

Application to the New Zealand Commerce Commission

by the

Pohokura Joint Venture Parties

for

Authorisation to Jointly Market Gas

A Critique of the Commerce Commission's Draft Determination

Dated 16th May 2003

M. D. Agostini
9th June 2003

1.0 Credentials:

The writer has professional experience over a period of 40 years in the oil & gas industry, this experience occurring in a number of areas of responsibility:

- 25 years were spent working on the North West Shelf Project (“NWS”), initially in an engineering capacity responsible for well design during the NWS exploration phase in the 1970s.
- Following the development of the NWS offshore gas fields, responsibility shifted to operations management of the upstream producing assets, and later expanded to include the LNG and gas treatment assets onshore.
- In the late 1990s became responsible for Woodside corporate representation within the joint venture and for marketing gas to some overseas customers.

Full details are outlined in the attached CV.

During 2002, the writer was a member of the COAG Energy Markets Review Panel. This Review addressed energy market directions in Australia, and it is currently being considered by Australian Governments as the basis for further reform of the non-transport sector of the energy market in Australia.

2.0 Introduction:

This report considers:

- (a) The characteristics and features of the New Zealand gas industry that have some bearing on the feasibility of separate marketing.
- (b) Comparisons between the New Zealand and Australian gas industries
- (c) Experience in the Australian gas industry with attempts to establish separate marketing by regulatory means, and also where joint venturers have themselves attempted to initiate it.
- (d) The conclusions reached by the COAG commissioned Energy Markets Review with regard to separate marketing in the Australian gas industry, and the implications of these conclusions for separate marketing in the New Zealand gas industry.

3.0 New Zealand Gas Industry:

The writer’s industry experience has been developed in Australia, Trinidad, and the Netherlands. Information specific to the New Zealand oil & gas industry has been acquired through a series of briefings by industry participants and an energy consultant (Saha Energy International Ltd), as well as reviewing data published in the New Zealand Energy Data File of January 2003, and various pertinent web sites.

The New Zealand gas industry differs from its Australian counterpart in a number of important ways. Its production capacity is concentrated in one area of the country instead of being geographically diverse, and its ratio of reserves to production off take is far smaller, which raises the issue of some

urgency in the need to stimulate new exploration. But perhaps the most important difference is one of size. Whilst the New Zealand gas industry production is now in the order of 180 PJ per annum, its Australian equivalent annual production is approximately 1350 PJ. Even if comparison is made with the Australian Eastern States interconnected market as a discrete entity, separate from Western Australia, the market is still many times larger than New Zealand at 600 PJ per annum.

One of the characteristics shared by both national systems is the basis on which upstream developers sell into the market. In both cases the industry is characterised by consortia of oil & gas companies, formed into joint ventures for the purpose of exploring for hydrocarbons. When these joint ventures are successful in their exploration, they have gone on to form production agreements between themselves, to develop and to sell the oil or gas reserves that resulted from their joint exploration. In both countries, the majority of the gas reserves discovered to date have been found in the offshore environment where exploration and development costs are high, and where as a consequence, the industry has traditionally created joint ventures as a risk spreading strategy. Where exploration success has been achieved, the member companies of a joint venture most commonly agree terms for the joint development of the shared resource, and ultimately to market its output jointly.

The New Zealand industry market is comprised, in gas volume terms, in the main by power generators and industrial users. Gas is important, but not the most important fuel for power generation supplying 30% of the energy used by that sector. It is by a considerable margin the most important of the thermal fuel sources, second to the large hydroelectric system providing 55-60% of total electrical output. This places some importance on the gas industry's continued capability, particularly in view of the fluctuating capacity of the hydroelectric system, the output of which is dependant on rainfall patterns

The upstream gas industry's largest contribution comes from the Maui field, and to a lesser but significant extent from Kapuni. These fields have been the backbone of the industry for decades, but are now approaching the end of field life in both cases. Growth of additional production capacity to supplement and replace Maui and Kapuni has been achieved to date by the discovery and development of a number of comparatively smaller fields. There have so far been no discoveries of new gas reserves of similar scale to Maui.

