

**ENERGY MARKETS REFORM FORUM,
ELECTRICITY CONSUMERS COALITION OF SA,
and
ENERGY USERS COALITION OF VICTORIA**

COMMENTS

ON THE CONSULTATION PAPER

DRAFT GAS MARKET PRINCIPLES

A SUBMISSION TO

MINISTERIAL COUNCIL ON ENERGY

STANDING COMMITTEE OF OFFICIALS

September 2004

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The views expressed herein are those of the Energy Markets Reform Forum, the Electricity Consumers Coalition of South Australia and the Energy Users Coalition of Victoria.

INTRODUCTION

In its Bulletin #21, the Ministerial Council for Energy (MCE) Standing Committee of Officials (SCO) advises that the MCE agreed in April 2004 to “accelerate the development of a reliable, competitive and secure natural gas market” (page 3). The SCO detailed its proposed steps as:-

- The development of fundamental principles and design concepts for a gas market, in consultation with industry.
- A consultancy study investigating future options for Australia’s gas market and infrastructure based on the fundamental market principles and industry consultation.
- A gas market development plan arising from the consultancy study and an MCE response to the Productivity Commission review of the National Gas Access Regime.

It then outlines a set of six draft principles aimed to achieve certain objectives needed for the development of a national gas market.

1. *Information on market and system operations and capabilities at all stages of the gas supply chain (subject to recognition of existing contractual confidentiality) should be publicly available and frequently updated.*
2. *Gas market structure to facilitate a competitive market in all sectors.*
3. *Gas market participants should be able to freely trade between pipelines, regions and basins.*
4. *The gas market should be able to respond effectively to price signals in the electricity market*
5. *There should be regulatory certainty and consistency across all jurisdictions.*
6. *Market design and institutional requirements responsive to the needs of the market.*

There are two glaring omissions from this set of principles

- that the gas market development must lead to a more competitive downstream industry, including the use of gas for electricity generation, and
- the need for efficient economic regulation of natural monopolies and strategic bottle-neck infrastructure in order to remove impediments to the achievement of more competitive downstream and upstream industries.

Clarifying The Facts: Gas has a number of competitors.

For natural gas to have any economic value, it must be used. In Australia natural gas is predominantly used for providing heat for domestic and industrial consumers, for generating electricity (usually for providing peaking power in the electricity market), and as a feedstock for creating other products. As Australia has an abundance of readily available thermal energy (mainly coal and gas), it is in the national interest that it be used for leveraging the competitive position of Australian industries in domestic and world markets. Thus as a basic premise, the use of Australia's supply of natural gas should be focused to improving the competitiveness of Australia's industrial base through the provision of efficiently priced natural gas for direct use and for electricity generation.

There is one major misconception held regarding the gas market – that is that gas has a number of major competitors, particularly electricity. Gas is primarily used for providing thermal energy – to domestic users and to industry – which implies that gas competes with coal, wood and electricity for this purpose. Another major use of gas is for it to be burned to generate electricity, implying that it competes with coal, LPG and oil as a fuel. Prima facie, this implies that gas has a number of competitors. However an analysis of the cost structure and other effects would indicate that gas has a unique position in the energy market.

Natural gas has a relatively low ratio of carbon atoms to hydrogen atoms in its make up, making it a more greenhouse gas friendly fuel when compared to coal, wood, LPG, oil and coal fired electricity. Already, there are pressures at a domestic level to eliminate the use of wood and coal for home heating due to particulate and other emissions. These pressures are being actively driven by the Environmental Protection Agencies.

Likewise industry is being driven towards using greenhouse gas friendly fuels (eg the Greenhouse Gas Challenge, potential for carbon taxes and greenhouse gas trading, limitations on greenhouse gas emissions, Kyoto principles, etc). Thus the environmental pressure for industry to use natural gas as its primary source of thermal energy is extraordinarily high. Industry, when faced with the options to buy higher priced gas over a lower priced fuel which is a higher greenhouse gas emitter, will invariably pay a premium in preference to being seen as a high GGH emitter.

