

Issues 6 – Dispatch of DSPs outside nominated availability

Similar to issues four and five, the RCMWG members agreed that some DSPs may be able to provide availability outside their nominated availability limits. System Management currently is unable to dispatch DSPs outside of their availability limit pursuant to clause 7.6.10(b). In cases where additional capacity is needed, it seems prudent that System Management should have the ability to request a DSP to curtail consumption if it can.

The RCMWG members agreed that changes should be made to the Market Rules to enable DSPs to be dispatched in these circumstances on a "best efforts basis". This means that there will continue to be no capacity refunds for non-performance when a DSP's RCOQ is equal to zero.

Proposal

The IMO proposes to amend clause 7.6.10 to remove the restriction on System Management that prevents the dispatch of DSM due to Reserve Capacity Obligations.

The IMO intends to maintain the principle that a DSP is not subject to capacity refunds when its RCOQ is equal to zero, noting the changes discussed in issues four and five.

These changes are intended to take effect from the start of the 2014 Reserve Capacity Cycle, with all procedural changes in place by 1 October 2016.

Proposed Amending Rules

7.6.10. Where a Market Participant has Capacity Credits granted in respect of an Interruptible Load, Demand Side Programme or Dispatchable Load ~~:~~

~~(a)~~ the IMO must provide System Management with the details of the Reserve Capacity Obligations to enable System Management to dispatch the Demand Side Programme~~; and~~

~~(b) any Dispatch Instructions issued by System Management to the Demand Side Programme under clause 7.6.1C(d) must be in accordance with those Reserve Capacity Obligations~~.

Issue 7 – Relationship between Individual Reserve Capacity Requirement and Relevant Demand

The amount of Reserve Capacity that a DSP can provide is currently determined by its Relevant Demand (RD). The RD is the median value that the Associated Loads of a DSP consumed during the 32 Trading Intervals of highest demand in the preceding Hot Season, reflecting a normal operating level during the intervals when the DSP is most likely to be dispatched.

Under clause 4.26.2C(b)(iii), the RD for a DSP may be adjusted upward where one or more Associated Loads performed maintenance during these peak intervals. This differs from the calculation of the Individual Reserve Capacity Requirement (IRCR), for which there is no such adjustment. The IMO considers that the exclusion of maintenance periods from the calculation of RD coupled with its inclusion in IRCR provides a dual incentive for Associated Loads to perform maintenance during Trading Intervals that they assume will also be used in the calculation of IRCR intervals under Appendix 5 of the Market Rules.[6]

This reduction of consumption at times of system peak can result in the Associated Load

[6] Note that the IRCR and RD intervals are likely to be similar intervals.

having a RD (representing the upper limit on the Capacity Credits that it may sell to the market) that is greater than its IRCR (representing the Capacity Credits that it buys from the market). The IMO considers it inappropriate that a Load that is incapable of sending electricity into the SWIS can be a net seller of Capacity Credits to the market.

The RCMWG members agreed in February 2013[7] to pursue an approach that reduced this incentive. The amendments focus on the principle that a DSP Load may not sell more capacity (through DSM) than it buys (through the IRCR). The IMO intends to limit the RD of a DSP without redefining the Trading Intervals used to calculate the RD or the IRCR.

The IMO proposes to calculate the RD of a DSP for a Trading Day as the lesser of:

- the historical consumption quantities of the 32 Trading Intervals identified under clause 4.26.2C(a) for the Capacity Year; and
- the sum of the IRCR contributions of each Associated Load that form a DSP.

Proposal

The IMO proposes to amend clause 4.26.2CA of the Market Rules to restrict a DSP from selling more capacity than it buys through IRCR.

The IMO also proposes to amend Appendix 5 and the Glossary to create a new defined term; Individual Reserve Capacity Requirement Contribution (IRCRC), which is the specific contribution of a Load rather than a Market Customer. This new defined term will enable the methodology proposed in Appendix 5 Step 11 to appropriately calculate the IRCR of each Associated Load.

These changes are proposed to commence in early 2014 in order to affect the start of the Reserve Capacity Cycle on 1 October 2014. It should be noted that Market Participants have the ability to apply for a reduction of Capacity Credits under clauses 4.25.4A to 4.25.4F if this introduction of this rule change adversely affects their existing commitments.

Proposed Amending Rules

4.26.2CA. The Relevant Demand of a Demand Side Programme for a Trading Day d in a Capacity Year is the lesser of: ~~median of the historical consumption quantities determined by the IMO for each of the 32 Trading Intervals identified under clause 4.26.2C(a) for the Capacity Year. The historical consumption quantity for each Trading Interval is the sum, over all the Associated Loads associated with the Demand Side Programme during Trading Day d, of the MW quantity determined by the IMO for each Associated Load and the Trading Interval under clause 4.26.2C(b).~~

(a) the median of the historical consumption quantities determined by the IMO for each of the 32 Trading Intervals identified under clause 4.26.2C(a) for the Capacity Year. The historical consumption quantity for each Trading Interval is the sum, over all the Associated Loads associated with the Demand Side Programme during Trading Day d, of the MW quantity

[7] http://www.imowa.com.au/f5415,3854323/Minutes_Meeting_10_v5.0_FINAL.pdf

determined by the IMO for each Associated Load and the Trading Interval under clause 4.26.2C(b)~~.~~; and

(b) the sum of Individual Reserve Capacity Requirement Contributions of the Associated Loads Demand Side Programmes

Individual Reserve Capacity Requirement Contribution: Means the contribution of an Associated Load to Individual Reserve Capacity Requirement determined in accordance with Step 11 of Appendix 5.

Appendix 5: Individual Reserve Capacity Requirements

...

STEP 11: The contribution of an individual metered Load for Trading Month n of a Capacity Year is determined as follows:

(a) for meter u at an existing connection point measuring Non-Temperature Dependent Load equals (NTDL(u) x NTDL_Ratio x Total_Ratio);

(b) for meter v at an existing connection point measuring Temperature Dependent Load equals (TDL(v) x TDL_Ratio x Total_Ratio);

(c) for meter u at a new connection point measuring Non-Temperature Dependent Load equals (NMNTCR(u) x Total_Ratio); and

(d) for meter v at a new connection point measuring Temperature Dependent Load equals (NMTDCR(v) x Total_Ratio).

---

2. Explain the reason for the degree of urgency:

The IMO proposes to commence the Amending Rules set out in this pre Rule Change Proposal in order for them to apply for the 2014 Reserve Capacity Cycle. Market Participants should note:

- changes related to certification of Reserve Capacity are proposed to commence no later than 1 May 2014 in time for the opening of the window for applications for Certified Reserve Capacity for the 2014 Capacity Cycle (issue 1 and 2);
- changes that impact the operation of DSPs are proposed to commence on 1 October 2016 (issues 2, 3, 4, 5 and 6); and
- changes discussed that relate to the IRCR and RD are proposed to commence in early 2014 in order to affect the start of the Reserve Capacity Cycle on 1 October 2014 (issue 7).

The IMO considers that these commencement dates will provide Market Participants adequate time for the necessary changes to IT and operational systems and processes.

As such, the IMO proposes to progress this pre Rule Change Proposal through the Standard Rule Change Process commencing in August 2013. This will allow adequate time to commence the amendments before the 2014 Reserve Capacity Cycle.

---

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)*

Issue 1 – Proposed Drafting

2.13.9. System Management must monitor Rule Participants for breaches of the following clauses:

(a) [Blank]

(b) clauses 3.4.6 and 3.4.8;

(c) clauses 3.5.8 and 3.5.10;

(d) clauses 3.6.5 and 3.6.6B;

(e) clauses 3.16.4, 3.16.7, and 3.16.8A;

(f) clauses 3.17.5 and 3.17.6;

(g) clause 3.18.2(f);

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

(gB) clauses 3.21B.1 and 3.21B.2;

(h) ~~clause 4.10.2, where System Management is instructed by the IMO under clause 4.25.13~~[Blank];

(hA) clause 7.2.5;

(hB) clause 7.5.5;

(i) clause 7.7.6(b);

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

(k) clause 7.11.7.

