

|                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------|
| <p align="center"><b>GAS SUPPLY HUB EXCHANGE AGREEMENT</b><br/> <b>IMPACT &amp; IMPLEMENTATION REPORT – SUMMARY SECTION</b></p> |
|---------------------------------------------------------------------------------------------------------------------------------|

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |                                   |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------|
| Issue Number                           | GSH IIR 004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |                                   |
| Impacted Jurisdiction (s)              | South Australia, Queensland<br>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)         | Amendments to the Gas Supply Hub Exchange Agreement to include two Moomba trading locations and spread products between Wallumbilla and Moomba.                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |                                   |
| Procedure(s) or Documentation impacted | GSH Exchange Agreement: <ul style="list-style-type: none"> <li>Additional Schedules to include the two Moomba trading location Product Specifications, Spread Products, and Moomba Trading Locations and Delivery Points.</li> <li>Additional sections to support trading of Spread Products and to allow Implied Orders to be generated on the exchange.</li> </ul> GSH Exchange Fees: <ul style="list-style-type: none"> <li>An explanatory note has been added to describe the determination of fees for transactions resulting from the matching of spread product orders.</li> </ul> |                                                                 |                                   |
| Summary of the change(s)               | Amendment of the Exchange Agreement for the inclusion of: <ul style="list-style-type: none"> <li>Additional Schedules for the 'Product Specifications' for Daily, Day Ahead, Balance-of-Day, Weekly and Monthly Moomba gas and</li> <li>Daily, Day Ahead, and Monthly Spread Product gas.</li> </ul> Amendment to GSH Exchange Fees for the inclusion of how the Spread Product fees are determined.                                                                                                                                                                                      |                                                                 |                                   |
| I&IR Prepared By                       | Alanah Makin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Approved By                                                     | Peter Geers                       |
| Date I&IR published                    | 16 February 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Scheduled date for end of consultation under EA 3.3, 3.4 or 3.6 | 18 March 2016                     |
| Email address for responses            | <a href="mailto:Hub_Reference@aemo.com.au">Hub_Reference@aemo.com.au</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |                                   |
| AEMO contact for enquiries             | Alanah Makin – 07 3347 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |                                   |

## IMPACT & IMPLEMENTATION REPORT – DETAILED REPORT SECTION

| CRITICAL EXAMINATION OF PROPOSAL                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Description of change(s) and reasons for change(s) | <p><u>Moomba Gas Supply Hub</u></p> <p>AEMO proposes to implement two trading locations at Moomba, at the following locations:</p> <ul style="list-style-type: none"> <li>• Moomba Sydney Pipeline (MSP)</li> <li>• Moomba Adelaide Pipeline System (MAP)</li> </ul> <p>AEMO will implement the same suite of products at the Moomba trading locations as those listed for the Wallumbilla trading locations, including balance-of-day, day-ahead, daily, weekly and monthly products. The product specifications (for example the parcel size and price limits) are also consistent with the Wallumbilla trading products.</p> <p>Trading locations at Moomba would provide gas producers, large users and retailers in South Australia and New South Wales to trade physical gas products. Trading at the Moomba trading locations will enhance gas market competition, improve market signals through greater price transparency at a key gas transit point and supply source and will support efficient balancing outcomes across the east coast gas market.</p> <p><u>Spread Products</u></p> <p>AEMO also proposes to implement spread products to link trading between Moomba and Wallumbilla. The matching of orders (transaction) in the Spread product generates a MSP transaction (Moomba) and a South West Queensland Pipeline (SWQP) transaction (Wallumbilla) – transactions in the spread product are not settled by the exchange.</p> <p>The pricing of a Spread product represents the price differential between Moomba (the MSP trading location) and Wallumbilla (the SWQP trading location). The price of orders in the Spread product permitted by the exchange is proposed to be between \$-100/GJ and \$100/GJ.</p> <p>These two trading locations are physically interconnected by the South West Queensland Pipeline, enabling participants with the requisite pipeline transport rights to arbitrage any price differentials between the locations. Spread products could enhance the liquidity of the Wallumbilla and Moomba markets and support secondary trading in pipeline capacity between these two locations.</p> <p>The operation of Spread Products is outlined in section 13.5 of the Exchange Agreement and includes:</p> <ul style="list-style-type: none"> <li>• Submitting an order for a Spread Product (s13.5.1)</li> </ul> |

