

6 October 2004

Mr Jim Cox  
Acting Chairman  
Independent Pricing and Regulatory Tribunal  
Level 2, 44 Market Street  
Sydney NSW 2000

Dear Sir,

### **Submission on Review of AGL Gas Networks NSW Access Arrangement**

#### **Background to Submission**

Macquarie Generation is a significant Australian electricity producer, supplying approximately 15% of the electricity consumed in the National Electricity Market (covering the States of New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory).

A State-owned corporation, Macquarie Generation is the owner and operator of Bayswater and Liddell coal-fired power stations (combined generating capacity 4640 MW) in the Upper Hunter Valley near Muswellbrook, employing over 600 personnel at its power stations and corporate office in the Newcastle suburb of Lambton.

To meet anticipated electricity demand growth in the NSW market, Macquarie Generation is proposing the phased development of a natural gas-fired power plant on the Tomago Industrial Estate near Newcastle.

This submission has been prepared by Macquarie Generation to identify a number of key areas under the AGL Gas Networks (AGLGN) NSW Access Arrangement which need to be reviewed by IPART and AGLGN to support the development of gas-fired power plants in NSW. The current and proposed provisions of the Access Arrangement fail to recognise the needs of developers/operators of such plants, and without an appropriate access regime, such projects could be compromised.

#### **Tomago Project Details**

Macquarie Generation is proposing to build the natural gas-fired power plant in three phases on fifteen hectares of land on the Tomago Industrial Estate between Old Punt Road and the Pacific Highway at Tomago, NSW. The investment in the initial phase of the project will be \$80 million. Briefly the phases are:

**Phase One** Will comprise one open cycle gas turbine (OCGT) and support infrastructure with a capacity of between 125-165 MW (note that

project approvals provide for up to 260 MW capacity). The unit will function as a 'peaking plant' and is expected to operate for only a few hours during periods of high demand during summer and winter, typically for three (3) hours per day on less than 130 days of the year.

**Phase Two** Involves the installation of a second OCGT with additional capacity up to 260 MW. This will boost total generating capacity to between 250-500 MW.

**Phase Three** Involves the integration of heat recovery technology to capture the turbines' exhaust heat and convert it into steam. The steam will drive a third turbine, raising total plant capacity to between 500-800 MW. Phase 3 will transform the facility from an open cycle to combined cycle gas turbine (CCGT) operation, potentially consuming in excess of 20 PJ per annum.

As indicated above, Macquarie Generation plan over time to convert from OCGT into CCGT, delivering a higher generating capacity. This implies a change in the anticipated running time and average run duration as the project migrates through each phase.

Land acquired for the development is located at Tomago, adjacent to the Tomago Aluminium Smelter. The development site is situated close to the existing Hexham terminal point of the Sydney to Newcastle gas pipeline and will be connected by a dedicated underground pipeline.

Project approvals completed to date include:

- Required development approval under the Environmental Planning and Assessment Act;
- Approval for the construction of the gas pipeline from Hexham to the site has been obtained (under the Dangerous Goods Act).

The Project has received Board approval for development through to project commitment.

### **Project Timing and Gas Requirements**

The following table outlines current project parameters in relation to timing of the phased development and the potential gas loads associated with each phase:

	<b>Timing</b>	<b>Size</b>	<b>Annual Gas Load</b>
Phase 1	2006/07	125-165 MW	400-600 TJ
Phase 2	2008/09	250-500 MW	600-1600 TJ
Phase 3	2010/12	500-800 MW	16-26 PJ

Initial parameters under Phase 1 include proposed MHQ of 1300-1670 GJ/hour and MDQ of 4000-5000 GJ/day, with required minimum delivery pressure into the plant of 2400 kPa.

## Key Issues under the Access Arrangement and Access Regime

There are a number of issues which Macquarie Generation contends need to be reviewed to support the development of this project. Note that Macquarie Generation has been engaged in negotiations with AGLGN which are the subject of a confidentiality agreement between the parties. Accordingly, there are a number of areas where comments are broad rather than specific.