…

4.10.1. Each Market Participant must ensure that information submitted to the IMO with an application for certification of Reserve Capacity pertains to the Reserve Capacity Cycle to which the certification relates, is supported by documented evidence and includes, where applicable, the following information:

…

(e) for a generation system other than an Intermittent Generator:

…

v. ~~subject to clause 4.10.2,~~ details of primary and any alternative fuels, including:

1. where the Facility has primary and alternative fuels:

i. the process for changing from one fuel to another; and

ii. the fuel or fuels which the Facility is to use in respect of the application for Certified Reserve Capacity; and

2. details and evidence of both firm and any non-firm fuel supplies ~~and the factors that determine restrictions on fuel availability that could prevent the Facility operating at its full capacity~~;

…

~~4.10.2. For the purpose of clause 4.10.1(e)(v), an applicant may not claim that a Facility has an alternative fuel unless the Facility has on-site storage, or uninterruptible supply of that fuel, sufficient to maintain 12 hours of operation at the level of capacity specified in clause 4.10.1(e)(ii).~~

…

4.11.1. Subject to clauses 4.11.7 and 4.11.12, the IMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle for which an application for Certified Reserve Capacity has been submitted in accordance with clause 4.10:

(a) subject to clause 4.11.2, the Certified Reserve Capacity for a Scheduled Generator for a Reserve Capacity Cycle must not exceed the IMO's reasonable expectation of the amount of capacity likely to be available, after netting off capacity required to serve Intermittent Loads, embedded loads and Parasitic Loads, ~~for Peak Trading Intervals on Business Days~~ in the period from:

i. the start of December for Reserve Capacity Cycles up to and including 2009; or

ii. the Trading Day starting on 1 October for Reserve Capacity Cycles from 2010 onwards,

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 41^{o}C;

…

4.12.2. A Market Participant holding Capacity Credits must also comply with the following obligations:

(a) the Market Participant must comply with outage planning obligations specified in clauses 3.18, 3.19, 3.20 and 3.21;

(b) the Market Participant must submit to tests of availability of capacity and inspections conducted in accordance with clause 4.25; and

(c) the Market Participant must comply with Reserve Capacity performance monitoring obligations in accordance with clause 4.27~~; and~~.

~~(d) the Market Participant must, in relation to each Facility assigned Certified Reserve Capacity on the basis of having an alternative fuel available, maintain adequate fuel for 12 hours of operation except on any Trading Day for which the IMO has waived this requirement in response to a Planned Outage or in the event of an extended Forced Outage.~~

…

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

(a) in the case of a generation system, during the term the Reserve Capacity Obligations apply, operate at a level equivalent to its Required Level, adjusted to the level of Capacity Credits currently held, at least once during each of the following periods and such operation must be achieved on each type of fuel ~~available to that Facility~~ notified under clause 4.10.1(e)(v)(1)(ii):

i. 1 October to 31 March; and

ii. 1 April to 30 September; and

…

~~4.25.13. The IMO must monitor at all times the on-site fuel storage of each Scheduled Generator required to comply with clause 4.10.2. The IMO may:~~

~~(a) require the relevant Market Participant to submit a weekly report of the current fuel level;~~

~~(b) have a representative of the IMO conduct an on-site inspection to verify the fuel storage level; and~~

~~(c) instruct System Management to use its SCADA systems to monitor the fuel storage level and to report any failure of any Market Participant to comply with clause 4.10.2 to the IMO.~~

Issue 2 – Proposed Drafting

2.29.9A. The IMO must not register a Demand Side Programme where the minimum notice period required for dispatch exceeds two~~four~~ hours as specified in Standing Data.

…

4.5.12. For the second and third Capacity Years of the Long Term PASA Study Horizon, the IMO must determine the following information:

(a) ~~the forecast capacity, in MW, required for more than 24 hours per year, 48 hours per year and 72 hours per year, determined from the Availability Curve for the Capacity Year developed under clause 4.5.10I;~~ [Blank]

(b) the minimum capacity required to be provided by ~~generation~~ Availability Class 1 capacity if Power System Security and Power System Reliability is to be maintained. This minimum capacity is to be set at a level such that if:

i all ~~Demand Side Management~~ Availability Class 2 capacity (excluding Interruptible Load used to provide Spinning Reserve to the extent that it is anticipated to provide Certified Reserve Capacity), were activated during the Capacity Year so as to minimise the peak demand during that Capacity Y~~y~~ear; and

ii the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11 were to be applied to the load scenario defined by clause 4.5.12(b)(i), then

it would be possible to satisfy the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11, as applied in clause 4.5.12(b)(ii), using, to the extent that the capacity is anticipated to provide Certified Reserve Capacity, the anticipated installed ~~generating~~ Availability Class 1 capacity, the anticipated Interruptible Load capacity available as Spinning Reserve and, to the extent that further ~~generation~~ Availability Class 1 capacity would be required, an appropriate mix of ~~generation~~ Availability Class 1 capacity to make up that shortfall; and

(c) the capacity associated with ~~each~~ Availability Class 2, where this is equal to the Reserve Capacity Target for the Capacity Year less the minimum capacity required to be provided by Availability Class 1 capacity under clause 4.5.12(b).~~:~~

~~i. the capacity quantity associated with Availability Class 4 is the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 24 hours per year;~~

~~ii. the capacity quantity associated with Availability Class 3 is:~~

~~1. the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 48 hours per year; less~~

~~2. the capacity quantity associated with Availability Class 4;~~

~~iii. the capacity quantity associated with Availability Class 2 is:~~

~~1. the Reserve Capacity Target for the Capacity Year less the greater of the quantity specified under clause 4.5.12(b) and the quantity specified under clause 4.5.12(a) as being required for more than 72 hours per year; less~~

~~2. the sum of the capacity quantities associated with each of Availability Class 3 and Availability Class 4;~~

~~iv. the capacity quantity associated with Availability Class 1 is:~~

~~1. the Reserve Capacity Target for the Capacity Year; less~~

~~2. the sum of the capacity quantities associated with each of Availability Class 2, Availability Class 3 and Availability Class 4.~~

…

4.10.1. Each Market Participant must ensure that information submitted to the IMO with an application for certification of Reserve Capacity pertains to the Reserve Capacity Cycle to which the certification relates, is supported by documented evidence and includes, where applicable, the following information:

(f) for Interruptible Loads, Demand Side Programmes and Dispatchable Loads:

i. the Reserve Capacity the Market Participant expects to make available from each of up to 3 blocks of capacity;

ii. ~~the maximum number of hours per year the Interruptible Load, Demand Side Programme or Dispatchable Load is available to provide Reserve Capacity, where this must be at least 24 hours;~~ [Blank];

iii. the maximum number of hours per day that the Interruptible Load, Demand Side Programme or Dispatchable Load is available to provide Reserve Capacity if issued a Dispatch Instruction~~called~~, where this must be~~:~~

~~1.~~ not less than ~~four~~ six hours; ~~and~~

~~2. not more than the maximum of the periods specified in clause 4.10.1(f)(vi);~~

iv. ~~the maximum number of times the Interruptible Load, Demand Side Programme or Dispatchable Load can be called to provide Reserve Capacity during a 12 month period, where this must be at least six times;~~ [Blank];

v. the minimum notice period required for dispatch of the Interruptible Load, Demand Side Programme or Dispatchable Load, where this must not be more than ~~4~~ two hours; and

vi. the periods when the Interruptible Load, Demand Side Programme or Dispatchable Load can be dispatched, which must include the period between ~~noon~~ 10:00 AM and 8:00 PM on all Business Days;

…

4.11.4. Subject to clause 4.11.12, when assigning Certified Reserve Capacity to an Interruptible Load, Demand Side Programme or Dispatchable Load, the IMO must ~~indicate what~~ assign the Availability Class to apply ~~is applicable~~ to that Certified Reserve Capacity as follows: ~~where this Availability Class must~~

(a) ~~reflect the maximum number of hours per year that the capacity will be available and must not be~~ Availability Class 1 where the IMO reasonably expects the Facility to be available to be dispatched for all Trading Intervals in a Capacity Year, allowing for Outages and any restrictions on the availability specified by the applicant under clause 4.10.1(g); or

(b) Availability Class 2 otherwise.

