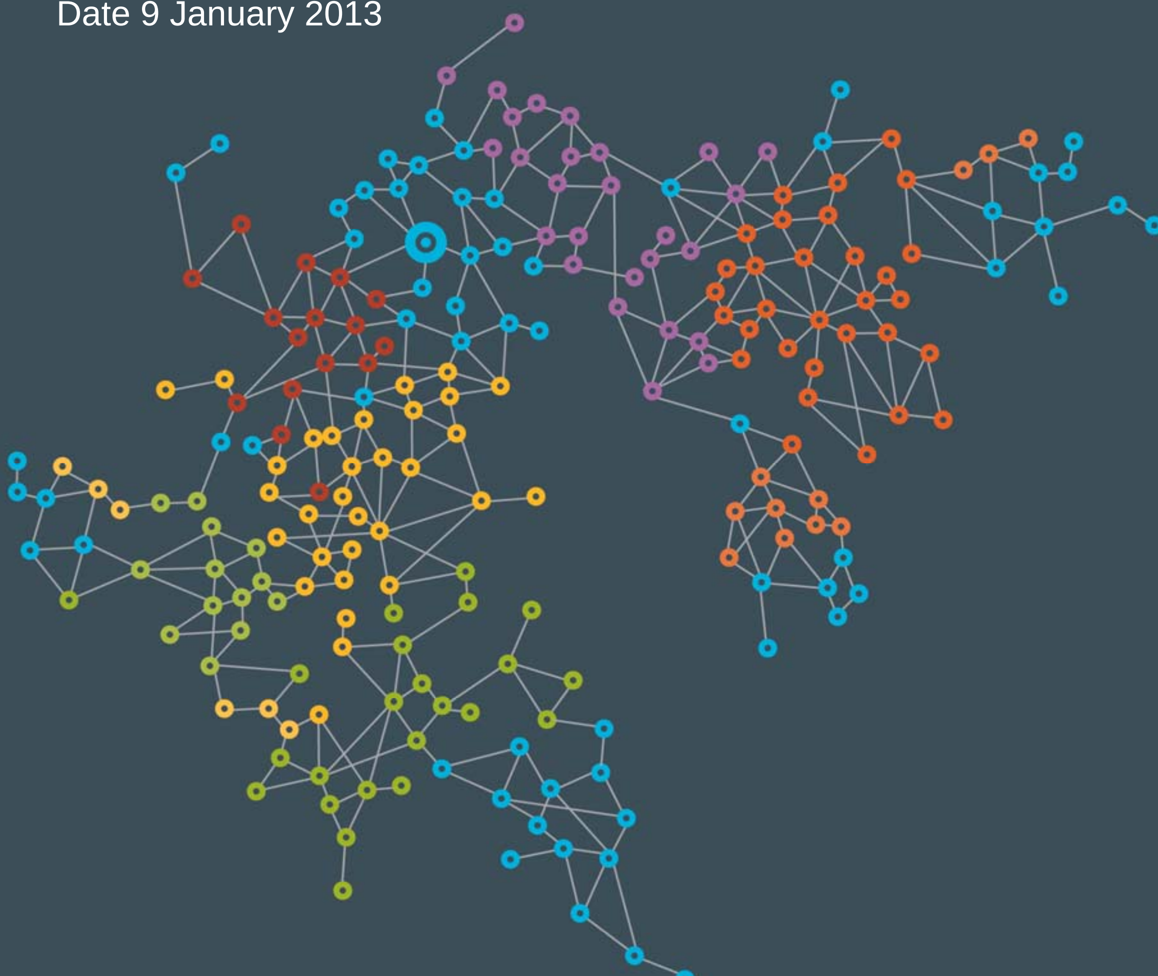
imo
INDEPENDENT
MARKET
OPERATOR

Final Rule Change Report
Title: Constrained On/Off Compensation for Non-Scheduled Generators

RC_2012_19

Fast Track Rule Change Process

Date 9 January 2013



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Proposed amendments

This Rule Change Proposal seeks to amend a manifest error in the Market Rules, which causes the allocation of spurious Constrained On Compensation and Constrained Off Compensation to a Non-Scheduled Generator due to discrepancies between the MWh interval meter readings for the Facility and their SCADA equivalents.

Consultation

The IMO presented a Pre Rule Change Proposal to the MAC at its 14 November 2012 meeting. MAC members agreed that the Rule Change Proposal sought to correct a manifest error and should be progressed using the Fast Track Rule Change process.

