



Market Advisory Committee

Agenda

Meeting No.	50
Location:	IMO Board Room Level 3, Governor Stirling Tower, 197 St Georges Terrace, Perth
Date:	Wednesday 13 June 2012
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 48	Chair	5 min
4.	ACTIONS ARISING	Chair	10 min
5.	PRESENTATION: PLANNING CRITERION AND FORECASTING 5 YEAR REVIEW	Market Reform	30 min
6.	MARKET RULES		
	a) Market Rule Change Overview	IMO	2 min
	b) RC_2012_08: Constrained On and Off Prices for Non-Scheduled Generators	IMO	10 min
	c) PRC_2012_09: Clarification and Calculation of Availability Curve	SM	20 min
7.	MARKET PROCEDURES		
	a) Overview	IMO	5 min
8.	WORKING GROUPS		
	a) Overview and membership updates	IMO	5 min
	b) RDIWG Update (verbal)	IMO	10 min

Item	Subject	Responsible	Time
	c) RCM Working Group (verbal)	IMO	20 min
9.	CONCEPT PAPERS		
	a) 2011 Outage Planning Review Recommendations – Information Transparency	IMO	30 min
10.	GENERAL BUSINESS		
11.	NEXT MEETING: 11 July 2012 (2.00-5.00pm)		

Independent Market Operator
Market Advisory Committee

Minutes

Meeting No.	48
Location	IMO Board Room Level 3, Governor Stirling Tower, 197 St Georges Terrace, Perth
Date	Wednesday 18 April 2012
Time	2.05pm – 3.30pm

Attendees	Class	Comment
Allan Dawson	Chair	
Suzanne Frame	Compulsory - IMO	
Andrew Everett	Compulsory – Generator	
Shane Cremin	Discretionary – Generator	
Geoff Gaston	Discretionary – Generator	
Stephen MacLean	Compulsory – Customer	
Steve Gould	Discretionary – Customer	
Michael Zammit	Discretionary – Customer	
Corey Dykstra	Discretionary – Customer	
Peter Huxtable	Discretionary – Contestable Customer Representative	
Paul Hynch	Minister's appointee	
Phil Kelloway	Compulsory – System Management	
Wana Yang	Observer – ERA	
Apologies	Class	Comment
Ben Tan	Discretionary – Generator	
Peter Mattner	Compulsory – Network Operator	
Also in attendance	From	Comment
Courtney Roberts	IMO	Minutes
Matt Pember	IMO	Presenter
Greg Ruthven	IMO	Presenter
Jenny Laidlaw	IMO	Observer
Fiona Edmonds	IMO	Observer
Aditi Varma	IMO	Observer

Item	Subject	Action
1.	WELCOME The Chair opened the meeting at 2.05 pm and welcomed members to the 48 th meeting of the Market Advisory Committee (MAC).	

2.	<p>MEETING APOLOGIES / ATTENDANCE</p> <p>The following apologies were received:</p> <ul style="list-style-type: none"> • Ben Tan (Discretionary Class member) • Peter Mattner (Compulsory Class member) <p>The following other attendees were noted:</p> <ul style="list-style-type: none"> • Greg Ruthven (Presenter) • Fiona Edmonds (Observer) • Jenny Laidlaw (Observer) • Aditi Varma (Observer) • Courtney Roberts (Minutes) 	
3.	<p>MINUTES OF PREVIOUS MEETING</p> <p>The minutes of MAC Meeting No. 47, held on 14 March 2012, were circulated prior to the meeting. The minutes were accepted as a true and accurate record of Meeting No. 47.</p> <p><i>Action Point: The IMO to publish minutes of Meeting No. 47 on the website as final.</i></p>	IMO
4.	<p>ACTIONS ARISING</p> <p>Ms Suzanne Frame provided an update to MAC members on the various completed and outstanding action items from past meetings. The following updates were noted:</p> <ul style="list-style-type: none"> • Action item 44 - The Chair informed the MAC that the IMO's Transitional Arrangements (as presented previously to the MAC) have been put into a policy document which is due to be reviewed by the IMO Board at its 19 April 2012 meeting. Following the IMO Board's review and approval, the IMO will publish the policy document on the website. • Action item 8 – The IMO has published a consultation paper on 'Carbon-intensity Reporting' on the website. • Action item 9 - Further analysis on the determination of the Relevant Demand for existing DSP's resulting from the different approaches listed in the Pre Rule Change Proposal: Relevant Demand for a Demand Side Programme (PRC_2012_02) is underway and the IMO will provide an update at the May MAC. <p>Mr Corey Dykstra noted that he had been provided with feedback that the public statement from the Chair of the IMO Board on the compliance regime following the commencement of the new Balancing and Load Following markets had raised more questions than answers. Mr Dykstra stated that while the provision of a statement had been generally viewed as positive, it did not provide comfort to the market. The Chair informed Mr Dykstra that while the Market Rules must be complied with, the IMO Board's intention had been to convey to the market that it understands that participants will be operating in a new environment (as</p>	

	<p>prescribed by the Market Rules) from 1 July. Mr Phil Kelloway confirmed that the public statement had provided a sense of comfort to System Management.</p> <p>Mr Dykstra expressed that after reading the statement, concerns had not been alleviated. Mr Andrew Everett agreed but acknowledged that the Market Rules need to be complied with.</p> <p>The Chair thanked members for their comments on the impacts of the public statement and noted that he would inform the IMO Board of the feedback received.</p>	
<p>5a.</p>	<p>MARKET RULE CHANGE OVERVIEW</p> <p>Ms Frame noted that the IMO had been continuing its internal review of the Market Rule Change Log and had included a number of outstanding issues relating to the Rule Change Proposal: Competitive Balancing and Load Following markets (RC_2011_10). Ms Frame added that since the circulation of the MAC papers a number of outstanding issues have been further rationalised internally. These will be reflected at the next MAC meeting.</p> <p>The Chair informed the MAC that the IMO will continue to progress the outstanding issues on the log while Rule Participants familiarise themselves with the new Balancing and Load Following markets.</p> <p>Mr Everett queried whether there is a timeframe for progression of issues that are given a 'Medium' priority. The Chair responded that no timeframes are associated with 'Medium' priority issues but noted that the IMO endeavours to progress issues that are given a 'High' priority within 3 months and that issues raised by Market Participants are responded to immediately.</p> <p>Mr Everett referred to the issue regarding 'Tie Break Rules for the Forecast BMO' and queried whether this should be resolved before RC_2011_10 commences. Ms Jenny Laidlaw informed Mr Everett that this issue was identified as a clarification and therefore given a 'Medium' priority as the Amending Rules around tie breaks are not incorrect, but could simply be improved.</p> <p>Mr Dykstra noted that there has been an issue raised regarding the Tie Break Rules applying to the Verve portfolio and whether multiple Verve facilities should be treated as separate facilities for Tie Breaker purposes. The Chair responded that stand alone facilities can secure separate treatment.</p> <p><i>Action Point: The IMO to provide further details of the required clarifications to the Tie Break Rules for the Forecast BMO to the MAC.</i></p>	<p>IMO</p>
<p>5b.</p>	<p>PRC_2012_03: ASSIGNMENT OF CAPACITY CREDITS TO NCS FACILITIES</p> <p>The Chair invited Mr Greg Ruthven to present the Pre Rule Change Discussion Paper: Assignment of Capacity Credits to NCS Facilities (PRC_2012_03). Mr Ruthven advised that the proposed changes had come about following a review by the IMO of the provisions in the</p>	

Market Rules relating to NCS facilities which had identified that some clauses introduced since market start were contradictory to the original set of Market Rules. The original intent of the Market Rules was that a facility with a NCS contract would be provided with Capacity Credits, though a specific clause to this effect was not included into the Market Rules. PRC_2012_03 seeks to amend a number of clauses around the allocation of Capacity Credits for NCS facilities. Mr Ruthven also noted it had been identified by the IMO that a Facility with a Long Term Special Price Arrangement would not be allocated Capacity Credits under the current Market Rules.

Mr Dykstra queried why conceptually the market should bear the costs and not the network users given that an NCS contract is a replacement for a network solution. Mr Dykstra suggested that either the marginal load that triggers the need for the upgrade or more generally the users of that network should pay for the transmission network upgrade through the network charges, so that specific users bear the costs and not the market. This would be more consistent with the impacts of the network solution having been undertaken. In response the Chair noted that regardless of whether the IMO allocated Capacity Credits to the NCS Facility, the loads requiring the NCS would still need to be provided capacity by the market and the IMO would need to procure sufficient capacity to cover the loads. If Capacity Credits are not allocated to the NCS Facility then the IMO would need to secure additional capacity to meet the relevant loads. This would effectively increase the costs of procuring capacity to the market.

Mr Gaston noted that if the IMO are procuring capacity to meet peak demand and a facility in another area is available to meet peak demand but can not supply that load because of a network constraint then an additional cost would be incurred by the market. Alternatively if Western Power procures a NCS Contract from a Facility which has included into its offer a reduced price in the expectation that it will also receive income from Capacity Credits then the price offer from the NCS provider will be lower than the actual costs of provision. Western Power's assessment of whether or not to enter into a NCS contract would be based on an artificially low NCS price and therefore decision making on whether to build upgrade to overcome the network constraint would potentially be distorted.

Ms Laidlaw noted that this assumes that the Generator is eligible for Capacity Credits. Mr Gaston noted that where there is already a Market Generator somewhere on the grid that is ready to supply that load it is a delivery problem, not a demand problem. Mr Dykstra noted that it is not a question of needing more capacity but rather that the energy can not be delivered to the area that it is required. Costs are being transferred from the marginal load to the market.

Mr Cremin questioned whether in setting capacity requirements network constrained loads are accounted for in the maximum demand for the SWIS. The Chair confirmed that this was the case.

Mr Dykstra noted that the original market design document had an availability payment and dispatch payment for a NCS contract. The IMO paid the availability costs less the value of Capacity Credits for that

	<p>Facility, with the recovery of those costs being from System Management. Mr Dykstra considered that this suggests that there would not be a net cost to the market of the NCS. Mr Gaston considered that this makes more sense.</p> <p>Further discussion on the appropriateness of providing Capacity Credits to a NCS Facility and whether the costs for a NCS should be borne by the loads causing the need to the network upgrade ensued.</p> <p>Mr Stephen MacLean noted that the three Market Customer representatives had come to the same conclusion on this matter separately. The Chair agreed that it was a fair conclusion and that the IMO was looking at the issue from a capacity perspective and not considering the costs/benefits associated with entering into the NCS Contract.</p> <p>The Chair informed the MAC that the IMO and Western Power will further consider a revised design for the treatment of NCS facilities, with Western Power incurring the full costs of the NCS contract. The Chair noted that the IMO would like to still provide these facilities with Capacity Credits as it would ensure that the amount of capacity available to the market is correctly reflected.</p> <p><i>Action Point: The IMO and Western Power to consider a revised design for the treatment of NCS facilities which ensures that the costs associated with avoiding a network upgrade via entering into a NCS Contract will accrue to the Network Operator.</i></p>	IMO/ WP
5c.	<p>PRC_2012_04: CONSEQUENTIAL OUTAGE CORRECTION</p> <p>The Chair introduced Dr Steve Gould to present the Pre Rule Change Discussion Paper: Consequential Outage Correction (PRC_2012_04) at the request of Tesla, as Mr Ben Tan was unable to attend the meeting.</p> <p>Dr Gould noted that Tesla proposes to extend the definition of a Consequential Outage to include circumstances where a Planned Outage to a Network Operator's piece of equipment causes the impacted Facility to experience an outage. Dr Gould noted that while there is a good faith obligation for a Network Operator to provide sufficient notification to a Market Generator of a Planned Outage this doesn't always happen and in these circumstances the Market Generator should not be subject to capacity refunds (via experiencing a Forced Outage). Where in these circumstances a Market Generator is informed in advance of a Planned Outage of a network, the Market Generator can apply to System Management for a Planned Outage.</p> <p>Mr Phil Kelloway queried what the original intention of making an impacted facility subject to a Forced Outage in these circumstances would have been. The Chair responded that the original Market Rules would have been drafted based on the assumption that sufficient notice of the Planned Outage of the Network Operator would have been provided to the Market Generator to allow them apply for a Planned Outage (and therefore avoid capacity refunds). Mr Kelloway added that many Network Outages, particularly of the distribution network, occur under short notice and therefore impacted Market Generators are not provided with sufficient notice to make an application for a Planned</p>	