…

4.12.4. Subject to clause 4.12.5, where the IMO establishes the initial Reserve Capacity Obligation Quantity to apply for a Facility for a Trading Interval:

…

(c) for Interruptible Loads, Demand Side Programmes and Dispatchable Loads, except where otherwise precluded by this clause 4.12.4, the Reserve Capacity Obligation Quantity:

i. ~~will equal zero once the capacity has been dispatched under clause 7.6.1C(d) for the number of hours per year that are specified under clause 4.10.1(f)(ii);~~[Blank]

ii. will equal zero for the remainder of a Trading Day in which the capacity has been dispatched under clause 7.6.1C(d) for the number of hours per day that are specified under clause 4.10.1(f)(iii);

iii. ~~will equal zero once the capacity has been dispatched under clause 7.6.1C(d) for the maximum number of times per year specified under clause 4.10.1(f)(iv);~~[Blank]

iv. must account for staffing and other restrictions on the ability of the Facility to curtail energy upon request; and

v. will equal zero for Trading Intervals which fall outside of the periods specified in clause 4.10.1(f)(vi).

…

4.26.3A. The Demand Side Programme Capacity Cost Refund for Trading Month m for a Demand Side Programme is equal to the lesser of:

(a) twelve times the Monthly Reserve Capacity Price for Trading Month m multiplied by the number of Capacity Credits associated with the Facility, less all Demand Side Programme Capacity Cost Refunds applicable to the

Facility in previous Trading Months falling in the same Capacity Year as Trading Month m; and

(b) the sum of:

i. the sum over all Trading Intervals t in Trading Month m of:

~~12 * Monthly Reserve Capacity Price * S / (2 * H)~~

(24 / H) * TIRR * S

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 per Trading Day that the Facility is available to provide Reserve Capacity ~~that the Facility was certified to be available~~ in accordance with clause 4.10.1(f)(iii); and

TIRR is the Off-Peak Trading Interval Rate or Peak Trading Interval Rate applicable to Trading Interval t; and

ii. the Facility Reserve Capacity Deficit Refund for Trading Month m for the Facility~~, determined in accordance with clause 4.26.1A~~.

…

7.7.10. When System Management has issued a Dispatch Instruction or an Operating Instruction to a Demand Side Programme to decrease its consumption, System Management may issue a further instruction terminating the requirement for the Demand Side Programme to decrease its consumption providing that~~:~~

~~(a) the further instruction is issued at least four~~two hours before it is to come into effect~~.~~; ~~and~~

~~(b) the minimum period for which the Demand Side Programme is instructed to decrease its consumption is not less than two hours.~~

…

7.11. Dispatch Advisories

7.11.1. A Dispatch Advisory is a communication by System Management to Market Participants, Network Operators and the IMO that there has been, or is likely to be, an event that will require the dispatch of Demand Side Programmes, ~~of~~ Facilities Out of Merit or will restrict communication between System Management and any of the Market Participants, Network Operators, or the IMO.

…

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;

(g) System Management expects to issue a Dispatch Instruction Out of Merit including, for the purpose of this clause, issuing a Dispatch Order to the Verve Energy Balancing Portfolio in accordance with clause 7.6.2, which will result in Out of Merit dispatch of the Verve Balancing Portfolio;

(h) System Management expects to use LFAS Facilities other than in accordance with the LFAS Merit Order under clause 7B.3.8; ~~or~~

(i) the system is in, or is expected to be in, a High Risk Operating State or an Emergency Operating State~~.~~; or

(j) System Management expects to issue a Dispatch Instruction to a Demand Side Programme within the next 24 hours.

…

Availability Class: Means either Availability Class 1 or Availability Class 2 or both, as applicable.~~Any one of 4 classes of annual availability of Reserve Capacity set out in clause 4.5.12(c), where each class corresponds to Reserve Capacity being available from a Facility for not more than a specified number of hours per year.~~

Availability Class 1: means the Availability Class assigned by the IMO to Certified Reserve Capacity under clause 4.11.4(a).

Availability Class 2: means the Availability Class assigned by the IMO to Certified Reserve Capacity under clause 4.11.4(b).

Off-Peak Trading Interval Rate: means the rate determined for the applicable Off-Peak Trading Interval under the Refund Table.

Peak Trading Interval Rate: means the rate determined for the applicable Peak Trading Interval under the Refund Table.

Refund Table: The table titled “Refund Table” and set out in ~~Chapter 4~~clause 4.26.1.

Appendix 1: Standing Data

This Appendix describes the Standing Data to be maintained by the IMO for use by the IMO in market processes and by System Management in dispatch processes.

Standing Data required to be provided as a pre-condition of Facility Registration and which Rule Participants are to update as necessary, is described in clauses (a) to (i).

Standing Data not required to be provided as a pre-condition of Facility Registration but which the IMO is required to maintain, and which Rule Participants are to update as necessary, includes the data described in clauses (j) to (m).

…

(h) for a Demand Side Programme:

i. [Blank]

ii. evidence that the communication and control systems required by clause 2.35 are in place and operational;

iii. the maximum amount of load that can be curtailed;

iv. the maximum duration of any single curtailment;

v. [Blank]

vi. for a Demand Side Programme that is registered to a Market Participant other than Verve Energy, data comprising:

1. a Consumption Decrease Price for Peak Trading Intervals; and

2. a Consumption Decrease Price for Off-Peak Trading Intervals,

where these prices must be expressed in units of $/MWh to a precision of $0.01/MWh;

vii. the minimum response time before the Demand Side Programme can begin to respond to an instruction from System Management to change its output;

viii. ~~the maximum number of hours per year the Demand Side Programme can be curtailed;~~ [Blank]

ix. the Trading Intervals where the Demand Side Programme can be curtailed;

x. any restrictions on the availability of the Demand Side Programme;

xi. the normal ramp up and ramp down rates as a function of output level, if applicable; and

xii. emergency ramp up and ramp down rates, if applicable.~~; and~~

~~xiii. the maximum number of times that the Demand Side Programme can be curtailed during the term of its Capacity Credits.~~

Appendix 3: Reserve Capacity Auction & Trade Methodology

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.

The parameter "a" denotes the active Availability Class where "a" can have a value of {1,or 2~~, 3, 4~~}. Availability Class 1 has the highest availability requirement, followed by Availability Class 2~~, Availability Class 3 and then Availability Class 4~~. All Certified Reserve Capacity is assigned an Availability Class. However the algorithms in this appendix allow capacity from ~~an~~ Availability Class ~~with higher availability~~1 to be used in place of capacity from ~~an~~ Availability Class ~~with lower availability~~2. ~~For example, a~~Any capacity accepted from Availability Class 1 that is in excess of the capacity requirement for Availability Class 1 will be available to meet the capacity requirement for Availability Class 2.

