



### **Energy Bulletin 4**

#### **Energy Markets Opened to Competition**

Cheaper electricity and gas will become available to Western Australia's major industries following implementation of the Government's decision to restructure and to progressively open up the energy markets and allow access to the State's existing electricity and gas transmission and distribution systems.

The first stage of the initiative involved splitting SECWA into Western Power and AlintaGas and establishing the Office of Energy as the regulator. The formation of these two corporatised Government owned utilities introduced head to head competition between electricity and gas suppliers.

The second stage consisted of introducing competition to the gas industry, involving such moves as disaggregation of the North West Shelf gas contract and providing access for gas producers to sell gas to major consumers via the Dampier to Bunbury Natural Gas Pipeline.

Recently the Minister for Energy, the Hon Colin J Barnett, announced a third stage to progressively allow large electricity producers access to Western Power's high voltage transmission and distribution systems, for the purpose of selling electricity via the grid. Similar provisions are also being introduced for the AlintaGas gas distribution system.

Such an open electricity market will encourage persons generating their own power to sell excess production to other consumers. These companies will also be able to cut their generation costs through greater economies of operating scale.

Timetables for these changes are detailed in this Bulletin.

*The Hon Colin J Barnett*

*Minister for Energy*

#### **Open Access Timetable - Electricity**

Open access to existing electricity networks will increase existing options available to the State's largest electricity users. Private generators of electricity will be able to access Western Power's transmission and distribution networks in order to reach consumers. Open access will be provided in stages:

**January 1997**

For all consumers taking supply directly from Western Power's high voltage transmission system (66kV or higher)

**July 1997**

For all consumers with an average load exceeding 10MW at a single point as well as consumers who are approved under law to receive electricity from other than Western Power on another site (eg Normandy Power under the Goldfields Agreement Act)

**July 1998**

Consumers in the Pilbara, Eastern Goldfields and non-interconnected areas with an average load exceeding 5MW at a single point

**July 1999**

All other consumers with an average load exceeding 5MW at a single point

Open access will therefore increase the level of competition in industry, increasing the pressure to reduce prices. Some possible examples of consumer choice are:

A large regional shopping centre or Perth CBD office building could purchase its electricity from a private supplier at a different location. The power would be transported via the Western Power system, for a transportation charge that forms part of the supplier's contract with Western Power.

A mineral processing company could build its own power station alongside the processing plant. Any generation surplus to its own requirements could then be sold to other consumers, with the power being transported via the Western Power system, for a fee.

A manufacturing company may have access to a cheap source of generation fuel, at a completely different location to its manufacturing facility. Under the open access provisions, power could be transported between the two locations via the Western Power system, for a fee.

Such 'access' arrangements involve special metering and accounting and are subject to system capacity limitations.

A document setting out the transmission system open access regulation principles will be issued for public comment in June 1996. A similar document for the distribution system will be issued for public comment at a later date.

**Open Access Timetable - Gas**

Access to the AlintaGas transmission and distribution systems is being made available in stages. The timetable for providing access to the systems to supply gas to a consumer is:

**January 1995**

Any consumer increasing demand by 1000TJ per annum or more through a single metered connection to the gas transmission system

**January 1996**

Any consumer with a demand of 1000TJ per annum or more through a single metered connection to the gas transmission system

**January 1997**

Any consumer with a demand of 500TJ per annum or more through a single metered connection to the gas transmission or distribution system

Further access will be made available in stages to consumers with a demand in excess of 100TJ per annum through a single metered connection in accordance with a timetable yet to be determined.

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**Quality of Natural Gas**

As part of the State Government's commitment to promote competition in the gas industry, a standing committee was formed in early 1995 to review the gas quality specifications for the Dampier to Bunbury Natural Gas Pipeline (DBNGP). With only about 20% of the State's gas resources falling within the current DBNGP specifications, it is essential that unnecessary restrictions be removed without compromising the safety of gas users or the pipeline.

The Minister for Energy has now released the committee's report, which was prepared after extensive consultation with representatives from the gas industry, including producers and major customers. The report recommends the introduction of a wider gas quality specification in the future, once existing contracts with tighter limits either lapse or are re-negotiated and testing is performed on appliances to ensure that they continue to work safely and perform adequately.

Once implemented, a broader gas specification will result in greater use of the State's extensive gas resources.

## Quality of Liquid Petroleum Gas (LPG)

LPG is a mixture of hydrocarbon gases comprising predominantly of either propane or butane or a mixture of both. The gas is stored as a liquid in cylinders. Common uses of the gas include the recreation market (barbeques, camping stoves) and the automotive industry as a vehicle fuel.

The Office of Energy is responsible for the administration of the LPG Act 1956 and associated regulations which allow for the Director of Energy Safety to:

- fix and by public notice declare, the standard for gas for sale in the State
- test the gas

To ensure that the gas conforms to the published standard, the Office of Energy has established a program to sample the gas, both heating and auto grade, at randomly selected retail outlets throughout the State. The samples are then analysed to determine compliance with the standard as fixed.

The Office of Energy has fitted out a vehicle with a racking system to accommodate the sampling cylinders and dispensation has been obtained from the Department of Dangerous Goods to allow the transportation of the LPG on the vehicle.

It is important that the quality of LPG is maintained otherwise safety and efficient utilisation of the gas could be compromised.

In this State most of the LPG sold is essentially propane and the butane content only becomes an issue when the liquid is a mixture of the two gases and the means by which the gas is drawn from the cylinder is considered.

The liquid when released or drawn from the cylinder vaporises and the rate of vaporisation is dependant on the ambient temperature increasing as the temperature rises. As vaporisation requires the extraction of heat from the atmosphere surrounding the cylinder, it is quite common for the cylinders to feel cold or for ice to form around the neck of the cylinder on cold days.

Under Australian conditions, during normal use it is unlikely that any problems will occur in vaporising LPG containing propane as the major constituent. However, LPG which has a high percentage of butane can present problems with vaporisation on cooler days due to the low vapour pressure of butane. Any propane in the cylinder would tend to vaporise leaving the butane in the cylinder due to the difference in vapour pressure of the two gases. Repeated filling of the cylinder with liquid rich in butane could result in a build up of butane.

Instances are thought to have occurred in other States where cylinders nominally containing propane have contained a high percentage of butane and although the cylinders were almost full, the gas would not vaporise.

Suppliers in other States consider that a 50:50 mix of propane/butane should

be acknowledged as being acceptable for automotive use. This gives more impetus to the testing program to differentiate between uses.

The testing of LPG on a regular basis is intended to ensure that only propane, or butane, or propane/butane mixtures complying with the published standard, are sold in WA and then only for the appropriate application.

LPG cylinders used to store gas for sale must under the regulations be marked to designate the gas contained in the cylinder, if the gas is propane, butane or a mixture of propane/butane as follows:

- propane, or
- butane, or
- mixed LPG (include maximum and minimum points of the vapour pressure range in Kpa at 37.78° Celsius)

The other main purpose of the testing program is to check that the gas has an adequate smell. LPG has no natural smell and a requirement of the Standard is that the gas be odourised by the addition of a stenching agent (known as odorant) in sufficient quantities to achieve a distinctive, unpleasant and non-persistent smell.

Odourisation is essential to enable early detection of gas leakage, particularly as the gas is heavier than air and any leakage will tend to collect at ground level rather than diffuse as is common with other gases.