### Tariff Policy

The structure of Reference Tariffs for contract users under the Access Arrangement is based on MDQ over a year under a Capacity Reservation or Managed Capacity service. Whilst this structure may be appropriate for users operating over a whole year on a reasonable load profile and load factor, it is not appropriate for a peaker power plant.

The Access Arrangement does provide for Throughput Services as an alternative to the booking of capacity over a year. However, the pricing of this Service seems essentially based on the premise of charging such a high price as to force or drive a user towards having to book capacity over a year using one of the capacity services. And furthermore, under the Access Arrangement, a user cannot book a reference trunk service without booking a corresponding local network service.

The applicable Reference Charges under the proposed Access Arrangement for Phase 1 of the Tomago Project are as follows:

Assumptions: Operation 290 hours pa  
 MHQ – 1300 GJ  
 MDQ – 4000 GJ  
 ACQ – 377,000 GJ  
 3.3% utilisation (load factor)

	Capacity Service		Throughput Service	
	\$ pa	\$/GJ	\$ pa	\$/GJ
Trunk Charge	465,000	1.23	720,000	1.91
Local Network Charge	111,000	0.30	452,000	1.20
Metering and Data Charges	34,000	0.09	34,000	0.09
Total Charge	610,000	1.62	1,206,000	3.20
Total Charge (excl Local Network Charge)	499,000	1.32	754,000	2.00

Gas supplied to the Tomago Project will not utilise any part of the AGLGN Local Network. Accordingly, there is no basis upon which AGLGN should be entitled to require – as its baseline terms and conditions under its Reference Tariffs – a booking and payment for Local Network Charges.

Having regard to the minimum charge required under the Capacity Service, an annual charge of \$500,000 is excessive for a peaker plant which will operate perhaps 3% of the time.

Macquarie Generation and AGLGN have engaged in negotiations in relation to other potential tariff structures, details of which are unable to be detailed herein. However, it is apparent to Macquarie Generation that under any negotiations, AGLGN continues to adopt an approach whereby they:

- require a substantial minimum bill in lieu of a capacity booking;
- argue that any variation or discount to reference tariffs is subject to Macquarie Generation providing sufficient information for AGLGN to satisfy itself that any discount is prudent under the Code.

Macquarie Generation argues that a substantial minimum bill is totally inappropriate for a peaker operation, where the plant will only operate if and when there is a demand for it to do so.

On the issue of justification of a discount to reference tariffs, Macquarie Generation is concerned that the issue should be one of access rather than the network provider seeking to elicit detailed information from a potential user in relation to total project viability to establish any justification for a discount to reference tariffs.

The circumstances of Macquarie Generation's request for network services are quite unique (when compared with other users), therefore there needs to be an appropriate recognition of this project as a different class of customer when it comes to the setting of transportation tariffs.

These unique circumstances include:

- the project requires a minimum gas pressure of 2400 kPa – to that end Macquarie Generation will need to provide pressure services (see below);
- Macquarie Generation is prepared to accept non-firm transportation in relation to network transportation services;

In relation to pressure requirements, AGLGN has advised Macquarie Generation that it cannot guarantee a minimum 2400 kPa delivered to Macquarie Generation at Hexham. Two options have been identified:

- The construction of a new compressor (AGLGN is estimating the cost at around \$20 million) to be paid by Macquarie Generation; or
- Macquarie Generation to procure enhanced pressures into AGLGN's trunk pipeline as necessary to maintain pressure at the offtake point greater than the minimum pressure requirement (this could be achieved via an arrangement with a transmission pipeliner connected to the AGLGN network).

The current review of the AGLGN Access Arrangement needs to provide a clear basis for the provision of non-reference services, and ensure that the access rules are appropriate for the development of the Tomago Project and other potential power projects into the future.

The tariff policy should be expanded to include for the provision of interruptible services via the introduction of Non-Firm Throughput Service.