~~All Certified Reserve Capacity associated with Interruptible Loads, Demand Side Programmes or Dispatchable Loads is assigned an Availability Class according to the following table, where "Hours of Availability" is the maximum number of hours of availability per year specified for the relevant Facility under clause 4.10.1(f)(ii).~~

~~Hours of Availability~~	~~Availability Class (i.e. value of "a")~~
~~>= 72~~	~~2~~
~~>=48 and <72~~	~~3~~
~~>=24 and <48~~	~~4~~

~~All other Certified Reserve Capacity is automatically in Availability Class 1.~~

The following algorithm applies for both the testing of bilateral trades and for the auction. Terminology that differs in each case is

- "offers"
  - For the testing of bilateral trades the "offer" is a proposed bilateral transaction (as specified in clause 4.14.1 for each Facility or block).
  - For an auction an "offer" is a "Reserve Capacity Offer".
- the capacity requirements of Availability Class "a"

- For the testing of bilateral trades, for Availability Class a = 1 this is the greater of zero and Q[a] – X[a] while for Availability Classes a = 2~~, 3 or 4~~, this is the greater of zero and (Q[a]– X[a] - Y[a-1]) where

  Q[a] is the quantity associated with Availability Class "a" in clause 4.5.12(b) or clause 4.5.12(c).

  X[a] is the total quantity of

  i Certified Reserve Capacity to be provided by Facilities subject to Network Control Service Contracts and by Facilities under Long Term Special Price Arrangements during the period to which the Reserve Capacity Requirement applies; plus

  ii the amount of Capacity Credits assigned under clause 4.28C for the period to which the Reserve Capacity Requirement applies

  where the capacity is certified as belonging to Availability Class "a" and is not subject to a bilateral trade.

  Y[a] represents the amount by which (X[a] + Y[a-1]) exceeds Q[a], with the exception that Y[0] = 0.

- For an auction this is the same as the capacity requirement for the case of bilateral trades except that it is reduced by the amount of capacity accepted as a bilateral trade.

The algorithm is as follows:

Step 1: Start with a = 1

Step 2: Let the set of active offers comprise all offers from Availability Class "a".

Step 2A: In the case of bilateral trade offers, accept offers from operating facilities and committed facilities and remove them from the set of active offers.

Step 3: Accept offers from the set of active offers in order of

- In the case of testing bilateral schedules, decreasing availability.
- In the case of the Rreserve Ccapacity Aauction, increasing price

until the capacity requirements of Availability Class "a" are fully covered or until there are no offers left unaccepted in the set of active offers.

Where two or more offers are tied with respect to the selection criteria such that accepting all but one of them would result in the total capacity selected exceeding the total capacity requirement of the Availability Class then the tied offers are to be accepted according to the following rules until the tie is resolved.

- In the case of the Reserve Capacity Auction, offers from operating facilities and committed facilities are to be accepted ahead of facilities that are not yet committed; then
- Offers are to be accepted in decreasing order of capacity offered; then
- Offers for capacity that was included in an Expression of Interest are to be accepted ahead of capacity that was not; then
- Offers are to be accepted in the order of the time the offers were received, with the earlier offer being taken first; and then
- Offers are to be accepted in the order the capacity secured Certified Reserve Capacity;

Step 4: If all offers in the set of active offers have been accepted but the capacity requirements of Availability Class “a” have not been covered, then record the difference as the capacity shortfall for Availability Class “a”.

Step 5: Remove all offers accepted in Step 3 from the set of active offers.

Step 6: If a = 42 then go to Step 8A otherwise increase a by 1.

Step 7: Add all offers from Availability Class “a” to the set of active offers.

Step 8: Return to Step 2A.

Step 8A: In the case of the auction only:

- The Reserve Capacity Price must equal the price of the highest priced offer accepted; and
- In the special case where the Reserve Capacity Price is zero and there are offers with a price of zero that have not been accepted, then accept those offers with zero price.

Step 9: Report the offers accepted

Step 10: For each Availability Class report the capacity shortfall:

- In the case of testing bilateral schedules, this indicates the amount to be procured in the auction.
- In the case of the Reserve Capacity Auction, this indicates the amount to be procured through supplementary capacity.

Step 11: End.

In the case of the auction only:

- While leaving the Reserve Capacity Price unchanged, the IMO must exchange one or more offers not accepted for one or more offers accepted in the auction if

- the total capacity scheduled in the auction exceeds the Reserve Capacity Auction Requirement by more than 100 MW;
- the Reserve Capacity Price exceeds zero,
- the exchange produces the maximum possible reduction in the total value of offers accepted;
- the exchange does not create an overall Reserve Capacity shortfall where none existed;
- in the event that a capacity shortfall exists in one or more Availability Classes, the exchange will not shift a shortfall from an Availability Class with low availability to an Availability Class with high availability; and
- this would not result in an existing facility, or a committed facility being excluded.

Issue 3 – Proposed Drafting

7.10.4. System Management must monitor the behaviour of Market Participants with Registered Facilities to assess whether they are complying with clause 7.10.1 in accordance with its Monitoring and Reporting Protocol~~, except where it relates to a Demand Side Programme~~.

Note: No change required to clause 2.35.4.

Issue 4 – Proposed Drafting

~~4.12.8. Where a Demand Side Programme is dispatched under clause 7.6.1C(d) to a level equal to its Reserve Capacity Obligation Quantity on two consecutive days the Reserve Capacity Obligation Quantity for the third consecutive day will be zero.~~

Issue 5 – Proposed Drafting

6.12.1.

(a) By 1:30 PM on the Scheduling Day (or within 40 minutes of a closing time extended in accordance with clause 6.5.1(b)) the IMO must determine the Non-Balancing Dispatch Merit Orders identified in clauses 6.12.1(b) and~~to~~ 6.12.1(~~e~~c) for the Trading Day. A Non-Balancing Dispatch Merit Order lists the order in which the Dispatchable Loads and Demand Side Programmes of Market Participants other than Verve Energy will be issued Dispatch Instructions by System Management under clause 7.6.1C(d) to increase or decrease consumption, as applicable.

(b) A Non-Balancing Dispatch Merit Order for a decrease in consumption relative to the quantities included in the applicable Resource Plan (or the current operating level of a Facility not included in a Resource Plan) ~~during Peak~~for a Trading Interval~~s. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order~~ must:

i. ~~this Non-Balancing Dispatch Merit Order must~~ list all Demand Side Programmes and Dispatchable Loads registered by Market Participants other than Verve Energy; and

ii. ~~this Non-Balancing Dispatch Merit Order must~~ be determined by ranking the Registered Facilities referred to in clause 6.12.1(b)(i) ~~in increasing order of the Consumption Decrease Price for Peak Trading Intervals.~~as follows:

3. Registered Facilities with a Reserve Capacity Obligation Quantity greater than zero in that Trading Interval ranked in increasing order of the Consumption Decrease Price applicable to that Trading Interval; followed by

4. Registered Facilities with a Reserve Capacity Obligation Quantity of zero in that Trading Interval, ranked in increasing order of the Consumption Decrease Price applicable to that Trading Interval.

(c) A Non-Balancing Dispatch Merit Order for an increase in consumption relative to the quantities included in the applicable Resource Plan ~~during Peak~~for a Trading Interval~~s. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order~~ must:

i. ~~this Non-Balancing Dispatch Merit Order must~~ list all Dispatchable Loads registered by Market Participants other than Verve Energy; and

ii. ~~this Non-Balancing Dispatch Merit Order must~~ be determined by ranking the Registered Facilities referred to in clause 6.12.1(c)(i) in increasing order of the Consumption Increase Price ~~for~~ applicable to that ~~Peak~~ Trading Interval~~s~~.

