

**GAS SUPPLY HUB EXCHANGE AGREEMENT  
IMPACT & IMPLEMENTATION REPORT – SUMMARY SECTION**

<b>Issue Number</b>	GSH IIR 002		
Impacted Jurisdiction (s)	Queensland All GSH Trading Locations		
Proponent		Company	Australian Energy Market Operator
Affected Gas Markets(s) <ul style="list-style-type: none"> <li>▪ Retail</li> <li>▪ Wholesale</li> <li>▪ Bulletin Board</li> <li>▪ STTM</li> </ul>	Gas Supply Hub	Consultation process (Ordinary or Expedited)	Ordinary
Industry Consultative forum(s) used	GSH Reference Group	Date Industry Consultative forum(s) consultation concluded	29 July 2014 25 September 2014 30 October 2015 27 November 2014
Short Description of change(s)	Amendments to the Gas Supply Hub Exchange Agreement to provide for the publishing of benchmark prices by AEMO, and the methodology for calculating benchmark prices.		
Procedure(s) or Documentation impacted	GSH Exchange Agreement, Clause 10.3.  The methodology for calculation of benchmark prices will be documented and published on the AEMO website. The proposed methodology is provided as an attachment to this IIR and forms part of this consultation.		
Summary of the change(s)	Amendment of the Exchange Agreement Clause 10.3 to specifically allow publication of benchmark prices at GSH trading locations, and to require publication of the calculation methodology by AEMO on its website, with any subsequent amendments to be made only after consultation with Market Participants.		
I&IR Prepared By	Angelo Mantsio	Approved By	Terry Grimwade
Date I&IR published	12 January 2015	Scheduled date for end of consultation under EA 3.3, 3.4 or 3.6	11 February 2015
Email address for responses	Hub_Reference@aemo.com.au		
AEMO contact for enquiries	Angelo Mantsio – 07 3347 3035		

**IMPACT & IMPLEMENTATION REPORT – DETAILED REPORT SECTION**

**CRITICAL EXAMINATION OF PROPOSAL**

<p>1. Description of change(s) and reasons for change(s)</p>	<p>AEMO proposes an amendment to clause 10.3 of the Gas Supply Hub Exchange Agreement, for the inclusion of a subclause allowing for the publishing of benchmark prices by AEMO, and the methodology for calculating benchmark prices. The proposed amendments refer to clause 10.3 of the Exchange Agreement to be amended by including new subclause 10.3(c) and 10.3(d):</p> <p><i>(c) Without limiting clause 10.3(b), the information referred to in this clause may include a benchmark price or prices in respect of any Product.</i></p> <p><i>(d) If the Operator publishes a benchmark price, it must determine that price in accordance with a methodology established and amended by the Operator after consultation with Market Participants, and the Operator must publish that methodology on its website.</i></p> <p>In consultation with the Gas Supply Hub Reference Group, AEMO has developed a methodology for the calculation of an End-of-Day (EOD) benchmark price for the Day Ahead Gas Product to assist in the facilitation of a derivatives market for the Gas Supply Hub. AEMO proposes to publish a daily benchmark price for the Day Ahead Gas Product for the three trading locations at Wallumbilla (QGP, RBP and SWQP), and a “Wallumbilla Hub” benchmark price encompassing all three trading locations. The proposed EOD benchmark price methodology for the Day Ahead Gas Product to be published in accordance with the amendments to the Exchange Agreement is attached in Attachment A. The EOD benchmark price methodology is to be published on the AEMO website, with any review or amendment to be conducted in consultation with Market Participants via the Gas Supply Hub Reference Group. The inclusion of a clause to specifically allow for publication of the benchmark price and methodology within the Exchange Agreement aims to provide participants and the broader market with greater assurance in the integrity of the benchmark price and methodology. It aims to provide greater transparency in the methodology and the process for amendments to the methodology.</p>
<p>2. Reference documentation</p> <ul style="list-style-type: none"> <li>▪ Exchange Agreement</li> <li>▪ Other</li> </ul>	<p>Exchange Agreement  <b>Proposal:</b> New clause 10.3(c), New clause 10.3(d)</p> <p>Gas Supply Hub End of Day Benchmark Price Methodology  <b>Proposal:</b> Attachment A</p>

