

Your Ref: Energy Market Reform Bulletin No. 106

Our Ref: D/07/0630

2 November 2007

Dr Jim Limerick  
Chairman - Joint Working Group on Natural Gas Supply  
Department of Industry and Resources  
1 Adelaide Terrace  
EAST PERTH WA 6004

e-mail to: [Andrew.TAYLOR@doir.wa.gov.au](mailto:Andrew.TAYLOR@doir.wa.gov.au)

Dear Dr Limerick

## **Report of the Joint Working Group on Natural Gas Supply**

The Authority notes that the Department of Industry and Resources (DoIR) has recently invited comment, through a notice on the Ministerial Council on Energy (MCE) web site, on the Final Report issued by the Joint Working Group (JWG) on Natural Gas Supply in September 2007.

The Authority welcomes the opportunity to provide comment on this report. The Authority's comments on specific elements of the JWG report, relating to the Western Australian gas market, are attached.

Overall, the Authority is supportive of the findings outlined in the JWG report and the associated consultant's report from McLennan Magasanik Associates (MMA Report).

In particular, the Authority is in agreement with the view expressed in the MMA Report that there is no evidence of market failure in the gas supply situation in Western Australia and that the Western Australian market should be allowed to work to overcome the current gas supply difficulties through the appropriate price signals now evident, consistent with the competitive market principles introduced into the energy sector in Australia over a decade ago.

The Authority also generally agrees with the MMA Report finding that there is likely to be continuing tightness in the gas supply market in Western Australia up until 2010 but that beyond 2010 the situation is likely to ease. Based on new gas field developments for supply to the domestic market from fields such as Reindeer and Julimar, planned by Apache Energy and its joint venture partners, the Authority considers that the gas supply situation in Western Australia is likely to improve beyond 2010.

The main issue of concern to the Authority arising from the MMA and JWG reports is the issue of gas quality specifications for Western Australian gas pipelines. Comment has been made in these reports relating to the need for the Western Australian Government to introduce measures to facilitate a move to the Australian gas specification standard (AS4564) for Western Australian gas pipelines, in particular the Dampier to Bunbury Natural Gas Pipeline (DBNGP).

In its capacity as the economic regulator for Western Australia's gas transmission and distribution pipelines under the *National Third Party Access Code for Natural Gas Pipeline Systems (Code)* and its future replacement, the *National Gas Law (NGL)*, the Authority is responsible for approving gas quality specifications in access arrangements submitted by gas pipeline service providers.

While the Authority agrees that the gas specification on the DBNGP can be a barrier to entry for gas from certain fields (such as Macedon), a clear understanding is required of the various issues affecting the gas pipeline specification for the DBNGP before being able to formulate appropriate approaches to resolving these barriers. The MMA and JWG reports do not display an adequate level of knowledge of these issues. This matter is discussed in detail in the attachment. It should be noted that the Authority was not consulted by either MMA or the JWG prior to the preparation of the reports. The Authority considers that such consultation would have been beneficial to both MMA and the JWG in achieving a better understanding of this matter.

Should you wish to discuss any of these matters you may give me a call on 9213 1900 or refer any questions to Mr Russell Dumas, Director - Gas and Rail Access on 9213 1953.

Yours sincerely,

**LYNDON ROWE**  
**CHAIRMAN**

## ATTACHMENT

### Authority Comments on the MMA and JWG Reports

#### 1. Gas Pipeline Specifications

##### *Overview*

The JWG considered gas quality specifications in Western Australia as one of the barriers to entry, and MMA recommended that the Western Australian Government consider revising its gas standards regulations in line with the *Australian Standard Specification for general purpose natural gas: AS4564-2005* (National Standard) and that the specifications for the DBNGP subsequently be broadened to match the new specification.

Gas quality is required to be considered by the Authority as part of the terms and conditions of access arrangements that provide third party access to natural gas pipelines in Western Australia. In terms of legislation, the only regulations in place dealing with the specification of gas entering Western Australian gas pipeline systems are the regulations relating to safety matters on gas distribution systems. These regulations (*Gas Standards (Gas Supply and System Safety) Regulations 2000*) are administered by the Energy Safety division of the Department of Consumer and Employment Protection (DOCEP).