### **Non-Firm Throughput Service for Peaker Plant**

Macquarie Generation proposes that, by way of illustration, an access regime for a peak power generator should be along the following lines given due recognition of the following matters:

- The supply would be non-firm (user manages supply risk)
- AGLGN would isolate the gas supply to the generator at 2200kpa falling
- A nominal minimum monthly charge may be appropriate given typical peaker plant operating profile
- No Local Network Charge payable if connected to trunk
- Proposed tariff structure:

On the basis of the above load assumptions (290 hours pa; MHQ of 1300 GJ; MDQ of 4000 GJ; ACQ of 377,000 GJ), appropriate Non-Firm Throughput Service Reference Charges should be:

	Non Firm Throughput Service	
	\$/GJ	\$ pa
Trunk Charge	0.41	156,000
Local Network Charge	N/A	0
Metering & Data Charges	0.09	34,000
Total Charge	0.50	190,000

Particularly given the interruptible nature of the services, the applicable tariff should be substantially below the proposed AGLGN reference tariffs for either capacity or throughput services.

### **Availability of Data**

In the assessment of development options and requirements, Macquarie Generation has undertaken substantial pipeline modelling and analysis to determine likely pressure and operating conditions which will apply on the AGLGN trunk pipeline – as these are crucial to the viability of the Tomago plant and the need or otherwise for enhanced pressure services.

It is of concern to Macquarie Generation that no load or pressure data was made available by AGLGN to assist in Macquarie Generation's modelling and analysis. Given that AGLGN requires that Macquarie Generation either pay for a new compressor station on the trunk pipeline or provide enhanced pressure services, it is unreasonable for AGLGN to not be required to provide sufficient real data to assist users in such analysis.

AGLGN asserted that system pressure and load data couldn't be provided, as it is commercially confidential. Potential and existing users should have access to the

aggregated demand pressure data at key receipt points on the trunk so users can assess system capacity at any given time.

However after repeated requests AGLGN would provide only limited information in the form of a graphical snapshot of peak winter and typical summer pressure at Wilton and Hexham. This data was not verifiable and lacked the essential load data, however having used it to calibrate Macquarie Generation's dynamic model showed that additional compression was not required for the phase 1 development.

IPART should ensure that access to real data on pipeline usage and pressures is available from AGLGN – dynamic data should be in the public domain.

### **Backhaul Tariffs**

There are various potential new sources of supply into the NSW gas market. A number of those sources may supply gas from north of Newcastle. These include coal seam gas from the Hunter Valley, northern NSW and south-east Queensland. It is quite likely that these potential sources of supply will emerge during the term of the proposed AGLGN Access Arrangement.

Accordingly, it is imperative that the assessment of the proposed Access Arrangement has regard for establishing appropriate backhaul tariffs.

AGLGN's proposed Access Arrangement states that:

“The Trunk Capacity Reservation Service is available as forward haul or back haul from any Trunk Receipt Point to any Trunk Exit Point”

This means that any party seeking to transport gas via the AGLGN network to a Newcastle end user will be required to pay the full Sydney to Newcastle zone charges (\$116.348/GJ.MDQ.pa) for what could be a minimal distance. For example, as currently described under the proposed Access Arrangement, a supplier seeking to deliver gas from the north could build a new pipeline to link into the AGLGN trunk pipeline at Hexham, but the supply to any user in Newcastle will attract the full trunk charge from Sydney, as well as the Local Network Charge – regardless of whether the local network was being used.

The proposed Access Arrangement needs to establish appropriate backhaul tariffs to provide certainty to support future gas supply opportunities into the region, as well as remove the current requirement that a trunk service is only available in conjunction with a corresponding local network service, and vice versa.

### **Connection Costs and Contestability**

Macquarie Generation has undertaken negotiations with AGLGN in relation to a connection agreement for design and construction of works associated with connection of the proposed pipeline from Hexham to Tomago into the AGLGN trunk network at Hexham.

AGLGN has provided Macquarie Generation with its quotation of costs associated with such interconnection – and Macquarie Generation is concerned that the proposed cost for the connection is very high.

Macquarie Generation is seeking greater transparency in relation to the proposed connection works, and given that Macquarie Generation is the only user in relation to those works, submits that such works should be contestable.

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Macquarie Generation would be pleased to provide any additional information that IPART may require in relation to the Tomago Project or in relation to the points made in this submission. We look forward to continued participation in the public consultation process over the coming months.

Yours sincerely,

Steve Ireland  
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