(d) ~~A Non-Balancing Dispatch Merit Order for a decrease in consumption relative to quantities included in the applicable Resource Plan (or the current operating level of a Facility not included in a Resource Plan) during Off-Peak Trading Intervals. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order:~~

~~i. this Non-Balancing Dispatch Merit Order must list all Demand Side Programmes and Dispatchable Loads registered by Market Participants other than Verve Energy; and~~

~~ii. this Non-Balancing Dispatch Merit Order must be determined by ranking the Registered Facilities referred to in clause 6.12.1(d)(i) in increasing order of the Consumption Decrease Price for Off-Peak Trading Intervals;~~[Blank]

(e) ~~A Non-Balancing Dispatch Merit Order for an increase in consumption relative to the quantities included in the applicable Resource Plan during Off-Peak Trading Intervals. The IMO must take into account the following principles when determining this Non-Balancing Dispatch Merit Order:~~

~~i. this Non-Balancing Dispatch Merit Order must list all Dispatchable Loads registered by Market Participants other than Verve Energy; and~~

~~ii. this Non-Balancing Dispatch Merit Order must be determined by ranking the Registered Facilities referred to in clause 6.12.1(e)(i) in increasing order of the Consumption Increase Price for Off-Peak Trading Intervals.~~ [Blank]

(f) Where the prices described in Standing Data for two or more Registered Facilities are equal, then, for the purposes of determining the ranking in any Non-Balancing Dispatch Merit Order, the IMO must rank those~~a~~ Registered Facility~~ies~~ in decreasing order of the time since the Facility was last issued with a Dispatch Instruction ~~with a greater load registered in Standing Data in items (h)(iii) or (i)(iii) of Appendix 1 before a Registered Facility with a lesser load~~. In the event of a tie, the IMO will randomly assign priority to break the tie.

Issue 6 – Proposed Drafting

7.6.10. Where a Market Participant has Capacity Credits granted in respect of an Interruptible Load, Demand Side Programme or Dispatchable Load ~~:~~

~~(a) the IMO must provide System Management with the details of the Reserve Capacity Obligations to enable System Management to dispatch the Demand Side Programme; and~~

~~(b) any Dispatch Instructions issued by System Management to the Demand Side Programme under clause 7.6.1C(d) must be in accordance with those Reserve Capacity Obligations~~.

Issue 7 – Proposed Drafting

4.26.2CA. The Relevant Demand of a Demand Side Programme for a Trading Day d in a Capacity Year is the lesser of: ~~median of the historical consumption quantities determined by the IMO for each of the 32 Trading Intervals identified under clause 4.26.2C(a) for the Capacity Year. The historical consumption quantity for each Trading Interval is the sum, over all the Associated Loads associated with the Demand Side Programme during Trading Day d, of the MW quantity determined by the IMO for each Associated Load and the Trading Interval under clause 4.26.2C(b).~~

(a) the median of the historical consumption quantities determined by the IMO for each of the 32 Trading Intervals identified under clause 4.26.2C(a) for the Capacity Year. The historical consumption quantity for each Trading Interval is the sum, over all the Associated Loads associated with the Demand Side Programme during Trading Day d, of the MW quantity determined by the IMO for each Associated Load and the Trading Interval under clause 4.26.2C(b)~~.~~; and

(b) the sum of Individual Reserve Capacity Requirement Contributions of the Associated Loads Demand Side Programmes

Individual Reserve Capacity Requirement Contribution: Means the contribution of an Associated Load to Individual Reserve Capacity Requirement determined in accordance with Step 11 of Appendix 5.

Appendix 5: Individual Reserve Capacity Requirements

This Appendix presents the method for annually setting and monthly adjusting Individual Reserve Capacity Requirements.

For the purpose of this Appendix:

- Steps 1 to 10 are repeated every month.
- All references, apart from those in Step 5A, to meters are interval meters.
- The Notional Wholesale Meter is to be treated as a registered interval meter measuring Temperature Dependent Load. This meter is denoted by Temperature Dependent Load meter v=v*.
- The New Notional Wholesale Meter, determined in accordance with Step 5A, is to be treated as a registered interval meter measuring Temperature Dependent Load.
- The meter registration data to be used in the calculations is to be the most current complete set of meter registration data as at the time of commencing the calculations.
- The values of RR (the Reserve Capacity Requirement) and FL (forecast peak demand associated with that Reserve Capacity Requirement as specified in clause 4.6.2) may be modified from their standard values in accordance with clause 4.28.11A.
- In the case of the first Reserve Capacity Cycle, the IMO may use meter data relating to periods prior to Energy Market Commencement as if the energy market had commenced prior to the time periods covered by that meter data.

STEP 1: Define the 12 peak Trading Intervals during the Hot Season preceding the initial calculation of Individual Reserve Capacity Requirements for a Reserve Capacity Cycle (the "preceding Hot Season")as corresponding to the 3 highest demand Trading Intervals on each of the 4 Trading 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) 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

STEP 3: For each meter, v, measuring Temperature Dependent Load determine TDL(v) and d(v,i), where:

TDL(v) 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

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: When determining the Individual Reserve Capacity Requirements for Trading Month n identify meters that were not registered with the IMO during one or more of the 12 peak Trading Intervals in the preceding Hot Season but which were registered by the end of Trading Month n-3.

Identify the 4 Peak SWIS Trading Intervals of Trading Month n-3, being the 4 highest demand Trading Intervals, where demand refers to total demand, net of embedded generation, in the SWIS.

For a new meter u that measures Non-Temperature Dependent Load set NMNTCR(u) to be 1.1 times the MW figure formed by doubling the median value of the metered consumption for that meter during the 4 Peak SWIS Trading Intervals of Trading Month n-3.

For a new meter v that measures Temperature Dependent Load set NMTDCR(v) equal to be 1.3 times the MW figure formed by doubling the median value of the metered consumption for that meter during the 4 Peak SWIS Trading Intervals of Trading Month n-3.

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 5A: When determining the Individual Reserve Capacity Requirements for Trading Month n.

Find the MW figure formed by doubling the median value of the metered consumption for the Notional Wholesale Meter v*, during the 4 Peak SWIS Trading Intervals of Trading Month n-3 (“Median Notional Wholesale Meter”).

Divide the Median Notional Wholesale Meter by the number of non-interval or accumulation meters that existed at the end of Trading Month n-3 (“Average Non-Interval Meter”).

Subtract the number of non-interval or accumulation meters disconnected during Trading Month n-3 from the number of non-interval or accumulation meters connected during Trading Month n-3 (“Non-Interval Meter Growth”).

Multiply the Non-Interval Meter Growth and the Average Non-Interval Meter. ("New Notional Wholesale Meter").

For the New Notional Wholesale Meter set NMTDCR(v) equal to be 1.3 times the New Notional Wholesale Meter.

STEP 6: Calculate the values of d(u,i) for Non-Temperature Dependent 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-3, 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-3 divided by the number of days in Trading Month n-3.
- 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-3, 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-3 divided by the number of days in Trading Month n-3.
- 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.

STEP 7: Identify the set NM of all those new meters v that measured consumption that was measured by meter v=v* during the preceding Hot Season and set TDLn(v) for meter v=v* to equal:

$$TDLn(v^*) = TDL(v^*) - Sum(v \in NW, NMTDCR(v) \times d(v,q))$$

Where

q denotes a Market Customer to which the new meter is associated.

d(v,q) is the number of days the new meter is registered to Market Participant q divide by number of days in the trading month n-3.

STEP 8: For each Market Customer, i, calculate:

$$NTDLRCR(i) = Sum(u, NTDL(u) \times d(u,i)) \times NTDL\_Ratio$$

$$TDLRCR(i) = (Sum(v,MTDL(v) \times d(v,i)) - DSM(i)) \times TDL\_Ratio$$

$$ILRCR(i) = Sum(w, IILRCR(w) \times d(w,i))$$

$$NRR = RR - Sum(i, ILRCR(i))$$

where

NTDL_Ratio = NRR/FL

TDL_Ratio = (NRR – Sum(j, NTDLRCR(j)))/Sum(j,Sum(v, MTDL(v) x d(v,j)) – DSM(j))

j indicates Market Customers

ILRCR(i) is the Intermittent Load Reserve Capacity Requirement for Market Customer i.