The environmental pressure to reduce GGH emissions (and other particulate emissions) gives gas a unique market positioning and benefit when compared to using other fossil fuels for thermal energy purposes.

It is sometimes said that gas also has a competitor from the electricity industry. This is a view which has more form than substance. Gas is only one of a number of fuels used to generate electricity. The cost of gas per gigajoule of energy

delivered to a power station is many times the cost of brown or black coal. Whilst the infrastructure needs of a coal fired power station are much greater than for a gas fired power station, these do not offset the higher cost of gas as a fuel. Even when using the most efficient form of gas firing for power generation (using combined cycle technology), the long run marginal cost of electricity from gas firing is about 35% more expensive than the long run marginal cost of electricity from coal fired power stations¹.

The facts relating to the use of electricity by industry as a source of thermal energy when compared to gas are even more stark – the supply of electricity might cost industry between \$60-70/MWh (equivalent to \$17-20/Gj) when delivered, compared to the cost of gas (\$4-5/Gj) delivered – highlighting that **the cost of electricity is a factor of over four times the cost of gas per gigajoule when used for thermal uses.**

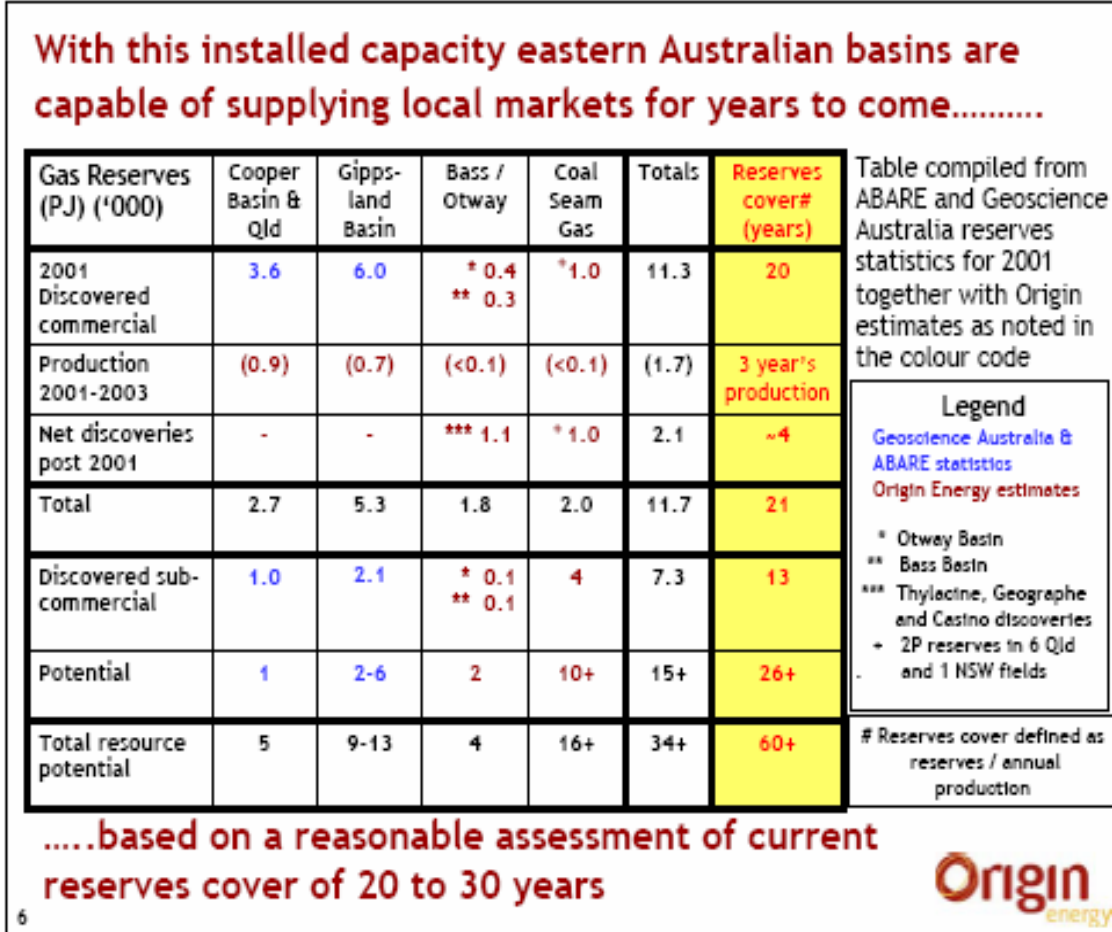
Clarifying The Facts: Gas must be high priced to encourage investment.

