

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

Issue Number	GSH IIR 006		
Impacted Jurisdiction (s)	South Australia, Queensland All Gas Supply Hub Trading Locations		
Proponent	Alanah Makin	Company	Australian Energy Market Operator
Affected Gas Markets(s)	Gas Supply Hub	Consultation process (Ordinary or Expedited)	Ordinary
Industry Consultative forum(s) used	GSH Reference Group	Date Industry Consultative forum(s) consultation concluded	19 November 2015
Short Description of change(s)	Amendment of Market Procedures to support the implementation of Moomba and Spread trading products.		
Procedure(s) or Documentation impacted	GSH Settlement and Prudential Procedure (allow negative order prices for spread products) Gas Interface Protocol (new version of the Guide to Gas Supply Hub Reports)		
Summary of the change(s)	<p>On 16 February 2016, AEMO published an Impact and Implementation Report (IIR 004) for the implementation of Moomba and Spread Products (link). In addition, AEMO proposes to:</p> <ul style="list-style-type: none"> • Amend the GSH Settlement and Prudential Procedure to support negatively priced orders for spread products, and • Amend the Guide to Gas Supply Hub Reports to include the new report fields that are proposed to be implemented in conjunction with the implementation of the Moomba project. 		
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Date I&IR published	15 March 2016	Scheduled date for end of consultation under EA 3.3, 3.4 or 3.6	18 April 2016
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IMPACT & IMPLEMENTATION REPORT – DETAILED REPORT SECTION

CRITICAL EXAMINATION OF PROPOSAL

1. Description of change(s) and reasons for change(s)

Background

On 16 February 2016, AEMO published an Impact and Implementation Report (IIR 004) for the implementation of Moomba and Spread Products ([link](#)).

Subsequent to this publication, AEMO identified GSH Market Procedures that also required amendment and consultation for the implementation of Moomba.

Moomba Gas Supply Hub

As outlined in the Impact and Implementation Report (IIR 004) for the implementation of Moomba and Spread Products ([link](#)), AEMO proposes to implement two trading locations at Moomba with balance-of-day, day-ahead, daily, weekly and monthly products.

Spread Products

AEMO also proposes to implement Spread trading products that would link trading between the Moomba to Sydney Pipeline (MSP) and South West Queensland Pipeline (SWQP) trading locations.

The matching of orders in the Spread product generates a MSP transaction (Moomba) and a SWQP transaction (Wallumbilla) – transactions in the spread product are not settled by the exchange.

Proposal

Negative order prices for Spread Products

AEMO proposes to allow the submission of negative order prices for the Spread products.

The convention proposed for the pricing of spread products is:

- A positive price occurs when SWQP (Premium product) is priced above MSP (Base product), and
- A negative price occurs when MSP is priced above SWQP.

In relation to settlement and prudential arrangements, a negative price implies a reversal of the regular cashflows by buyers and sellers – for example, a seller that submits a negatively priced order would, if the order is matched, expect to make a payment to AEMO.

Under the proposed amendments, the reversal of cashflows associated with negative order prices will be reflected in the prudential calculation.

Note that the minimum price for orders in the Wallumbilla and

	<p>Moomba trading locations will continue to be zero under the proposal.</p> <p><i>Update to Guide to GSH Reports</i></p> <p>This proposal also includes an update to the GSH Interface Protocol as the Guide to GSH Reports will be updated to coincide with the go-live of the Moomba hub project. Most of the updates were initially proposed for the regular mid-year release. In addition, a new field has been added to the Trade Confirmation report to allow participants to identify trade results from the matching of orders in the spread product.</p>
<p>2. Reference documentation</p> <ul style="list-style-type: none"> ▪ Exchange Agreement ▪ Other 	<p><u>GSH Settlement and Prudential Methodology</u></p> <p>Proposal: amend equation terms (s2.3.5) and inputs to the Forward Exposure calculations (s5.2.2, s5.2.3).</p> <p><u>GSH Interface Protocol</u></p> <p>Proposal: new version of the Guide to Gas Supply Hub Reports. The updated guide presents the new report fields that are proposed to the Order Confirmation and Trade Confirmation reports.</p>
<p>3. The high level details of the change(s)</p> <p>including:</p> <ul style="list-style-type: none"> ▪ A comparison of the existing operation with changed operation ▪ A marked up version as amended (see section 1) 	<p><u>Current Operation</u></p> <p>The GSH does not currently permit the submission of orders with a negative price. As such, it is expected that a buyer will make a payment to AEMO and sellers will be paid by AEMO as part of the regular settlement process.</p> <p><u>Proposed Operation</u></p> <p>Under the proposal AEMO will allow negative order prices for spread products. Negative prices represent a reversal of cashflows where (if orders are matched) the seller would be required to make a payment to AEMO.</p> <p>The Settlement and Prudential Methodology will be amended to correctly assess the prudential risk of negated priced orders (shown in Attachment A). In general, the submission of a negatively priced sell order seller would increase a trading participant's calculated exposure.</p> <p>A new version of the Guide to Gas Supply Hub Reports is proposed to coincide with the Moomba implementation. The GSH interface protocol will be updated as shown in Attachment B.</p>
<p>4. Assessment of significant of change</p> <p>(eg: material, non-material or non-substantial)</p>	<p>The proposal is a non-material change to current market operations. New information will be made available to Participants through the reporting system.</p>

