

Independent Market Operator

OPERATIONS CONTINGENCY PROCEDURES

1 August 2007

INTRODUCTION

The IMO has developed a set of internal operational procedures that cover all aspects of operating the Wholesale Electricity Market (WEM). These procedures include the management of contingencies related to the failure of the WEM IT Systems. While the spectrum of contingencies that may arise is broad, these procedures isolate three critical areas of concern:

- The failure of the IMO to produce a valid STEM auction result due to a failure of the market systems – when to suspend the STEM;
- The failure of individual participants to meet bilateral and STEM submission windows; and
- The failure of participants to submit, or the IMO to accept and process resource plans.

The first point can be further divided up into:

- A failure of the IMO systems to produce any STEM result at all; and
- A failure of the IMO systems resulting in a STEM outcome that is manifestly incorrect.

This external procedure outlines the actions that will be undertaken by the IMO in order to manage these issues if they should arise. Each of the above scenarios is dealt with in turn.

MARKET SYSTEMS FAILURE

As discussed above, a failure of the market systems can result in a manifestly incorrect result, or the inability for the IMO to complete the processes required under chapter 6 of the Market Rules. This section addresses both of these scenarios.

In relation to full system failure, as there is redundancy built into the IMO market systems a complete failure of these systems from a hardware perspective is relatively unlikely. However, unforeseen issues can still arise due to causes such as:

- Low probability hardware issues;
- Backup site failover failure;
- Common mode software issues;
- System Management interface issues;
- Single contingency point issues (such as Web Server failure)

Therefore, operational procedures must consider a complete failure of the WEM systems as a credible occurrence.

This section deals only with a failure of IMO / System Management systems or process's, and not individual participants technical problems. It deals with system failures up to the point at which the STEM results are published. Failures from this point onwards (i.e. – failures affecting the submission of resource plans) will not

affect market prices and, as such, are considered in a subsequent section of this paper.

The following lists the key operational steps that the systems must perform on a daily basis, up to and including the publication of the STEM results.

- Receive and publish load forecast (MR 6.3A.1(a));
- Open and close the bilateral contract submission window (MR 6.2.1);
- Receive and process outages and ancillary services (MR 7.3.4 and MR 7.2.3A);
- Publish market information (including net bilateral positions and facility / participant limits) (MR 6.3A);
- Open the STEM submission window, accept submissions and close window (MR 6.3B);
- Run the STEM auction (MR 6.4); and
- Publish market information (including STEM price and net contract positions) (MR 6.4.3).

There are four general modes of failure that may affect these steps. Firstly, an error with System Management systems or communication platforms may mean that information required for the above steps is not available. Generally, there will be manual backup steps in place to manage this type of issue.

Secondly, the failure of the IMO systems may result in the inability to process data and produce results. If this is the case, it is most likely that this will affect all of the steps above rather than any single step.

Thirdly, a failure of the IMO systems may result in an incorrect STEM result without a full failure of the systems. This will generally need to be an obvious manifest error for the IMO to detect this and respond accordingly.

Lastly, the failure of the IMO systems may be limited to the publication of information only. If this is the case and the required information is available, the following methods will be used to send the information manually.

- Using the WEM systems
- Using email system
- Using fax and phone systems

The remainder of this section addresses failure of each of the steps above and the actions that IMO Operators propose to take.

Receive and Publish Load Forecast

The Market Rules (clause 6.3A.1(a)) require that by 8:00am on each day, the IMO publish the load forecast for the following day. If the forecast does not arrive by a 7:30am, IMO operators will contact system management and attempt to obtain the data by other means (email, fax or phone). The small amount of data means that manual workarounds will be quite feasible.

If the forecast is not available by 8.00am the operator will communicate to market participants that the forecast is currently unavailable. The operator will continue to attempt to publish the load forecast up until noon of the scheduling day. If successful, another communication will be issued to market participants.

In any event, if the load forecast cannot be received and published as required under the Rules, this will not result in a STEM suspension (as this is required for information purposes only).

Bilateral Contract Submission Window

The bilateral contract submission window is open for 7 days up until the morning of the scheduling day as required under clause 6.2.1 of the Market Rules. For market participants that have standing bilateral submissions in place, the action of opening the window will see these standing submissions converted to bilateral submissions.

If the bilateral window has not opened at all (unlikely due to its length) there will be no bilateral submissions in the market at all. If this is the case the market will have been suspended as this would mean that the systems have been inoperative for 7 days (including STEM windows, etc).

