

Decision on Energy Price Limits

Submitted by the Independent Market Operator

23 September 2009

Economic Regulation Authority



WESTERN AUSTRALIA

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DECISION

- 1 The Economic Regulation Authority (**Authority**) approves the revised value for the Maximum STEM Price of \$276/MWh pursuant to clause 2.26 of the Wholesale Electricity Market Amending Rules (**Market Rules**). In accordance with clause 6.20.11 of the Market Rules, the approved revised value for the Maximum STEM Price will apply with effect from the time specified in a notice to be published on the Independent Market Operator's (**IMO**) web site.
- 2 The Authority approves the revised value for the Alternative Maximum STEM Price of \$469/MWh pursuant to clause 2.26 of the Market Rules. In accordance with clause 6.20.11 of the Market Rules, the approved revised value for the Alternative Maximum STEM Price will apply with effect from the time specified in a notice to be published on the IMO's web site.

REASONS

Background

- 3 Clause 6.20.6 of the Market Rules requires the IMO to annually review the appropriateness of the value of the Energy Price Limits. Clause 6.20.7 states that in conducting the review, the IMO may propose revised values for the Maximum STEM Price and the Alternative Maximum STEM Price. If it does propose such revised values, the IMO must use the applicable methodology set out in clause 6.20.7(b) of the Market Rules.
- 4 Where, as a result of its review, the IMO has proposed a revised value for the Maximum STEM Price and/or the Alternative Maximum STEM Price, the IMO is required to prepare a draft report describing how it arrived at a proposed revised value of an Energy Price Limit. The IMO must publish the report on the Market web-site and advertise the report in newspapers widely published in Western Australia and request submissions from all sectors of the Western Australian energy industry, including end-users, within six weeks of the date of publication. After considering the submissions on the draft report, the IMO must propose a final revised value for any proposed change to an Energy Price Limit and submit those values and its final report, including submissions received on the draft report, to the Authority for approval.
- 5 The Market Rules require the Authority to review the final report provided by the IMO, including all submissions received by the IMO in the preparation of the report, and to make a decision as to whether or not to approve the revised value for any value comprising the Energy Price Limits.
- 6 In making its decision as to whether or not to approve any proposed change to an Energy Price Limit, the Authority must only consider:
 - whether the revised value for the Energy Price Limit proposed by the IMO reasonably reflects the application of the method and guiding principles for calculating the Energy Price Limits, described in clause 6.20 of the Market Rules; and
 - whether the IMO has carried out an adequate public consultation process.

The IMO's process

- 7 The IMO engaged McLennan Magasanik Associates (**MMA**) to assist with reviewing the requirements and the prescribed methodology of the Market Rules, and revising the Energy Price Limits by conducting an analysis of the relevant costs. MMA, who performed the analysis used in the 2007 and 2008 review of Energy Price Limits, provided the IMO with its draft report on 8 July 2009, which was published on the IMO's web site.
- 8 The IMO published on its web site a draft report on its review of the energy price limits on 13 July 2008, inviting submissions by 21 August 2009. One submission was received from Landfill Gas and Power.
- 9 The IMO invited Rule Participants to attend a workshop on the draft reports, the workshop was held on 6 August 2009.
- 10 Following the public consultation, the Authority identified and referred to the IMO two parameters used in the modelling in MMA's draft report that potentially required revision, being the gas price range and gas load factor.
- 11 The IMO published on its web site a discussion paper on the revised parameters for the Energy Price Limits on 7 September 2009, inviting submissions by 14 September 2009. Submissions were received from Landfill Gas and Power, Alinta Sales Pty Ltd, and Synergy.
- 12 The IMO invited Rule Participants to attend a clarification workshop on the discussion paper and MMA's revised draft report. The IMO's clarification workshop was also held on 10 September 2009.
- 13 MMA provided the IMO with its final report, responding to submissions from interested parties, on 17 September 2009.
- 14 The IMO provided the Authority with its final report on its review of the Energy Price Limits on 17 September 2009.
- 15 Clause 2.26.1 of the Market Rules states:

Where the IMO has proposed a revised value for the Maximum Reserve Capacity Price in accordance with clause 4.16 or a change in the value of one or more Energy Price Limits in accordance with clause 6.20, the Economic Regulation Authority must:

 - (a) review the report provided by the IMO, including all submissions received by the IMO in preparation of the report;
 - (b) make a decision as to whether or not to approve the revised value for the Maximum Reserve Capacity Price or any value comprising the Energy Price Limits;
 - (c) in making its decision, only consider:
 - i. whether the proposed revised value for the Maximum Reserve Capacity Price or Energy Price Limits proposed by the IMO reasonably reflects the application of the method and guiding principles described in clauses 4.16 or 6.20 (as applicable);
 - ii. whether the IMO has carried out an adequate public consultation process; and
 - (d) notify the IMO as to whether or not it has approved the revised value.

- 16 The Authority has reviewed the IMO's draft report and final report, MMA's final report, and submissions from Landfill Gas and Power, Alinta Sales Pty Ltd, and Synergy.
- 17 On the basis of this information, the Authority is satisfied that:
 - 1) the proposed revised Energy Price Limits set out in the IMO's final report reasonably reflect the application of the method and guiding principles for calculating the Energy Price Limits; and
 - 2) the IMO has carried out an adequate public consultation process.