This preponderance of small accumulations brings with it some risk in terms of field viability in each case, and consequently a need to be concerned about the ability to access those reserves economically. The development of small accumulations in an offshore setting requires that innovative cost reducing methods are adopted, and that those projects are not burdened with unnecessary impost. This requires not only technical innovation, but also a commitment by developers and regulators to facilitate the gas being brought to market without avoidable costs. It however does produce the benefit of diversifying the supply sources for gas, a benefit in terms of the potential for increasing the number of upstream sellers in the gas market and improving its competitiveness.

There are currently two significant gas discoveries that have the potential to play an important role in replacing the now declining Maui and Kapuni fields.

The two undeveloped discoveries, Pohokura and Kupe are both located offshore, and both therefore require substantial investment in infrastructure before they can be brought into production. In each case the developers are faced with the need to finance those developments. Project financing requires each party using this source of funds to develop satisfactory “bankable” commitments from its customers in order to be able to proceed, and that in turn requires early commercial agreements between buyers and sellers. In the relatively “thin” customer market of New Zealand, this may take some time to achieve, a circumstance which has the potential to stretch out the development schedule.

Historically the largest industrial buyer has been the petrochemical company Methanex, which uses the feed gas to manufacture methanol for the export market. As the Maui field has declined and the gas volumes assured to Methanex have been exhausted, the demand/supply balance has tightened up, and less feed gas has been available to Methanex. As a consequence they have decommissioned part of their plant and run on only part load, despite the current very attractive price for their product in the international market. As methanol prices are historically volatile and may well not sustain current levels, and as near term gas for petrochemical feed availability appears problematical, it would seem reasonable to question the medium term future for that industry. If it were to be discontinued, the resulting demand reduction in the New Zealand gas system would result in a deteriorated commercial environment in which to market a new gas development.

The New Zealand gas transmission system reaches most of the significant consuming centres in the North Island, and in capacity terms, is dominated by the Maui line. This line is currently dedicated to carrying Maui gas, but it is understood that open access arrangements are currently being considered.

The joint venturers considering the development of the Pohokura reserves face a number challenges in the current environment. There is some uncertainty about the gas demand for future petrochemical feed as noted earlier. In addition, being an offshore development, the capital costs will be substantial, and the moderate size of the reserves, in the order of 700PJ, will require that these costs be carefully controlled. Assuming that these issues can be properly addressed, the Pohokura field is the resource which has the potential to be brought into production to replace the declining Maui gas output.

4.0 Australian Context:

The Australian gas industry is considerably larger than its New Zealand counterpart in both production capacity and its available reserves. Already discovered, but not necessarily developed, the industry has available to it 157,000 PJ of gas reserves, the equivalent of 128 years of production at current rates. This is as compared with an estimate in New Zealand in the year 2000 of a reserve of 2,216 PJ. The Australian industry is comprised of two substantial unconnected markets, one on the east coast and one on the west coast, and in addition a small (20 PJ / annum) stand alone system in the Northern Territory. The map on this page depicts the main characteristics of the gas pipeline system, and the producing basins, showing the degree of interconnection.

owner of the LNG export plant. The NWS Project is operated for the joint venture by one of the venturer partners, Woodside Energy Ltd. There are however a number of other independently developed fields on the North West Shelf, which compete for the domestic gas market.

The separate Eastern States market is considerably larger than its Western Australian non export equivalent at approximately 600 PJ / annum. This interconnected system includes the gas markets in Queensland, New South Wales, Victoria, and South Australia, and is soon to include Tasmania to which a sub sea gas line across the Bass Strait is being built. The Eastern States market varies in its character, with domestic consumption in Victoria being a significant factor, and this becoming less so further to the north in New South Wales and Queensland where the climate is warmer.

The supply side is mainly provided from two producing basins, each of which has been explored and developed by a joint venture which continues to be the largest supplier in each case. The Bass Strait fields were developed by Esso / BHP joint venture, with Esso acting as Operator. The Victorian State gas supply system grew out of that supply point. The Cooper Basin was developed by a joint venture led by Santos, and this provided the original supply for the growth of the South Australian and New South Wales gas markets. The Queensland market grew out of gas supplied in small quantities from minor fields in that State.