There are no regulations governing the specification of gas entering gas transmission pipeline systems in Western Australia. Such regulations were previously in place for the DBNGP but the Government repealed these regulations when the first access arrangement for this pipeline was approved.

In the case of the gas transmission systems, there are also commercial contracts between the pipeline owners and shippers which contain provisions relating to allowable gas specifications. For example, in the case of the DBNGP, all shippers (except Alcoa which has its own contractual arrangements) have entered into a Standard Shipper Contract (SSC) which contains clauses explicitly setting out the gas quality parameters allowable for the transport of gas on this pipeline.

At the present time, none of the regulated transmission or distribution gas systems in Western Australia operate on the Australian gas specification standard (*Australian Standard Specification for general purpose natural gas: AS 4564*). A summary of the gas specification requirements set out under the access arrangement for the DBNGP, the Goldfields Gas Pipeline (GGP) and the Mid-West and South-West Gas Distribution Systems (gas distribution system) compared with the Australian Standard is provided in Table 1. This table also lists the SSC gas specification for the DBNGP.

The issue of a shift to the Australian Standard for the regulated pipelines in Western Australia therefore needs to have regard to the three areas mentioned above governing gas specification on these pipelines, these being the regulations (dealing with safety matters on the gas distribution system), the access arrangements for these pipelines and the commercial contracts relating to the transport of gas on the gas transmission pipelines (such as the SSC). The Authority has no role in either the regulations or the commercial contracts. In regard to the access arrangements, the Authority is responsible for administering the requirements of the national gas law governing these arrangements for Western Australia. However, this legislation does not allow the Authority to impose a particular gas specification (such as the Australian Standard) on a pipeline owner unless the Authority is satisfied that such an outcome represents a balanced position taking into account the views expressed by all interested parties. Any such decision made by the Authority is subject to a merits based appeal mechanism.

It also needs to be noted that there are safety, commercial and pipeline integrity issues relating to some of the gas specification parameters for the transmission pipelines in Western Australia, particularly the DBNGP, which would need to be investigated before any move to the Australian Standard could be considered.

**Table 1 - Gas quality specifications for Major WA pipelines**

Parameter	Gas Distrib. AA <sup>1</sup>	Safety Reg. 2000	DBNGP AA <sup>2</sup>	GGP AA <sup>3</sup>	DBNGP SSC Inlet <sup>4</sup>	National AS 4564*
Min. Higher Heating Value [MJ/m3]	37.0	37.0	37.0	35.5	37.3	
Max Higher Heating Value [MJ/m3]	42.3	42.3	42.3	42.5	42.3	
Min Wobbe Index [MJ/m3]	46.5	46.5	46.5	46.0	47.3	46.0
Max Wobbe Index [MJ/m3]	51.0	51.0	51.0	51.5	51.0	52.0
Max Carbon Dioxide [Mole%]	4.0		4.0	3.6	3.6	
Max Inerts [Mole%]	7.0		7.0	7.0	5.5	7.0
Unodorised Gas, Max Total Sulphur [mg/m3]	20	50	10	10	10	50
Odorised Gas, Max Total Sulphur [mg/m3]	20	50	20		20	50
Max Hydrogen Sulphide [mg/m3]	4.6		2	5	2	5.7
Max Oxygen [Mole%]	0.2		0.2	0.2	0.2	0.2
Max Water [mg/m3]	100		48	48	48	112
Hydrocarbon Dew Point [deg C]			<0	0	<0	
Max Radioactive Components [Bq/m3]	600		600	600	600	

It should be noted that footnote 4 on page 11 of the national specification effectively assumes that “ for all practical gases available, or likely to be available commercially”, gas of the type available from the Macedon field would not be available to a pipeline system. Hence the national specification does not explicitly provide for Macedon gas and doubt exists as to whether the limits of the national specification apply to this gas.