The Rule Change Proposal was formally submitted on 16 November 2012 and the consultation period was held between 19 November 2012 and 7 December 2012. On 5 December 2012 the IMO published an addendum to the Rule Change Notice providing an estimate of the IMO's implementation costs for the proposal.

The IMO received submissions from Alinta Energy, APA Group, Community Electricity, Perth Energy, Synergy and Verve Energy during the consultation period. System Management requested to be consulted but did not provide a submission. All the submissions received supported the proposed amendments.

In their submissions, Alinta Energy and Verve Energy recommended that further changes relating to the calculation of Theoretical Energy Schedule (TES) quantities be progressed by the IMO as a high priority. Alinta Energy and Verve Energy also raised concerns about the decision making process applied by the IMO in choosing to amend the Settlement Tolerances of two of the affected Non-Scheduled Generators to prevent the allocation of spurious Constrained On/Off Compensation for those Facilities.

Assessment against Wholesale Market Objectives

The IMO considers that the proposed amendments better achieve Wholesale Market Objectives (b) and (c) and are consistent with the remaining Wholesale Market Objectives.

Practicality and Cost of Implementation

The proposed amendments will require changes to the IMO's IT systems, at an estimated cost of approximately $14,500 AUD. No other costs have been identified with this Rule Change Proposal and no issues have been identified with the practicality of implementation.

The IMO's Decision

The IMO's decision is to accept the Rule Change Proposal.

Next Steps

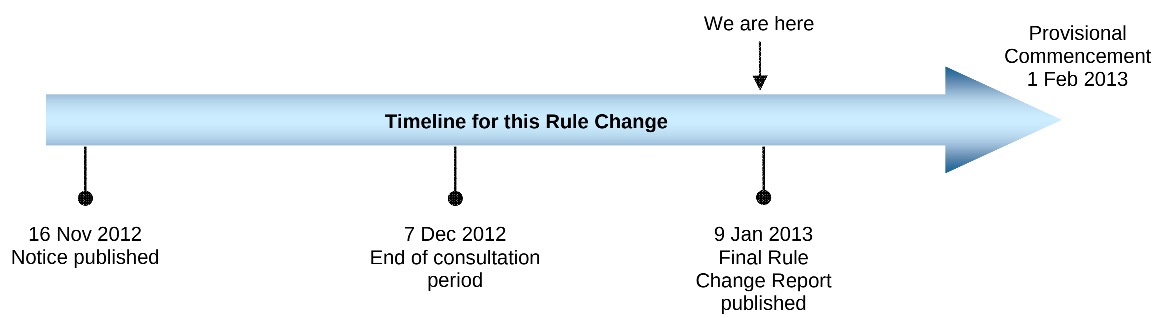
The Amending Rules will provisionally commence at **8.00 AM** on **1 February 2013.**

1. Rule Change Process and Timetable

On 16 November 2012 the IMO submitted a Rule Change Proposal regarding amendments to clauses 6.16A.2 and 6.17.3A of the Wholesale Electricity Market Rules (Market Rules).

This proposal is being processed using the Fast Track Rule Change Process, described in section 2.6 of the Market Rules. In accordance with clause 2.5.10 of the Market Rules, the IMO decided to extend the timeframe for the preparation of the Final Rule Change Report. Further details of the extensions are available on the Market Web Site.

The key dates in processing this Rule Change Proposal, as amended in the Extension Notices, are:



All documents related to this Rule Change Proposal can be found on the Market Web Site: http://www.imowa.com.au/RC_2012_19.

2. Proposed Amendments

2.1. The Rule Change Proposal

Background

Under the new Balancing Market arrangements, if a Balancing Facility is dispatched "out of merit" (i.e. not in accordance with the Balancing Merit Order (BMO)), then subject to certain exceptions it is entitled to receive a payment of Constrained On Compensation or Constrained Off Compensation. Constrained On Compensation is paid to ensure that a Market Generator receives at least its bid price for any energy it generates, while Constrained Off Compensation is 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.

To determine the amount of compensation required, for each Balancing Facility and Trading Interval the IMO calculates a Minimum Theoretical Energy Schedule (Minimum TES) and a Maximum Theoretical Energy Schedule (Maximum TES), which together define a range of MWh output for which the Balancing Price is considered to provide appropriate compensation. Again subject to various exceptions, if the Facility's actual output falls outside this range by more than the applicable Settlement Tolerance, the Facility is paid either Constrained On Compensation (for output in excess of the Maximum TES) or Constrained Off Compensation (for shortfalls in output compared with the Minimum TES) as applicable.