The Eastern States gas market has only recently become interconnected to the extent that it can begin to be considered a single market. The interconnection is still well short of the ideal, and retailers are constrained in the degree to which they are able to sell gas across the market. There are however a number of changes underway that will improve interconnectivity and enhance the opportunity for basin on basin competition. Among these is the Sea Gas Pipeline (see below discussion on Yolla) and the recently announced "hub" that Duke Energy have created in Victoria. This latter facility connects the main gas export lines to Victoria and New South Wales as they leave the Longford Plant, and facilitates the movement of gas across State lines.

The Eastern States market is still characterised by long term contracts and producer joint selling. In its review of this market, the COAG Energy Markets Review considered how increased upstream competition may be introduced to this market, and that is discussed further in the COAG section below.

4.1 North West Shelf Project

The Draft Determination referred to the ACCC decision (para 164-165) on the NWS application. Further (in para 185) the NWS application is said to have been approved by the ACCC on the basis that "the benefits resulting from the Project proceeding compared with the situation where no development would have taken place." In fact the NWS development had occurred in the early 1980s, and had been producing gas and jointly marketing it in Western Australia since 1985. The contracts between the NWS joint venture and most of its customers ran for 20 years and were to expire in 2005. At the time of the ACCC determination, the system had already been in production for 13 years, and that decision related to a further increment in domestic gas marketing involving one additional seller for that

increment. The ACCC concern was that the additional increment would not be marketed without the authorisation sought by the NWS joint venture. At the time of the 1998 determination, the development of the resource was not an issue.

4.2 Geographe / Thylacine

The Draft Determination addresses the circumstances leading to apparently separate marketing of the Geographe / Thylacine fields in Australia (para 172 – 176), and outlines a discussion with a representative of Woodside Energy relating to the circumstances that made this possible. As noted in the Draft Determination, the four joint venturers have reached agreement to each individually market their entitlements from the development. Woodside is reported as having indicated that one of its partners (Origin) was “wanting to sell gas to its downstream retail business.” This left Woodside, and the two smaller equity partners, to determine how to dispose of their shares in the Australian environment where no effective spot market for significant volumes operates.

As Woodside also reported, it was able to identify a customer having difficulty in finding supply elsewhere, and which was consequently prepared to contract for delivery from Woodside under circumstances where the uncoordinated selling of the joint venturers resulted in some risk to the buyer. The Commission’s notes recording the meeting with Woodside do not address how the gas entitlements of the two joint venturers with smaller equity shares was disposed of in these unusual circumstances, other than the observation that the two are likely to end up placing their gas with Origin, or with Woodside’s customer, TX

In a non-commodity market such as the Australian domestic gas market, serious balancing problems would eventuate if an innovative solution was not arrived at. It is my understanding that this was arrived at by the customer of at least one of the two joint venturer shareholders with the larger shareholding being prepared to be the effective buyer of last resort in the event of the failure of either or both of the two minor equity holders being able to market their share in a way that kept the off take system in balance. Clearly this was a unique arrangement that suited each of the companies at the time, and could not be expected to eventuate in every circumstance. The two major shareholders had their own reasons for wishing to control their equity share of gas. Origin apparently wished to use their share in their downstream business. Woodside had no downstream presence in the south-east Australian market, and wished to establish itself there. These overriding objectives provided the motivation for those companies to consider unusual arrangements with the remaining joint venturers to dispose of their share in a way that would keep the production off take system in balance. As the Commission noted in paragraph 176, Woodside added that “this was not a blueprint or a model for marketing that could be used everywhere, and the specific circumstances in that case made it possible for separate marketing.”

In summary, my understanding of the conditions that were unusual and specific to this case were as follows:

- (a) One of the joint venture partners was a major retailer which wished to retain control of its equity gas from this project
- (b) The other major partner wished to establish its presence in the Eastern States market.
- (c) The customer of Woodside, TXU, was having difficulty sourcing gas for its market needs, and was therefore very supportive of the project and prepared to facilitate its success. This included embracing some of the risk associated with the early uncoordinated marketing activity.
- (d) TXU were also in a difficult time squeeze as they had a very small window in which to make a commitment to the Sea Gas pipeline in order to secure capacity, and they needed to conclude a gas purchase agreement in order to do so. This also stimulated their interest in concluding an agreement with Woodside.
- (e) As one of the major retailers in the market, TXU were interested in avoiding buying from a consortium that included one of their major competitors. A joint venture sales team would have included Origin. They would therefore almost certainly have had a preference for dealing with a non-competitor such as Woodside.
- (f) The potential problem of disposing of the gas of the two minor equity holders in a way that did not create balancing problems was facilitated by their size in relation to the market, and by the support of the major players who, for their own unique reasons in this case, were prepared to provide access to market.