Methodology for calculating Energy Price Limits

- 18 Pursuant to clause 6.20.7(b) of the Market Rules, the IMO is required to calculate the Maximum STEM Price or the 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 includes, but is not limited to, start-up related costs;
- iii) Heat Rate is based on a 40 MW open cycle gas turbine generating station's heat rate at minimum capacity, expressed in GJ/MWh;
- iv) Fuel Cost is the unit fixed and variable fuel cost for a 40 MW open cycle gas turbine generating station expressed in \$/GJ; and
- v) Loss Factor is the marginal loss factor for the generator relative to the Reference Node.

Where the IMO must determine appropriate values for the factors described in paragraphs (i) to (v) as applicable to the Maximum STEM Price and Alternative Maximum STEM Price.

- 19 The Authority considers that the proposed revised Energy Price Limits reasonably reflect the application of this methodology. In particular, the Authority notes:
 - The IMO, on the basis of advice provided by MMA and Sinclair Knight Merz, has updated the costs of running a 40MW gas turbine in the South West Interconnected System, for both industrial and aero type plant. The parameters used in previous reviews for the start up fuel consumption are unchanged. This includes the run up and run down times and the fuel consumption during start up and run down. The new values for variable O&M and fuel costs are set out in appendix of the IMO's final report, and discussed in more detail in Section 3.5 of MMA's final report.
 - MMA has considered the use of heat rate at minimum capacity as a conservative approach and assumed that the 40 MW gas turbines are primarily providing spinning reserve ancillary services.
 - The MMA analysis used by the IMO has again instituted the probabilistic treatment of uncertain variables, such as heat rates, as was done in the 2008 Review. Maximum prices have been set such that the actual cost of gas-fired generation will be less than the Maximum STEM Price of \$276/MWh on

80% of occasions, while the actual cost of liquid-fired generation will be less than the Alternative Maximum STEM Price of \$469/MWh on 90% of occasions.

- The IMO has accepted MMA's technique for calculating the non-fuel component and fuel coefficient values used in determining the Alternative Maximum STEM Price. This was discussed in more detail in Section 3.7.2 of MMA's final report.
- MMA has amended the modelling of the gas supply daily load factor to have a maximum probable value of 75% and a range between 70% and 85% using a triangular distribution. This was discussed in more detail in Section 3.1.5 of MMA's final report.
- The assumptions concerning gas price were taken to be the same as in the 2008 review. The gas price range used was \$6/GJ to \$10/GJ with a mean of \$8/GJ. This was discussed in more detail in Section 3.1.2 of MMA's final report.

Public Consultation Process

- 20 The Authority is satisfied that the IMO has carried out an adequate public consultation process.
- 21 The IMO prepared a draft report describing how it arrived at the proposed revised values of the Maximum STEM Price and the Alternative Maximum STEM Price, and published both its draft report, and the draft report prepared by MMA, on its web site. The IMO invited submissions from interested parties to comment on the draft reports.
- 22 Following the public consultation, the Authority identified two parameters used in the modelling in MMA's draft report that potentially required revision and advised the IMO. These parameters were the gas price range and the gas load factor. The IMO prepared a discussion paper on the revised parameters for the Energy Price Limits and published it on the market web site. The IMO invited submissions from interested parties to comment on the discussion paper.
- 23 The Authority is satisfied that the IMO has considered the three submissions received from Landfill Gas and Power, Alinta Sales Pty Ltd, and Synergy, which are addressed in Section 5 of MMA's final report to the IMO, and Sections 3 and 5 of the IMO's final report.
- 24 In reviewing the submissions the Authority notes that in response to the IMO draft report, Landfill Gas and Power was supportive of the proposal to vary the Energy Price Limits, and that it considered a proper balance between mitigation of market power and facilitating entry of gas-fuelled peaking plant has been struck.
- 25 The Authority notes that in response to the IMO discussion paper on the revised parameters for the 2009 Energy Price Limits Review, all submissions supported the revised Gas Load Factor being centred on a value of 75% with a range between 70% and 85% as a better representation of the expected Dampier to Bunbury Natural Gas Pipeline load factor for the 2009 review period. Submissions from Landfill Gas and Power and Alinta Sales Pty Ltd put forward that the gas price should be based on a price range of \$6/GJ to \$10/GJ with a mean of \$8/GJ as recommended in MMA's draft report and its subsequent final report. Synergy submitted that an unchanged gas price range from the 2008 review does not

reasonably reflect the changed economic circumstances and the market data which suggests a decline in WA domestic gas prices.

- 26 The Authority notes that, in considering the responses received in submissions on gas price, the IMO has applied a measured approach to its decision making process taking into account the limited publically available information and the general unavailability of gas information in Western Australia at present.
- 27 The Authority considers that the IMO has appropriately considered and responded to submissions from interested parties. Accordingly, for the reasons outlined above, the Authority considers that the IMO has carried out an adequate public consultation process.