<p>3. The high level details of the change(s)</p> <p>including:</p> <ul style="list-style-type: none"> <li>▪ A comparison of the existing operation with changed operation</li> <li>▪ A marked up version as amended (see section 1)</li> </ul>	<p><u>Current Operation</u></p> <p>Clause 10.3 of the Exchange Agreement allows the Operator to determine information to be published on its website about the Exchange. This information includes high, low, opening and closing, and volume weighted prices, aggregated for a period of a day, week or month, but must not include Confidential Information.</p> <p><u>Proposed Operation</u></p> <p>The proposal is consistent with the existing provisions of 10.3 but explicitly provides for the calculation and publication of benchmark prices, and provides for the calculation methodology to be published on the AEMO website and for any subsequent amendments to be made only after consultation with Market Participants.</p>
<p>4. Assessment of significant of change</p> <p>(eg: material, non-material or non-substantial)</p>	<p>Clause 10.3 already allows the Operator to publish volume weighted average prices for the GSH trading locations.</p> <p>However, for benchmark prices to be used as a basis for derivatives trading it is important that the methodology for the calculation of those benchmark prices is clearly understood and subject to a transparent change process.</p> <p>There are minimal system changes required to implement the proposal.</p>

#### **ASSESSMENT OF LIKELY EFFECT OF PROPOSAL**

<p>5. Overall Industry Cost / benefit (tangible / intangible / risk) analysis and/or cost estimates</p>	<p>There are no costs to gas trading exchange members in implementing this proposal.</p> <p>AEMO estimates its costs at implementing the proposal to be in the order of \$35,000 including development, testing and implementation</p> <p><b>Business Analyst</b></p> <ul style="list-style-type: none"> <li>• Requirements Description: 9d</li> </ul> <p><b>Development</b></p> <ul style="list-style-type: none"> <li>• Design and analysis: 3d</li> <li>• Development: 3d</li> </ul> <p><b>Testing</b></p> <ul style="list-style-type: none"> <li>• Testing scope: 10d</li> <li>• Test Planning and execution Support: 17d</li> <li>• UAT Support: 2d</li> </ul> <p>Benefits of the proposal are as follows:</p> <ul style="list-style-type: none"> <li>• A Wallumbilla price index will facilitate the development of a gas futures market; the ASX is proposing to use the Wallumbilla EOD Benchmark price as the reference price for a Gas Supply Hub futures contract targeted to be listed in the second quarter of 2015.</li> </ul>
---	--

	<ul style="list-style-type: none"> <li>• Development of a gas futures market will assist industry through a longer dated forward price curve, enhancing price transparency and assisting market participants to manage price risk and forward planning.</li> <li>• Customers will be able to use the GSH Benchmark price as a basis price for their end-use gas contracts, with the development of a derivatives market providing a risk management tool for forward pricing.</li> </ul>
<p>6. The likely implementation effect of the change(s) on stakeholders</p> <p>(e.g. Industry or end-users)</p>	<p>Incorporated in section 5 above</p> <p>Proposed implementation date is the end of March 2015, this being a necessary pre-requisite to enable the ASX to list a futures contract, referencing the benchmark price, which is currently targeted for Q2 2015.</p>
<p>7. Testing requirements</p>	<p>Incorporated in section 5 above</p>
<p>8. AEMO's preliminary assessment of the proposal's compliance with rule 540(1) NGR:</p> <ul style="list-style-type: none"> <li>- consistency with NGL and NGR,</li> <li>- appropriate with regard to national gas objective</li> <li>- appropriate with regard to likely compliance costs for Operator or Members</li> </ul>	<p><u>Consistency with NGL and NGR</u></p> <p>The NGR provisions relating to the gas trading exchanges requires the Exchange Agreement to set out, amongst other things, the timing and content of market information to be made available by the Operator. In line with this, clause 10.3 of the Exchange Agreement already allows the Operator to publish volume weighted average prices for the GSH trading locations. The proposal is consistent with the existing provisions of clause 10.3 but explicitly provides for the calculation and publication of benchmark prices, and provides for the calculation methodology to be published. Accordingly, AEMO's view is that the proposed changes are consistent with the NGL and NGR.</p> <p><u>National Gas Objective</u></p> <p>The national gas objective is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply.</p> <p>The publication of a daily benchmark price for the Gas Supply Hub will assist in facilitating gas derivative markets and a longer dated forward price curve, assisting market participants in managing price risk and providing greater price transparency. This should also assist in increasing trading liquidity at the Gas Supply Hub, by further concentrating market price risk at the Wallumbilla GSH and bringing more participants to market to manage the risk. These outcomes are likely to promote competition in the gas market in the long term interests of consumers.</p> <p><u>Potential compliance costs</u></p> <p>There are no costs to gas trading exchange members in</p>

	<p>implementing this proposal. AEMO does not believe there will be any ongoing costs to gas trading exchange members to comply with this proposal.</p> <p>AEMO estimates its costs at implementing the proposal to be in the order of \$35,000 including development, testing and implementation. AEMO estimates that ongoing costs to AEMO to comply with this proposal will not be material.</p>
<p>9. Consultation Forum Outcomes</p> <p>(e.g. the conclusions made on the change(s) whether there was unanimous approval, any dissenting views)</p>	<p>The proposal has been discussed at the Gas Supply Reference Group on 29 July 2014, 25 September 2014, 30 October 2014 and 27 November 2014.</p> <p>The proposed benchmark price methodology has been refined through the various GSHRG meetings, and on participant feedback. Initial concerns relating to potential lack of market liquidity, market operating constraints, and risk of market manipulation, have been attempted to be addressed through the use of a daily volume-weighted average price and conditions on orders that can be used for the benchmark calculation.</p> <p>The proposal to establish and publish a Gas Supply Hub Benchmark price has received broad support from market participants. Participant feedback has been supportive of mechanisms to support the development of a derivative market in gas, with the publication of a benchmark price being integral to the process.</p>