<p>Outage.</p> <p>Mr MacLean noted his support for the proposed changes and queried the coordination of distribution outages that are impacting on the grid (i.e. during a hot day) and Market Generators who are applying for a Planned Outage but System Management considers that they will be required to stay in service. Mr Kelloway responded that System Management will reach a joint agreement between the Network Operator (whether a transmission or distribution outage) and the Market Generator to find a mutually suitable time for the outage to occur. If there is a dispute over this then System Management will make a determination. Mr Kelloway noted that System Management had never had to exercise the need to make a determination in this type of circumstance.</p> <p>Mr Peter Huxtable queried whether the proposed changes entirely remove the obligation on the Market Generator to inform System Management that its Facility will be on outage (i.e. apply for a Planned Outage). Ms Fiona Edmonds responded that an impacted Market Generator who was intending to undertake a Planned Outage in the future would still be able to apply to System Management to have this outage at the earlier time that coincides with the network outage. Ms Edmonds confirmed that the proposed changes would create a potential incentive for Market Generators to not inform System Management of outages in these circumstances as they will automatically turn into Consequential Outages.</p> <p>Mr Everett queried the impact of the new process for System Management progressing applications of a Consequential Outage. Mr Kelloway noted that this would not be an issue.</p> <p>Mr MacLean queried whether an approach of System Management automatically issuing a Planned Outage to a Market Generator in these circumstances would be appropriate as it would resolve communication issues and ensure a co-ordination of the outages. Ms Edmonds responded that she had discussed this option with Mr Tan and he had expressed concerns that this approach as it would result in a higher level of Planned Outages being recorded for the Facility, despite the fact that a number of these outages were actually outside the control of the Facility. Mr MacLean clarified his suggestion that System Management should provide the Market Generator with a notification that the transmission or distribution line will be on a Planned Outage. Mr Kelloway confirmed that currently Western Power was required to provide this notification, but noted that Mr MacLean's suggestion that System Management would automatically generate an application for the impacted facility would result in potentially less coordination of outages.</p> <p>Ms Wana Yang added that prior to approval of a Network Outage System Management should consider whether notification to the impacted generator has been provided.</p> <p><i>Action Point: System Management to consider whether any process changes for approving network outages could be possible to ensure that Market Generators are provided with sufficient notice of the outage.</i></p> <p>The MAC agreed that, subject to System Management looking into the approval process of network outages, PRC_2012_04 should be</p>	<p>SM</p>
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	<p>submitted into the Standard Rule Change Process as the proposed amendments do not seek to amend a manifest error.</p> <p><i>Action Point: Tesla to submit the Rule Change Proposal: Consequential Outage Correction (RC_2012_04) into the Standard Rule Change Process.</i></p>	Tesla
<p>6a.</p>	<p>MARKET PROCEDURE CHANGE OVERVIEWS</p> <p>Ms Frame informed the MAC that the Final Report for the New Market Procedure for Balancing Market Forecasts (PC_2012_03) was published on 30 March 2012 and the Final Report for the New Market Procedure for Balancing Facility Requirements (PC_2012_02) is underway. Ms Frame added that the IMO is currently working with System Management to finalise the Procedure Change Reports for its replacement PSOP's required for under the new Balancing and Load Following markets (PPCL0021, PPCL0022 & PPCL0023).</p> <p>Mr Kelloway recapped on the further consultation period for the PSOP's that was undertaken and thanked members for their feedback. System Management is currently undertaking an internal check of its PSOP's for consistency with the Amending Rules from RC_2011_10. Procedure Change Reports, along with the final proposed PSOPs, are expected to be published by the end of April.</p> <p>Mr Gaston queried whether the feedback provided to Mr Cameron Parrotte at the last Rules Development Implementation Working Group (RDIWG) meeting have been taken into account. Mr Kelloway responded that the feedback had raised a number of other issues which will be looked at separately by System Management.</p> <p>Mr Matt Pember confirmed that the IMO had made a formal submission of the replacement PSOP's to System Management which included the comments raised in the RDIWG. Mr Gaston added that he sent additional feedback via email to Mr Parrotte.</p>	
<p>7a.</p>	<p>WORKING GROUP OVERVIEW</p> <p>The MAC noted the Working Group overview.</p> <p>The Chair noted the Ministers acknowledgement of the newly appointed MAC for 2012. The Chair also noted that protected provisions in the Amending Rules for RC_2011_10 had been approved by the Minister.</p> <p>Mr Paul Hynch advised the MAC that Mr Paul Biggs is no longer working for the Public Utilities Office (PUO) and a new Director is expected to be appointed before the next MAC meeting.</p>	
<p>7b.</p>	<p>RDIWG UPDATE</p> <p>The Chair introduced Mr Pember to provide an update on the RDIWG to the MAC. Mr Pember advised that in the last RDIWG the focus was on IMO and System Management timelines for implementation of the new markets. Some practical example of dispatch had been provided during the meeting to provide Market Participants with an idea of how the new markets will work in real time and how the IMO and System Management will expect Market Participants to respond.</p>	

	<p>Mr Gaston advised that Perth Energy were currently undertaking a number of system tests in preparation for the new Balancing and Load Following markets. Mr Gaston noted concern that the IMO is focusing heavily on the Market Participant Interface (MPI) and is not spending enough time on developing and testing web services which a majority of the market will be using. Mr Gaston also suggested that the IMO provide an example to the market of how the revised settlement systems will work prior to the start of the market on 1 July. Mr Gaston noted that participants would be uncomfortable with the commencement of the new Balancing market if they were uncertain how the settlements will work. Mr Pember informed Mr Gaston that the development work for web services is a lot easier than that for the MPI and this is why the focus is on MPI at the moment. Mr Pember advised that the most recent and possibly final release of the web services was last week and there were a few errors which the IMO are currently working on, mainly around formatting and would not be problematic to correct.</p> <p>Mr Dykstra queried the intention for dispatch instructions during a Trading Interval were intended to be via telephone (as was indicated at the last Market Operations industry forum) or through the MPI environment (as was discussed at the RDIWG). Mr Dykstra also queried how Dispatch Instructions issued before the Trading Interval vs. within the Trading Interval would be distinguished under the Market Rules. It is unclear that the Market Rules provide for separate processes for Dispatch Instructions in these circumstances. Mr Pember noted that System Management is only likely to need to issue intra-interval dispatches where something unanticipated arises and in these cases System Management will need to provide instructions straight away. It is for this reason that a phone call will be used during the transition period. It was not anticipated that this would be a common occurrence provided that there is sufficient Load Following Service available. Mr Pember noted that this has been clarified in the PSOP: Dispatch.</p> <p>The Chair advised the MAC that there had been a Settlement forum held last week and that Navita (the provider of the IMO's settlement system) is over at the moment if Mr Gaston or any other Rule Participant would like a demonstration on the revised settlement system.</p>	
<p>7c.</p>	<p>RCMWG UPDATE</p> <p>Ms Frame provided a verbal update of the Reserve Capacity Mechanism Working Group (RCMWG) meeting held on 17 April 2012.</p> <p>Ms Frame advised that Mr Mike Thomas had provided more detail on the solutions he proposed previously to the working group on the issues of the oversupply of capacity. Further detail of the solution to the oversupply of capacity would be presented in the May RCMWG meeting.</p> <p>Ms Frame noted that the second work stream currently being considered by the working group relates to the harmonisation of the demand and supply side of the market, with a high level paper presented by Dr Richard Tooth on this matter having been presented to the working group for discussion. More detailed options for harmonisation would be presented at the June RCMWG meeting.</p>	

	<p>It was also noted that Mr MacLean would provide his auction model to members prior to the end of the week.</p> <p>Ms Frame also advised the next work stream for the working group, around dynamic Reserve Capacity Refunds, would be presented to the Working Group during May. The Chair clarified that the IMO would be presenting the material from the RDIWG's deliberations on this matter, including minutes from the discussions of the proposed dynamic refund mechanism.</p>	
<p>8.</p>	<p>GENERAL BUSINESS</p> <p><i>PRC_2012_05: Treatment of Negative Balancing Price on the Settlement of Ancillary Services</i></p> <p>The Chair introduced Mr Everett to present the Pre Rule Change Discussion paper on the Treatment of Negative Balancing Price on the Settlement of Ancillary Services.</p> <p>Mr Everett explains that this Pre Rule Change Paper proposes to fix an oversight that was made during the drafting of the Amending Rules for the new Balancing and Load Following markets. Mr Everett noted that the Amending Rules resulting from the Rule Change Proposal: Treatment of Negative MCAP on the settlement of Ancillary Services (RC_2009_21) had fixed the issue where MCAP is negative, Verve Energy was paying for the privilege of providing Spinning Reserve. Mr Everett noted that this had not been accounted for in the Amending Rules resulting from RC_2011_10. Mr Everett considered that the proposed changes needed to be progressed via the Fast Track Rule Change Process as this is a manifest error.</p> <p>The Chair apologised for this oversight during the drafting of the Amending Rules for the new Balancing market and agreed that this be progressed as a Fast Track Rule Change.</p> <p>Discussion ensued as to the appropriate drafting to ensure that greater value is chosen in these cases. It was agreed that the proposed drafting would correct the issue.</p> <p><i>Action Point: Verve Energy to submit the Rule Change Proposal: Treatment of Negative Balancing Price on the Settlement of Ancillary Services (RC_2012_05) via the Fast Track Rule Change Process.</i></p> <p>Margin Values</p> <p>Ms Yang advised the MAC that a consultation paper for the new Margin Values to apply under the new Balancing and Load Following markets will be published by the ERA for consultation in due course. Ms Wang requested confirmation of whether SKM's modelling to prepare these Margin Values had removed negative values. Ms Laidlaw confirmed that this was not the case as SKM had not been modelling enough facilities with a negative price (i.e. wind farms)</p>	<p>Verve Energy</p>
<p>CLOSED: The Chair declared the meeting closed at 3.30 pm.</p>		



Agenda item 4: 2012 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
33	2011	The IMO to consider the suggested amendments to the Pre Rule Change Discussion Paper: Ancillary Services Payment Equations (PRC_2010_27) provided by Mr Stephen MacLean, and update the proposal as appropriate.	IMO	June	Underway. Currently scheduled to go to the August MAC.
36	2011	The IMO to consider updating the load profile used in the Available Curve Calculations for the Statement of Opportunities.	IMO	Dec	In progress.
43	2011	The Public Utilities Office to provide the MAC with an update on progress around the implementation of incentives for dual fuel facilities in the Wholesale Electricity Market.	PUO	Dec	
44	2011	The IMO to publish its guidelines for Transitional Arrangements on the IMO website	IMO	Dec	Completed. The Transitional Arrangement Guidelines for Rule Changes document was published on

Agenda item 4: 2012 MAC Action Points

#	Year	Action	Responsibility	Meeting arising	Status/Progress
					the IMO website on 14 May 2012.
7	2012	The IMO to communicate impacts on Prudential Requirements as a result of the introduction of the carbon pricing mechanism for Market Participants prior to 1 July.	IMO	Feb	In progress
9	2012	The IMO to conduct further analysis to assess if there are any material differences on the determination of the Relevant Demand for existing DSP resulting from the different approaches listed in PRC_2012_02 and provide an update to MAC members.	IMO	Mar	In progress
10	2012	The IMO and Western Power to consider a revised design for the treatment of NCS facilities which ensures that the costs associated with avoiding a network upgrade via entering into a NCS Contract will accrue to the Network Operator.	IMO/WP	Mar	
11	2012	System Management to consider whether any process changes for approving network outages could be possible to ensure that Market Generators are provided with sufficient notice of the outage.	SM	Mar	
12	2012	Tesla to submit the Rule Change Proposal: Consequential Outage Correction (RC_2012_04) into the Standard Rule Change Process.	Tesla Corporation	Mar	Completed. The First Submission period is currently open and will close on 7 June 2012.
13	2012	Verve Energy to submit the Rule Change Proposal: Treatment of Negative Balancing Price on the Settlement of Ancillary Services (RC_2012_05) via the Fast Track Rule Change Process.	Verve Energy	Mar	Completed. The Final Report was published on 18 May 2012.



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)	6 June 2012
Fast track with Consultation Period open	1
Standard Rule Changes with 1st Submission Period Open	2
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	1
Standard Rule Changes with 2nd Submission Period Closed (final report being prepared)	1
Rule Changes - Awaiting Minister's Approval and/or Commencement	5
Total Rule Changes Currently in Progress	10

Potential changes logged by the IMO- Not yet formally submitted	April	May
High Priority (to be formally submitted in the next 3/6 months)	0	0
Medium Priority (may be submitted in the next 6/12 months)	27	20 (+0/-7)
Low Priority (may be submitted in the next 12/18 months)	26	23 (+2/-6)
Potential Rule Changes (H, M and L)	53	43

The IMO has recently undergone a process of separating the Rule Change Log into separate issues and suggestions logs. The IMO will continue to report monthly to the MAC on the changes to the Rule Change Issues Log.

Details of Rule Change Suggestions Log will form the more detailed basis for the continued development of the Market Rules Evolution Plan which is currently being refreshed by the IMO, in conjunction with wider industry, ready for prioritisation by the MAC during mid-2012. The IMO notes that a number of the items on the Rule Change Suggestions Log are much lower level than the bigger picture items previously presented in the Market Rules Evolution Plan.

The changes in the rule change issues log from April to May are outlined below:

Priority	Issue
High	N/a
Medium	<p>In:</p> <ul style="list-style-type: none"> No issues have been added this month. <p>Out:</p> <p><i>Following an internal review and assessment of the Rule Change Log, some entries have been identified as suggestions rather than issues and have therefore been removed:</i></p> <ul style="list-style-type: none"> Outages: As part of its deliberations on RC_2009_05, the IMO Board requested full transparency on outage information. <i>Note that this will be addressed by the IMO's progression of the recommendations from the Outage Planning Review.</i> Reserve Capacity Testing: A new Facility can come online and begin receiving Reserve Capacity payments between 1 August and 30 November (until 2011) or 1 June and 1 October (2012 onwards). The Reserve Capacity Testing provisions require that all generation facilities with obligations to be tested between 1 April to 30 September. Therefore the Market Rules currently require a new Facility that comes online in late September to be tested almost immediately. The IMO considers that this is impractical and an allowance could be made, such as a minimum period that a Facility is online during that period, before being required to be tested. Energy Price Limits Methodology: Synergy has suggested that the IMO, instead of undertaking annual reviews of the Maximum STEM Price, should check annually whether the price limit was achieved in any Trading Interval in the previous year. If not, then the IMO could either not alter the price or else reduce the price limit to the highest price offered (plus CPI). If the Maximum STEM Price was reached in the period the IMO could, for the generators offering those prices, assess their actual costs and use this information (plus CPI) to establish a new Maximum STEM Price.