For a Non-Scheduled Generator, the Maximum TES calculation varies depending on how the Loss Factor Adjusted price offered in the Facility's Balancing Submission (NSG Price) compares with the Balancing Price.

- If the NSG Price is less than or equal to the Balancing Price, then the relevant Market Generator has agreed to be paid no more than the Balancing Price for any energy it generates in the Trading Interval. In this case the Maximum TES for the Facility is set to the Facility's Sent Out Metered Scheduled (SOMS), to reflect that the Balancing Price is sufficient for all of the Facility's output and so no Constrained On Compensation is required (clause 6.15.1(b)(i) of the Market Rules).
- If the NSG Price exceeds the Balancing Price, then based on the BMO the Facility would not be cleared to run. In this case the Maximum TES is calculated as the quantity of energy the Facility would be expected to generate if it was dispatched by System Management in accordance with the BMO, i.e. if it ramped down to zero at its Ramp Rate Limit commencing at the start of the Trading Interval (clause 6.15.1(b)(ii)).

The Minimum TES calculation for a Non-Scheduled Generator depends on whether the Facility was dispatched downwards out of merit by System Management in the Trading Interval.

- If the Facility was dispatched downwards out of merit, then the Minimum TES is set to System Management's estimate of the MWh output the Facility could otherwise have achieved in the Trading Interval (clause 6.15.2(b)(i)). The difference between this estimate and the actual output is then subject to Constrained Off Compensation.
- If the Facility was not dispatched downwards out of merit then it is not entitled to any Constrained Off Compensation. For this reason the Minimum TES is set to the Facility's SOMS, to reflect that the Facility did not generate less than it could have due to an out of merit Dispatch Instruction (clause 6.15.2(b)(ii)).

Issue

As outlined above, the Maximum TES of a Non-Scheduled Generator is set to its SOMS in cases where the Facility could not have been dispatched upwards out of merit and so should be ineligible for any Constrained On Compensation. However, under the current Market Rules the SOMS value used to measure actual output is determined from interval meter readings provided by Western Power, while the SOMS value used to calculate Maximum TES is taken from SCADA data provided by System Management. (The use of SCADA readings was prescribed because they are available much earlier than interval meter readings, allowing earlier calculation and publication of Minimum and Maximum TES.)

Although both values are measures of the same physical quantity they are likely to vary to some extent, mainly due to the relative inaccuracy of SCADA. Occasionally the discrepancy can exceed the Settlement Tolerance of the Facility, which can result in the allocation of spurious Constrained On Compensation to the Facility.

For example, consider a Non-Scheduled Generator with a Settlement Tolerance of 1.5 MWh. For a Trading Interval with a Balancing Price of $50/MWh, the Facility has an NSG Price of $-1000/MWh, a SCADA SOMS of 20 MWh and an interval meter reading SOMS of 25 MWh. The Facility will be assigned a Maximum TES of 20 MWh, since its NSG Price is less than the Balancing Price (i.e. it was eligible to run under the BMO). Under clause 6.16A.1 the Upwards Out of Merit Generation for the Facility is set to (25 – 20) = 5 MWh, as the interval meter reading SOMS exceeds the Maximum TES by more than the Facility's Settlement Tolerance. This results in the allocation of

Constrained On Compensation for a quantity of 5 MWh (clause 6.17.3A(a)) at a price of ($-1000/MWh - $50/MWh) = $-1050/MWh (clause 6.17.3A(b)), and so the Market Generator incurs a cost of $5250 for the Trading Interval. It should be noted that the Constrained On Compensation in these cases will never be a positive amount, as the Facility's NSG Price will never be greater than the Balancing Price.

Spurious Constrained Off Compensation payments can also be allocated to a Non-Scheduled Generator, if the Facility's Minimum TES is set to its SCADA SOMS and this quantity exceeds the interval meter reading SOMS by more than the Settlement Tolerance. In these cases the Constrained Off Compensation could be either a positive amount (if the NSG Price is less than the Balancing Price) or a negative amount (if the NSG Price is greater than the Balancing Price), although the former option is far more likely to occur in practice.