MTDL(v) = TDL(v) for all v except v* and MTLD(v) = TDLn(V*) for v=v*

RR is the Reserve Capacity Requirement (potentially modified in accordance with clause 4.28.11A).

FL is the peak demand associated with that Reserve Capacity Requirement as specified in clause 4.6.2 (potentially modified in accordance with clause 4.28.11A).

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

STEP 9: For each Market Customer, i, calculate

X(i) = Sum(i, ILRCR(i) + NTDLRCR(i) + TDLRCR(i)))) + Sum(u, NMNTCR(u) × d(u,i)) + Sum(v, NMTDCR(v) × d(v,i))

STEP 10: The Individual Reserve Capacity Requirement of Market Customer i for Trading Month n of a Capacity Year equals (X(i) × Total_Ratio) where

Total_Ratio = RR/Y

Y = Sum(i,X(i))

RR is the Reserve Capacity Requirement (as modified in accordance with clause 4.28.11A).

STEP 11: The contribution of an individual metered Load for Trading Month n of a Capacity Year is determined as follows:

(a) for meter u at an existing connection point measuring Non-Temperature Dependent Load equals (NTDL(u) x NTDL_Ratio x Total_Ratio);

(b) for meter v at an existing connection point measuring Temperature Dependent Load equals (TDL(v) x TDL_Ratio x Total_Ratio);

(c) for meter u at a new connection point measuring Non-Temperature Dependent Load equals (NMNTCR(u) x Total_Ratio); and

(d) for meter v at a new connection point measuring Temperature Dependent Load equals (NMTDCR(v) x Total_Ratio).

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

The IMO proposes that the key issues identified in this pre Rule Change Proposal better achieve Wholesale Market Objectives (a), (c) and (e) and are consistent with Wholesale Market Objectives (b) and (d).

(a) To promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system.

The key deliverable of any demand-side service is to provide an alternative to generated capacity. Through the harmonisation of the availability of supply-side and demand-side capacity the IMO contends that the provision of capacity would be more economically efficient and provide greater reliability to the market. Additionally, it is economically prudent to ensure capacity that is paid for by consumers is available for use.

Having more flexibility in the use of DSPs will give System Management the ability to dispatch DSM as the network requires it, without onerous restrictions. With greater visibility of DSM by System Management, the operation and dispatch of the service becomes more efficient and cost effective in the long-term.

(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.

The current Market Rules arguably discriminate between Market Participants who provide demand-side and supply-side capacity. The key principle behind this pre Rule Change Proposal is to harmonise the treatment of the capacity provided by peaking generators and DSPs which provide similar capacity services to the market.

(e) To encourage the taking of measures to manage the amount of electricity used and when it is used.

Through changing the obligations on demand-side resources within the market the IMO intends to enable greater reliability and versatility in the use of DSPs. Through fundamental changes to the way the Non-Balancing DMO is calculated and the way Facilities are dispatched, the IMO is ensuring capacity is appropriately managed. Increasing dispatch hours and events will also give System Management more flexibility in the way in which demand-side capacity is used and when it is used.

Having a greater understanding on the amount of DSM available to the market, coupled with the changes in the availability requirements of DSPs, the IMO contends the rule changes suggested in this pre Rule Change Proposal better achieve Wholesale Market Objective (e).

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

Costs:

The proposed changes detailed in this pre Rule Change Proposal have implications for System Management, Market Participants and the IMO. It is expected that that the associated costs will be material. Tentative costs associated with the changes discussed in this pre Rule Change Proposal, as the Amending Rules are currently drafted, are as follows:

- IT and operational costs to the IMO of approximately $130,000 to $160,000;

- costs to System Management of approximately $200,000 to 400,000, primarily associated with the real-time data requirements (discussed in issue three); and

- costs to individual Market Participants of approximately $100,000 to $200,000, primarily associated with the real-time data requirements (discussed in issue three).

It should be noted that the implementation costs are heavily reliant on the outcome and direction discussed for the provision of real-time data (discussed in issue three) of the pre Rule Change Proposal.

The estimated costs above are based on initial consultation with System Management.

Benefits:

- greater achievement of Wholesale Market Objectives (a), (c) and (e);

- consistency with Wholesale Market Objectives (b) and (d); and

- improved reliability and transparency of DSM within the WEM.

Appendix 1. Reliability Assessment by PA Consulting

Subject	**RELIABILITY ASSESSMENT 2013 - EXTENSION**
To	Greg Ruthven Manager, System Capacity Independent Market Operator PO Box 7096 PERTH WA 6850 Australia
From	Sue Paul
Date	1 July 2013

This memo presents the results from our extension to the 2013 Availability Curve Analysis. For this extension, the IMO asked us to assess the impact of proposed changes to the availability requirements imposed on Demand Side Management (DSM) facilities on the Availability Curve.

This report contains the following:

- We first summarise the context in which the IMO has requested this additional analysis;
- We then briefly summarize our methodology and assumptions; and
- Finally we present our results.

Context and background

The Availability Curve is defined by Market Rule (MR) 4.5.12 and is a means of assessing the manner in which the Reserve Capacity Target should be split into generation capacity vis-à-vis DSM capacity taking into account the hourly forecast capacity requirement (as defined by MR 4.5.12(a) and MR 4.5.10(e)).

Of particular importance to this assessment is MR 4.5.12(b) that defines the Minimum Generation Capacity (to be used in the development of the Availability Curve) as:

"The minimum capacity required to be provided by generation capacity if Power System Security and Power System Reliability is to be maintained. This minimum capacity is to be set at a level such that if:

i. all Demand Side Management capacity (excluding Interruptible Load used to provide Spinning Reserve to the extent that it is anticipated to provide Certified Reserve Capacity), were activated during the Capacity Year so as to minimise the peak demand during that year; and

ii. the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11 were to be applied to the load scenario defined by clause 4.5.12(b)(i), then

it would be possible to satisfy the Planning Criterion and the criteria for evaluating Outage Plans set out in clause 3.18.11, as applied in clause 4.5.12(b)(ii), using, to the extent that the capacity is anticipated to provide Certified Reserve Capacity, the anticipated installed generating capacity, the anticipated Interruptible Load capacity available as Spinning Reserve and, to the extent that further generation capacity would be required, an appropriate mix of generation capacity to make up that shortfall."

Hence, the Minimum Generation Capacity should be set at a level that ensures once all DSM facilities have been dispatched to their maximum capability (subject to various availability requirements), there should be enough generation capacity to satisfy both the Planning Criterion (as defined by MR 4.5.9) and System Management's outage evaluation criteria as set by MR 3.18.11(a).

Clearly, the level of minimum generation capacity required will depend on the extent to which DSM facilities are available (i.e. the more restrictive the constraints around DSM availability, the more generation capacity will be required). Currently, there are a number of restrictions around the availability of DSM facilities, such as:

- Maximum number of hours per year and per day that a DSM facility can be called upon;
- Maximum number of calls per year;
- Maximum dispatch duration; and
- Unavailability during non-business days for some DSM facilities.

In 2013 the Reserve Capacity Mechanism Working Group (RCMWG) proposed changes to increase the availability of DSM facilities. It is in this context that the IMO is developing a Pre-Rule Change proposal. As part of this Pre-Rule Change Proposal, the IMO has requested PA to assess the impacts of increased DSM availability on the Availability Curve; in particular, modelling what the anticipated change to the Minimum Generation Capacity quantity contemplated by MR 4.5.12(b) would be.