	<p>Synergy has also suggested changes to the methodology used to determine the Energy Price Limits, to avoid the need for an expensive annual review. Synergy has proposed that standard escalators be used for the various input parameters (similar to the current treatment of distillate price for the Alternative Maximum STEM Price). For distillate, a full review would only be required either every 3-5 years or when a new facility, expected to set the price limit, enters the market.</p> <ul style="list-style-type: none"> • Information: The IMO undertakes a number of reviews (e.g. Energy Price Limits, Margin Values) which require input assumptions for modeling, e.g. fuel costs, heat rates, O&M costs, etc. Currently the IMO is unable to request confidential operational data from Market Participants for use in these reviews. The Market Rules could be enhanced so that the powers of the IMO to request actual operational data from Market Participants are extended to allow the request of relevant data (on a confidential basis), to provide more accurate inputs to the modeling processes. • LoadWatch Data and Publication: An obligation needs to be included into the Market Rules for SM to deliver LoadWatch data to the IMO each summer. The requirement would be for the data to be delivered each Monday (before noon) between 1 December and 31 March each summer. Required data would include forecast min and max temperature, and forecast system load, for the weekdays of that week (Monday to Friday). The obligation on the IMO should be to publish the LoadWatch report each Monday of summer. • Tolerance Range: It is possible that a Market Participant can wilfully deviate significantly from a Dispatch Instruction for one Trading Interval and System Management does not have to report that deviation to the IMO. Clause 2.13.6B(b) does not require System Management to inform the IMO of an alleged breach if it is limited to occurring within one Trading Interval. Under the Amending Rules for RC_2011_10 the Tolerance Range and Facility Tolerance Range, as applicable, will now apply to Market Participants from an operational perspective (previously these just applied for the purposes of System Management’s compliance reporting obligations, see RC_2009_22 for further details). It therefore may be appropriate to remove this restriction on System Managements reporting obligations.
<p>Low</p>	<p>In:</p> <ul style="list-style-type: none"> • LFAS Reporting: Currently if a Market Participant is unable to provide LFAS it is required to inform the IMO and System Management under clause 7B.2.18. It would be appropriate to include into the Market Rules a requirement for System Management to contact the IMO if it becomes aware that a Market Participant will not or did not provide LFAS. This would be similar for the requirement for System Management to inform the IMO of a Market Participants inability to meet a

Dispatch Instruction.

- **Procedure Change Proposals:** During the regulatory change process for RC_2011_10 the IMO put forward a proposal to make clause 2.10.2A a Reviewable Decision under the Regulations, following suggestions from industry. However as there is no clear decision made by the IMO or System Management with respect to a suggestion from another party that it would be appropriate to amend or replace a Market Procedure it was not possible to make this clause a Reviewable Decision under the Regulations. The IMO needs to amend clause 2.10.2A to clearly state that a decision is made and that where we decide not to progress the change that we will publish reasons for that decision.

Out:

Following an internal review and assessment of the Rule Change Log, some entries have been identified as suggestions rather than issues and have therefore been removed:

- **Market Fees:** Concerns have been previously expressed by MAC members around the exemption of Demand Side Management aggregators from Market Fees. The IMO should consider whether amendments should be made to require DSM aggregators to pay Market Fees.
- **Progress Reports:** Currently the rules state that only facilities which are yet to commence operation have to file progress reports. This excludes upgrades of Facilities. The IMO considers that Facilities which are certified as an upgrade should provide progress reports to inform the IMO of their progress the same as the requirement for new facilities. This will not only ensure consistent treatment with new facilities but provide oversight of the progress of the upgrade to the IMO
- **Procedure Change Process:** In the current rules there is no clause that states the IMO may reject a Procedure Change Proposal that the IMO has submitted. The only reference is to when the IMO rejects a Procedure Change Proposal by System Management.
- **Metered Consumption:** The Market Rules often confusing in relation to metered consumption, which should be a non-loss factor-adjusted quantity. Metered Consumption should be made a defined term in the Market Rules.
- **Ancillary Services:** Currently under Market Rules there is a price floor to limit the result of Verve Energy needing to make a negative availability cost payment when MCAP is less than zero. Under RC_2012_05 the same restriction on these circumstances will be ensured under the new Balancing Market arrangements. This price floor ensures that Verve Energy does not subsidise the cost of the service to the market (an inequitable and economically inefficient outcome). This mechanism is however considered to only be a temporary fix until the advent of a better mechanism.

	<ul style="list-style-type: none">• Performance Monitoring: Where the number of days in the last year with high outages exceeds 40, specific participants must tell the IMO of its plan for Planned Outages. If the IMO believe it's excessive, the IMO may limit their future Planned Outages for refund purposes and the participant may be penalized if they exceed this value. <p>However, if:</p> <ul style="list-style-type: none">- the IMO believe the rationale for the outage plan is reasonable;- the number of days never exceeds 80 in the future; and- the Market Participant exceeds the number of days of Planned Outage during the next 24 months, <p>the participant is not penalized in the same way. This provides an incentive to provide inaccurate information in the performance report to avoid any future penalty.</p>
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The IMO also notes that it keeps a log of Minor and Typographical issues that is updated on a regular basis. These issues are collated and submitted in three batches each year.

APPENDIX 1: FORMALLY SUBMITTED RULE CHANGES (Current as of 6 June 2012)**Fast Track Rule Change with Submission Period Open**

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2012_08		Constrained On and Off Prices for Non-Scheduled Generators	IMO	Submissions close	

Standard Rule Change with First Submission Period Open

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2011_09	15/05/2012	Prudential Requirements	IMO	Submissions close	27/06/2012
RC_2012_04	24/04/2012	Consequential Outage Correction	Tesla	Submissions close	07/06/2012

Standard Rule Change with Second Submission Period Open

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2012_01	29/02/2012	Intermittent Loads Eligibility Criteria	IMO	Submissions close	13/06/2012

Standard Rule Change with Second Submission Period Closed

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2010_08	15/04/2010	Removal of DDAP uplift when less than facility minimum generation	Griffin Energy	Publish Final Rule Change Report	29/06/2012

Rule Changes with Final Rule Change Report Published

ID	Date submitted	Title	Submitter	Next Step	Date
RC_2010_28	01/03/2011	Capacity Credit Cancellation	IMO	Ministerial Approval	13/04/2012
RC_2011_02	10/03/2011	Reassessment of Allowable Revenue during a Review Period	ERA	Ministerial Approval	03/07/2012
RC_2011_10	23/09/2011	Competitive Balancing and Load Following Market	IMO	Commencement	01/07/2012
RC_2011_14	20/01/2012	Calculation of Availability Class Quantity Correction	System Management	Commencement	06/06/2012
RC_2012_05	18/04/2012	Treatment of Negative Balancing Price on the Settlement of Ancillary Services	Verve Energy	Commencement	01/07/2012

RULE CHANGE NOTICE

CONSTRAINED ON AND OFF PRICES FOR NON-SCHEDULED GENERATORS

(RC_2012_08)

This notice is given under clause 2.5.7 of the Market Rules.

Date Submitted: 1 June 2012

Submitter: Suzanne Frame

THE PROPOSAL

The new Balancing Market arrangements resulting from the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10) include the payment of Constrained On Compensation and Constrained Off Compensation to Market Generators for out of merit dispatch. Two errors affecting the calculation of these payments for Non-Scheduled Generators have been identified in the proposed Amending Rules for RC_2011_10.

The IMO proposes to correct the order of the terms in the subtractions in new clauses 6.17.3A(b) and 6.17.4A(b), so that Constrained On Compensation Prices and Constrained Off Compensation Prices for Non-Scheduled Generators are calculated as positive amounts. The proposed amendments will bring these calculations into alignment with the corresponding calculations for Scheduled Generators and the Verve Energy Balancing Portfolio and will ensure that Non-Scheduled Generators are paid (and therefore appropriately compensated) in these instances rather than incorrectly being charged.

Appendix 1 contains the Rule Change Proposal and gives complete information about:

- the proposed amendments to the Market Rules;
- relevant references to clauses of the Market Rules and any proposed specific amendments to those clauses; and
- the submitter's description of how the proposed amendments would allow the Market Rules to better address the Wholesale Market Objectives



DECISION TO PROGRESS THE RULE CHANGE

The IMO has decided to progress the Rule Change Proposal on the basis of its preliminary assessment that the proposal is consistent with the Wholesale Market Objectives and is required to address a manifest error in the Market Rules.

RULE CHANGE PROCESS

The IMO has decided to subject the Rule Change Proposal to the Fast Track Rule Change Process described in section 2.6 of the Market Rules, on the grounds that it satisfies the criteria in clause 2.5.9(b) of the Market Rules.

Clause 2.5.9 states:

The IMO may subject a Rule Change Proposal to the Fast Track Rule Change Process if, in its opinion, the Rule Change Proposal:

(a) is of a minor or procedural nature; or

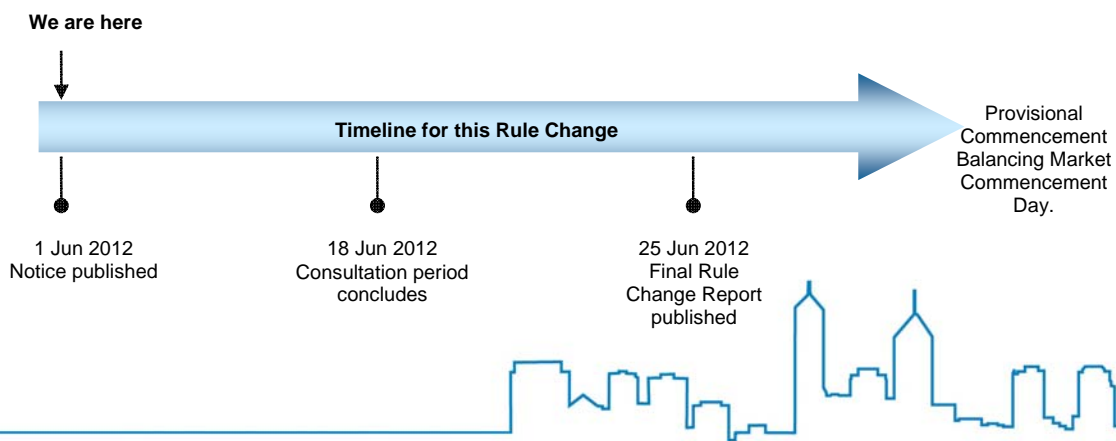
(b) is required to correct a manifest error; or

(c) is urgently required and is essential for the safe, effective and reliable operation of the market or the SWIS.

The IMO considers that this Rule Change Proposal corrects a manifest error in the Amending Rules for RC_2011_10. Under the current drafting, Market Generators would be required to pay Constrained On Compensation and Constrained Off Compensation for their Non-Scheduled Generators, instead of being paid these amounts. This is both contrary to the intent of these payments (to compensate Market Generators for potential losses resulting from Out Of Merit dispatch) and inconsistent with the treatment of Scheduled Generators and the VEBP. As such, the IMO considers that this proposal should be progressed using the Fast Track Rule Change Process, on the grounds that it satisfies the criteria in clause 2.5.9 (b).

TIMELINE

The projected timelines for processing this proposal are:





CALL FOR SUBMISSIONS

Any Rule Participant wishing to be consulted regarding this Rule Change Proposal is invited to notify the IMO within 5 Business Days of this notice being published (**11 June 2012**). The consultation period is 10 Business Days from the publication date of this Rule Change Notice. Submissions must be delivered to the IMO by 5.00pm on **Monday 18 June 2012**.

Submissions should be made by email to market.development@imowa.com.au using the submission form available on the IMO website: <http://www.imowa.com.au/rule-changes>. Submissions may also be sent to the IMO by fax or post, addressed to:

Independent Market Operator
Attn: Group Manager, Market Development
PO Box 7096
Cloisters Square, Perth, WA 6850
Fax: (08) 9254 4399



Wholesale Electricity Market Rule Change Proposal Form

Change Proposal No: RC_2012_08
Received date: 1 June 2012

Change requested by:

Name:	Suzanne Frame
Phone:	(08) 9254 4304
Fax:	(08) 9254 4399
Email:	suzanne.frame@imowa.com.au
Organisation:	IMO
Address:	Level 3, Governor Stirling Tower, 197 St Georges Terrace Perth
Date submitted:	1 June 2012
Urgency:	3-high, Fast Track Rule Change Process
Change Proposal title:	Constrained On and Off Prices for Non-Scheduled Generators
Market Rules affected:	Clauses 6.17.3A and 6.17.4A

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, Market Development
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 Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10) will introduce a new Balancing Market that enables greater participation of Independent Power Producers (IPPs) in the provision of Balancing. The Amending Rules resulting from RC_2011_10 were approved by the Minister on 20 March 2012 and the new Balancing Market is scheduled to commence on 1 July 2012.

Under the new market arrangements, System Management will usually dispatch Balancing Facilities in accordance with a Balancing Merit Order (BMO), determined for each Trading Interval from Balancing Submissions received from both Verve Energy and IPPs. The BMO will also be used to determine the Balancing Price for a Trading Interval. Any variation between the actual output of a Market Generator in a Trading Interval and its Net Contract Position will be settled at the Balancing Price.

In some situations, however, a Balancing Facility may be dispatched “out of merit” and generate either more or less energy than would be expected given the Balancing Price. Assuming settlement at the Balancing Price, a Balancing Facility that generates more than expected (is “constrained on”) may be paid less than its bid price for some of the energy it generates. Similarly, a Facility that generates less than expected (is “constrained off”) may be required to pay the Balancing Price for energy that it offered to generate at a lower price.

Under the Amending Rules from RC_2011_10 Market Generators will receive a payment of Constrained On Compensation or Constrained Off Compensation in these cases, to ensure appropriate compensation is received. Constrained On Compensation will be paid to ensure that a Market Generator receives at least its bid price for any energy it generates, while Constrained Off Compensation will be paid to ensure that a Market Generator does not pay the Balancing Market more for a quantity of energy than the price at which it offered to generate that energy.