A more likely scenario is that the bilateral window has failed for part of its opening time. In this case there will be standing bilateral submissions converted for those participants that have submitted this standing data.

Due to the presence of standing submissions, and the ability of participants to manage net contract positions through the STEM, the IMO will not suspend the STEM due to a failure of the bilateral contract submission window. (However, if the IT failure is systemic and continues into the STEM submission window, suspension will be considered under that section.)

Under no circumstances will IMO operators intentionally extend the closing time for the bilateral submission window beyond that defined under the Market Rules. The bilateral window close does not effect the bilateral positions used in STEM auction. This is established by the publishing of the net bilateral position. This is first done at 8:20am and then again at 9:00am.

Receive and Process Outage and Ancillary Service Information and Publish Reports

Each day System Management must provide outage and ancillary service information to the IMO for the following trading day as required under clauses 7.3.4 and 7.2.3A of the Market Rules. In the first instance, this information is used to determine the facility and participant limits. These limits are used to validate STEM submissions and resource plan submissions.

When the IMO runs the process for calculating facility and participant limits, these are calculated for two days ahead. As the IMO will only have outage and ancillary service information for the following trading day, the limits for the second trading day will be determined without outages or ancillary services. In the event that the limit calculation event fails for the following trading day, the values determined from the previous scheduling day run (without outages and ancillary services) will be available.

Note also that the limit calculation event also converts STEM standing data for market participants. Therefore, regardless of whether outage or ancillary service information is available, this event will still be run in order to effect this conversion.

If System Management cannot provide the data required by any means, the IMO will determine the facility and participant limits without these factors. Participants will be notified via market advisory that limits have been

calculated without outages and / or ancillary services, and that this should be taken into account when developing submissions for the remainder of the day.

If the IMO market systems are inoperative and the outage and ancillary service data cannot be processed, the IMO will use the limits that were determined on the previous scheduling day (without outages and ancillary services). However, note that in this case standing STEM data will not be converted. As market participants may still have the opportunity to respond in the STEM submission window, operators will not suspend the STEM at this stage of the scheduling day.

If the IMO can develop the appropriate limits and positions, but cannot provide this information to participants through the market systems, alternative means of communications will be used to convey this information.

Operate the STEM Submission Window

Market Rule clause 6.3B requires that the IMO open the STEM window at 9:00AM, and close it at 9:50AM. Several modes of failure of this window can be envisaged:

- The window cannot be opened at all in this period;
- The window opens on time, but fails (closes) before 09:50AM;
- The window cannot be opened at 09:00 but is opened before 09:50AM;
- The window cannot be closed

If the window cannot be opened at 9:00AM, Participants will be advised and IMO operators will continue to attempt to open the window. If the window will not open at all, the STEM will be suspended. This decision to suspend will be made at 9:50AM. Participants will be notified through a market advisory. Under no circumstances will the window close time be intentionally extended beyond the nominated close time in the Market Rules.

If the window can be opened and the participant and facility limit process has run successfully, then standing STEM submissions will be converted to valid STEM submissions for the next trading day (provided these meet the STEM validation requirements). If the window opening is delayed significantly participants may not have an opportunity to update these submissions. **It is therefore vital to have up-to-date standing STEM submissions.**

If the following conditions are met, the STEM will not be suspended even though the window only opened for a partial period:

- All participants that intended to make STEM submissions either:
 - Had standing STEM submissions successfully convert; or
 - Were subsequently able to make a normal STEM submission.

If the window opens for a partial period and a participant whose standing submission did not convert, wishes to participate in the STEM but is unable to do so, the STEM will be suspended. Before suspension, IMO operators will attempt to contact the participant to resolve the issue.

If the STEM window cannot be closed, the IMO operators will continue to attempt to close the window until 10:30 (when the STEM auction is run). At this point the STEM will be suspended.

Run the STEM Auction

Clause 6.4 of the Market Rules requires that the STEM Auction results be determined no earlier than 10:00AM and no later than 10:30AM on the Scheduling day.

If a market system failure results in the inability to run the STEM Auction and determine the result by 10:30AM on the Scheduling day, the STEM will be suspended. This will also include the case in which the STEM has run but the results are manifestly incorrect. This may include:

- Prices outside of energy market caps;
- Excessive amounts of STEM traded quantities.

