
Wholesale Electricity Market Pre Market Rule Change Discussion Paper

Submitted by

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Change Proposal Title:	Energy Price Limits Methodology
Market Rule(s) affected:	2.3414, 6.18.1, 6.18.2, 6.18.3, 6.20.1, 6.20.5, 6.20.7, 6.20.8, 10.5.1 and Appendix 1

Introduction

This Pre Market Rule Change Discussion Paper can be posted, faxed or emailed to:

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The discussion 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) Describe the concern with the existing Market Rules that is to be addressed by the proposed Market Rule change:

In accordance with Market Rule 6.20.6, the IMO must annually review the appropriateness of the value of the Energy Price Limits. In 2007 the annual review also examined the cost assumptions and methodology for determining the prices caps. Subsequent to the review, MAC convened the Energy Price Limits Working Group to consider various issues raised in the review's final report.

Three rule change proposals have been put forward by the Energy Price Limits Working Group as a result of its deliberations:

- 1) Currently, the Market Rules prescribe the use of the average of the heat rates at minimum capacity and maximum capacity of a 40 MW open cycle gas turbine generating station in the calculation of the Price Limits. It is recommended, by the Energy Price Limits Working Group, that the preferred use of the heat rate at the relevant minimum capacity is prescribed instead. This would ensure that the resultant Price Limit would cover the cost of the marginal generator for all loadings.
- 2) The Market Rules are silent on any specific treatment of the start up cost. In the initial determination of the Maximum STEM Price and Alternative Maximum STEM Price in 2004, the start up cost was included in the Variable O&M costs under clause 6.20.7(b)ii. In the 2007 review it was recognised that start up costs contain uncertainty in their underlying cost assumptions. The review found that it is preferred to assess the variation of run time as just another uncertain factor rather than treat it as a deterministic variable. Hence, the start up costs were included in the variable O&M costs through using a different methodology. It was suggested by the working group that the inclusion of the start up cost could be prescribed so as to ensure that relevant costs associated with start up are not excluded in future reviews. However, this should be drafted in a way that does not preclude the inclusion of other relevant, but not specifically prescribed costs in the future.
- 3) Clause 6.20.8 prescribes a methodology for reviewing the Maximum Shutdown Price. The working group noted the expert advice that the opportunity cost of a shutdown instructed by System Management are able to be fully recovered through the pay-as-bid prices under the provisions of the Market Rules. The small cost of shutting down a unit would also be covered by the inclusion start up cost. The working group recommended, therefore, that the clauses pertaining to the Maximum Shutdown Cost could be deleted from the Market Rules as they do not appear necessary or appropriate.

2) Explain the reason for the degree of urgency:

This rule change is subject to the Standard Rule Change Process.

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)

2.34.14 The IMO must commence using revised Standing Data from:

- (a) 8:00 AM on the Scheduling Day following the IMO's acceptance of the revised Standing Data in the case of:
 - i. Standing STEM Submissions;
 - iA. Standing Bilateral Submissions;
 - iB. Standing Resource Plan Submissions;
 - ii. ~~commitment and decommitment~~ commitment cost data and Standing Balancing Data; and
 - iii. Standing Data changes stemming from acceptance of an application under clause 6.6.9;

with the exception that the previous Standing Data remains current for the purpose of settling the Trading Day that commences at the same time as that Scheduling Day; and

6.18.1. Subject to clause 6.18.3, Commitment Compensation will be payable by the IMO to a Market Participant (other than the Electricity Generation Corporation) in the event that:

- (a) the Market Participant is instructed by System Management to start up a Scheduled Generator registered by the Market Participant more times than indicated in the applicable Resource Plan for that Scheduled Generator; ~~or~~
- (b) ~~the Market Participant is instructed by System Management to shutdown a Scheduled Generator registered by the Market Participant more times than indicated in the applicable Resource Plan for that Scheduled Generator.~~

6.18.2. Subject to clause 6.18.3, the Commitment Compensation equals the sum of:

- (a) for each additional start up required of a Scheduled Generator during a Peak Trading Interval or Off-Peak Trading Interval the dollar amount for a commitment of the Facility specified in Standing Data, as defined in Appendix 1(c)(i); and
- (b) [Blank]
- (c) ~~for each additional shut down required of a Scheduled Generator during a Peak Trading Interval or Off-Peak Trading Interval the dollar amount for a de-commitment of the Facility specified in Standing Data as defined in Appendix 1(c)(i).~~
- (d) [Blank]

6.18.3. No Commitment Compensation will be payable:

- (a) to the Electricity Generation Corporation;
- (b) for the first start in the Trading Day of a Scheduled Generator if the relevant Market Participant has Reserve Capacity Obligations in respect of that Facility; or
- (c) for any start-up ~~or shut-down~~ instructed by System Management in connection with any Ancillary Services Contract, Balancing Support Contract or Network Control Service Contract.