Constrained On Compensation and Constrained Off Compensation will be applicable to all Balancing Facilities, including Scheduled Generators, Non-Scheduled Generators and the Verve Energy Balancing Portfolio (VEBP). New sections 6.16A and (for the VEBP) 6.16B describe the calculation of Out Of Merit Generation quantities, while the various quantities and prices used to calculate Constrained On Compensation and Constrained Off Compensation are outlined in new clauses 6.17.3 – 6.17.5A. These values will be used in the calculation of the balancing settlement amount for each Market Participant under clause 9.8.1.

Issue

A Constrained On Compensation Price is intended to reflect the amount by which the Market Generator's loss factor adjusted bid price for the relevant quantity of energy exceeds the Balancing Price, i.e. bid price – Balancing Price. For example, if the Balancing Price is \$80/MWh and a Balancing Facility is constrained on and generates an additional 10 MWh that it offered at \$100/MWh in its Balancing Submission, then it should receive $(\$100 - \$80) * 10 = \$200$ as Constrained On Compensation. This price calculation is correctly reflected in clauses 6.17.3(b) and 6.17.3(c)(ii) (for Scheduled Generators) and clauses 6.17.5(b) and 6.17.5(c)(ii) for the VEBP. However, in clause 6.17.3A(b) (for Non-Scheduled Generators) the order of the two prices has been incorrectly reversed, so that the bid price is being subtracted from the Balancing Price. In the example above, this would result in the Market Generator being charged \$200 rather than paid \$200.

Clause 6.17.4A(b), which prescribes the Constrained Off Price calculation for a Non-Scheduled Generator, contains a similar error. Constrained Off Prices are intended to reflect the amount by which the Balancing Price exceeded the price at which the Market Generator offered to generate the relevant energy quantity, i.e. Balancing Price – bid price. While clauses 6.17.4(b), 6.17.4(c)(ii), 6.17.5A(b) and 6.17.5A(c)(ii) correctly reflect this calculation for Scheduled Generators and the VEBP, clause 6.17.4A(b) shows the calculation as bid price – Balancing Price, resulting in a charge to the Market Generator instead of a payment.

Proposal

The IMO proposes to correct the order of the terms in the subtractions in new clauses 6.17.3A(b) and 6.17.4A(b), so that Constrained On Compensation Prices and Constrained Off Compensation Prices for Non-Scheduled Generators are calculated as positive amounts. The proposed amendments will bring these calculations into alignment with the corresponding calculations for Scheduled Generators and the VEBP and will ensure that Non-Scheduled Generators are paid (and therefore appropriately compensated) in these instances rather than incorrectly being charged.

2. Explain the reason for the degree of urgency:

The IMO considers that this Rule Change Proposal corrects a manifest error in the Amending Rules for RC_2011_10. Under the current drafting, Market Generators would be required to pay Constrained On Compensation and Constrained Off Compensation for their Non-Scheduled Generators, instead of being paid these amounts. This is both contrary to the intent of these payments (to compensate Market Generators for potential losses resulting from Out Of Merit dispatch) and inconsistent with the treatment of Scheduled Generators and the VEBP. As such, the IMO considers that this proposal should be progressed using the Fast Track Rule Change Process, on the grounds that it satisfies the criteria in clause 2.5.9(b) of the Market Rules.

Clause 2.5.9 states:

The IMO may subject a Rule Change Proposal to the Fast Track Rule Change Process if, in its opinion, the Rule Change Proposal:

- (a) is of a minor or procedural nature; or*
- (b) is required to correct a manifest error; or*
- (c) is urgently required and is essential for the safe, effective and reliable operation of the market or the SWIS.*

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 following clause is contained in the Amending Rules resulting from RC_2011_10:

- 6.17.3A Subject to clause 6.17.5B, for any Balancing Facility that is a Non-Scheduled Generator, in a Trading Interval:
- (a) ConQ1 equals the Upwards Out of Merit Generation, in MWh, for the Trading Interval, which for settlement purposes under Chapter 9 the IMO must Loss Factor adjust; and
 - (b) ConP1 equals ~~the Balancing Price for that Trading Interval less the Loss Factor Adjusted Price in the Balancing Price-Quantity Pair associated with the Balancing Facility for that Trading Interval~~ less the Balancing Price for that Trading Interval.
- 6.17.4A. Subject to clause 6.17.5B, for any Balancing Facility that is a Non-Scheduled Generator, in a Trading Interval:
- (a) CoffQ1 equals the Downwards Out of Merit Generation, in MWh, for that Trading Interval, which for settlement purposes under Chapter 9 the IMO must Loss Factor adjust; and

- (b) ~~CoffP1 equals the Loss Factor Adjusted Price in the Balancing Price-Quantity Pair associated with the Balancing Facility less the Balancing Price for that Trading Interval less the Loss Factor Adjusted Price in the Balancing Price-Quantity Pair associated with the Balancing Facility for that Trading Interval.~~
-

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

The IMO considers that the proposed amendments correct a manifest error in the Amending Rules for RC_2011_10 and are consistent with the Wholesale Market Objectives.

Further, the IMO considers that once the Amending Rules from RC_2011_10 commence the proposed amendments will allow the Market Rules to better address Wholesale Market Objective (c). The changes will avoid discrimination against Non-Scheduled Generators that are dispatched Out Of Merit, by ensuring that they are paid Constrained On Compensation and Constrained Off Compensation in the same way as other Balancing Facilities.

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

Costs:

The IMO has not identified any additional IT or other costs for this Rule Change Proposal.

Benefits:

- Correction of a manifest error in the Amending Rules for RC_2011_10.
 - Consistent treatment of Non-Scheduled Generators and other Balancing Facilities.
-
-

Wholesale Electricity Market Pre Rule Change Proposal

Submitted by

Name:	Brendan Clarke
Phone:	9427 5940
Fax:	9427 4228
Email:	Brendan.Clarke@westernpower.com.au
Organisation:	System Management
Address:	
Date submitted:	1 June 2012
Urgency:	2 - Medium
Change Proposal title:	Clarification and Calculation of Availability Curve
Market Rule(s) affected:	Clause 4.5.10(e)

Introduction

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

Independent Market Operator

Attn: Suzanne Frame, Manager Market Development

PO Box 7096

Cloisters Square, Perth, WA 6850

Fax: (08) 9254 4399

Email: marketadmin@imowa.com.au

The paper should 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) Outline the issue concerning the existing Market Rules that is to be addressed by the proposed Market Rule change:

Issue: There is a lack of clarity in the formation of the Availability Curve. This has the potential to threaten system

The Market Rules' provisions relating to the Reserve Capacity Mechanism require an "Availability Curve" to be determined.

"4.5.10. The IMO must use the information assembled to:

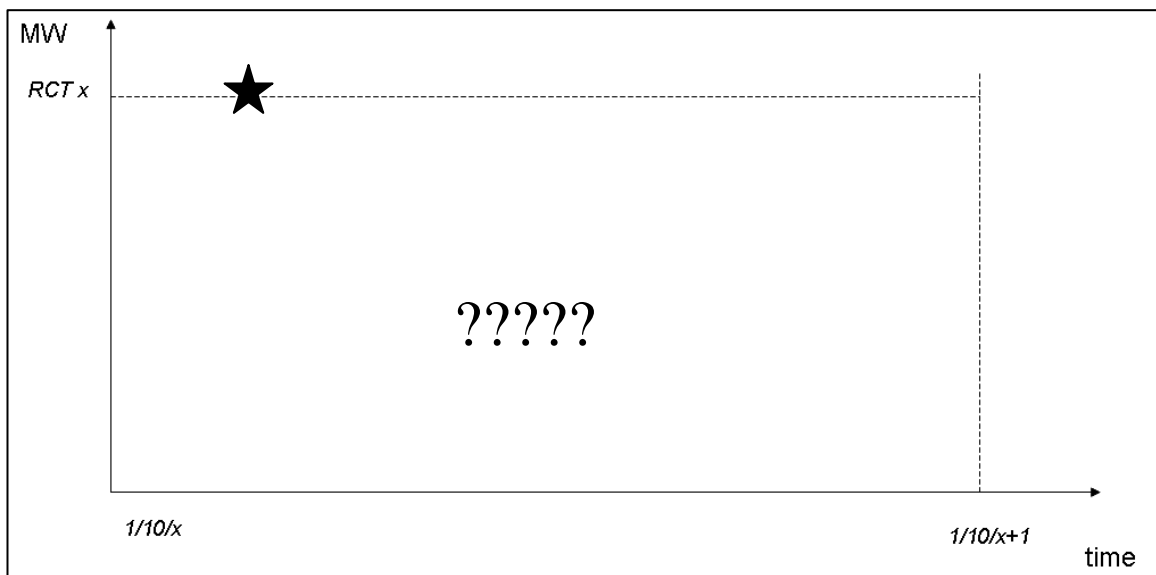
...

*(e) develop a two dimensional curve for each of the 2nd and 3rd Capacity Years of the Long Term PASA Study Horizon describing the information referred to in clause 4.5.12 ("**Availability Curve**")."*

System Management contends the “Availability Curve” should define the minimum availability requirements of generation and demand side programs that are to be procured under the Reserve Capacity Mechanism for the respective capacity year.

Further the Market Rules and Procedures give no guidance as to how to formulate the capacity year (12 months) and the quantum of the vertical dimension being the “Reserve Capacity Target” (RCT) (Market Rule 4.10.5(b)) essentially only defining one point on the curve.

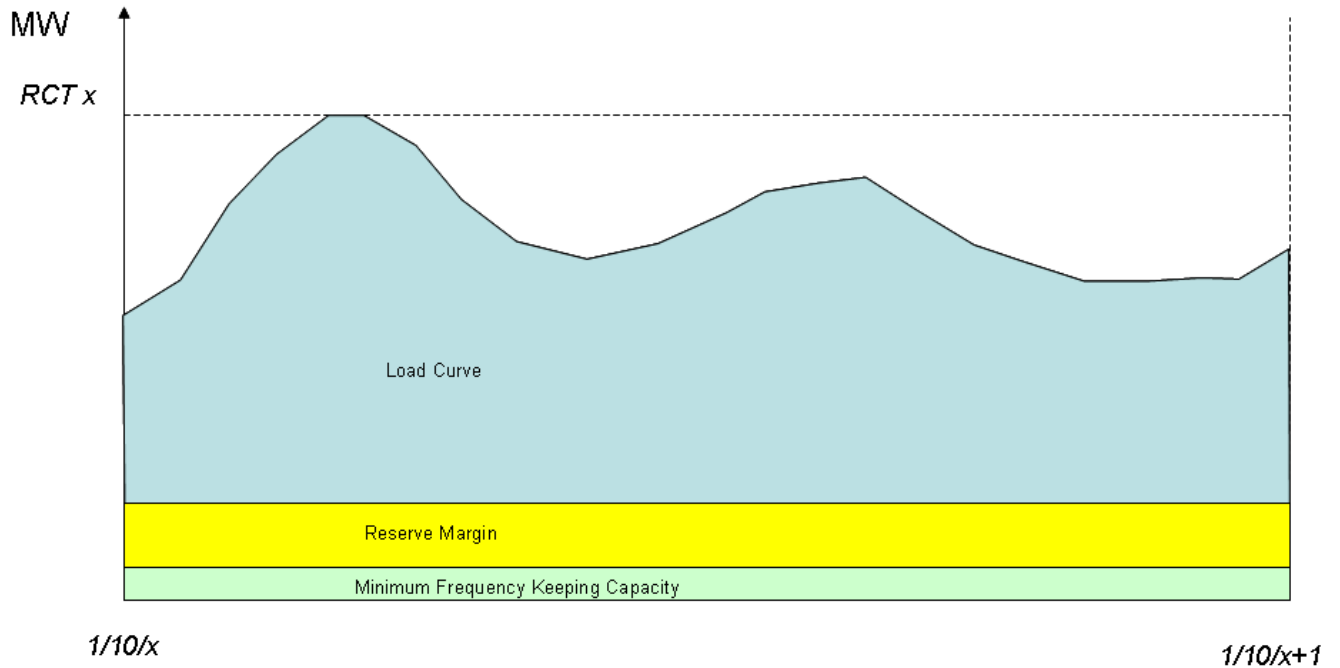
This is illustrated below



Further it believes that improper construction of the “Availability Curve” may threaten power system reliability by not having sufficient capacity for the necessary timeframes.

System Management believes the “Availability Curve” must define the availability requirement for every trading interval being the capacity to meet the forecast load, the frequency keeping requirement and the reserve margin requirement for every trading interval. This is maintains the rule philosophy given Market Rule 4.5.9 that defines how the RCT is determined for the peak trading interval for every trading interval.

This is illustrated below



System Management believes that capacity must be procured so it is available to meet the Frequency Keeping Requirement for each trading interval during the capacity year as the requirement may be needed at any time to cater for intermittent generator fluctuations. That is for the Availability Curve development the Frequency Keeping Requirement is constant throughout the year.

It should be noted that during real time dispatch if real time intermittent generator fluctuations are forecast to be low then this requirement may be reduced.

System Management also believes that capacity must be procured so it is available to meet the Reserve Margin for each trading interval during the capacity year as the requirement may be needed at any time to cater for the loss of one or more facilities. That is for the Availability Curve development the Reserve Margin Requirement is constant throughout the year.

2) Explain the reason for the degree of urgency:

System Management submits that the Rule Change Proposal be progressed with an urgency of medium as the change would not be in place for the 2012 Statement of Opportunities .

The change must be incorporated into the 2013 Statement of Opportunities.