Non-Scheduled Generators were charged a total of $470,500 in spurious Constrained On Compensation for the first two months of the Balancing Market. An additional charge of around $1.3 million was avoided by the IMO adjusting the relevant Facility's Settlement Tolerance in breach of the Market Rules. During the same period, Non-Scheduled Generators received around $21,600 in spurious Constrained Off Compensation, with a further payment of $550,000 avoided by the IMO adjusting the relevant Facility's Settlement Tolerance. (In the interests of transparency, the IMO has provided further information about the IMO's decisions in this matter and their impact on market outcomes in Appendix 2 of this Final Rule Change Report.)

Proposal

The IMO proposed two amendments to the Market Rules to address this issue.

- To prevent the allocation of Constrained On Compensation to a Non-Scheduled Generator due to SCADA/interval meter reading variations, the IMO proposed to set a minimum value of zero for the ConP1 price calculated for Non-Scheduled Generators in clause 6.17.3A(b). This will ensure the Constrained On Compensation is set to zero if the Facility's NSG Price is less than or equal to the Balancing Price (which will always be the case when the Maximum TES is set to the SCADA SOMS). Note that this amendment will not affect the calculation of Constrained On Compensation when the NSG Price exceeds the Balancing Price.
- To prevent the allocation of Constrained Off Compensation due to SCADA/interval meter reading variations, the IMO proposed to amend clause 6.16A.2(b) so that the Downwards Out Of Merit Generation for a Non-Scheduled Generator is set to zero unless System Management has indicated that it dispatched the Facility downwards out of merit by sending the IMO an estimate under clause 7.13.1(eF) of the MWh output the Facility could have otherwise achieved.

For full details of the Rule Change Proposal please refer to the Market Web Site: http://www.imowa.com.au/RC_2012_19.

2.2. The IMO's Initial Assessment of the Proposal

The IMO decided to progress the Rule Change Proposal on the basis that interested parties should be given an opportunity to provide submissions as part of the rule change process.

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

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.

IMO considered that this Rule Change Proposal corrects a manifest error in the Market Rules. Under the current drafting, Constrained On Compensation and Constrained Off Compensation can be allocated to a Non-Scheduled Generator for a Trading Interval in which the Facility clearly did not generate out of merit, due to a discrepancy between the MWh interval meter reading for the Facility and its SCADA equivalent. As such, the IMO considered that the Rule Change Proposal satisfied the criterion in clause 2.5.9(b) and should therefore be progressed using the Fast Track Rule Change Process.

3. Consultation

3.1. The Market Advisory Committee

The Pre Rule Change Proposal was discussed by the Market Advisory Committee (MAC) during its 14 November 2012 meeting.

Ms Jenny Laidlaw presented an overview of the proposal to MAC members. The following points were raised during the ensuing discussion.

- In response to a question from Ms Jacinda Papps, Ms Laidlaw noted that a longer term solution to the problem would appear to involve the use of interval meter readings to calculate Theoretical Energy Schedules for Non-Scheduled Generators, and allowing Theoretical Energy Schedules to be recalculated in line with other settlement parameters. Ms Laidlaw also noted that the solution proposed in PRC_2012_19 completely resolved the problem cause by SCADA/interval meter reading variations.
- The Chair noted that this issue had resulted in a significant cost to a Market Participant. It also resulted in significant payments to parties that appeared perverse. Mr Geoff Gaston queried if payments had been cancelled only for particular Intermittent Generators. The Chair confirmed that this was the case and noted that the IMO had only adjusted the relevant Facility's Settlement Tolerance in cases where a perverse market outcome occurred. Mr Gaston considered that the adjustments should be applied to everyone in the interest of fairness.
- Mr Stephen MacLean queried what the timeframe would be for the long term solution. Ms Suzanne Frame responded that it was expected to be progressed in early 2013.

The MAC agreed for the IMO to progress PRC_2012_19 as a Fast Track Rule Change.

Further details are available in the MAC meeting minutes available on the Market Web Site:

http://www.imowa.com.au/MAC

3.2. Submissions received during the consultation period

The consultation period for the Rule Change Proposal was between 19 November 2012 and 7 December 2012. On 5 December 2012 the IMO published an addendum to the Rule Change Notice providing an estimate of the IMO's implementation costs for the proposal.

Alinta requested to be consulted on this Rule Change Proposal and provided a submission to the IMO. System Management also requested to be consulted but did not provide a submission. Out of session submissions were received from APA Group, Community Electricity, Perth Energy, Synergy and Verve Energy. All the submissions received supported the proposed amendments.

In their submissions, Alinta Energy and Verve Energy recommended that further changes relating to the calculation of TES quantities be progressed by the IMO as a high priority. Alinta Energy and Verve Energy also raised concerns about the decision making process applied by the IMO in choosing to amend the Settlement Tolerances of two of the affected Non-Scheduled Generators to prevent the allocation of spurious Constrained On/Off Compensation for those Facilities.