<sup>1</sup> Most stringent of : the [Gas Standards \(Gas Supply and System Safety\) Regulations 2000](#), or b) the broadest specification in schedule 6 of the [approved access arrangement](#).

<sup>2</sup> [Approved Revised access arrangement Terms and Conditions](#) for Reference Services 15 December 2005:

<sup>3</sup> Goldfields Gas Pipeline Approved access arrangement - [Appendix 3 General Terms and Conditions](#) 14 July 2005;

<sup>4</sup> [Standard Shipper Contract – Full Haul T1](#) Dampier to Bunbury Natural Gas Pipeline 25/05/02007:

## *Gas Distribution System*

The Energy Safety Division of DOCEP has commenced a process to amend the gas safety regulations in place on the gas distribution system (*Gas Standards (Gas Supply and System Safety) Regulations 2000*). These changes will align these regulations more closely with the Australian Standard. However, as the Australian Standard does not specify a minimum Higher Heating Value (HHV), the current HHV as specified in the existing regulations (37.0 MJ/cubic metre) would be retained at this stage. The minimum HHV specified in the current regulations is required to protect consumers using older (pre-1980) gas appliances. The pre-1980 gas appliances are understood to be very old pre-1972 gas appliances (converted from town gas use) which have low performance characteristics and 1973-1980 gas appliances which have reasonable performance characteristics but which require safety cut-outs to be fitted to cater for flame failure.

In order to be able to remove the limitation on the minimum HHV, DOCEP has advised that it would need to carry out a survey of older gas consumer installations to locate and record all pre-1980 gas appliances. Such a survey would take at least six months to organise and six months to complete at a cost of around \$1 million. A strategy would then need to be developed to remove or remediate such gas appliances. There is also the need to identify whether some gas fuelled industrial operations connected to the gas distribution system may need modification to allow for the use of leaner gas. DOCEP has estimated that it could take two to three years to complete this work, at a cost of around \$20 million, dependent on the number of appliances identified in the survey. It is understood that the Government is currently considering the provision of funding to allow the survey to commence. DOCEP has advised that once such a program was completed, it could remove any requirement for a minimum HHV for gas entering the gas distribution system consistent with the Australian Standard. This impediment to lowering the minimum allowable HHV under the gas distribution system safety regulations needs to be removed to allow gas from lower quality fields, such as Macedon, to be considered for transport on the DBNGP.

As noted from Table 1, there are a number of other parameters which make up the gas specification for the gas distribution system which are not covered by the safety regulations. Most of these parameters are not consistent with the Australian Standard. Any change to more closely align these parameters with the Australian Standard would need to occur through the access arrangement revision process for the gas distribution system. As noted above, the Authority cannot impose a particular gas specification (such as the Australian Standard) on a pipeline owner unless the Authority is satisfied that such an outcome represents a balanced position taking into account the views expressed by all interested parties.

The next scheduled revision of the access arrangement for the gas distribution system is due to commence (through the lodgement of a proposed revision submission by the pipeline owner) on 1 April 2009.

## *Gas Transmission Systems*

As noted above, there are no regulations governing the gas quality parameters for gas transported on the gas transmission pipelines. The principal gas transmission pipelines regulated by the Authority are the DBNGP and the GGP. While the transport of gas on the gas distribution system takes place under the access arrangement terms and conditions, the transport of gas on both the DBNGP and the GGP is governed by commercial contracts which specify an allowable gas specification. The gas specification in the access arrangement only becomes relevant where there is spare capacity on these pipelines and shippers can obtain a transportation contract under the access arrangement terms and conditions. In the case of the DBNGP, no spare capacity is available (full haul) and all gas transportation contracts come under the SSC arrangements (except Alcoa as noted earlier).