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 issue can be addressed by making additional wording to Market Rule 4.5.10(e) to clarify how the Availability Curve is calculated. The proposed change is given below:

“develop a two dimensional curve for each of the 2nd and 3rd Capacity Years of the Long Term PASA Study Horizon describing the information referred to in clause 4.5.12 (“Availability Curve”). This curve shall be the minimum capacity that must be made available from facilities holding capacity credits for each trading interval in the capacity year and calculated as the sum of:

The forecast demand for each trading interval of the Capacity Year with a peak demand equal to the forecast peak demand given in 4.5.9(a), and

The Reserve Margin equal to the reserve margin given in 4.5.9(a) and is required to be available at this value for the entire Capacity Year, and

The Minimum Frequency Keeping Capacity given in 4.5.9(a) and is required to be available at this value for the entire Capacity Year.”

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

This proposed Rule Change would better address objective (a) of the Market Objectives. The change as submitted would promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System.

The proposed rule change addresses this objective by clearly defining what capacity needs to be made available for each trading interval of the upcoming capacity year.

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

Benefits:

- The changes allow the procurement of capacity with the necessary availability requirements to ensure Power System Reliability.

Costs:

- No costs have been anticipated by System Management other than the administrative costs to change the rules.
-



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

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
IMO Procedure Change Proposals					
PC_2011_04	Prudential Requirements	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ○ RC_2010_36 Acceptable Credit Criteria; and ○ RC_2011_04 List of entities meeting Acceptable Credit Criteria 	<ul style="list-style-type: none"> • The amended Market Procedure: Prudential Requirements was presented alongside the Pre Rule Change Proposal: Prudential Requirements (PRC_2011_09) at the December MAC. 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	TBC

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
PC_2012_02	New Market Procedure for Balancing Facility Requirements	This new Market Procedure proposes to: <ul style="list-style-type: none"> Reflect the IMO's new format arising from its Market Procedure project; and Specify the technical and communication criteria that a Balancing Facility, or a type of Balancing Facility, must meet. 	<ul style="list-style-type: none"> The Procedure Change Report was published on 2 May 2012. 	<ul style="list-style-type: none"> Commencement. 	Balancing Market Commencement Day
PC_2012_03	New Market Procedure for Balancing Market Forecasts	This new Market Procedure proposes to: <ul style="list-style-type: none"> Reflect the IMO's new format arising from its Market Procedure project; and Describe the processes that will support the determination and publication of the Balancing Forecast by the IMO, including outlining the information requirements from System Management to enable the Forecast BMO and Balancing Forecast to be prepared. 	<ul style="list-style-type: none"> The Procedure Change Report was published on 30 March 2012. 	<ul style="list-style-type: none"> Commencement. 	Balancing Market Commencement Day
PC_2012_04	New Market Procedure for IMS Interface	This new Market Procedure proposes to: <ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> The IMO circulated this Procedure Change to the RDIWG for their review on the 9 May 2012. The IMO is currently preparing the Procedure Change Report. 	<ul style="list-style-type: none"> Publish Procedure Change Report. 	TBA
TBA	Undertaking the LT PASA and conducting a review of the Planning Criterion	The proposed updates are to: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> The IMO is currently updating the Market Procedure following the 2 February 2011 working group meeting. 	<ul style="list-style-type: none"> Updated procedure to be presented back to working group for further discussion. 	TBA

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
		4.5.15 of the Market Rules (Planning Criterion and forecasting processes).			
TBA	Participant Registration and Deregistration	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Facility Registration, Deregistration and Transfer	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ○ 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
		<p>certificates</p> <ul style="list-style-type: none"> • Ensure consistency with the Amending Rules from the following Rule Change Proposals; <ul style="list-style-type: none"> ○ Curtailable Loads and Demand Side Programmes (RC_2010_29); and ○ Change of Review Board Name (RC_2010_18), <p>Including the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10)</p>			
TBA	Settlement	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the Amending Rules from the following Rule Change Proposals: <ul style="list-style-type: none"> ○ 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) 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Meter Submission Data	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by the IMO Procedures Working Group 	

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
		Market Rules which have occurred since Market Start			
TBA	Capacity Allocation Credit	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Intermittent Load Refund	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Loss Factors	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • Reflect the IMO's new format arising from its Market Procedures project; and • Better clarify the processes in the Market Procedure. • Ensure consistency with amendments to the Market Rules which have occurred since Market Start 	<ul style="list-style-type: none"> • The IMO is currently working with Western Power to clarify some discrepancies between the Market Rules and Market Procedure 	<ul style="list-style-type: none"> • To be discussed by the IMO Procedures Working Group 	
TBA	Certification of Reserve Capacity	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the Amending Rules under the following Rule Change Proposals: 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
		<ul style="list-style-type: none"> ○ Certification of Reserve Capacity (RC_2010_14); ○ Curtailable Loads and Demand Side Programmes (RC_2010_29), <p>Including the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10)</p>			
TBA	Individual Reserve Capacity Requirements	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Declaration of Bilateral Trades and the Reserve Capacity Auction	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • Reflect the IMO's new format arising from its Market Procedures project; • Ensure consistency with the Amending Rules from the following Rule Change Proposals: <ul style="list-style-type: none"> ○ Curtailable Loads and Demand Side Programmes (RC_2010_29); ○ Removal of Network Control Services Expression of Interest and Tender Process from the Market Rules (RC_2010_11); and ○ Certification of Reserve Capacity (RC_2010_14). 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Reserve Capacity Performance	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • Reflect the IMO's new format arising from its 	<ul style="list-style-type: none"> • The IMO is currently revising the Market 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures 	

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
	Monitoring	<p>Market Procedures project;</p> <ul style="list-style-type: none"> • Ensure consistency with the Amending Rules from the Rule Change Proposal: Reserve Capacity Performance Monitoring (RC_2009_19) 	Procedure	Working Group	
TBA	Treatment of Small Generators	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Reserve Capacity Testing	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Maximum Reserve Capacity Price	<p>The proposed updates are to ensure consistency with the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10).</p>	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	
TBA	Information Confidentiality	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • The IMO is currently revising the Market Procedure 	<ul style="list-style-type: none"> • To be discussed by IMO Procedures Working Group 	

Change ID	Title	Brief overview of changes	Status	Next Step(s)	Date
TBA	IT Interface – System Overview and requirements	The proposed updates are to ensure consistency with the proposed Amending Rules under the Rule Change Proposal: Competitive Balancing and Load Following Market (RC_2011_10)	<ul style="list-style-type: none"> The proposed revised Market Procedure is currently out for informal consultation amongst the IMO Procedures Working Group. 	<ul style="list-style-type: none"> Informal consultation period closes. 	6 June 2012
System Management Procedure Change Proposals					
PPCL0021	Replaced PSOPs: Competitive Balancing and Load Following Market 1	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> Amend the Dispatch and Communications and Control Systems PSOP's to reflect the changes arising from RC_2011_10. 	<ul style="list-style-type: none"> The further consultation period closed on 29 March 2012. System Management is currently preparing the Procedure Change Report. 	<ul style="list-style-type: none"> Publish Procedure Change Report. 	TBA
PPCL0022	Replaced PSOPs: Competitive Balancing and Load Following Market 2	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> Amend the Ancillary Services and Power System Security PSOP's to reflect the changes arising from RC_2011_10. 	<ul style="list-style-type: none"> The further consultation period closed on 29 March 2012. System Management is currently preparing the Procedure Change Report. 	<ul style="list-style-type: none"> Publish Procedure Change Report. 	TBA
PPCL0023	Replaced PSOPs: Competitive Balancing and Load Following Market 3	<p>The proposed updates are to:</p> <ul style="list-style-type: none"> Amend the Commissioning and Testing, Facility Outages and Monitoring and Reporting PSOP's to reflect the changes arising from RC_2011_10. 	<ul style="list-style-type: none"> The IMO has published its decision and the replacement PSOPs are awaiting commencement. 	<ul style="list-style-type: none"> Commencement. 	Balancing Market Commencement Day



Agenda Item 8a: Working Group Overview

1. WORKING GROUP OVERVIEW

Working Group (WG)	Status	Date commenced	Date concluded	Latest meeting date	Next scheduled meeting date
Reserve Capacity 2007 WG	Closed	Feb 07	May 07	-	-
NTDL WG	Closed	Oct 07	Nov 07	-	-
Energy Limits WG	Closed	Dec 07	Jan 08	-	-
DSM WG	Closed	Jan 08	May 08	-	-
SRC WG	Closed	Jun 08	Sept 08	-	-
Reserve Capacity 2008/09 WG	Closed	Dec 08	Jan 09	-	-
Renewable Energy Generation WG	Closed	Mar 08	Nov 10	-	-
Maximum Reserve Capacity Price WG	Closed	May 10	Jun 11	-	-
System Management Procedures WG	Active	Jul 07	Ongoing	12/12/2011	TBA
IMO Procedures WG	Active	Dec 07	Ongoing	26/05/2011	TBA
Rules Development Implementation WG	Active	Aug 10	Ongoing	22/03/2012	07/06/2012
Reserve Capacity Mechanism WG	Active	15/02/2012	-	29/05/2012	12/07/2012



Independent Market Operator

Concept Paper

**2011 Outage Planning Review
Recommendations – Information
Transparency**

Date: 6 June 2012

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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 (2011 Outage Planning Review) as described in the Market Rules and supported by the Power System Operation Procedure: Facility Outages (PSOP).

The review, completed by PA Consulting in October 2011, assessed the performance of the outage planning process since Market Start against the WEM Objectives (Market Objectives). The review included an assessment of the need for, and 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 and in-line with the recommendations of PA Consulting, the IMO are now considering reforms to the outage planning process, including greater transparency of outage planning information to the market. The IMO intends to undertake a phased approach to implementing reforms to the outage planning process.

The first set of reforms, and the focus of this concept paper, will introduce new standards for the disclosure of information relating to outages, 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.

The second phase of the reform process, to be undertaken by the IMO and at a later stage, will concern technical changes aimed at bringing greater flexibility to Market Participants in outage planning. It is anticipated that phase two will be progressed by the IMO once changes to information disclosure have been implemented.

The ordering of the changes reflects the IMO's position that increased information transparency in the WEM will deliver significant benefits and is therefore of a higher priority than implementing the technical changes recommended by PA Consulting, which while anticipated to improve the process from the status quo will not be as broad reaching as those resulting from greater transparency but rather fine tune the existing processes. In addition, it is also possible that the ability to assess the need for the proposed technical changes will improve once there is increased transparency on outage planning information in the WEM.

Consequently, this concept paper will focus on the issues relating to information disclosure. In particular, this concept paper is intended to:

- provide background information and context on the 2011 Outage Planning Review, including discussion of the recommendations for improving information transparency arising from the review; and
- outline possible reforms in response to the to the 2011 Outage Planning Review recommendations in the area of information transparency.

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

It is anticipated that this concept paper will provide stakeholders with the opportunity to engage in the reforms via the Market Advisory Committee (MAC) process by providing a discussion framework and inviting comment on pertinent issues.

1.2 Information transparency and the Market Objectives

The objectives of the WEM 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 the 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 considers that information transparency is an integral part of achieving all the Market Objectives. In particular, the IMO considers improved transparency around outage planning will result in improved economic efficiency in electricity generation (Market Objective (a)), and improved efficiency in price outcomes for consumers (Market Objective (d)).

By improving outage planning information transparency, existing and potential generators will be able to build a more complete picture, and have a better understanding, of the generation sector in WA. In turn, this should lead to a more efficient allocation of resources (including investment in new capacity) and improved generation operations, resulting in improved efficiency in consumer price outcomes. In particular, by providing for transparency of outages in real time Market Generators will be able to appropriately react to market signals. For example advanced transparency of a Planned Outage of a large base load generator during the shoulder periods will provide signals to other base load and mid-merit generators to re-organise planned maintenance for over the same time period and bid into the STEM and Balancing Market during the impacted Trading Intervals. Greater transparency of outages will allow the market to self sort and determine the appropriate mix of generation providing energy thereby promoting efficient pricing outcomes while ensure system reliability is maintained.

Additionally the proposed reforms to improve the transparency of outage planning information will continue to add to part of a larger and ongoing work program by the IMO to increase the transparency and availability of market related information in the WEM.

1.3 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 summarises the 2011 Outage Planning Review findings and recommendations
- section 4 discusses the proposed reforms to the publication of outage planning information; and
- section 5 outlines the next steps in the 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 minimize the frequency and length of outages in the system. Consequently, to ensure the WEM is able to operate effectively given the significant impact that outages can have on energy market outcomes, 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, clauses 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 intended by clauses 3.18 and 3.19 of the Market Rules.

In turn, 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 up to three years in advance of the proposed outage to System Management.

The second component is the outage approval process and is the short-term component. The outage approval process requires Market Participants to apply to System Management to approve previously scheduled outages or undertake unscheduled (opportunistic) maintenance (outages).

Further details of the outage planning and approvals process are outlined in the 2011 Outage Planning Review – Final Report², the Market Rules³ and the PSOP⁴.

3. 2011 OUTAGE PLANNING PROCESS REVIEW

3.1 2011 Review

Under the Market Rules, the IMO in conjunction with System Management is required to complete a review of the outage planning processes against the Market Objectives at least once every five year period from the commencement of the energy market. It is also stipulated that the review must include a technical study of the effectiveness of the criteria in clause 3.18.11 and a broad consultation with Rule Participants.⁵

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 Market Objectives, analysis of available relevant data, and the subsequent development of recommendations. PA Consulting undertook extensive stakeholder consultations throughout the review process, including the convening of a public workshop.