|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                           | <ul style="list-style-type: none"> <li>• Transactions formed through the matching of Spread Product orders (s13.5.2)</li> <li>• Acceptance rules that apply to the Spread Product order (s13.5.3)</li> <li>• Transaction costs associated with a Spread Product order (s13.5.4)</li> </ul> <p><u>Implied orders</u></p> <p>Implied orders will be generated between related products (Spread, MSP and SWQP). Implied orders will be displayed on the exchange to facilitate trading between the related products.</p> <p>The operation of Implied Orders is outlined in section 13.6 of the Exchange Agreement and includes:</p> <ul style="list-style-type: none"> <li>• How implied orders are displayed (s13.6.1)</li> <li>• Calculation of Implied Orders (s13.6.2)</li> <li>• Quantity of Implied Orders (s13.6.3)</li> <li>• Implied Order characteristics (s13.6.4)</li> <li>• Implied Order product limits (s13.6.5)</li> <li>• Formation of transactions where there are Implied Orders (s13.6.6)</li> </ul> <p><u>Balance-of-day products</u></p> <p>The drafting of the existing Balance-of-day product specifications (schedule 6) is amended to clarify the Start Time of a transaction.</p> <p><u>GSH Exchange Fees</u></p> <p>Spread Products will require an amendment to the Gas Supply Hub – Exchange Fees. The amendment simply notes that Variable Transaction Fees are payable on the underlying Wallumbilla and Moomba products, they are not payable on spread product transactions.</p> |
| <p>2. Reference documentation</p> <ul style="list-style-type: none"> <li>▪ Exchange Agreement</li> <li>▪ Other</li> </ul> | <p><u>Exchange Agreement</u></p> <p><b>Proposal:</b> Inclusion of ‘Section 13.5: Spread Products’</p> <p>‘Section 13.6: Implied Orders’</p> <p>‘Schedule 3: Trading Locations and Delivery Points (Moomba)’</p> <p>‘Schedule 6: Product Specifications for Balance-of-Day Gas (Wallumbilla)’</p> <p>‘Schedule 9: Product Specification for Daily Gas (Moomba)’</p> <p>‘Schedule 10: Product Specification for Day Ahead Gas (Moomba)’</p> <p>‘Schedule 11: Product Specification for Balance-of-Day Gas (Moomba)’</p> <p>‘Schedule 12: Product Specification for Weekly Gas (Moomba)’</p> <p>‘Schedule 13: Product Specification for Monthly Gas (Moomba)’</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                 | <p>'Schedule 14: Product Specification for Day-Ahead Gas Spread Product (Moomba – Wallumbilla)'</p> <p>'Schedule 15: Product Specification for Daily Gas Spread Product (Moomba – Wallumbilla)'</p> <p>'Schedule 16: Product Specification for Monthly Spread Product (Moomba – Wallumbilla)'</p> <p><u>GSH Exchange Fees</u></p> <p><b>Proposal:</b> Inclusion of a note with information on Spread Product transaction fees</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>The current products listed on the Gas Supply Hub at any time are a single Balance of Day and Day Ahead product, six Daily, four Weekly and three Monthly products for the trading locations QGP, RBP and SWQP at Wallumbilla.</p> <p>The Variable Transaction Fee for these products are \$0.03/GJ for daily products, \$0.02/GJ for weekly products, and \$0.01/GJ for monthly products.</p> <p><u>Proposed Operation</u></p> <p>Under the proposed amendment an additional two trading locations will be listed: Moomba to Adelaide Pipeline (MAP) and Moomba to Sydney Pipeline (MSP). These products will be listed on the Gas Supply Hub at any time for a single Balance of Day and Day Ahead product, six Daily, four Weekly and three Monthly products. The Variable Transaction Fees for these products are \$0.03/GJ for daily products, \$0.02/GJ for weekly products, and \$0.01/GJ for monthly products.</p> <p>Three additional Spread Products (between Moomba – Wallumbilla) will also be added under the proposed amendment. These products will be listed on the Gas Supply Hub at any time for a single Day Ahead product, six Daily and three Monthly Products. The Variable Transaction Fee for these products will be payable in the underlying Wallumbilla and Moomba products.</p> |
| <p>4. Assessment of significant of change</p> <p>(eg: material, non-material or non-substantial)</p>                                                                                                                                            | <p>While the proposed amendment will be significant for gas trading in eastern Australia, it is a non-material change to current market operations with no impact on existing products.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

#### ASSESSMENT OF LIKELY EFFECT OF PROPOSAL

|                                                |                                                                                                                    |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 5. Overall Industry Cost / benefit (tangible / | Costs for gas trading exchange members associated with the implementation of the new Moomba and Spread products is |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|