The gas supply industry sometimes argues that for it to provide a reliable long term of supply of gas to end users, it must have a commercially sustainable business. This cannot be denied. What has been observed is that even at current levels of gas pricing which the supply side aver is too low, investment in gas fields and gas pipelines has continued to occur. New gas fields are constantly being developed in the current environment (in the Gippsland, Cooper, Otway and Bass basins to serve the SE Australian market, as well as on the NW Shelf and in the Bonaparte Gulf). The supply of gas from the coal fields (coal seam methane) has burgeoned over the past five years, providing an even greater reliability of supply.

At a recent presentation (29 June 2004) Mr Grant King, CEO of Origin Energy² provided the following information and prediction of gas supplies for SE Australia.

¹ See for example the report from ACIL Tasman: SRMC and LRMC of Generators in the NEM - A Report to the IRPC and NEMMCO, 21 March 2003

² Origin Energy is a developer and operator of gas fields (natural gas and coal seam methane), developer of gas pipelines, part owner of Envestra and operator of its gas pipeline assets, of one of the largest gas and electricity retailers in Australia, and a power station developer and owner



Thus there is little doubt that there are sustainable reserves of natural gas readily available for southern and eastern Australian consumers, accompanied by the necessary infrastructure for the delivery of this gas. What is required, is for the augmentation of this infrastructure to ensure that sufficient quantities of gas reach consumers. What has been observed over the past five years, is that this has occurred, with the construction of the SW gas pipeline in Victoria, the Eastern gas pipeline (Victoria and NSW) and the SEAGas pipeline (Victoria and SA). Growth has also occurred in the distribution networks to deliver gas to some regional gas consumers in NSW and Victoria. The present regulatory regime has permitted (perhaps even encouraged) this growth, both in gas supplies and infrastructure, and end users of natural gas have provided the needed market.

There is a great risk that, through vertical and horizontal integration or through additional financial incentives the gas supply industry could increase its ability to lever monopoly rents and so reduce the competitive edge Australian industry has of converting the ready supply of low cost gas into increasing Australia's national competitiveness.

It is therefore recommended that the first principle to be established by the MCE should be:-

A fundamental principle for the Australian gas market must be that it provide for long term reliability of supply combined with an economically efficient outcome for the supply and delivery of natural gas to end users.

KEY OUTCOMES OF THE PC REVIEW

There is considerable concern amongst end users of gas with respect to the analysis, assertions and final recommendations of the Productivity Commission review of the Gas Access Code. Without debating the issues in full there are two fundamental matters which the PC review has not clearly enunciated, but were identified in the presentations made to the PC during their review.

1. The application of the gas access code to strategic and bottleneck pipeline infrastructure is more imperative than the PC review implies.
 - a. There is no doubt that gas distribution networks are monopoly assets and should be covered by the gas access code.
 - b. There is no doubt that a single gas transmission pipeline connecting a customer to a gas field is a monopoly asset and should be covered by the gas access code.
 - c. Only those few transmission pipelines where consumers have a choice as to which pipeline and/or gas field will supply the customer, might be considered for non-coverage from the gas access code.
 - d. Where a pipeline owner can exercise market power and so garner a monopoly rent, the gas access code has a role to play
 - e. Increased vertical and horizontal integration of energy and infrastructure owners (and hence, concentration of the supply side of the energy sector in Australia) requires effective economic regulation where robust competition cannot be attained.
2. There has been no evidence provided to support the view that the gas access code as written has constrained investment in the construction of gas pipelines when and where they are needed. This observation is supported by the wording of the PC review where they advise that due to lack of any evidence to the contrary, they consider that *conceptually* that the gas access code must result in deterring gas pipeline investment. In fact there is factual evidence that pipelines have been built as and when they are needed, despite any supposed shortcomings of the gas access code.