PA Consulting delivered the Final Report to the IMO in October 2011.⁶

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 Wholesale Electricity Market Rules, clause 3.18.18

⁶ Available at <http://www.imowa.com.au/5yearoutageplanningreview>

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.⁷

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.⁸ 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 can be grouped into four areas:

- improved disclosure of outage information;
- generator and network outage planning interaction;
- outage approval timelines; and
- consideration of the Reserve Margin.

As previously noted, PA Consulting’s recommendations for improved disclosure of outage information are the focus of this concept paper. Accordingly, these recommendations will be discussed in more detail. As consideration of the recommendations in the remaining three areas will be addressed by the IMO at a later date, no detailed discussion of these recommendations is provided for in this concept paper.

Increasing outage planning information transparency is a more significant reform than implementing the technical changes PA Consulting recommended to ‘fine tune’ the outage planning process. The IMO considers the benefits that will likely result from the changes to information transparency would be greater, and more far reaching, than the benefits of minor technical changes. Further, changes to outage planning information transparency may allow for improved assessment of the need for the recommended technical changes.

3.2.1 Recommendations on outage information disclosure

In conducting its review of the current outage planning processes in the WEM, an important focus area for PA Consulting was information disclosure. In the Final Report, PA Consulting noted that *“the disclosure of information in a timely and accessible manner can go a long way in effecting the efficient allocation of outages over time.”*⁹ In particular, information disclosure can help generators to ‘self-sort’ their Planned Outages in such a way that system reliability is maintained. This subsequently reduces the pressure on System Management to resolve or facilitate conflicts in, and exercise discretion when managing, outage requests.

However, the review did recognise that System Management does already disclose certain information about Planned Outages, even in the absence of any requirement in the Market Rules or the PSOP in some circumstances. Under current frameworks:

- all Market Participants can see the schedules of all Planned Outages through the Market Participant Interface (consistent with clause 10.6.1(b));
- Market Participants can also view ex-post outages for just their Facilities; and

⁷ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 13

⁸ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 13

⁹ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 44

- as part of the Short Term PASA website reporting, System Management publishes transmission network and generation outage data that is publicly available.¹⁰

Noting the information that System Management already make available, PA Consulting recommended that amendments should be made to the Market Rules and the PSOP on the presumption that all information related to outages and outage planning should be made public. Specifically, any changes should consider:

- the type of information to be made available, including:
 - 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; and
 - information on major network outages, including if any generating facilities are unable to generate due to the network outage;
- the frequency with which the information is refreshed or updated; and
- the form and mode by which the information is made available.¹¹

3.2.2 *Other recommendations on outage planning*

In addition to making recommendations in the area of outage planning information disclosure, PA Consulting made a number of recommendations in relation to other elements of the WEM outage planning process. Broadly, these recommendations focused on the following three areas:

- generation 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;¹²
- 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;¹³ and
- 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.¹⁴

Noting the IMO's approach to implementation of the recommendations arising from the 2011 Outage Planning Review, PA Consulting's other recommendations are not discussed in detail in this paper. Detailed discussion of these recommendations will occur when the IMO considers the remainder of the recommendations.

Nonetheless, for completeness and stakeholder information, the IMO have incorporated as Appendix 1 a table highlighting all the recommendations made by PA Consulting in the 2011 Outage Planning Review, with accompanying objectives for each of the recommendations.

¹⁰ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 45

¹¹ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 50

¹² PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 33

¹³ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 42-43

¹⁴ PA Consulting, 2011, Independent Market Operator – Five Year Outage Planning Review – Final Report, p. 26-27

4 CHANGES TO INFORMATION TRANSPARENCY IN THE WEM

4.1 *What is the IMO proposing?*

A central feature of the IMO's on-going market development strategy is to increase transparency, and provide Market Participants with more information. The IMO recognises that, at times, a lack of transparency may have resulted in sub-optimal outcomes for Market Participants and energy consumers.

At a high level (and discussed in more detail in section 4.2, below), improved information and transparency in electricity markets can result in:

- improved confidence in the market;
- better (more efficient) decision making and risk management;
- reduced opportunities to manipulate the market;
- reduced barriers to entry; and
- enhanced competition.

Reforms to the publication of outage planning information are an important element of meeting the Market Objectives. The IMO agrees with, and accepts, PA Consulting's recommendations in the area of outage information.

Building on the 2011 Outage Planning Review recommendations, the key issues in considering changes to information disclosure are:

- the type of information;
- frequency of information publications;
- the form and mode of publication; and
- who will have access to information.

Each of these issues are discussed in turn, below.

4.1.1 *Type of information*

For confirmed outages (generally Planned Outages and ex-ante logged Forced Outages and Consequential Outages), the IMO considers that the following types of information should be published:

- the facility or item of equipment on outage, including the specific unit where it is a generator with multiple units, and transmission and distribution lines and assets where relevant;
- outage type (planned, forced, consequential)
- the reasons for the outage;
- the quantity of capacity on outage;
- the time period of the outage (expressed in terms of the number of Trading Intervals applied for);
- outage status (accepted, approved, rejected);
- the time and date when the application was lodged with System Management; and

- the time and date when approval was granted by System Management.

For unconfirmed outages (generally ex-post Forced Outages and Consequential Outages), the IMO is proposing to publish:

- the facility or item of equipment on outage;
- the cause of the outage;
- outage type (acknowledging that Forced Outages and Consequential Outages will not be confirmed under 15 Business Days after the event);
- for generators, the quantity of the outage;
- for equipment, de-rating information; and
- start time and date, and expected end time and date of the outage.

The IMO notes that the information proposed to be published for both confirmed and unconfirmed outages is information that Market Participants are already required to provide under clauses 3.18 and 3.21 (respectively) of the Market Rules.

4.1.2 Frequency of publication

The IMO is proposing that this information for all outages be published as soon as it becomes available to System Management. This will allow for relevant updates to outages to be provided through to industry in a timely fashion, thereby enabling faster responses by Market Participants.

4.1.3 Form and mode of publication

In order for the changes to outage information publication to be as effective as possible and minimise regulatory burden on Market Participants, it is important that the information will be published in a standardised and easy to follow format.

To provide stakeholders with a better understanding of the way in which the information types outlined above will be published, the IMO, in conjunction with Power System Consultants, have prepared a preliminary user interface specification.

The user interface will provide graphical representations of outage information for both facility and equipment outages, presented in a three column layout.

The left column will contain the 'search' section and will allow the user to specify a given Trading date to use a starting point for the display of the outage timeline.

The middle column will contain the outage timeline, reflecting the relevant time period (daily, monthly or yearly), and will list the participant name, facility name and fuel type for each outage, as well as specifying the outage type (via colour coding).

The right column will contain the outage detail information (as applicable), capturing:

- participant name;
- facility name;
- start and end trading interval;

- the reason for the outage (planned, forced, consequential) and if the outage is planned, the sub-reason is included (day ahead opportunistic maintenance, on the day opportunistic maintenance);
- description of the reason for the outage;
- the status of the outage (accepted, approved, rejected, cancelled);
- the time and date the outage was approved by System Management;
- outage contingency plans;
- the date the outage was lodged in the System Management IT system by the Market Participant; and
- a 'last update' field, showing the date the outage was last transferred to the IMO from System Management.

The user interface will be interactive, with the user able to specify the time frame for the outage date, the scale of the timeline (yearly, monthly, daily), sort the representation of outages in the timeline, a grouping function, and also provide for display 'filters' to show (or remove) cancelled and rejected outages.

To allow readers to best understand the IMO's proposed user interface a copy of the current draft version of this document, including a graphical representation of the interface, has been provided as Appendix 2 below.

4.1.4 Access to information

Given the broad market value of information on outage planning and not only current Market Participants the IMO is not proposing that access to the information be restricted. That is, the IMO intends that the information will be made publically available.

4.2 Information Transparency – Costs and Benefits

Information has a critical role to play in the effective and efficient functioning of competitive electricity markets, with market information serving an important role for the System Operator, Market Participants and regulators.

For current and potential Market Participants, improved access to market information can assist with, or improve:

- interpreting and understanding past events;
- predicting the possible evolution of supply and demand conditions in the market; and
- business planning and development.

For market regulators, improved transparency in information can result in:

- improved development and amendment of market frameworks and rules;
- better investment and capacity planning and management; and
- improved monitoring of market functioning, including signs of anti-competitive behaviour, abuses of market power or market failures.

In considering the merits of changing information disclosure in the market, it is important to consider both the potential benefits and costs of information transparency.

From an electricity market perspective, there are broadly four main ways in which the publication of information is beneficial to market functioning.

- **Publication of information can reduce risk and uncertainty.** Market Participants need information about the determinants and movements of prices in order to operate in an efficient manner. Low or diminished understanding of this information can result in increased risk and uncertainty, and increased costs for Market Participants to managing the risk and uncertainty.¹⁵
- **Improved information transparency can remove information asymmetries.** Uneven (asymmetric) access to relevant market information can result in competitive advantages accruing to some Market Participants (placing others at a competitive disadvantage), facilitate market manipulation, and discourage participation in the market. Allowing equal (even) access to information should result in a more level playing field, improving market participation (removing barriers to entry) and liquidity, and market predictability. This should ultimately lead to market prices being lower.¹⁶
- **Information release can result in improved facilitation of better market monitoring.** Noting that there is already some outage planning information transparency afforded to market regulators (such as the IMO), improved availability of information to both market regulators and third parties can assist in more effective monitoring of use of market power and other actions.¹⁷
- **Information transparency is also important in ensuring system security in electricity markets.** Generator information is an important element of a well functioning wholesale electricity market. Access to this information can lead to improved understanding by all relevant market stakeholders of system supply and demand, resulting in appropriate investment and planning decisions being made to ensure adequate system security.

The IMO has previously undertaken some consideration of the issue of information disclosure and electricity markets. In 2010, the IMO engaged consulting firm LECG to review the regulatory approaches to information disclosure adopted in electricity markets in Australia and overseas. The finding of this project supported the view that well-informed participants make better trades than those less informed, and that information disclosure will therefore lead towards competitive behaviour.¹⁸ In turn, improvements in competitive behaviour should lead to more efficient pricing outcomes and, ultimately, benefits for end-use consumers.

However, improving information transparency is not without potential costs. The IMO has identified three areas of potential costs that may be imposed by enhanced information transparency.

- **Improved transparency in information can potentially result in reduced incentives for innovation.** For a business to innovate (technically, operationally, or administratively) some types of information may need to remain private in order that the firm may earn an adequate return on that investment in innovation. Where such information is disclosed to the market, the incentive to innovate may be reduced.

¹⁵ Hooper, L, Twomey, P & Newbery, D, 2009, *Transparency and confidentiality in competitive electricity markets*, p. 6

¹⁶ Hooper, L, Twomey, P & Newbery, D, 2009, *Transparency and confidentiality in competitive electricity markets*, p. 6

¹⁷ Hooper, L, Twomey, P & Newbery, D, 2009, *Transparency and confidentiality in competitive electricity markets*, p. 6

¹⁸ LECG, 2010, *Report for the IMO – Rationalisation of the confidentiality status classes in the WEM*, p. 3

Whilst the IMO recognises that disclosure of commercially sensitive information could potentially impair effective market functioning, given the particular nature of the information being discussed in this instance, it considers publication is not commercially sensitive and therefore likely to reduce innovation. Exposure to public scrutiny could in fact result in increased innovation.

- ***The publication of market information may potentially involve information system costs to allow for publication and disclosure.*** The magnitude of these costs will be determined by a number of factors, including the complexity of the information to be published, the format of the published information, the frequency of publication, and the number of information components.

The IMO have held preliminary discussions with System Management on the implications of changed disclosure arrangements for outage planning on System Management information systems. These preliminary discussions suggest there would be some increase in fixed and ongoing (operational) costs of ensuring the information systems are able to facilitate disclosure of outage planning information. The IMO notes that the information being currently considered to be published by the IMO relates to existing information streams provided for under the Market Rules. System Management is currently further investigating the likely costs associated with the proposed reforms. Whilst the IMO recognises these would be tangible costs faced by System Management, at this point in time, the IMO considers the benefits associated with greater information transparency will outweigh the costs.

- ***Information transparency can result in collusion between Market Participants, particularly in markets where there are only a few dominant firms (and no medium or smaller competitors).*** There is the potential for such behaviour particularly in electricity markets, where the cost of entry is high, the product is homogenous, firm cost structures and technology are well known, and demand is inelastic.¹⁹

This potential cost is balanced by the benefit of information disclosure leading to reduced informational asymmetries and barriers to entry, as discussed above. In addition, the IMO also considers that in the case of the WEM, competitive pressures in the energy market are sufficiently strong to mitigate the risk of Market Participants colluding, particularly in the area of generator outage planning.

Noting the competing sources of benefits and costs arising from information disclosure, and in light of the reasons noted above, the IMO considers, on balance, the benefits of improving disclosure of outage planning information in the WEM are likely to outweigh the costs. Whilst there will be some costs expected to be incurred as a result of the changes, the IMO considers that these will be outweighed by the benefits which will accrue to Market Participants, market oversight bodies and consumers.

Further, the IMO also note that during the 2011 Outage Planning Review, there was industry support for reforms in this area. Given this, and its views on the likely costs and benefits, the IMO considers reforms in the area of outage planning information transparency in the WEM are both justified and necessary.

¹⁹ Hooper, L, Twomey, P & Newbery, D, 2009, *Transparency and confidentiality in competitive electricity markets*, p. 7

5 NEXT STEPS

As noted earlier in this document, the purpose of this concept paper is to inform the MAC of the proposed reforms to the outage planning process to be implemented by the IMO (via rule changes as necessary).