Perth Energy suggested that the IMO confirm that the method by which System Management provides data under clause 7.13.1 is consistent with the proposed amendment. The IMO has confirmed that this is the case.

The assessment by submitting parties as to whether the proposal would better achieve the Wholesale Market Objectives is summarised below:

Submitter	Wholesale Market Objective Assessment
Alinta	On the whole consistent with the Wholesale Market Objectives and will improve Wholesale Market Objective (b)
APA Group	Will indirectly better facilitate the Wholesale Market Objectives via the operation of the competitive Balancing Market.
Community Electricity	Improves the integrity of the Market Rules as well as supporting Wholesale Market Objectives (a), (c) and (d).
Perth Energy	Facilitates achievement of Wholesale Market Objectives (a), (b), (c) and (d).
Synergy	Better achieves Wholesale Market Objective (b).
Verve Energy	Consistent with Wholesale Market Objectives.

A copy of all submissions in full received during the consultation period is available on the Market Web Site: http://www.imowa.com.au/RC_2012_19.

3.3. The IMO's response to submissions received during the consultation period

The IMO's responses to each of the issues identified during the consultation period are presented in Appendix 1 of this Final Rule Change Report.

3.4. Public Forums and Workshops

No public forum or workshop was held in regards to this Rule Change Proposal.

4. The IMO's Final Assessment

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

Clause 2.4.2 outlines that the IMO *"must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives".* Additionally, clause 2.4.3 states, when deciding whether to make Amending Rules, the IMO must have regard to the following:

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

The IMO notes that there has not been any applicable policy direction from the Minister in respect of this Rule Change nor has it commissioned a technical review in respect of this Rule Change Proposal. A summary of the views expressed in submissions and by the MAC is available in section 3 of this Final Rule Change Report.

4.1. Wholesale Market Objectives

The IMO considers that the Market Rules as a whole, if amended as presented in section 6.2, will not only be consistent with the Wholesale Market Objectives but will also allow the Market Rules to better achieve Wholesale Market Objectives (b) and (c).

The IMO's assessment is presented below:

(b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;

The allocation of negative Constrained On Compensation due to random SCADA/interval meter reading variations (which generally outweighs any windfall gains from Constrained Off Compensation) poses a threat to the viability of small Non-Scheduled Generators, and would be likely to discourage the participation of these Facilities in the market. The IMO therefore considers that eliminating these payments will better achieve Wholesale Market Objective (b).

(c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;

The IMO considers that as the problem only affects Non-Scheduled Generators, the solution will also better achieve Wholesale Market Objective (c).

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

4.2. Practicality and Cost of Implementation

4.2.1. Cost:

The proposed amendments will require changes to the IMO's IT systems, at an estimated cost of approximately $14,500 AUD. No other costs in implementing this proposal have been identified.

4.2.2. Practicality:

The IMO has not identified any issues with the practicality of implementing this Rule Change Proposal.

5. The IMO's Final Decision

Based on the matters set out in this report, the IMO's final decision is to accept the Rule Change Proposal.

5.1. Reasons for the IMO's decision

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

- will allow the Market Rules to better achieve Wholesale Market Objectives (b) and (c);
- are consistent with the remaining Wholesale Market Objectives;
- have the support of the MAC; and
- have the support of the submissions received during the consultation period.

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

6. Amending Rules

6.1. Commencement

The amendments to the Market Rules resulting from this Rule Change Proposal will provisionally commence at **8.00 AM** on **1 February 2013**.

6.2. Amending Rules

The IMO has decided to implement the following Amending Rules (~~deleted text~~, added text):

6.16A.2. The Downwards Out of Merit Generation in a Trading Interval for a Balancing Facility equals:

(a) subject to clause 6.16A.2(b), the Minimum Theoretical Energy Schedule less the Sent Out Metered Schedule; or

(b) zero if:

i. System Management has provided a report to the IMO under clause 7.10.7 and the IMO determines that the relevant Market Participant has not adequately or appropriately complied with a Dispatch Instruction;

ii. the Facility was undergoing a Test or complying with an Operating Instruction;~~ or~~

iii. the Minimum Theoretical Energy Schedule less the Sent Out Metered Schedule is less than the sum of:

1. any Downwards LFAS Enablement and, if the Facility is a Stand Alone Facility, any Downwards Backup LFAS Enablement, which the Facility was instructed by System Management to provide, divided by two so that it is expressed in MWh; and

2. the applicable Settlement Tolerance~~.~~; or

iv. the Balancing Facility is a Non-Scheduled Generator and System Management has not provided the IMO with a MWh quantity for the Facility and the Trading Interval under clause 7.13.1(eF).