<b>RECOMMENDATION(S)</b>	
<p>10. Should the proposed changes be made, (with or without amendments)?</p>	<p>AEMO recommends that the proposal should be implemented.</p>
<p>11. If applicable, a proposed effective date for the proposed change(s) to take effect and justification for that timeline.</p>	<p>Proposed implementation date is the end of March 2015, this being a necessary pre-requisite to enable the ASX to list a futures contract, referencing the benchmark price, which is currently targeted for Q2 2015.</p>

## **ATTACHMENT A – PROPOSED METHODOLOGY FOR CALCULATION OF BENCHMARK PRICES**

### **Gas Supply Hub End of Day Benchmark Methodology (Clause 10.3(d) Exchange Agreement)**

#### **Introduction**

Clause 10.3 of the gas trading exchange agreement (Exchange Agreement) allows for the Operator to publish a benchmark price for a Product, in accordance with a published methodology.

AEMO has decided to publish end of day benchmark prices (each an “EOD Benchmark Price”) for the Day Ahead Gas Product (the “Applicable Product”) for each of the following locations (each a “Location”):

- (a) QGP Trading Location
- (b) RBP Trading Location
- (c) SWQP Trading Location
- (d) Wallumbilla Hub (comprising the QGP Trading Location, the RBP Trading Location and the SWQP Trading Location)

This document sets out the methodology to be used to calculate the EOD Benchmark Prices.

For the purpose of determining the EOD Benchmark Price for the Wallumbilla Hub, references in the methodology to Transactions, Bids or Offers for the Location mean all Transactions, Bids or Offers for the QGP Trading Location, the RBP Trading Location and the SWQP Trading Location.

AEMO intends to publish the EOD Benchmark Prices for the Day Ahead Gas Product each day.

EOD Benchmark Prices are subject to change or correction by AEMO at any time.

#### **Definitions**

Words and phrases in this methodology are either defined in this document or have the meaning given to them in the National Gas Rules or the Exchange Agreement.

#### **Methodology**

##### **Step 1**

Subject to the methodology conditions noted below, the EOD Benchmark Price for a day for a Location for the Applicable Product is:

- (a) the volume weighted average price per Unit of all Transactions for the Location for the Applicable Product made on that day; or
- (b) if there are no Transactions made on that day for the Location for the Applicable Product, determined in accordance with Step 2.

##### **Step 2**

The EOD Benchmark Price for a day for a Location for the Applicable Product will be the EOD Benchmark Price published for the previous day for that Location, unless:

- (a) there is an open Bid price at 14:00 AEST on the day for the Location for the Applicable Product that is higher than the EOD Benchmark Price published

for the previous day for that Location, in which case the EOD Benchmark Price for the day will be the highest Bid price at 14:00 AEST on the day; or

- (b) there is an open Offer price at 14:00 AEST on the day for the Location for the Applicable Product that is lower than the EOD Benchmark Price published for the previous day for that Location, in which case the EOD Benchmark Price for the day will be the lowest Offer price at 14:00 AEST on the day.

### **Methodology Conditions**

- (a) Only Transactions, Bids and Offers on the Exchange Trayport trading screen will be included in the determination of an EOD Benchmark Price.
- (b) Pre-matched Trades will not be included in the determination of an EOD Benchmark Price.
- (c) Conditional Bids or Offers (i.e. All or None) will not be included in the determination of an EOD Benchmark Price under Step 2.
- (d) Only Bids or Offers for at least 5TJ/day will be included in the determination of an EOD Benchmark Price under Step 2.
- (e) Only Bids or Offers that are open and displayed on the Exchange Trayport trading screen for at least 5 continuous minutes will be included in the determination of an EOD Benchmark Price under Step 2.
- (f) The volume weighted average price per Unit under Step 1 will be calculated to two decimal places.
- (g) For the purpose of determining the EOD Benchmark Price for the Wallumbilla Hub under Step 2, if the open Bid price at 14.00 AETS on the day for a Trading Location is higher than the open Offer price at 14.00 AEST on the day for a different Trading Location, the arithmetic average of the Bid price and Offer price will be used.
- (h) Where there has never been a Transaction, Bid or Offer for the Applicable Product for a Location, the initial default EOD Benchmark Price for the Applicable Product for that Location will be \$5/GJ.