The IMO recommends that the MAC:

- Discuss the proposed reforms around information transparency for outages;
- Note that the IMO will:
 - Continue working with System Management to determine the required IT changes and associated costs; and
 - Prepare a Pre Rule Change Proposal to be presented to the MAC in July/August 2012; and
- Note that reforms to other aspects of the outage planning process as recommended by PA Consulting will be considered by the IMO following the progression of this first phase of work.

APPENDIX 1: TABLE OF 2011 REVIEW RECOMMENDATIONS

The following table provides a summary of the PA Consulting recommendations made in the 2011 Outage Planning Review.

Recommendation	Outage Planning Review Final Report - Recommendations	Intended outcomes/objective of recommendation
Reserve Margin		
1 (Section 3.5)	“It is recommended that System Management (SM) consider expanding the Power System Operation Procedure (PSOP) to include how fuel composition might factor into its considerations in the outage approval process”	<ul style="list-style-type: none"> To improve transparency and confidence
Generation and network outage planning and interaction		
2 (Section 4.3)	SM should consider changes to Market Rule (MR) 3.18.2(c) 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.”	<ul style="list-style-type: none"> Would allow SM to manage only the transmission network equipment that would have an impact on the output of a generating facility during a planned outage (ie. more efficient allocation of SM resources).
3 (Section 4.3)	“Electricity Transfer Access Agreements (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.”	<ul style="list-style-type: none"> 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
4 (Section 4.3)	<p>“IMO should, in conjunction with SM and Market Participants, develop changes to the MR establishing SM’s obligations with respect to the disclosure of information on planned outages”</p> <p>SM should develop protocols within the PSOP which set out how the new obligations are to be discharged. The protocols should encompass the following:</p> <ul style="list-style-type: none"> The type of information to be made available 	<ul style="list-style-type: none"> Help parties schedule outages in a way that minimises instances of conflict

	<ul style="list-style-type: none"> - The frequency with which the information is refreshed; and - The form and mode by which this information is made available. 	
Outage approval timelines and constraints		
5 (Section 5.6.1)	SM should consider amendments to the PSOP and, if necessary, the MR 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.	<ul style="list-style-type: none"> • 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 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.
6 (Section 5.6.1)	The IMO should consider amending MR3.19.2(b) to the effect that on-the-day Opportunistic Maintenance may be requested any time on the Trading Day or after 10am on the Scheduling Day.	<ul style="list-style-type: none"> • Will improve the interaction of day-ahead and on-the-day opportunistic maintenance outage timelines. • Improve market participant maintenance planning and certainty.
7 (Section 5.6.2)	<p>SM should develop for consideration by the IMO proposed changes to Section 13.5, 14.7 and 15.5 of the PSOP to the effect that the written declaration pertain to the period of the outage, rather than a period prior to the outage commencing.</p> <p>The requirement to provide a written declaration should be mandatory.</p> <p>All such declarations should be published by SM.</p>	<ul style="list-style-type: none"> • 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 if could apply for opportunistic maintenance and extend the outage, where necessary.
8 (Section 5.6.3)	The IMO should propose a rewording of MR 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.	<ul style="list-style-type: none"> • Would allow maintenance that is opportunistic and short term to span two days (eg. from 10am to 10am). • Would better achieve the intent of the MR to ensure that requests for Opportunistic

		Maintenance are in fact opportunistic in nature.
Information Disclosure		
9 (Section 6.5)	<p>The IMO, in conjunction with SM and Market Participants, should develop a change to the MR establishing SM’s obligations with respect to the disclosure of information on planned outages.</p> <p>Corresponding protocols within the PSOP: Facility Outages should be made, setting out how the new obligations are to be discharged by SM. The MR and the protocols should anticipate and encompass the following:</p> <ul style="list-style-type: none"> • The type of information to be made available; • The frequency with which the information is refreshed; and • The form and mode by which the information is made available. <p>The type of information should include:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>The form and mode of publication is likely to be web-based, probably using the existing SMITTS system. Information should be readily downloadable, with numerical and graphical representations.</p>	<ul style="list-style-type: none"> • 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 SM to resolve/facilitate conflicts in outage requests • Would improve transparency and confidence in outage planning processes. • Would bring WEM in line with global norms

APPENDIX 2: DRAFT USER INTERFACE

1 USER INTERFACE

1.1 Facility Outage Timeline

1.1.1 General Layout

The Outage Timeline page uses a three column layout, as seen in Figure 1 below. A left column of fixed-width contains the Search section. The right column of fixed width contains the Outage Detail section. The middle column is of variable-width, utilising the remaining available white space, and is used for the Outage Timeline. The location of the various controls is also indicated.

1.1.2 Search Function

The Search function allows the user to specify a given Trading date, as seen in Figure 1, to use as starting point for the display of the Outage Timeline. The following section describes the search options available to the user.

1.1.2.1 Output

The Search options include choosing either to Display the search results on the given page, or to Download the results to a local file. This selection is made via radio controls, as described in Table 2. The Display option will be chosen by default upon loading the Outage page.

1.1.2.2 Outage Date

The Search options include specifying the Outage Date via the Date form text entry field, as described in Table 2. Upon clicking on the calendar icon, to the right of the text fields, a separate user friendly date picker interface is displayed on the top layer, allowing the user to select a date. Manual keyboard entry of dates in the text field is also allowed. To take into account the possibility of erroneous manual entries, inline field validation will be performed. Users can select both future and historic dates with no system limitations. Historic data availability however will be based on WEMS data retention policies.

1.1.2.3 Scale

The Search options include choosing the scale, and therefore date range, of the Outage Timeline. This selection is made via radio controls, as described in Table 2. The Monthly option will be chosen by default upon loading the Outage page. The ranges are described in Table 1 and may require adjustment based on system performance or participant requirements.

Table 1

SCALE	Range Visible	Historic Data Returned	Future Data Returned
Daily	1 ½ days	2 days	3 days
Monthly	1 ½ months	1 month	2 months
Yearly	1 year	6 months	2 years

1.1.2.4 Sort By

The Search options include selecting the sort order of the Outage Timeline. This selection is made via drop down controls, as described in Table 2. The Fuel Type option will be chosen by default upon loading the Outage page.

1.1.2.5 Group By

The Search options include selecting the grouping of the Facilities in the Outage Timeline. This selection is made via drop down controls, as described in Table 2. The Participant option will be chosen by default upon loading the Outage page.

1.1.2.6 Display Cancelled/Rejected

The Search options include changing the visibility of Cancelled and/or Rejected Outages of the Facilities in the Outage Timeline. This selection is made via check box controls, as described in Table 2. No boxes will be checked by default upon loading the Outage page.

1.1.2.7 Submit Button

The Submit button is located on the bottom of the Search options and is required to be clicked before submission of the Search request occurs. Upon clicking the button, the control will appear dimmer to give an indication that the request is in progress. The control will return to its normal state when the request has been completed.

1.1.2.8 Search Query

Parameters supplied by the search form fields will be used to perform a query to the web service, and in turn a resulting data set describing the desired Outage Timeline will be sent to the Outage Timeline display. All Outage information will be retrieved in a single query to the system.

Table 2

Control Name	Description	Control Type	Control Values	Default Value
Output	Requested output for the resulting data set.	Radio Control	Display CSV Download XML Download	Display
Date	Trading Day to be the focus of the Outage Timeline.	Text Field	DD/MM/YYYY	Current Trading Day
Scale	Scale of the Outage Timeline. Scale is centred on selected Trading Date.	Radio Control	<ul style="list-style-type: none"> Yearly – returns 1 1/2 years of data. Monthly – returns 2 months of data. Daily – returns 2 days of data. 	Monthly
Sort By	Sort of Facilities in Outage Timeline	Drop Down Selection	<ul style="list-style-type: none"> Facility Name Participant Name Fuel Type 	Facility Name
Group By	Grouping of Facilities in the Outage Timeline	Drop Down Selection	<ul style="list-style-type: none"> Facility Participant Fuel Type 	Participant Name
Display Cancelled/Rejected	Toggles the display of Cancelled and/or Rejected Outages	Check Box Selections	<ul style="list-style-type: none"> Rejected – will display all Rejected Outages Cancelled – will display all Cancelled Outages 	No boxes checked

1.1.3 Outage Timeline

The Outage Timeline panel displays a simplified Gantt chart of the outages in the market as a whole, for a given trading date range. Each bar represents an Outage with its size

representational of its duration, and colour of its type. The chart is determined by querying all outages for a range selected by the Scale search option. This section is implemented using a charting component containing the data series as specified in Table 3.

If a Facility has more than one outage present in the Timeline range, two outage bars will be displayed in the same row.

Table 3

Data Series	Description	Data Type
Outages	Contains the Outage information for the Outage Timeline corresponding to the chosen trading date range.	Array of Outage start and end times.

1.1.3.1 Panning Capability

The charting component is interactive allowing the user to pan the chart through mouse interactions. This allows the user to explore the full date range of the Scale selected in the Search options.

A region of Panning of the graph will be accessible by using the horizontal and vertical scrollbars located at the edges of the charting element.

1.1.3.2 Bar Selection

The charting component allows the user to click on an Outage bar which will then populate the Outage Details data grid with the corresponding information.

1.1.3.3 Hover Totals

The charting component is interactive allowing the user to determine the total quantity of MW on Outage. When a user hovers their cursor over a time interval (day in Month view, hour in Daily view), the totals display beneath the timeline as a MW total on Outage. This total does not include Outages with a status of Cancelled or Rejected. See Figure 2 below.

1.1.3.4 Legend

A legend will be displayed on the charting component as a reference for the different Outage types. The bars for each of these Outage types will be distinguishable from each other due to the difference in their colour.

1.1.3.5 Bar Pattern

The Outage bars will be patterned based on whether they have been completed. For completed Outages, bars a hashed patterned will be applied. Conversely, for future Outages, bars will be without pattern.

1.1.4 Outage Details

The Outage Details panel displays a tabular view of an Outage when the specified Outage is selected in the Timeline panel. The panel is populated with the latest queried data for the selected Outage at the time of selection. This section is implemented using a component containing the data series as specified in Table 4

Table 4

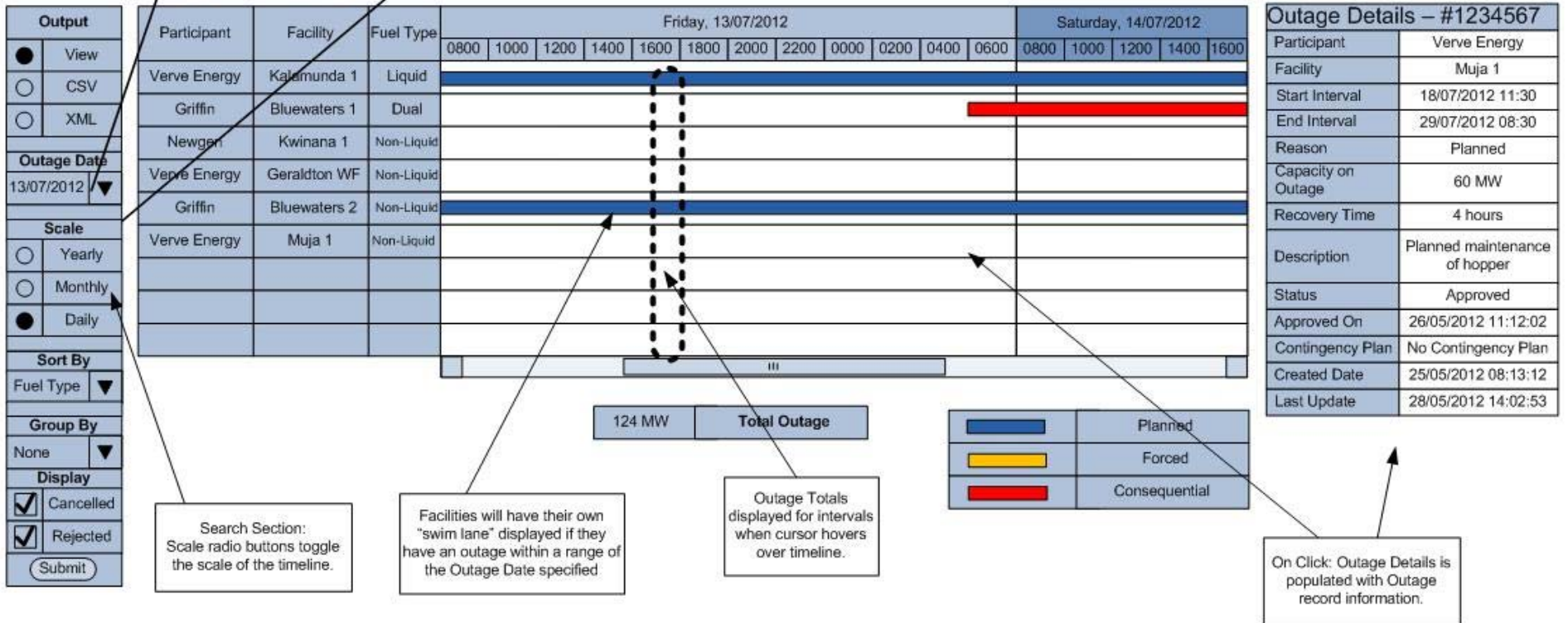
Column	Description	Data Type
Participant	Participant Name	String
Facility	Facility Name	String
Start Interval	Start Interval of Outage. This value will use the Actual Start Interval if available, otherwise the Planned Start	Date (DD/MM/YYYY HH24:MI)

	Interval will be used.	
End Interval	End Interval of Outage This value will use the Actual End Interval if available, otherwise the Planned End Interval will be used.	Date (DD/MM/YYYY HH24:MI)
Reason	Outage Reason (Planned, Forced, Consequential) If Outage is Planned, the sub-reason is also included. (Day Ahead, Opportunistic)	String
Capacity On Outage	Amount of Capacity in MW reduced by Outage	Number
Recovery Time	Recovery Time – Time required to return Facility back from Outage	Number
Description	Description of reason for Outage	String
Status	Outage approval status (Accepted, Approved, Rejected, Cancelled)	String
Approved On	Date/Time of approval by System Management	Date (DD/MM/YYYY HH24:MI)
Contingency Plan	Outage contingency plans	String
Created Date	Date that Outage was lodged into System Managements SMITTS system by Participant.	Date (DD/MM/YYYY HH24:MI)
Last Update	Date that Outage was last transferred to IMO from System Management	Date (DD/MM/YYYY HH24:MI)

Figure 2 – Daily Scale



Outages - Facility



1.2 Equipment Outage Timeline

1.2.1 General Layout

The Equipment Timeline page uses a three column layout, as seen in Figure 4 below. A left column of fixed-width contains the Search section. The right column of fixed width contains the Outage Detail section. The middle column is of variable-width, utilising the remaining available white space, and is used for the Outage Timeline. The location of the various controls is also indicated.