It should be noted that due to the complexity of the STEM clearing process, the ability of IMO operators to identify incorrect results in the short timeframes available is generally limited to manifest errors.

If the STEM results have been determined successfully by 10:30AM, but a subsequent failure means that net contract positions or STEM results cannot be published, this information will be communicated to participants through other means. This alone would not lead to a STEM suspension.

INDIVIDUAL PARTICIPANT SYSTEM ISSUES

This section considers failure of individual participant systems resulting in inability for that participant to make bilateral or STEM submissions. Failures relating to resource plan submissions are covered in subsequent sections. Firstly, the following will apply for individual participant system failures:

- Under no circumstances will IMO operators extend bilateral or STEM submission windows; and
- Individual participant system failures will not result in STEM suspension.

Please note that IMO operators are unable to enter data as participants under any circumstances. There is no ability for operators to enter data into the market systems other than through a Market Participant Interface (MPI) or through direct file entry (File Exchange). However, both of these methods require the submitting party to have access to the participant digital certificate. Operators do not have access to these certificates.

Operators will endeavour to provide all other assistance to participants that are experiencing difficulties in making bilateral or STEM submissions.

RESOURCE PLAN SUBMISSION FAILURE

Clause 6.5.1 of the Market Rules require that participants submit their resource plans between 11:00AM and 12:50PM on the Scheduling day for the following Trading Day unless:

- a software failure at the IMO has prevented any market participant from submitting a resource plan; or
- a software system failure at a market participant site has prevented that market participant from submitting a resource plan and that market participant has informed the IMO of this failure by 12:30PM on the scheduling day.

Under the exceptions above, the IMO has discretion to extend the resource plan window closing time to 3:00PM.

At 11:00 when the resource plan submission window first opens, the market systems first attempt to convert standing resource plans. (This is generally successful for all participants other than those trading in the STEM.) If, by the resource plan window closing time, the participant has been unable to submit a resource plan (regardless of whether the issue is due to the participant systems or the IMO systems) and the standing resource plan (if available) has been unsuccessful, clause 6.5.4 of the Rules requires the IMO to submit a default resource plan for the participant of zero MW for all facilities.

The following possible scenarios may be likely following a failure (either IMO or participant) of the resource plan submission processes:

- All systems have failed and there are no resource plans available (all facilities set to zero MW under clause 6.5.4);
- Some IMO systems have failed and a smattering of standing resource plans have been successful (with all other facilities falling back to the zero default plans);
- Individual participant systems have failed resulting in the majority of resource plans being successful and only some participants falling back to the default zero resource plan position.

Although these scenarios are undesirable and carry significant commercial penalties, the IMO is always obliged to submit the zero target default plan for the participant facilities under the Rules.

As the resource plan submission process has no effect on price setting, the IMO will exercise the maximum flexibility allowable under the Market Rules to assist participants in making their submissions. As such:

- If there is a problem with the IMO systems, the resource plan window will be extended as a matter of course;
- If there is a problem with an individual participant system, and that participant notifies the IMO by 12:30PM, the IMO will extend the window;

However, as required under the Market Rules:

- In no case will the window be extended past 3:00PM;
- Under no other circumstances will the IMO extend the window.

In any event, regardless of the amount of flexibility built into the resource plan window process, there is always the possibility that participants will not be able to submit their resource plans via the market systems.

As a result of the significant commercial consequences for participants that cannot submit a resource plan the IMO will accept resource plans from participants through means other than the market systems under the following special circumstances:

- The IMO systems have failed, the resource plan window close time has been extended to 3:00PM and it has become apparent that participants will not be able to submit through the market systems;
- An individual participant's systems have failed, the participant has notified the IMO of this condition by 12:30PM in order to extend the window and it has become apparent that the participant will not be able to submit their resource plan through the market systems.

Under these circumstances only, the IMO will accept resource plans via email and, if email is not available, via facsimile. These resource plans will then be entered into the market systems through the full change control process. Resource plans that are sent via these alternative means but do not meet the window close time will not be accepted.

The IMO does not accept liability for any resource plans that are submitted through these alternative means and are loaded into the IMO systems incorrectly.

This alternative means of data submission will not be accepted for any submissions other than resource plans.

CLOSING REMARK

These procedures have been designed to provide the IMO with guidance relating to the operation of the market during IT system contingencies. However, during such contingencies, IMO operators will attempt to resolve issues to the best of their ability, and will provide all assistance possible to participants that are experiencing problems.