When these key issues are considered objectively, there must be considerable doubt as to whether the PC review has in fact developed the basis for any significant dilution of the gas access code as currently propounded.

MCE Draft Principle #1

Information on market and system operations and capabilities at all stages of the gas supply chain (subject to recognition of existing contractual confidentiality) should be publicly available and frequently updated.

There is no doubt that the information and knowledge asymmetry provides the supply side of the gas market with a major advantage over Governments, regulators and end users. It is axiomatic that where a party has an advantage, it will use this to increase its profitability. In the gas market, owners of monopoly assets (or assets where there is limited competition) will act to maximize revenue and profitability. The principle of using a market edge to increase sales and/or profitability is not unique to owners of monopoly assets.

It is the power that the supply side has over information which permits them to accrue monopoly rents. It is because of this issue that the gas access code currently has an extensive requirement for information disclosure. It is most commonly the failure of the supply side to provide this information that is the root cause of time over-runs in arriving at regulatory decisions.

Accordingly, consumers support the principle #1 that transparency and disclosure of information must be an integral element of the new gas market. Further, there must be a requirement for companies in the gas supply chain to be required to disclose confidential information to regulators so that decisions reached are made in the full knowledge of the issues.

Despite the fact that costs for using elements of the gas supply chain might be made available, ultimately consumers require a fully “re-bundled” cost for the gas as delivered. When establishing arrangements for the supply and transport of gas, consumers are consistently not provided with sufficient information as to the remaining capacity of the gas chain elements, nor of the appropriate costs relating to the elements of the supply chain which directly affect the cost of the delivered gas. Access to this information is essential for consumers when negotiating contracts for the supply of gas.

Other comments are that with regard to pipelines, as a minimum, the information disclosure requirements in the gas access code shall be required, although additional information necessary to determine a reasonable outcome for gas

shippers must also be provided on request. Available line pack and current and maximum transport capacities should be made readily available.

It is therefore recommended that MCE principle #1 be reworded as follows

Information on market and system operations and capabilities at all stages of the gas supply chain (subject to recognition of existing contractual confidentiality) should be publicly available and frequently updated. Information that is confidential shall be provided to regulators to assist in the discharge of regulatory remits.

With regard to gas production the operator of each gas field must provide accurate information relating to the proven and unproven reserves in each gas field, and the current and maximum capacity of gas withdrawal and gas processing.

MCE Draft Principle #2

Gas market structure to facilitate a competitive market in all sectors.

The Australian gas market comprises a number of distinct elements, namely

- The gas field (acreage)
- The gas producer (marketing)
- The gas processing plant
- The transmission pipeline to the general location of use
- The distribution network required to deliver gas to multiple consumers
- The gas retailer
- The gas consumer.

The resources of Australia are held in trust for the people of Australia. The right to investigate and develop a gas field is awarded by Governments, acting as the trustee for all Australians. In the past governments have awarded exploration rights to businesses that have then used these rights as a basis for preventing other parties to explore and develop the gas resources, and as a result this has limited intra-basin competition. To overcome this ability to deter intra-basin competition, the granting of exclusive rights to explore any acreage should be time limited. If there is no development of the exclusive acreage within a given period (5 years is often suggested as a reasonable period to explore and develop a gas field) then the exclusive right must be withdrawn. This is often referred to as “use it or lose it” allocation of acreage. Thus competition for the exclusive rights to explore and develop a gas field must be accompanied by a time limitation. This time limitation must have priority over any other condition required

or offer made to ensure that any gas reserves have the maximum opportunity to be developed in the short term.