|                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>intangible / risk) analysis and/or cost estimates</p>                                                        | <p>dependent on whether participants choose to update their trading processes and systems for the new products. There are no changes to any existing reports or interfaces – information relating to orders or transactions in the Moomba products will be reported in the existing reports. There are no costs for gas trading exchange members if they do not trade the new products.</p> <p>AEMO estimates its costs for implementing the proposal to be in the order of \$200,000 including development, testing and implementation.</p> <p>Benefits of the proposal include:</p> <ul style="list-style-type: none"> <li>• Moomba trading products makes available standardised gas trading arrangements and a trading platform to retailers, gas producers and gas users operating in South Australia and New South Wales.</li> <li>• A Moomba hub would provide marketing and risk management opportunities for gas producers operating in central Australia, providing an efficient, low-cost option for bringing their gas to market.</li> <li>• The ability to pool together buyers and sellers operating in eastern Australia could drive new trading opportunities.</li> <li>• Support the development of hub services as traders optimise gas production, storage and pipeline flows around Moomba. Hub services could include: Hub transfer services to move gas across Moomba, storage services to manage inter-temporal positions, in-pipe trade services to facilitate simple title transfer and the on-selling of gas.</li> <li>• Prices for Moomba trading hub could provide a market signal for one of the key supply and transit points for markets in Queensland and southern Australia.</li> <li>• Spread products would enhance transparency in the price differential between Wallumbilla and Moomba, providing a signal for trading opportunities between the two markets. Trading and competition between buyers and sellers of the spread product would enhance liquidity and efficiency of pricing transactions at the Wallumbilla and Moomba gas hub.</li> </ul> |
| <p>6. The likely implementation effect of the change(s) on stakeholders</p> <p>(e.g. Industry or end-users)</p> | <p>Cost considerations incorporated in section 5 above.</p> <p>The implementation of Moomba and Spread products will allow implied orders to be generated in the existing SWQP product. The implied orders can be traded and as such are not expected to impact on participants and existing operations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>7. Testing requirements</p>                                                                                  | <p>Incorporated in section 5 above</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p>8. AEMO's preliminary assessment of the proposal's compliance</p>                                            | <p><u>Consistency with National Gas Law (NGL) and National Gas Rules (NGR).</u></p> <p>The NGR provisions relating to the gas trading exchange</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>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>requires the Exchange Agreement to set out, amongst other things, a description of the products offered on the exchange and the process for amending the Exchange Agreement.</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 listing of Moomba and Spread trading products on the GSH exchange will provide industry with an efficient and low cost option for managing physical gas portfolio requirements, in response to short term supply, production or customer demand variations.</p> <p>Trading at Moomba will provide participants with a signal the efficient production and utilisation of gas as well as providing a signal for the efficient utilisation of pipeline and storage facilities connecting at Moomba. The spread product will aid the trading of gas between the Wallumbilla and Moomba hubs.</p> <p>Trading in Moomba products and Spread Products would also provide industry additional price transparency.</p> <p><u>Potential compliance costs</u></p> <p>AEMO does not anticipate any compliance costs to gas trading exchange members associated with this proposal as trading in the products is voluntary.</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 following Gas Supply Reference Group meetings:</p> <ul style="list-style-type: none"> <li>• 12 February 2015</li> <li>• 12 March 2015</li> <li>• 27 March 2015</li> <li>• 23 April 2015</li> <li>• 16 October 2015</li> <li>• 19 November 2015</li> </ul> <p>The proposal to list Moomba Trading Products and Spread Products on the Gas Supply Hub was broadly supported by Gas Supply Hub Reference Group members.</p> <p>During the consultation some members expressed concern that the Moomba product may negatively impact on liquidity at Wallumbilla.</p> <p>While a number of members also expressed concern that the development of the Moomba gas trading hub was taking place in parallel with the Australian Energy Market Commission's East Coast Gas Market Review.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| RECOMMENDATION(S)                                                                                                           |                                                             |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 10. Should the proposed changes be made, (with or without amendments)?                                                      | AEMO recommends that the proposal should be implemented.    |
| 11. If applicable, a proposed effective date for the proposed change(s) to take effect and justification for that timeline. | Proposed implementation date is the beginning of June 2016. |

## ATTACHMENT A

### Documentation Changes

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

#### 1. Gas Supply Hub – Exchange Fees

##### 1. Exchange Fees

The fees set out below relate to Section 5.5 (Participation Fees) of the AEMO Gas Supply Hub Exchange Agreement.

These fees are current as per the date of this document and can be amended by AEMO at any point in future.

| PARTICIPANT TYPE          | FEE TYPE                                     | RATE                                                                                            |
|---------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|
| Trading Participants      | Fixed Fee – One user account licence         | \$14,500 p.a. licence fee                                                                       |
|                           | Fixed Fee – additional user account licences | \$5,500 p.a. licence fee                                                                        |
|                           | Variable Transaction Fee*                    | \$0.03/GJ daily product fee;<br>\$0.02/GJ weekly product fee;<br>\$0.01/GJ monthly product fee. |
| Reallocation Participants | Fixed Fee                                    | \$9,000 p.a.                                                                                    |
| Viewing Participants      | Fixed Fee                                    | \$5,500 p.a. licence fee                                                                        |

\*Explanatory note: the Variable Transaction Fee in relation to the matching of orders in a Spread Product is payable on each Moomba and Wallumbilla transaction.

#### 2. Gas Supply Hub Interface Protocol

##### 4. GSH Interface Protocol Artefacts

| FORM OF DOCUMENTATION | DOCUMENT                                                                                                                                                                           | VERSION            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Reports               | <b>Guide to Gas Supply Hub Reports</b><br><br>Purpose: specify all of the reports published by the Operator on its Gas Hub Direct System (to trading participants and the public). | <del>1.2</del> 1.3 |

## ATTACHMENT B

### **Documentation Changes**

See draft Exchange Agreement v5.0 with amendments as specified above (section 2).

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