

Independent Market Operator



**EXTERNAL MARKET INCIDENT REPORT - STEM
SUSPENSION 27 OCTOBER 2006**

18 NOVEMBER 2006

Introduction

On October 26 2006 the STEM was suspended for trading day 27 October 2006 due to a delay in calculating limits for Participants and their Facilities. This delay was the result of two issues. Firstly delays in receiving an outage file from System Management and secondly a performance issue with the calculation of limits by the Wholesale Electricity Market System (WEMS).

The purpose of this report is to:

- Explain the two issues in detail;
- Propose recommendations to minimise the probability of recurrence; and
- Propose changes to systems and processes to improve the management of STEM suspensions

The Issues

A limits calculation is performed each day to determine the quantity of energy a participant can supply from each of their facilities. This information is used to validate the STEM submissions made by participant between 09:00 and 09:50 each scheduling day. The limits calculation is scheduled to run at 08.50 each day and the results are publish to participants at 08:52.

Before the limit calculation can run the WEMS needs to read in an ancillary services and facility outage file from System Management. These events are scheduled to run at 8.30. The files are normally automatically sent to the IMO by System Management prior to this time.

Issue 1 – Outage file

On October 26 2006, the outage file failed to arrive from System Management by 08.30. System Management was then instructed to send the outage file by email. This file arrived at 08.45, but failed to read into the WEMS at 08:48 due to the presence of an ampersand in one of its comment fields. When this error was discovered a further file was requested from System Management. This file was successfully read into the WEMS at 08:59.

The limit calculation event was then started at this time; however the STEM window opened at 09:00. This meant that standing data for STEM was converted with incorrect limits.

Issue 2 - Limit Calculation

The limit calculation normally takes about 3 minutes. However on 26 October the job was still running at 09:30. The problem was contained in a database view that is used by the limit calculation. At the time, this view needed to be rebuilt if meter calculations have changed for facilities, which was the case on

this day. This issue was already being addressed by the software vendor and a patch was delivered on that same morning.

Given the situation at the time, the decision was made to install this patch directly into the WEMS. This was done at 09.30. The limits calculation was restarted at 09.36 and the event completed at 09.37. At this point in time the limits were published to participants.

However Market Rule 6.3B only allows participants to make STEM submission between 09:00 and 09:50. On the 26 October there was insufficient time for all market participants to make valid STEM submission for Trading Day 27 October.

As required under the IMO's Operational Contingency Procedures the STEM was suspended with participants being notified at 10:20.

Having suspended the STEM, each participant's Net Contract Position was set to their Net Bilateral Position. The rest of the scheduling day was conducted without further incident.

Commercial Effects

When suspended there is no energy cleared through the STEM. All energy produced or consumed in deviation to the net bilateral position is settled through the balancing market.

Under normal processes the balancing prices are based on:

1. The STEM price if the operational load is within a tolerance band of the net contract position; or
2. A price determined by reconstructing the bid offer clearing process where the operational load is outside of the tolerance band.

Given that the STEM was suspended due to a lack of valid submissions, it was not appropriate to use the method described in 2 above. The current rules indicate that the previous days balancing price should be used in this situation. The balancing price calculated using this manner is similar to the price that would have been expected if the STEM had not been suspended.

In addition when the STEM is suspended capacity providers will not incur reserve capacity refunds unless they have submitted forced outage notifications. This along with the normal operation of the resource window means that participants can limit the impact of the STEM suspension.

Given that customers exchange balancing energy at a price that should be close to the STEM price, and that Generators were able to submit realistic resource plans, the commercial effects of this STEM suspension should be minimal.

Findings and Recommendations

The following points outline the findings and recommendations arising from this incident:

- The change to the view used by the limits calculation means that the time taken by the limit event has been reduced back to the expected three minutes duration.
- Given the importance of the limit calculation to the STEM, it is imperative that this calculation is run as soon as possible each day after the Outage and Ancillary Service files have been received from system management. In this regard the following points should be noted:
 - It has been agreed that System Management will use reasonable endeavours to send the outage and ancillary files by 08:10 each day. If these files have not been received by this time IMO Operations will request the file be sent by email.
 - IMO Operations will also trigger the events that read these files and the event that performs the limit calculation as soon as practicable each day.
- The other issue becoming apparent as a result of this issue is that of potentially delaying or extending the STEM window. On 26 October, if the limits calculation had run in 3 minutes, the STEM window could have been reopened around 09:10. To allow a full 50 minutes for Participants to make STEM submission, the closure of the STEM window could have been delayed to 10:00 without disruption to the rest of the scheduling day. However this is not allowed under rule 6.3b. The IMO will give consideration to a rule change to allow for an extension to occur.

Conclusion

The STEM was suspended on 26 October 2006 for Trading Day 27 October 2006 due to publication of incorrect limits and an inadequate STEM window duration. Procedural and system changes have been progressed to resolve this issue and minimise the chance of recurrence.

The IMO is giving consideration to a rule change to allow for an extension of the STEM window under this type of situation that could negate the need for the STEM to be suspended.

The IMO is committed to improve market systems and minimise the need for STEM suspension due to incidents such as this.

For enquires regarding this event please contact Bill Truscott on (08) 9254 4308 or at bill.truscott@imowa.com.au.