For sound economic reasons, explorers will often pool their resources to explore and develop likely gas acreage. This approach limits the investment risk any individual explorer might have, but it also reduces the potential rewards that might flow from the exploration. As a result many viable gas fields have multiple part owners for the gas which results from the exploration. Commonly what happens is that one of the part owners will be nominated as the lead developer and acts as the marketer of all the gas on behalf of all of the part owners. This approach eliminates any intra-basin competition. Joint marketing is essentially anti-competitive. There have been a number of test cases before the ACCC regarding joint marketing. Some joint marketing arrangements have been “grandfathered” as a result of having been entered under government approval (eg the ESSO-BHP arrangement in Victoria), and others have been subsequently accepted as not being “sufficiently anti-competitive to outweigh the detriments of not having joint marketing” (such as from the later gas trains at the Burrup Peninsula). New joint marketing arrangements should not be permitted.

Depending on the gas field, the raw gas from the wells may require processing to permit its use in the domestic gas market. The producers advise that gas is sufficiently different between wells so as to require significantly different processing. If this argument is legitimate then it possibly justifies the stance producers take of preventing compulsory third party use of processing facilities. However there has been no investigation of whether this processing is sufficiently different between fields (or in the same field) to support the arguments put by producers for preventing third party access to their processing plants. In this regard it should be noted that producers already can accommodate gas from different fields when it suits them. For example raw gas from SW Queensland is transported to Moomba for processing using a plant designed to suit the gas from the SA gas fields. Similarly gas from various WA gas fields is processed at common processing plants.

Once constructed a transmission gas pipeline is a monopoly asset. A single pipeline from a gas field to an end user should be permitted only to recover a return which reflects the security of the cash flow generated. To contemplate two competing gas pipelines from the same gas field to the same end user is absurd and economically inefficient. It is more economically efficient to loop or provide compression of the gas in an existing gas pipeline than to build a duplicate in order to accommodate incremental demand. To assume a pipeline from one gas field to an end user competes with a pipeline from another gas field to the same end user provides competition, assumes that the cost structures of the two gas fields are identical. Such an arrangement allows the producer and the pipeliner to collude so as to allow at least one of the parties to “Ramsay price” the service and so extract a monopoly rent.

There is no doubt that a distribution network is a monopoly asset and the price for its services should reflect the capital invested. As consumers effectively underwrite the continuing use of a distribution asset, the return to the owner should reflect the security of the cash flow generated.

Retailers aggregate the demands of a number of consumers, and on their behalf provide a “re-bundling” of the costs of each of the various elements comprising supply. Providing for multiple retailers does not imply a competitive environment for consumers – in fact retail margins are relatively modest. It is therefore essential that to ensure there is a competitive outcome for consumers, there must be competition at each element of the supply chain.

End users must convert the gas delivered into a saleable product – as electricity or a similar intermediate product, or as an end product. With the reduction of tariff barriers over the past decade, most manufactured items produced in Australia are subject to international competition. It is unreasonable to require an end user of gas to be subject to monopoly rent taking in any of the intermediate stages of the gas production and delivery chain but, at the same time, require the end user to be exposed to international competition.

It is therefore recommended that MCE principle #2 be reworded as follows

*Gas market structure to ensure that competition is facilitated at every stage of the gas supply chain, but where a competitive outcome in any segment (as measured by the *HERFINDAHL-HIRSCHMAN Index*³) is not possible, regulation for third party access is to be implemented. The rights to exclusive exploration and development must be time limited.*

MCE Draft Principle #3

Gas market participants should be able to freely trade between pipelines, regions and basins

³ Markets in which the HHI is between 1000 and 1800 points are considered to be moderately concentrated, and those in which the HHI is in excess of 1800 points are considered to be concentrated. Transactions that increase the HHI by more than 100 points in concentrated markets presumptively raise antitrust concerns under the [Horizontal Merger Guidelines](#) issued by the U.S. Department of Justice and the Federal Trade Commission. See *Merger Guidelines* § 1.51.