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 greater of:

i. zero; and

ii. 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.

Appendix 1. Responses to submissions received during the consultation period

	Submitter	Comment/Change requested	IMO Response
1	Perth Energy	Perth Energy suggests that the IMO confirm that the method by which System Management provides data under clause 7.13.1 is consistent with the proposed amendment.	The IMO confirms that the method by which System Management provides data under clause 7.13.1(eF) (through the DISPATCH_ VOLUMES interface prescribed in the IMS Interface Market Procedure) is consistent with the proposed amendments and will provide the IMO's settlement system with the information it requires for the amended Downwards Out of Merit calculations.
2	Alinta	Alinta notes the IMO's decision to not comply with the Market Rules and amend the Settlement Tolerance for two Facilities meant the market avoided an additional $1.8 million in these compensation payments. While Alinta supports the IMO's decision not to pay the two participants in this circumstance, it requests further clarification of the consultation undertaken by the IMO directly with the two affected participants and industry on this issue prior to the iMO having made its decision to not comply with the Market Rules. In the past Alinta understands the IMO has discussed such matters with the MAC which Alinta believes is an important part of a fair and transparent process.	The IMO notes Alinta's concerns but consider that they relate to operational and compliance decisions made by the IMO and so fall outside the scope of this Rule Change Proposal. The IMO however notes that it discussed its actions in this matter with MAC members at the November 2012 and December 2012 meetings, and proposes to provide a further update and opportunity for discussion at the February 2013 meeting. Further the IMO has provided an addendum to this Final Rule Change Report (Appendix 2), which outlines fully the circumstances related to the IMO's decision to adjust the settlement values for two Market Participants and its intentions regarding the settlement of other Non-Scheduled Generators affected by this manifest error.
3	Alinta	Alinta also requests clarification of the rationale for the decision having not been consistently applied to all impacted facilities.	The IMO's decision to modify the Constrained On/Off Compensation for two Market Participants was of necessity, made during the short period between the identification of the spurious Constrained On/Off Compensation amounts and the provision of the relevant Settlement Statements. In each case the impact was material. One case would have resulted in a material overpayment to a small Market Participant

	Submitter	Comment/Change requested	IMO Response
			that would most likely have been unrecoverable, while the other would have resulted in a demand for payment that could have resulted in a default and possible suspension through no fault of the Market Participant. Following the discussion at the November 2012 MAC meeting the IMO reviewed the issue and extended its decision to apply to all spurious Constrained On/Off Compensation that has been allocated to Non-Scheduled Generators due to the manifest error addressed in this Rule Change Proposal. For further details please refer to Appendix 2 of this Final Rule Change Report. The IMO will also provide an update on the impact of these adjustments at the February 2013 MAC meeting.
4	Alinta	Alinta appreciates the inclusion of an overview of the monetary impacts of the identified issue as it provided important details on the magnitude and extent of the issue. Alinta however considers that there would have been value to submitting parties if the Rule Change Proposal had included these further details around the IMO's decision to not comply with the Market Rules.	The IMO did not include these details in the Rule Change Proposal as it did not consider them relevant to the consideration of the merits of the proposal. However, in the interests of transparency the IMO has provided further information about the IMO's decisions in this matter and their impact on market outcomes in Appendix 2 of this Final Rule Change Report.
5	Alinta	Alinta notes the IMO's intention to progress a more comprehensive solution to the wider issue associated with using SCADA to determine TES, and suggests that the development of a solution by the IMO should occur as a matter of urgency. As a principle TES quantities should be subject to change where there are significant differences between SCADA and metering data. This will ensure that Market Participants are appropriately compensated for being dispatched out of merit.	The IMO expects to progress a Rule Change Proposal to address a number of outstanding issues around TES calculation and settlement in early 2013.