ASSESSMENT OF LIKELY EFFECT OF PROPOSAL	
5. Overall Industry Cost / benefit (tangible / intangible / risk) analysis and/or cost estimates	The benefits and costs associated with the Moomba implementation proposal are outlined in IIR 004 (link).
6. The likely implementation effect of the change(s) on stakeholders (e.g. Industry or end-users)	Under the proposal new report fields will be added to the Order Confirmation and Trade Confirmation reports.
7. Testing requirements	Participants using CSV reports to support their GSH participation should consider testing the new version of the Order Confirmation and Trade Confirmation reports.
8. AEMO's preliminary assessment of the proposal's compliance with rule 540(1) NGR: - consistency with NGL and NGR, - appropriate with regard to national gas objective - appropriate with regard to likely compliance costs for Operator or Members	The assessment of the Moomba and Spread product proposal is outlined in IIR 004 (link).
9. Consultation Forum Outcomes (e.g. the conclusions made on the change(s) whether there was unanimous approval, any dissenting views)	The Moomba and Spread product implementation proposal was discussed at the following Gas Supply Reference Group meetings: <ul style="list-style-type: none"> • 12 February 2015 • 12 March 2015 • 27 March 2015 • 23 April 2015 • 16 October 2015 • 19 November 2015

RECOMMENDATION(S)	
10. Should the proposed changes be made, (with or without amendments)?	AEMO recommends that the proposal should be implemented.

<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 for the Moomba and Spread trading products is the beginning of June 2016.</p>
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ATTACHMENT A

Documentation Changes

Blue represents additions. Red and strikethrough represents deletions – Marked up changes

1.1 Settlement Equation Definitions

Term	Definition
Negative Value Transaction	<p>Negative Value Transaction means any of the following:</p> <ul style="list-style-type: none"> a Transaction where Member m is the Seller with a Transaction Price greater than or equal to \$0.00; and a Transaction where Member m is the Buyer with a Transaction Price less than \$0.00. <p>– see clauses 0 and 0</p>
PGC(p,d)	<p>Physical Gas Charge for a Gas Day payable by for a Buyer to the Operator for the Transaction Quantity under a Physical Gas Transaction – see clause Error! Reference source not found.</p>
PGP(p,d)	<p>Physical Gas Payment for a Gas Day payable by the Operator to for a Seller for the Transaction Quantity under a Physical Gas Transaction – see clause Error! Reference source not found.</p>
Positive Value Transaction or Order	<p>Positive Value Transaction or Order means any of the following:</p> <ul style="list-style-type: none"> a Bid by Member m with a Price greater than (or equal to) \$0.00; a Transaction where Member m is the Buyer with a Transaction Price greater than (or equal to) \$0.00; an Offer by Member m with a Price less than \$0.00; and a Transaction where Member m is the Seller with a Transaction Price less than \$0.00. <p>– see clauses 0 and 0</p>

5.2 Forward Exposure

5.2.1 Average Buy and Sell Price

(a) Average Buy Price for Member m, Gas Day d and Trading Location l:

$$ABP(m,d,l) = \frac{\sum_c \sum_r (TP(t') \times TQ(t',d,c,l))}{\sum_c \sum_r (TQ(t',d,c,l))}$$

Where t' is a Positive Value Transaction or Order ~~Transaction or Order where traded or submitted by Member m is the Buyer.~~

(b) Average Sell Price for Member m, Gas Day d and Trading Location l:

$$ASP(m,d,l) = \frac{\sum_c \sum_{t''} (TP(t'') \times TQ(t'',d,c,l))}{\sum_c \sum_{t''} (TQ(t'',d,c,l))}$$

Where t'' is a Negative Value Transaction ~~Transaction where~~ traded by Member m ~~is the Seller~~.

5.2.2 Trading Position

- (c) Net Transaction Quantity for Member m for Gas Day d:

$$NTQ(m,d,l) = \sum_c \sum_{t'} TQ(t',d,c,l) - \sum_c \sum_{t''} TQ(t'',d,c,l)$$

Where:

- (i) t' is a Positive Value Transaction or Order ~~Transaction or Order where~~ traded or submitted by Member m ~~is the Buyer~~.
- (ii) Where t'' is a Negative Value Transaction ~~Transaction where~~ traded by Member m ~~is the Seller~~.

- (d) Offset Quantity for Member m for Gas Day d:

$$OFQ(m,d,l) = \text{MIN}(\sum_c \sum_{t'} (TQ(t',d,c,l)), \sum_c \sum_{t''} (TQ(t'',d,c,l)))$$

Where:

- (i) t' is a Positive Value Transaction or Order ~~Transaction or Order where~~ traded or submitted by Member m ~~is the Buyer~~.
- (ii) Where t'' is a Negative Value Transaction ~~Transaction where~~ traded by Member m ~~is the Seller~~.

5.2.3 Forward Trading Exposure

- (e) Forward Trading Exposure for Member m:

$$FTE(m) = \sum_d \sum_l [\text{If} \{ NTQ(m,d,l) > 0, \\ \text{Then } NTQ(m,d,l) \times ABP(m,d,l) \times B(d), \\ \text{Else } NTQ(m,d,l) \times ASP(m,d,l) \times S(d) \} \\ + OFQ(m,d,l) \times (ABP(m,d,l) - ASP(m,d,l)) \times (1+GST(d))]$$

Where Gas Day d ≥ processing day.

ATTACHMENT B

Documentation Changes

Blue represents additions. Red and strikethrough represents deletions – Marked up changes

4. GSH Interface Protocol Artefacts

FORM OF DOCUMENTATION	DOCUMENT	VERSION
Reports	Guide to Gas Supply Hub Reports Purpose: specify all of the reports published by the Operator on its Gas Hub Direct System (to trading participants and the public).	1.3 1.4