Providing that the term “participants” includes gas end users, this draft principle is fully supported.

It should be noted that on certain pipelines capacity has been fully contracted to a single entity. This single entity can then use its position to extract monopoly rents or to prevent others trading. Typically this approach is used by shippers who fully contract all available capacity on a pipeline or metering point. There have been a number of instances where shippers and owners have denied access to under utilized facilities through this mechanism. Where the access is constrained due to contracting capacity, and that capacity is not being fully used, there should be the ability for there to be compulsory third party access to the pipeline capacity through the contacted party rather than the pipeline owner.

With the development of the “gas ring main” connecting Melbourne, Sydney, Adelaide and Moomba there is now a need to develop wider access arrangements. Whilst most applications for third party access to a pipeline are for “forward haul”, third party access for “back haul” should now be a declared provision of the gas access code.

As competent operators, producers and pipeliners must have a deep awareness of how their assets and reserves are being managed. Because of this, they are well able to provide information regarding their facilities and so provide their own spot market adjustments and trading of capacity. There is a need for this information regarding production and capacity to be readily and publicly available so the end users can better plan their activities and establish their preferred operating regimes. At present each end user must discuss getting such information from each business involved in the gas supply chain – there is no compulsion on the supply side businesses to provide such information. To have a central location where *bona fide* end users can gain access to critical information is fully supported.

In all States except Victoria, gas pipeline capacity contracting and spot gas pricing is managed by the pipeline owner. The Victorian model for managing spot gas prices and constraint management does not as yet appear to provide a cost effective approach to managing the gas market in that State. Further it is possible that the Victorian model could be a barrier to fair trading at the connection points with other pipeline systems. Certainly the different rules at these connection points causes gas retailers and other shippers’ additional costs by having to manage the differing management approaches. Even so, as each pipeline owner has its unique approach to managing its own assets, there will be costs incurred at interface points between different systems. To overcome such costs, a standard operating and management approach for all pipelines would result in lower costs and less interface problems. A nationally consistent set of trading guidelines and arrangements would enhance growth and development of the gas market in the Eastern Seaboard.

It is therefore recommended that MCE principle #3 be reworded as follows

Gas market participants (including end users) should be able to trade freely between pipelines, regions and basins.

MCE Draft Principle #4

The gas market should be able to respond effectively to price signals in the electricity market.

The basis of this principle may spring from a view that gas and electricity compete as fuels.

Gas is a fuel used for generation of electricity, no differently to the use of brown or black coal, oil, wind, solar energy or water storages. If gas is to be marketed as a source of thermal energy as well as a fuel for electricity, it would therefore be axiomatic that the coal and oil markets should be structured along similar lines. This is not being mooted, so why should the gas market be aligned to the electricity market?

The implication of the draft principle is that if the electricity market should require additional fuel for it to provide for the electricity demand, then the price of gas should rise. As the electricity market pricing is extremely volatile, then it would be expected that the gas market pricing would also become extremely volatile. There is no justification for this.

As an example, the Victorian gas market (as managed by VENCorp) operates a daily spot market for gas supply adjustments, supplying gas for industry, domestic use and for power generation. A quick review of this spot market does not indicate there is a convergence of electricity and gas prices in the Victorian region. In fact the spot gas price shows a high degree of consistency and stability, with low volatility compared to the highly volatile electricity spot price.

In South Australia where the bulk of power generation is from gas supplies, the only concerns occur when there is a peak power demand which continues over a number of days (such as during a heat wave). In the past this caused a loss of line pack and the constraining off of gas supplies to industry. This gas supply constraint was an outcome of three major issues – insufficient interconnection of electricity supplies, too high a dependence on gas as a fuel for power generation, and the need for a larger gas supply for these few occasions. The augmentation of the electrical interconnection between Victoria and SA and the building of the SEAGas pipeline and gas interconnection with Victoria has eased significantly

the potential for constraining off of industrial gas users during times of high electricity demand.