	Submitter	Comment/Change requested	IMO Response
6	Alinta	As a guiding principle Alinta suggests that going forward the IMO should consider the associated issues with the calculation of TES more broadly given the complexities of the market and significant interdependencies between the various aspects of the market's design.	The IMO notes Alinta's suggestion.
7	Verve Energy	Verve Energy notes that the IMO proposes to develop a more robust, long term solution that includes, among other things, the ability for the recalculation of TES values, consistent with other settlement quantities. Verve Energy strongly recommends that the IMO progress a Rule Change Proposal to this effect as a high priority.	Please refer to the IMO's response to issue 5.
8	Verve Energy	Verve Energy is generally concerned with the IMO altering settlement outcomes per se and even more so doing this for just one or two participants – even where the outcomes for those individual participants seem perverse. Verve Energy considers that this has the potential to undermine the market and undermine confidence in the Market Operator. It would be Verve Energy's strong preference that such issues as this be resolved utilising the rule change processes in the first instances as opposed to distorting settlement outcomes. However, if the IMO was facing a delay in progressing a Rule Change Proposal, Verve Energy recommends that the IMO respond in a more transparent manner. For example	Please refer to the IMO's response to issues 2 and 3 and to Appendix 2 of this Final Rule Change Report.

	Submitter	Comment/Change requested	IMO Response
		convene a meeting of the MAC or hold an industry workshop to discuss the issues and canvass an appropriate solution.	
9	Verve Energy	Verve Energy considers that any solution should be applied to all participants, not just one or two.	Please refer to the IMO's response to issue 3 and to Appendix 2 of this Final Rule Change Report.

Appendix 2. IMO actions in response to the manifest error addressed in RC_2012_19

Since the commencement of the Balancing Market the manifest error addressed by this Rule Change Proposal has caused the allocation of spurious Constrained On/Off Compensation to several Market Participants with Non-Scheduled Generators. This Appendix is a summary of the actions taken, and to be taken, by the IMO in response to this issue.

Initial identification of the issue

The IMO initially identified the issue from its effects on two small Non-Scheduled Generators, who were allocated materially perverse Constrained On Compensation and Constrained Off Compensation amounts due to the manifest error. Details of the effect on those Facilities and the actions taken by the IMO are provided below.

Facility 1 (Constrained Off Compensation)

Facility 1 is a small Non-Scheduled Generator, not connected to System Management's SCADA system. Although Facility 1 was assigned Capacity Credits in previous Capacity Years, it does not produce any energy and its interval meter readings indicate the operation of a small load at the site.

In September 2012 the IMO conducted preliminary Non-STEM settlement calculations for July 2012, prior to the generation of Invoices and Non-STEM Settlement Statements. The preliminary results showed approximately $500,000 (GST exclusive) of Constrained Off Compensation would be payable to Facility 1 for July 2012.

The IMO investigated the payment and found it to be the result of an inaccurate estimate of Facility 1's output during the Trading Month. As SCADA readings are not available for the Facility, the Market Rules (clause 7.13.1(cA)) require System Management to provide the IMO with estimates of the Facility's MWh output for each Trading Interval, which are used to determine the SOMS for its TES calculations. System Management estimated Facility 1's output to be 0.5 MWh for each Trading Interval in the period from 1 July 2012 to 25 July 2012 inclusive.

The 0.5 MWh Minimum TES values, when compared with the actual interval meter readings for Facility 1 (which were negative due to the small load), meant the settlement system calculated Downwards Out of Merit Generation for Facility 1 for each Trading Interval from 1 July 2012 to 25 July 2012. The erroneous Out of Merit Generation, when combined with the requirement for Facility 1 to bid into the Balancing Market at the Minimum STEM Price of -$1000/MWh, led to the calculation of the large and unwarranted Constrained Off Compensation payment.

Once final TES values are calculated under clause 6.15.3(b), the Market Rules expressly prohibit their revision (clause 6.15.4). This meant that the IMO was unable to recalculate the Minimum TES values for Facility 1 using more accurate output estimates.

Given the absurdity of the outcome (whereby a Facility that has no ability to generate receives Constrained Off Compensation) and the magnitude of the sum involved, the IMO eliminated the Constrained Off Compensation by adjusting the Settlement Tolerance for Facility 1 (normally 0.5 MWh) for each Trading Interval of each affected Trading Day. The adjustment was made prior to the generation of initial Invoices and Non-STEM Settlement Statements on 10 September 2012.

It should be noted that the IMO's actions were, of necessity, made in the short period between the identification of the problem and the Non-STEM Settlement Statement deadline. The IMO noted that the current amount of the Market Participant's Credit Support would be insufficient to ensure recovery of the payment at a later date.

While the IMO's action prevented a materially perverse settlement outcome, it breached clause 6.17.9 of the Market Rules.