Methodology and assumptions

Since 2012, PA has carried out the Reliability Assessment and development of the Availability Curve as an input to the Statement of Opportunities.

The methodology and assumptions that we use to develop the Availability Curve is detailed in full in the reports that we submit to the IMO as part of the analysis above.

Here, we briefly summarize the general approach used to estimate the Minimum Generation Capacity prescribed by MR 4.5.12(b).

- We first allocate DSM throughout the year using an optimisation model, which given the forecasted hourly load, dispatches DSM facilities so as to minimise the forecasted peak demand subject to the DSM's availability and dispatch constraints. The model performs the dispatch using a heuristic allocation method.
- We then adjust the forecasted load duration curves (LDC) used in the market modeling by subtracting the forecasted DSM dispatch in the relevant hours from the

forecasted hourly load. This adjusted LDC represents the hourly "effective demand" net of DSM capacity.

- We then input the above LDC into our Western Australian electricity market model (additionally specifying a reserve requirement of 515 MW to represent the Ancillary Services Requirement contemplated by MR 3.18.11(a)).

- The electricity market model is simulated iteratively (using Monte Carlo techniques and varying the maximum quantity of DSM allowable) until the Expected Unserved Energy (EUE) criterion in MR 4.5.9(b) (0.002% of expected annual demand) is violated.

- The Minimum Generation Capacity is set by the level of generation capacity at which the EUE equals 0.002% of annual expected demand.

Assumptions

The Pre-Rule Change Proposal involves reducing the number of Availability Classes from four to two as follows:

- Availability Class 1 would include facilities that are available 24 hours per day, all days of the year (subject to Planned Outages).

- Availability Class 2 would DSM facilities with availability that is less than Availability Class 1, but at least equal to the minimum requirements of:

    - 10am-8pm on all Business Days;

    - Maximum dispatch duration of 6 hours per day;

    - Unlimited events per year and unlimited hours per year; and

    - Minimum notice period for dispatch may not exceed two hours.

For the purposes of our modeling and in consultation with the IMO, we have assumed that all DSM facilities would be included under Availability Class 2. Table 3 summarises DSM facility availability assumptions under the status quo and the Pre-Rule Change Proposal.

Table 3: DSM facility availability assumptions under status quo and Pre-Rule Change Proposal

Availability Parameter	Arrangement under Status Quo	Arrangement under Pre-Rule Change Proposal
Days of Availability	All DSM facilities are currently required to be available (at a minimum) from 12-8pm on all Business Days Approximately 40% of DSM facilities are unavailable on Non-Business Days.	DSM Facilities must be available from 10am-8pm on all Business Days
Dispatch events per year	Between 6 to 10, with the majority having a max of 6 events per year	DSM Facilities must be available for unlimited calls per year

Availability Parameter	Arrangement under Status Quo	Arrangement under Pre-Rule Change Proposal
Hours per day	DSM facilities are available for between 4 and 6 hours per day, with the majority of facilities being available for 4 hours per day.	All DSM facilities must be available for at least 6 hours per day
Total hours available	Between 24 and 48, but majority available for only 24 hours per year	DSM facilities must be available for an unlimited number of hours per year
Start and finish times	9% of DSM capacity is available 24 hours per day 4% from 1am-midnight 12% from 4am-8pm 1% from 7am-8pm 4% from 8am-8pm 22% from 12-9pm 48% from 12-8pm	All DSM facilities must be available no later than 10 am All DSM facilities must finish no earlier than 8pm
Minimum notice period of dispatch (hours)	4	2
Days of Availability	All DSM facilities are currently required to be available (at a minimum) from 12-8pm on all Business Days Approximately 40% of DSM facilities are unavailable on Non-Business Days.	DSM Facilities must be available from 10am-8pm on all Business Days

Results

In this section we summarise the impact of increased DSM availability (as summarised in Table 3) on:

- The Minimum Generation Capacity prescribed by MR 4.5.12(b); and
- The DSM capacity limit, calculated as the Reserve Capacity Target less the Minimum Generation Capacity.

Table 3 summarizes the above quantities as estimated under:

- The status quo using current DSM availability assumptions. These results are as presented to the IMO in our report dated 14 June 2013; and
- The Pre-Rule Change Proposal assumption as summarised in Table 3.

Note we cannot assess the impact of the changes on MR 4.5.12(a) or MR 4.5.12(c) as these

clauses may change as a result of the reduction in the number of availability classes, and the removal of the "hours per year" constraint.

Table 4: Minimum Generation Capacity and DSM capacity limit under status quo and Pre-Rule Change Proposal

Capacity year	MW	Status Quo	Pre-Rule Change Proposal	Difference – MW and (%)
2014/2015	Reserve Capacity Target	5000	5000	0
	Minimum Generation Capacity	4275	3950	-325 (-7.6%)
	DSM capacity limit	725	1050	325 (44.8%)
2015/2016	Reserve Capacity Target	5119	5119	0
	Minimum Generation Capacity	4394	4009	-385 (-8.8%)
	DSM capacity limit	725	1110	385 (53.1%)
2016/2017	Reserve Capacity Target	5263	5263	0
	Minimum Generation Capacity	4578	4063	-515 (-11.2%)
	DSM capacity limit	685	1200	515 (75.2%)

As expected, the increased availability limits under the pre Rule Change Proposal has led to a decrease in the Minimum Generation Capacity requirement, and an equivalent increase in the DSM capacity limit. In particular, across capacity years 2014/2015 to 2016/2017 Minimum Generation Capacity has decreased by approximately 325 to 515MW compared with the status quo. This is indicative of a 45-75% increase in the level of maximum allowable DSM capacity compared with the status quo.

The driving factor behind these changes is the fact that under the Pre-Rule Change Proposal, the only remaining major constraint around DSM availability is the "hours per day" constraint. In particular, the decrease in Minimum Generation Capacity and increase in DSM capacity is being driven by the removal of the two following constraints.

- Number of calls per year (now unlimited); and
- Number of hours per year (now unlimited).

On the basis of our analysis, we conclude that the availability changes contemplated by the Pre-Rule Change Proposal would allow the WEM to accommodate a higher level of DSM, with a subsequent decrease in the minimum generation capacity requirement in the determination of the Availability Curve.

Agenda Item 7a: Overview of Recent and Upcoming IMO and System Management Procedure Change Proposals

Legend:

Shaded	Shaded rows indicate procedure changes that have been completed since the last MAC meeting.
Unshaded	Unshaded rows are procedure changes still being progressed.
Red Text	Red text indicates any updates to information

ID	Summary of Changes	Status	Next Step	Date
IMO Procedure Change Proposals				

PC_2013_04
Prudential Requirements
	The proposed updates are to:
	• Reflect the IMO's new format arising from its Market Procedures project;
	• Include some minor and typographical amendments to improve the integrity of the Market Procedure;
	• Include amendments required as a result of the Pre Rule Change Proposal: Prudential Requirements (PRC_2011_09) and
	  ○ RC_2010_36 Acceptable Credit Criteria; and
	  ○ RC_2011_04 List of entities meeting Acceptable Credit Criteria
		• The IMO rejected this Rule Change Proposal on 19 November 2012.
		• Modified Rule Change Proposal and updated Market Procedure presented to the March 2013 MAC.
		• Procedure Change Proposal submitted to April 2013 IMOPWG meeting, but discussion deferred.
			• Rule Change Proposal and updated Market Procedure presented at August MAC.	07/08/2013