6.20.1. The Energy Price Limits are:

- (a) the Maximum STEM Price;
- (b) the Alternative Maximum STEM Price;
- (c) the Minimum STEM Price.; and
- ~~(d) Maximum Shutdown Price.~~

~~6.20.5. Subject to clause 6.20.11, the Maximum Shutdown Price to apply for:~~

- ~~(a) the Relevant Year commencing on 1 October 2004 is equal to \$55/MW; and~~
- ~~(b) for subsequent Relevant Year is the Maximum Shutdown Price for the preceding Relevant Year multiplied by the $\frac{CPI[x]}{CPI[x-1]}$, where $CPI[x]$ represents the weighted average of the Consumer Price Index All Groups values for the eight Australian State and Territory capital cities as determined by the Australian Bureau of Statistics for the quarter ending June~~

~~30 immediately preceding the start of the Relevant Year and the CPI_[x-1] represents the corresponding value for the quarter ending the preceding June 30.~~

6.20.7.

- (b) must calculate the Maximum STEM Price or Alternative Maximum STEM Price using the following methodology:

$$(1 + \text{Profit Margin}) \times (\text{Variable O\&M} + (\text{Heat Rate} \times \text{Fuel Cost})) / \text{Loss Factor}$$

Where

- i. Profit Margin is the allowable profit margin expressed as a fraction;
- ii. Variable O&M is the variable operating and maintenance costs for a 40 MW open cycle gas turbine generating station expressed in \$/MWh; and include, but is not limited to, start up related costs;
- iii. Heat Rate is ~~the average of~~ based on a 40 MW open cycle gas turbine generating station's heat rate at minimum and ~~maximum capacities~~ capacity, expressed in GJ/MWh;

~~6.20.8.~~

- ~~(a) In conducting the review required by clause 6.20.6 the IMO may re-assess the appropriateness of the value of the Maximum Shutdown Price.~~
- ~~(b) The value of the Maximum Shutdown Price is to be based on the IMO's estimate of the opportunity cost of lost revenue based on the likely values for MCAP.~~
- ~~(c) The factors considered in setting the Maximum Shutdown Price must be limited to:~~
- ~~i. average MCAP in Off-Peak Trading Intervals;~~
 - ~~ii. the expected duration of shut downs;~~
 - ~~iii. minimum generation capacity of the unit most likely to be required to be shutdown;~~
 - ~~iv. average of that unit's heat rate at minimum and maximum capacities, expressed in GJ/MWh;~~

v. ~~variable fuel costs of that unit expressed in \$/GJ; and~~

vi. ~~variable operating and maintenance costs of that unit, expressed in \$/MWh.~~

10.5.1.

- (e) details of bid, offer and clearing price limits as approved by the Economic Regulation Authority including:
- i. the Maximum Reserve Capacity Price;
 - ii. the Maximum STEM Price;
 - iii. the Alternative Maximum STEM Price;
 - iv. the Minimum STEM Price; ~~and~~
 - v. ~~the Maximum Shutdown Price;~~

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Energy Price Limits: The set of price limits comprising the Maximum STEM Price, the Alternative Maximum STEM Price, and the Minimum STEM Price ~~and the Maximum Shutdown Price.~~

~~**Maximum Shutdown Price:** The maximum per MW price, determined under clause 6.20.5, that can be used in setting the level of compensation a Market Participant other than the Electricity Generation Corporation requires in response to being requested by System Management to shutdown a Scheduled Generator.~~

Appendix 1

- (c) for a Scheduled Generator not registered to the Electricity Generation Corporation:
- i. a commitment ~~and decommitment~~ cost data comprising:
 1. a whole dollar amount representing the cost of committing the facility, where this amount must represent reasonable costs incurred in the typical start-up as justified by supporting evidence.
 2. ~~a whole dollar amount representing the cost of de-committing the facility, where this amount must not exceed the Maximum Shutdown Price multiplied by the minimum dispatchable loading level defined in b(xiv);~~

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

This proposed Rule Change is consistent with the following Market Objectives:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System;

The explicit inclusion of start up costs and using heat rates at minimum capacities in the calculation of the Price Limits would promote economic efficiency by allowing generators to fully recover their Short Run Marginal Costs.

Offers in the Short Term Energy Market and the balancing pay-as-bid prices provide sufficient opportunity for generators to:

- (i) either sell surplus power to avoid an overnight shutdown, or
- (ii) if the balancing service price is low enough, to shutdown the unit and either avoid the losses from continuing to operate or purchase energy needed to fulfil an overnight bilateral position.

Hence, there is no need for an explicit Shut Down payment in the Market Rules and its removal would promote the economic efficiency of the Market.

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

A prescribed treatment of start up costs would enable legitimate costs to be included in the determination of the Energy Price Limits. This change and the change pertaining to the treatment of heat rates would provide confidence to generators that they can recover their Short Run Marginal Cost in all circumstances. This would help provide certainty to generators and promote future investment.

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

Customers would benefit from the removal of the Shut Down Prices which would prevent potential double counting of costs in the market and assist in minimising the overall market costs/prices.

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

Costs:

No direct costs have been identified in relation to the implementation of the proposed change.

Benefits:

A prescribed treatment of start up costs would enable legitimate costs to be included in the determination of the Energy Price Limits. This change and the change pertaining to the treatment of the heat rates would provide confidence to generators that they can recover their Short Run Marginal Cost in all circumstances. This would help provide certainty to generators and assist in promoting future investment.