Consequently, any change to the gas specifications contained in the commercial contracts, such as the SSC, relies on commercial negotiations between the pipeline owner and the shippers. While the Authority has no role in this process, it is keen to see such negotiations take place to achieve a greater level of consistency between the access arrangement gas specification and that prevailing under the SSC. As indicated in Table 1, the gas specifications under the SSC and the access arrangements for the DBNGP and the GGP differ and are currently not consistent with the Australian Standard. Any move to achieve greater consistency with the Australian Standard would require both the pipeline owners and the shippers to agree to amend their commercial contracts through a negotiation process in which the Authority does not have a role. If this occurred, it is likely that similar changes could be made to the access arrangements through the access arrangement revision processes.

In view of the above, it is worth noting the processes which need to be undertaken to allow gas from the Macedon gas field, which has a HHV within the Australian Standard but below the minimum level specified in the SSC, to enter the DBNGP. Firstly, as mentioned previously, the legislative impediment of the minimum HHV specified in the safety regulations for the gas distribution system needs to be removed through the process described earlier. Once the Government has considered and approved the processes required to remove this legislative impediment, the owner of the Macedon gas field (BHPBilliton) and Dampier Bunbury Pipeline need to reach a commercial agreement that would allow the SSC to be amended to permit Macedon gas to be transported on this pipeline. This agreement would need to take into account DBP's concern of a reduction in capacity (if any) arising from the transportation of a gas with a lower minimum HHV. It should be noted that a lower HHV does not necessarily impact on capacity nor is it necessarily of a lower quality.

In addition, as previously mentioned, there are safety, commercial and pipeline integrity issues relating to some of the gas specification parameters for the transmission pipelines in Western Australia, particularly the DBNGP, which would need to be investigated before any move to the Australian Standard could be considered. In addition the matter dealt with in footnote 4 of the national specification would need to be resolved.

The relevant agencies responsible for the safety regulation of transmission pipelines in Western Australia (DOCEP and DOIR) have advised that parameters such as the moisture, sulphur and hydrogen sulphide levels on the DBNGP would need investigation before a move to more closely align these parameters with the Australian Standard could be considered for application to transmission pipelines. In terms of commercial matters, the lack of a minimum level of carbon dioxide in the Australian Standard could present difficulties for some industrial operations using gas transported on the DBNGP as a feedstock for chemical processes and for the LPG extraction plant.

In the interest of assisting the technical debate associated with gas quality issues, the Authority recently released a *Draft Working Paper on Gas Exchangeability in Western Australia* to selected parties, including relevant WA government agencies, shippers and pipeline operators. Once feedback is received the Authority may consider making this document or an amended version of it more widely available.

## **2. Potential sources of new gas for WA – not all LNG Driven**

The JWG report (page 11) seems to imply that the major sources of new gas for Western Australia are likely to be LNG dependant. While domestic gas from existing and new LNG projects is and is likely to remain important, major new gas fields are currently being planned for development by Apache and its joint venture partners in the Carnarvon Basin and North West Shelf areas (such as Reindeer and Julimar) which are aimed solely at the domestic market. It is likely that the gas from these non-LNG producers will become increasingly more important to the domestic market over the short to medium term. In the longer term, gas from new LNG developments such as Pluto and Gorgon is likely to become available to the domestic market.

### **3. Range of factors affecting supply - Price is important**

Probably the most important factor affecting supply is price. Price is missing from those factors affecting supply listed on page 11 of the JWG report. The higher domestic prices now being experienced in the Western Australian market are allowing previously uneconomic fields to be actively considered for development. Recent industry announcements demonstrate that a price substantially above the historic prices in WA is leading to new gas developments proceeding, a number of which (as noted above) will be exclusively for domestic supply.

As noted in the discussion paper on gas issues in Western Australia released by the Authority in June 2007, the Authority considers that If LNG prices rise then the netback price would also rise. Over the long term, the ceiling price for domestic gas would be expected to be around the netback price level.

### **4. Bulletin Board and Short Term trading Market (STTM)**

The Authority is supportive of moves to introduce a Bulletin Board and SSTM into the Western Australian gas market. These measures would assist in making the gas market operate in a more efficient manner.