System Management reduced its output estimate for Facility 1 to 0 MWh from 26 July 2012 onwards, which has prevented the allocation of further large Constrained Off Compensation payments to Facility 1.

Facility 2 (Constrained On Compensation)

Facility 2 is a small Non-Scheduled Generator connected to System Management's SCADA system. System Management confirmed that due to a transducer issue affecting Facility 2 the SCADA output readings it provided to the IMO for Facility 2 were incorrect (too low) for all Trading Intervals from 1 July 2012 to 4 September 2012 when the issue was fixed.

Facility 2 is normally paid approximately $15,000 per month. Due to a combination of the manifest error in the Market Rules and the erroneous SCADA readings, Facility 2 was required to pay to the market approximately $290,000 (GST exclusive) in Constrained On Compensation for the July 2012 Trading Month.

The IMO did not identify this issue until after the initial Non-STEM Settlement Statements for July 2012 were issued, and the relevant Market Participant was required to pay the amount due.

The IMO's preliminary Non-STEM settlement calculations in early October and November 2012 showed further spurious Constrained On Compensation charges would be allocated to Facility 2 for August 2012 (estimated at $1.3 million) and September 2012 (estimated at $300,000). To prevent the imposition of these charges on the Market Participant (which it may have been unable to pay, leading to possible suspension or bankruptcy) the IMO adjusted Facility 2's Settlement Tolerance for the relevant Trading Intervals, again in breach of clause 6.17.9, to prevent the allocation of Constrained On Compensation to Facility 2.

The IMO will also adjust the Settlement Tolerance for Facility 2 for the first Non-STEM settlement adjustment for July 2012 (which will occur in January 2013), to refund the initial $290,000 payment made by the Market Participant.

Breach of the Market Rules

In both of the cases outlined above the IMO breached the Market Rules to prevent the allocation of spurious Constrained On/Off Compensation amounts. In both cases:

- the settlement outcomes would have had a demonstrably and materially adverse impact, either on a specific Market Participant or the market;
- the IMO considered the actions taken were necessary having regard to the circumstances at the relevant time; and
- the breaches have been reported to the IMO Board, and will be reported to the Market Auditor as part of the annual audit process on IMO compliance.

Identification of a proposed solution and MAC discussion

Once the issue was identified, the IMO carried out further analysis to determine the underlying causes of the payments and how to prevent them. The IMO presented the Pre Rule Change Proposal: PRC_2012_19 to the MAC at its 14 November 2012 meeting. In the proposal, the IMO noted the actions it had taken to prevent the allocation of spurious charges and payments to the two Facilities described above. During the MAC discussion of the proposal one MAC member questioned why the principle had not been applied by the IMO to all Non-Scheduled Generators affected by the manifest error.

Following the November 2012 MAC meeting the IMO determined that it would be consistent with the Market Objectives to eliminate all Constrained On/Off Compensation amounts arising from the manifest error addressed by RC_2012_19. The IMO advised MAC members of its decision at the following MAC meeting, held on 12 December 2012.

Proposed further actions

The manifest error has caused a total of $656,000 in Constrained On Compensation charges (including the $290,000 charge to Facility 2 for July 2012) and $41,000 in Constrained Off Compensation payments in the period from July 2012 to October 2012 inclusive (all figures are GST exclusive). These amounts exclude the Constrained Off Compensation payment of $500,000 to Facility 1 and the Constrained On Compensation charges of $1.3 million and $300,000 for Facility 2 which have already been dealt with.

The IMO will eliminate the spurious Constrained On/Off Compensation amounts for all Non-Scheduled Generators for all Trading Months from Balancing Market start to the commencement of the Amending Rules for RC_2012_19, i.e. from July 2012 to January 2013 inclusive. Trading Months July 2012 to October 2012, which have been settled, will be dealt with via the Non-STEM adjustment process, beginning with the first Non-STEM adjustment for July 2012 which will occur in January 2013.

The IMO will endeavour to complete the manual processing to eliminate the erroneous values for Trading Months November 2012 to January 2013 at the initial Non-STEM settlement stage, commending in January 2013 (for the November 2012 Trading Month). Any erroneous values not eliminated before the relevant initial Non-STEM settlement run will be eliminated prior to the first Non-STEM adjustment for the relevant Trading Month. The IMO will provide each affected Market Participant with full details of the changes made by the IMO in relation to its Facilities.

The IMO will provide an update on the adjustments and their market impact at the February 2013 MAC meeting and at subsequent meetings until the adjustment process is completed.