It is also worth noting that in their submission to the COAG Energy Markets Review, Woodside stated that “it participates in several joint ventures in Australia where decisions must be made on coordinated versus separate marketing.” Woodside went on to identify the Sunrise joint venture and the North West Shelf joint venture as two cases under which separate marketing would not be feasible.

Clearly the circumstances at Geographe / Thylacine were specific to that venture, and it is my opinion that it cannot be held that those marketing arrangements have any relevance to the practicality of separate marketing from other joint ventures, where these unique circumstances do not exist.

4.3 Yolla

The Yolla field lies about 15 kilometres offshore from Port Campbell in Victoria and is considered to contain just short of 400 PJ of reserves. It is one of the fields being developed to supply gas into the Sea Gas Pipeline, a project that will take gas from Port Campbell to Adelaide, a distance of some 680 kilometres. This line will also deliver gas from the Minerva field, and from the Geographe / Thylacine fields when they are developed. The Yolla joint venture is comprised of Origin Energy (37.5%) AWE (37.5%) Cal Energy (20.0%) and Santos (5.0%), with Origin as operator. At the time of the agreement to proceed in April 2002, Origin in its announcement said in part:

“Origin Energy has used its unique position as a significant participant in both the upstream and downstream energy industry in Australia to commercialise the Bass Gas Project. Origin Energy has agreed to purchase 95% of the 20 PJ of gas per annum for its retail business. This project is a clear demonstration of Origin’s strategy to leverage its integrated energy business structure.”

The placing of gas from the Yolla Project into the market, went through a process that has been identified in the Draft Determination as separate marketing. The author is not informed of what agreements were made between the parties in arriving at their final arrangements. However, as outlined in Origin’s announcement, and also as recognised in the Draft Determination, the parties eventually placed most of their gas with the downstream arm of Origin, one of their fellow venture partners. Whatever conclusion is arrived at with regard to the process used to come to that final arrangement, and there are various possibilities, and some speculation within the industry about the degree to which the process constituted separate marketing, the result is the domination by one party of the final placement of gas from Yolla in the downstream sector.

As an effective final arrangement, this would not seem to offer an appropriate model for Pohokura. It depended on one of the joint venture partners having sufficient depth in the retail market to take control of at least 95% of the project gas to ensure its absorption into the downstream system. While this mitigates, and probably eliminates balancing problems, it is not at all clear that it contributes to a more competitive supply than would have occurred under conventional joint marketing.

4.4 VENCorp:

VENCorp is an organisation with major roles in operational planning and development in both gas and electricity in the State of Victoria. Its key roles are:

- Independent system operator for the Victorian gas transmission network
- Manager and developer of the Victorian gas wholesale market
- System planner providing planning services for gas & electricity infrastructure

VENCorp also has operational responsibilities during gas and electricity emergencies.

The Victorian State gas transmission network is operated under a ‘market carriage’ system as opposed to the ‘contract carriage’ system operated in other States. In the contract carriage system of other States, parties are only entitled to transport gas to the extent that they have contracted capacity, and they pay for that capacity whether or not they actually use it. Under the Victorian Market Carriage model, capacity is allocated to customers up to a maximum daily quantity

("MDQ"). Actual requirements are nominated for in a day ahead scheduling system managed by VENCORP.

Victorian gas buyers and sellers have the ability, but no obligation, to put in additional bids for "increments or decrements" whereby they nominate a price at which they are willing to sell additionally or to withdraw demand. This market is managed by VENCORP and strikes a spot price for the day for the "overs or unders". The volume of gas going through this market is very small in comparison to the overall market.

Where transmission constraints arise as a result of gas usage in excess of the established MDQ for any user, ancillary payments are required from those parties. This is used by VENCORP to provide financially firm transmission rights to the holders of authorised MDQ.