Already the high volatility of the electricity market creates major concerns for electricity users, with the price signals (often influenced by economic withdrawal of capacity) being available to consumers from the electricity spot market often occurring after the price adjustment event. To expose gas consumers to a similar volatility is not warranted. The current gas market supply arrangements already provide for sufficient pricing signals for gas supplies. Any moves to directly align gas trading to electricity trading (ie a compulsory pool) are not seen at all as necessary or, indeed, desirable.

It is therefore recommended that with respect to MCE principle #4 that a clarification be inserted to explain that direct alignment of gas trading to the electricity market by way of compulsory spot markets is not contemplated.

MCE Draft Principle #5

There should be regulatory certainty and consistency across all jurisdictions.

This principle is fully supported, and should reduce the barriers to new entrants to the gas market, and its constituent elements.

It should be noted that during the development of the gas access code, it was universally agreed that the very prescriptive approach used in the development of the national electricity code, was inappropriate for the gas industry, as flexibility of approach was seen as a distinct improvement to the very prescriptive approach used in the electricity code. Increased flexibility results in variability of outcome. Thus the very feature that was seen as a positive outcome in the development of the gas access code has resulted in different approaches being taken by different regulators.

However what is frequently overlooked is that it is the regulated businesses which establish the specific approach to be used for the regulation of their assets. The businesses have the right to declare which of the specific approaches permitted under the gas access code that is to be the basis of the regulatory approach to be used. Providing the approach is permitted by the code the regulator must use the requested approach. Thus the regulated business contributes to the very variability that results in the lack of certainty and consistency.

The introduction of a national regulator to the energy markets will further reduce any lack of certainty and consistency.

The Productivity Commission report on the Review of the Gas Access Regime does not provide end users with the comfort that the views espoused in the report will not result in greater power (and therefore monopoly rents) being transferred to the gas supply side businesses.

It is therefore recommended that MCE principle #5 be reworded as follows

There should be regulatory certainty and consistency across all jurisdictions. The regulatory approach to be implemented must result in achievement of the fundamental principle of ensuring long term reliability of supply combined with an economically efficient outcome for the supply and delivery of natural gas to end users.

MCE Draft Principle #6

Market design and institutional requirements responsive to the needs of the market.

Prima facie this principle appears appropriate, and is supported.

Reviewing the related commentary seems to indicate an observation that there may be the need for another (independent) body to be created to ensure that the gas market is managed appropriately to reflect future change. As a comparison to the electricity industry, it would seem that this principle foreshadows a “NEMMCo” for the gas market. Presumably this might follow the Victorian gas market model using VENCORP to manage the gas spot market.

As noted above, the current gas market arrangements (except in Victoria) reflect a market management approach used widely throughout the “gas using” world. As the gas market in North America (US and Canada) has operated for many decades in a similar fashion to that used in most regions of Australia, and has resulted in the growth of the gas industry in North America, there does not seem to be a need for an independent body to manage the spot gas market.

Certainly the introduction of another (independent) body to manage, develop and design the gas market will add another layer of cost to the market which will be ultimately borne by end users. End users of gas in Victoria have been consistently concerned at the costs they bear in relation to the activities of VENCORP compared to the benefit that VENCORP operations might provide. The gas market should be encouraged to develop and manage any new trading

arrangements itself, rather than through the creation of a new agency to undertake these tasks.

It is assumed that the new Australian Energy Market Commission (AEMC), supported (and even directed) by the Ministerial Council on Energy will be charged with the responsibility to ensure that the management and development of the gas market will be such as to ensure that the fundamental principles espoused for the Australian gas market will be maintained, and that essential infrastructure is developed to meet the needs of the gas market and end users.

It is therefore recommended that MCE principle #6 be reworded as follows

The AEMC will be responsible for the monitoring of the gas market operation and that institutional requirements are responsive to the needs of the market. If significant change is recommended by the AEMC, this will be referred to the MCE for review.