1.2.2 Search Function

The Search function allows the user to specify a given Trading date, as seen in Figure 4Figure 1, to use as starting point for the display of the Outage Timeline. The following section describes the search options available to the user.

1.2.2.1 Output

The Search options include choosing either to Display the search results on the given page, or to Download the results to a local file. This selection is made via radio controls, as described in Table 6. The Display option will be chosen by default upon loading the Outage page.

1.2.2.2 Outage Date

The Search options include specifying the Outage Date via the Date form text entry field, as described in Table 6Table 2. Upon clicking on the calendar icon, to the right of the text fields, a separate user friendly date picker interface is displayed on the top layer, allowing the user to select a date. Manual keyboard entry of dates in the text field is also allowed. To take into account the possibility of erroneous manual entries, inline field validation will be performed. Users can select both future and historic dates with no system limitations. Historic data availability however will be based on WEMS data retention policies.

1.2.2.3 Scale

The Search options include choosing the scale, and therefore date range, of the Outage Timeline. This selection is made via radio controls, as described in Table 5. The Monthly option will be chosen by default upon loading the Outage page. The ranges are described in Table 1 and may require adjustment based on system performance or participant requirements.

Table 5

SCALE	Range Visible	Historic Data Returned	Future Data Returned
Daily	1 ½ days	2 days	3 days
Monthly	1 ½ months	1 month	2 months
Yearly	1 year	6 months	2 years

1.2.2.4 Sort By

The Search options include selecting the sort order of the Outage Timeline. This selection is made via drop down controls, as described in Table 6. The Equipment Name option will be chosen by default upon loading the Outage page.

1.2.2.5 Group By

The Search options include selecting the grouping of the equipment in the Outage Timeline. This selection is made via drop down controls, as described in Table 6. The Equipment Type option will be chosen by default upon loading the Outage page.

1.2.2.6 Display Cancelled

The Search options include changing the visibility of Cancelled Outages of Equipment in the Outage Timeline. This selection is made via check box controls, as described in Table 6. No boxes will be checked by default upon loading the Outage page.

1.2.2.7 Submit Button

The Submit button is located on the bottom of the Search options and is required to be clicked before submission of the Search request occurs. Upon clicking the button, the control will appear dimmer to give an indication that the request is in progress. The control will return to its normal state when the request has been completed.

1.2.2.8 Search Query

Parameters supplied by the search form fields will be used to perform a query to the web service, and in turn a resulting data set describing the desired Outage Timeline will be sent to the Outage Timeline display. All Outage information will be retrieved in a single query to the system.

Table 6

Control Name	Description	Control Type	Control Values	Default Value
Output	Requested output for the resulting data set.	Radio Control	Display CSV Download XML Download	Display
Date	Trading Day to be the focus of the Outage Timeline.	Text Field	DD/MM/YYYY	Current Trading Day
Scale	Scale of the Outage Timeline. Scale is centred on selected Trading Date.	Radio Control	<ul style="list-style-type: none"> Yearly – returns 1 1/2 years of data. Monthly – returns 2 months of data. Daily – returns 2 days of data. 	Monthly
Sort By	Sort of Facilities in Outage Timeline.	Drop Down Selection	<ul style="list-style-type: none"> Equipment Name Equipment Type 	Facility Name
Group By	Grouping of Facilities in the Outage Timeline	Drop Down Selection	<ul style="list-style-type: none"> Equipment Name Equipment Type 	Participant Name
Display Cancelled	Toggles the display of Cancelled Outages	Check Box Selections	<ul style="list-style-type: none"> Cancelled – will display all Cancelled Outages 	Box unchecked

1.2.3 Outage Timeline

The Outage Timeline panel displays a simplified Gantt chart of the outages in the market as a whole, for a given trading date range. Each bar represents an Outage with its size representational of its duration, and colour of its type. The chart is determined by querying all outages for a range selected by the Scale search option. This section is implemented using a charting component containing the data series as specified in Table 7.

If a piece of equipment has more than one outage present in the Timeline range, two outage bars will be displayed in the same row.

Table 7

Data Series	Description	Data Type
Outages	Contains the Outage information for the Outage Timeline corresponding to the chosen trading date range.	Array of Outage start and end times.

1.2.3.1 Panning Capability

The charting component is interactive allowing the user to pan the chart through mouse interactions. This allows the user to explore the full date range of the Scale selected in the Search options.

A region of Panning of the graph will be accessible by using the horizontal and vertical scrollbars located at the edges of the charting element.

1.2.3.2 Bar Selection

The charting component allows the user to click on an Outage bar which will then populate the Outage Details data grid with the corresponding information.

1.2.3.3 Legend

A legend will be displayed on the charting component as a reference for the different Outage types. The bars for each of these Outage types will be distinguishable from each other due to the difference in their colour.

1.2.3.4 Bar Pattern

The Outage bars will be patterned based on whether they have been completed. For completed Outages, bars a hashed patterned will be applied. Conversely, for future Outages, bars will be without pattern.

1.2.4 Outage Details

The Outage Details panel displays a tabular view of an Outage when the specified Outage is selected in the Timeline panel. The panel is populated with the latest queried data for the selected Outage at the time of selection. This section is implemented using a component containing the data series as specified in Table 8

Table 8

Column	Description	Data Type
Owner	Equipment Owner	String
Equipment	Equipment Name	String
Equipment Type	Equipment Type (Circuit, Transformer, Circuit Breaker, Other)	String
Location	Location of equipment (or associated location for circuits)	String
Start Interval	Start Interval of Outage. This value will use the Actual Start Interval if available, otherwise the Planned Start Interval will be used.	Date (DD/MM/YYYY HH24:MI)
End Interval	End Interval of Outage This value will use the Actual End Interval if available, otherwise the Planned End Interval will be used.	Date (DD/MM/YYYY HH24:MI)

Reason	Outage Reason (Planned, Forced)	String
Outage Type	Details of Outage type (Full, Partial)	String
Description	Description of reason for Outage	String
Status	Outage approval status (Accepted, Approved, Cancelled)	String
Approved On	Date/Time of approval by System Management	Date (DD/MM/YYYY HH24:MI)
Contingency Plan	Outage contingency plans	String
Created Date	Date that Outage was logged into System Managements SMITTS.	Date (DD/MM/YYYY HH24:MI)
Last Update	Date that Outage was last transferred to IMO from System Management	Date (DD/MM/YYYY HH24:MI)

DRAFT

2 PROPOSED INTERFACE WITH SYSTEM MANAGEMENT

FACILITY_OUTAGES

Transfer Timing: As soon as possible after new Outage information becomes available.

Description: The table below lists data elements to store Facility Outage information. These Outages include all Facility Outages.

Outage files will transfer updates to Outage records with transferred fields overwriting any previously received values. It is expected that System Management will reflect all changes to Outage information, including ex-post information in these files.

Data Integrity: The IMO will not be performing detailed data validation on the files received by System Management, as it is expected that System Management will perform data integrity checks internally before transferring.

OUTAGE_ID is a unique record specific to an associated RES_ID. There are no restrictions on a Resource having more than one OUTAGE_ID associated with it. Accordingly, overlapping of two Outages for a Resource may occur and will be allowed, as SM will have ensured that the concurrent Outages are valid.

Files transferred containing records with existing OUTAGE_IDs will overwrite previously transferred values.

On rejection of Outage by System Management, or cancellation of Outage by the Participant, the IMO will continue to retain the previously transferred information.

FACILITY_OUTAGES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints
OUTAGE_ID	Unique identifier of each Outage.	NUMBER(15,0)	UK, NN
RES_ID	Unique identifier for the resource.	NUMBER (15,0)	NN
OUTAGE_REASON_FLAG	Outage Reason Flag. Values are: <ul style="list-style-type: none"> • P – Planned; • F – Forced; • C - Consequential 	CHAR(1)	NN
MAINTENANCE_FLAG	Reason for Planned Outage Reason <ul style="list-style-type: none"> • D – Day Ahead • O – Opportunistic Maintenance 	Char(1)	
START_INTERVAL_PLANNED	Starting Interval of the Outage as Planned.	DATE (DD/MM/YYYY HH:MI)	NN
END_INTERVAL_PLANNED	End Interval of the Outage as Planned.	DATE (DD/MM/YYYY HH:MI)	NN
START_INTERVAL_ACTUAL	Actual Starting Interval of the Outage as recorded.	DATE (DD/MM/YYYY HH:MI)	
END_INTERVAL_ACTUAL	Actual End Interval of the Outage as recorded.	DATE (DD/MM/YYYY HH:MI)	
OUTAGE_MW	Outage MW	NUMBER(9,3)	NN
OUTAGE_DESC	Outage Description	VARCHAR2(250)	
APPROVAL	A – Approved P – Accepted (Awaiting Approval) L – Lodged R – Rejected C – Cancelled.	CHAR(1)	NN

XML Data Set Element Name	Description	Data Type	Constraints
APPROVAL_DATE	Date and time of SM approval status change.	DATE (DD/MM/YYYY HH:MI)	
RECOVERY_TIME	Recovery Time in Minutes. (Used In case emergency restoration)	NUMBER(6,0)	
RISK_ASSESSMENT	Risk Assessment	VARCHAR2(250)	
OUTAGE_CONTINGENCY_PLAN	Outage Contingency Plan	VARCHAR2(250)	
CREATION_TIME	Record Creation Date. Timestamp when Outage request is received by System Management from Participant.	DATE (DD/MM/YYYY HH24:MI:SS)	NN
LAST_UPDATE_TIME	Last System Updated Date and Time as it was updated in SMITTS.	DATE (DD/MM/YYYY HH24:MI:SS)	NN

EQUIPMENT_OUTAGES

Transfer Timing: As soon as possible after new Outage information becomes available.

Description: The table below lists data elements to store Equipment Outage information. These Outages include all Outages of Equipment detailed in the Equipment List on the IMO website.

Outage files will transfer updates to Outage records with transferred fields overwriting any previously received values. It is expected that System Management will reflect all changes to Outage information, including ex-post information in these files.

Data Integrity: The IMO will not be performing detailed data validation on the files received by System Management, as it is expected that System Management will perform data integrity checks internally before transferring.

OUTAGE_ID is a unique record specific to an associated EQUIP_ID. There are no restrictions on an Equipment item having more than one OUTAGE_ID associated with it. Accordingly, overlapping of two Outages for an Equipment item may occur and will be allowed, as SM will have ensured that the concurrent Outages are valid.

Files transferred containing records with existing OUTAGE_IDs will overwrite previously transferred values.

On rejection or cancellation of Outage by System Management, or cancellation of Outage by a Participant, the IMO will continue to retain the previously transferred information.

EQUIPMENT_OUTAGES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints
OUTAGE_ID	Unique identifier of each Outage.	NUMBER(15,0)	UK, NN
EQUIP_ID	Unique identifier for the Equipment item.	NUMBER(15,0)	NN
EQUIP_NAME	Equipment Name	VARCHAR2(32)	NN
EQUIP_TYPE	Equipment Type: C – Circuit T – Transformer B – Circuit Breaker O – Other	CHAR(1)	NN

XML Data Set Element Name	Description	Data Type	Constraints
OUTAGE_REASON_FLAG	Outage Reason Flag. Values are: <ul style="list-style-type: none"> P – Planned; F – Forced; 	CHAR(1)	NN
START_INTERVAL_PLANNED	Starting Interval of the Outage as Planned.	DATE (DD/MM/YYYY HH:MI)	NN
END_INTERVAL_PLANNED	End Interval of the Outage as Planned.	DATE (DD/MM/YYYY HH:MI)	NN
START_INTERVAL_ACTUAL	Actual Starting Interval of the Outage as recorded.	DATE (DD/MM/YYYY HH:MI)	
END_INTERVAL_ACTUAL	Actual End Interval of the Outage as recorded.	DATE (DD/MM/YYYY HH:MI)	
OUTAGE_TYPE	Details of Outage type: <ul style="list-style-type: none"> F – Full P – Partial 	CHAR(1)	NN
OUTAGE_DESC	Outage Description	VARCHAR2(250)	
APPROVAL	A – Approved P – Accepted (Awaiting Approval) L – Lodged C – Cancelled	CHAR(1)	NN
APPROVAL_DATE	Date and time of SM approval status change.	DATE (DD/MM/YYYY HH:MI)	
OUTAGE_CONTINGENCY_PLAN	Outage Contingency Plan	VARCHAR2(250)	
CREATION_TIME	Record Creation Date. Timestamp when Outage request is logged by System Management	DATE (DD/MM/YYYY HH24:MI:SS)	NN
LAST_UPDATE_TIME	Last System Updated Date and Time as it was updated in SMITTS.	DATE (DD/MM/YYYY HH24:MI:SS)	NN