While this system is different to that operated by other States with which the Victorian gas network is interconnected, this difference has not been found to be a major detriment to interstate trade.

The Victorian gas market is still based mainly on long term contracts for supply. Provision exists for buyers and sellers to adjust daily nominations within system constraints, and the balancing of these variations has been used by VENCORP to create a small spot market. This "balancing" market handles only very small gas volumes in comparison with the contract sales. Until conditions develop to evolve a more substantial volume of trade, it is not an effective long term supply alternative to the contract market. The same principle would apply in any other gas market including New Zealand, and this is that small volume balancing does not provide a market with sufficient depth to replace contract supply arrangements in circumstances where significant gas volumes are being introduced to that market.

5.0 COAG Energy Markets Review

In early 2002, the Council of Australian Governments (a body comprised of the First Ministers of the Australian Federal, State and Territory Governments, and known as "COAG") commissioned a team of four persons to carry out an Energy Markets Review. COAG agreed that the independent Energy Market Review be a forward looking, strategic study to facilitate decision making by governments, focusing on those areas likely to generate the most significant benefits. Without limiting the conduct or scope of the review, priority issues for consideration were identified as:

- Identifying impediments to the full realisation of energy market reform.
- Identifying strategic directions for further energy market reform.
- Examining regulatory approaches that effectively balance incentives for new supply, investment, promote demand responses and benefits to consumers.
- Assessing the potential for regions and small business to benefit from energy market development.

- Assessing the relative efficiency and cost effectiveness of options within the energy market to reduce greenhouse gas emissions from the electricity and gas sectors, including the feasibility of a phased introduction of a national system of greenhouse emission reduction benchmarks.
- Identifying means of encouraging the wider penetration of natural gas, including increased upstream gas competition, value adding processes for natural gas and potential other uses such as distributed generation, because it is an abundant, domestically available and clean energy resource.

COAG appointed retired Senator Warwick Parer to chair this review, along with three other persons to work on the Review Panel, including this author. An issues paper was published and over 100 submissions were received in response. The Panel sat in each State and Territory Capital city, and the Federal Capital to receive verbal submissions from interested parties wishing to do so. The Panel visited the United Kingdom, Norway, and the United States to discuss with market participants and regulators there the main characteristics of their markets with the aim of understanding the outcomes resulting from the various options adopted by these countries. A draft report was issued in October 2002 and further submissions received in response.

The final report was delivered at year end 2002 and included 53 recommendations, of which 11 were directed specifically to the issue of the gas market. Of these 5 were pertinent to the issue of separate marketing, and are shown in the report as recommendations 7.6 through 7.10. These encourage greater competition through separate marketing by proposing:

- (7.6) Mandatory notification by joint venturers to the ACCC of all future joint marketing arrangements.
- (7.7) The ACCC conduct case by case assessments of the feasibility of separate marketing and any authorisation granted must contain a review date.
- (7.8) The Trade Practices Act be amended to preclude jurisdictions from exempting the application of section 45 to joint marketing of natural gas.
- (7.9) Existing State exemptions and Commonwealth authorisations continue to apply to the existing contracts but all new contracts, or renewals, be consistent to the nationally consistent regime as currently applied through the Trade Practices Act section 45 test of substantially lessening competition and the section 90 authorisation public benefit test.
- (7.10) Acreage management regimes in relevant jurisdictions be amended to include “promotion of competition” as one of the criteria for awarding exploration acreage.

Recommendation 7.6 addressed the current arrangements whereby it is available for a production joint venture proposing to market jointly, to either seek exemption from the relevant provisions prohibiting this, or alternatively to proceed without authorisation. In the event that a joint venture adopts the second option, it is subject to being challenged by the ACCC, and unless it were able to show sufficient reason for an exemption, would risk having its intended arrangement prohibited. The recommendation is intended to require

that only the first option is available, and that authorisation is obtained before engaging in joint marketing.

Recommendation 7.7 follows the Panel giving consideration to a number of opposing views expressed in various submissions with regard to the feasibility of separate marketing by production joint ventures in the Australian domestic gas market. In addition the Panel commissioned a report from a consultant (KPMG) to examine the issue, and further, was able to discuss with regulators and market participants in Europe and the United States, the characteristics of markets in those locations which led to the development of separate marketing as a normal practice.