ID	Summary of Changes	Status	Next Step	Date
PC_2012_11 **Notices and Communications**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project. • Reflect the IMO's updated contact details.	• PC_2012_11: Notices and Communications was published on 18 June 2013.	• Submissions closed on 16 July 2013. The IMO is currently preparing the Procedure Change Report.	TBA
PC_2013_02: **Participant Registration and Deregistration**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Revise the Market Procedure to provide more details of the relevant processes, including restructuring the Market Procedure to better present the process; • Reflect the new MPR system; • Ensure consistency with the Amending Rules from the Rule Change Proposal: Change of Review Board Name (RC_2010_18)	• PC_2013_02: Participant Registration and Deregistration was published on 2 July 2013.	• Submissions closed on 29 July 2013. The IMO is currently preparing the Procedure Change Report.	TBA

ID	Summary of Changes	Status	Next Step	Date
PC_2013_03 **Facility Registration, Deregistration and Transfer**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Reflect the new MPR system; • Revise the Market Procedure to provide more details of the relevant processes including: ○ restructuring the Market Procedure to better present the process; ○ providing further details of the consultation processes with System Management; ○ clarifying that there should not be any restriction on the ability to provide notifications in a manner outlined in the Market Procedure for Notifications and Communications; and ○ reflect the new processes for digital certificates • Ensure consistency with the Amending Rules from the following Rule Change Proposals; ○ Curtailable Loads and Demand Side Programmes (RC_2010_29); and ○ Change of Review Board Name (RC_2010_18), Including the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10)	• PC_2013_02: Facility Registration, Deregistration and Transfer was published on 2 July 2013.	• Submissions closed on 29 July 2013. The IMO is currently preparing the Procedure Change Report.	TBA

ID	Summary of Changes	Status	Next Step	Date
TBC **Undertaking the LT PASA and conducting a review of the Planning Criterion**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Include some minor and typographical amendments to improve the integrity of the Market Procedure, including re-ordering some sections; and • Include both reviews required under clause 4.5.15 of the Market Rules (Planning Criterion and forecasting processes).	• As advised at the August 2012 working group meeting, the IMO is currently undertaking the five yearly review of the IMO's forecasting processes. Following the completion of the review the IMO may make further changes to the Market Procedure.	• Updated procedure to be presented back to the Working Group for discussion	TBA
TBC **Settlement**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the Amending Rules from the following Rule Change Proposals: ○ Settlement in Default Situations (RC_2010_04) ○ Change of Review Board Name (RC_2010_18); ○ Minor and typo (RC_2010_26) ○ Settlement Cycle Timelines (RC_2010_19) ○ Acceptable Credit Criteria (RC_2010_36)	• Underway.	• To be discussed by IMO Procedures Working Group	TBA

ID	Summary of Changes	Status	Next Step	Date
TBC **Meter Data Submission**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Clarify that the Procedure is part of the Settlement Market Procedures; • Ensure consistency with amendments to the Market Rules which have occurred since Market Start	• Underway.	• To be discussed by the IMO Procedures Working Group	TBA
TBC **Capacity Credit Allocation**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Clarify that the Procedure is part of the Settlement Market Procedures; • Ensure consistency with amendments to the Market Rules which have occurred since Market Start	• Underway.	• To be discussed by IMO Procedures Working Group	TBA
TBC **Intermittent Load Refund**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with amendments to the Market Rules which have occurred since Market Start	• Underway.	• To be discussed by IMO Procedures Working Group	TBA
TBC **Individual Reserve Capacity Requirements**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with amendments to the Market Rules which have occurred since Market Start	• Underway.	• To be discussed by IMO Procedures Working Group	TBA

ID	Summary of Changes	Status	Next Step	Date
TBC **Reserve Capacity Performance Monitoring**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the Amending Rules from the Rule Change Proposal: Reserve Capacity Performance Monitoring (RC_2009_19)	• Underway.	• To be discussed by IMO Procedures Working Group	TBA
TBC **Treatment of Small Generators**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with amendments to the Market Rules which have occurred since Market Start	• Underway.	• To be discussed by IMO Procedures Working Group	TBA
TBC **Reserve Capacity Testing**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Reflect the new Temperature Dependence Curve • Ensure consistency with the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10)	• Underway.	• To be discussed by IMO Procedures Working Group	TBA
TBC **Information Confidentiality**	The proposed updates are to: • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10) along with all other rule changes which have occurred since Market Start.	• Underway.	• To be discussed by IMO Procedures Working Group	TBA

System Management Procedure Change Proposals				
PPCL0024 **Monitoring and Reporting Protocol**	The proposed updates are to: • address a current SM non-compliance issue. The issue is that the Tolerance Range formula set out in the PSOP: Monitoring and Reporting differs to the Tolerance Range formula applied in practice in regards to the definition of the Rate of Change component within the formula; • remove the reference to Non-Scheduled Generators in the Section 4.1 as the formula applies only to Scheduled Generators; • Include several changes have also been made to clarify Section 4.3 of the PSOP in regards to the process for determining a Facility Tolerance Range; • Include some minor revisions to correct typographical errors and improve consistency throughout the PSOP; and • Include amendments required as a result of PRC_2013_01	• The IMO published System Management's Procedure Change Report on 22 May 2013.	• The IMO is due to publish its decision on 1 August 2013.	01/08/2013
PPCL0025 **Commissioning and Testing**	The proposed updates are to: • Include amendments required as a result of RC_2012_12 and RC_2012_15; • Expand Appendix C to clarify Load Following and Spinning Reserve requirements around commissioning inline with the Ancillary Services Report; and • Include 'plus ramp range' in Load Following for Maximum Ramp Rate tests.	• PPCL0025: Commissioning and Testing was published on 28 June 2013. Submissions closed on 26 July 2013.	• System Management are currently preparing the Procedure Change Report.	TBA

Agenda Item 8a: Working Group Overview

Working Group (WG)	Status	Date commenced	Date concluded	Latest meeting date	Next scheduled meeting date
System Management Procedures WG	Active	Jul 07	Ongoing	12/12/2011	TBA
IMO Procedures WG	Active	Dec 07	Ongoing	23/04/2013	TBA

MAC Meeting No. 63: 7 August 2013

New Discussion Point

Governor Action and LFAS

It was suggested at MAC 61 that LFAS is provided by generators which have enabled the governor response to frequency.

Changes in system load without commensurate changes in generator output causes SWIS frequency to deviate from 50Hz.

LFAS is a continuous centrally coordinated service provided via control of one or more generator's governor 50Hz setpoint to match total system generation to total system load in real time to correct SWIS frequency variations.

SWIS frequency is the input variable used by the AGC function to determine and send the required LFAS controls to providing generators.

LFAS is limited to the times when SWIS frequency is within the frequency envelope 49.8Hz to 50.2 Hz (currently at least 99.9% of the time). In the NEM LFAS is equivalent to regulation up and regulation down. The control facilities required in NEM are similar to those required in WEM.

A governor is an individual generator based local control facility. Governor response is a requirement for connection of an individual generator to the SWIS under the Technical Rules. Governor response ensures generation-load imbalances do not result in a continuously growing frequency change but stabilises the frequency albeit at a frequency away from the nominal 50.0 Hz. Whilst generator governor response occurs inside the frequency envelope the governor setpoint is not changed.

Governor response is not required whilst the SWIS frequency is within the range 49.975 Hz to 50.025 Hz.

Generator governor response requirements are not specified in the Market Rules however requirements for generators to provide Spinning Reserve and Load Rejection Reserve are. Governor action achieves 3 outcomes for the SWIS:

- it maintains frequency stability in steady state operation within the normal frequency envelope;
- it contributes spinning reserve to help retard collapse of the SWIS frequency resulting from failure of one or more generator works or transmission equipment
- it contributes load rejection reserve to help prevent an unacceptable over-frequency on SWIS resulting from a sudden decrease in SWIS load.

For the above reasons SM believes it inappropriate that governor droop action (an action that arrests a frequency variation) be considered as providing LFAS (a continuous action that returns frequency variation to its nominal value).

Phil Kelloway
System Management