The Panel recognised that separate marketing is made more feasible where there is substantial depth in the market with a large number of buyers and sellers active, and where the market is large enough to make the input by individual participants small compared to the size of the overall market. A number of other features such as storage systems and comprehensive transmission systems also facilitate the evolution of an effective spot market, which serves to create the conditions that remove some of the hurdles which inhibit separate marketing.

In comparing the Australian market with systems that have these features, the Panel concluded:

“nevertheless Australia’s eastern gas market can still be at best described as emerging. While recent developments are encouraging, Australia’s gas markets remain immature – particularly when compared with the gas markets in the United Kingdom or the United States of America.”

The structural problems in the market were recognised in the following passages:

“Some significant barriers to a truly competitive natural gas market remain. The limited competition arising from the small number of basins supplying eastern gas markets is further restricted by joint marketing of gas from those basins. In addition the high level of upstream ownership concentration across basins is a concern. Another barrier to a competitive market is the relatively small size of the Australian economy.”

The KPMG analysis made many points which the Panel accepted and used in framing its recommendations. There were however some points with which it was not in full agreement, and which therefore were not used as a basis for those recommendations. The Draft Determination (Paragraph 169) has quoted a series of points taken from the KPMG report. The first eight of these were well accepted, and point number 6 with regard to project schedules is perhaps important in regard to the issue under consideration in these current proceedings.

The opinions expressed or implied in the KPMG report with which there was not full agreement and which are quoted in the Draft Determination paragraph 169, can be found in points number 9 and 10. In point number 9 the report is quoted as follows:

“After all, major oil and gas companies operating in Australia engage in separate marketing of gas elsewhere in the world. In those particular circumstances, there is little apparent disturbance to investment patterns.”

The implication in that statement is that it can be done in Australia because it is being done by those same companies elsewhere. This argument ignores the structural difference between the Australian market described in the Report as “emerging”, compared with the deep and liquid markets where separate marketing by production joint ventures is the norm. The Panel agreed with the earlier statement that:

“the way forward can be far better assessed by applying comments to specific joint venture situations.”

It was for that reason that the Panel’s recommendation 7.7 proposed that the ACCC conduct a case by case assessment of the feasibility of separate marketing, in which it is anticipated that the ACCC would take into account the prevailing conditions in the market at the time that the assessment was carried out. Also included in recommendation 7.7 was a requirement for a review date on any authorisation granted. This was intended to recognise that market conditions are evolving, that the Australian Eastern States gas market at approximately 600PJ may be approaching a size in which sufficient depth can be attained, and that the conditions for an effective spot trading market may develop in the future.

The second of the points quoted in the Draft Determination which requires some comment, is point number 10. In this case KPMG is quoted:

“in Australia detailed lifting, allocation and balancing agreements exist for separate marketing of oil, condensate and LPGs. The product markets may be different, but the systems would not appear to be so complex or costly as to be insurmountable obstacles to separate marketing.”

The market for those three liquid petroleum products is fundamentally different from the Australian gas market. Those three products are traded in an international commodity market in which the ability to dispose of the material is never an issue. The prices rise and fall as the spot market responds to the supply/demand balance, but there is always a buyer available to whom sellers can dispose of their respective equity share, and with prudent planning are able to keep the off take system in balance. Imbalances will arise from time to time, but these are capable of being brought back into balance through effective balancing agreements. This is in contrast to the Australian gas market where long term supply agreements dominate, and where there is very little effective ability to use a spot market to trade surpluses. The suggestion that the gas market can be operated in similar fashion to the commodity markets before an effective gas spot market emerges was not supported.

Recommendations 7.8 and 7.9 recognise that currently there exists the right for States to exempt joint ventures within their jurisdiction from the effect of the Trade Practices Act where those joint ventures propose to market jointly. The individual States can consider the developmental priorities of that State in this matter. The recommended changes would remove from State

jurisdictions the exemption, and bring all such applications to the ACCC so that uniform standards would apply.

Recommendation 7.10 recognises that one barrier to competition in the Eastern Australian gas market is a concentration of ownership in upstream producing basins. Joint ventures marketing as a unit, but in competition with other joint ventures, has the potential to improve competitiveness. The Panel recognised that this situation prevailed in Western Australia where a number of separate joint ventures produce fields from the same basin, and compete with each other for the market in that State. The recommendation proposed that at the time of acreage allocation, the issue of diversification of ownership is considered as a criterion. It is not suggested that this should be an overriding consideration, as acreage award on the basis of credible bids by competent companies is fundamental to achieving a successful programme of resource development. However where there are equal or near equal competitors, the suggestion is that ownership diversification become a determinant.

The Panel also made a number of recommendations concerning gas pipeline development, and on governance issues on energy markets in general. It also addressed the greenhouse issue and its conclusions there have some impact on the gas market. However none of those issues appear to be of relevance to the matter now before the Commission.

6.0 Conclusions:

6.1 Comparisons with Australian gas industry.

There are a number of reasons for concluding that the Australian gas industry experience and precedents are pertinent to the New Zealand market, and the Commission references in the Draft Determination to comparisons and events in Australia, would tend to support that view.

In both countries the gas industry was initially partly government owned, and the early evolution of the industry in both cases was significantly influenced by planning within the bureaucracies. Privatisation of most of the industry has occurred in both countries, and there was an increased need to promote competition in the market to discipline prices. In both cases the government agency responsible for promotion of competition, the ACCC in Australia and the Commerce Commission in New Zealand, has vigorously pursued the application of the relevant competition laws to achieve the objective shared by both countries, of an efficient and competitive gas industry. It follows that events and experience in either of those countries is instructive and useful for the other.

There are some significant differences that need to be acknowledged when precedents and experience are considered. The size of the Australian industry at over 1300 PJ per annum when compared with 180 PJ in New Zealand is an important difference. The established gas reserve in Australia is approaching two orders of magnitude larger than New Zealand's reserves. This places a different priority in New Zealand on the urgency for exploration designed to ensure the future reliable supply. There is also a difference in the depth of the market in

terms of the number and diversity of the buyers. The New Zealand market is dominated in gas volume terms by industrial and power generation buyers, similar in this respect to the West Australian State market. The larger Eastern States market in Australia is more diverse with greater depth on the demand side.

6.2 Conditions imposed by the Commission:

In its Draft Determination, one of the conditions imposed by the Commission in granting authorisation, is a limit of 5 years on that authorisation from the date of first production. The rationale in support of that condition includes:

- This approach has been used by other jurisdictions.
- It would provide an ability to limit detriments not identified at present.
- It allows the Commission to take into account future changes in the industry.

This approach has been used in Australia by the ACCC, largely for the third of the reasons listed above. In doing so, the ACCC has shown that it is prepared to take note of the potential impact of any time limitation on the development prospects of greenfield projects. This is recognised in the Commerce Commission's Draft Determination, paragraph 184.

Offshore gas field developments are capital intensive projects that normally need long timelines to establish production. The provision of the substantial capital investment required of each of the joint venturers often necessitates project financing. For this to be successfully achieved, the institutions providing the capital require a high level of assurance with respect to the income stream that will guarantee the ability of the borrower to meet repayment obligations. In the absence of a sales contract of sufficient length to meet this test, that assurance cannot normally be provided. Firm sales contracts of sufficient term are therefore an essential ingredient of any project financing effort.

In the 1998 ACCC North West Shelf authorisation the issue of the appropriate term of the authorisation was addressed. The ACCC recognised that an adequate term was required. In its authorisation it said that "there is a rational link between the term of contractual supply arrangements (that is, contracts between producers and their customers) and the financing and appraisal of a project." It went on to quote a Tribunal decision in respect of an AGL matter as follows: "In principle we would wish the length of the contract to be sufficient to cover both the amortization of fixed assets and the generation of predicted revenues that would give some security for the highly risky business of developing gas reserves."

In its decision on the NWS authorisation the ACCC decided on a term of 7 years during which the new "Incremental Venture" was authorised to market jointly. As the reserves were already developed, there was little if any effective erosion of this period, from the period of sales, for

the purpose of field development. The ACCC further determined that subject to certain conditions, contracts entered into during the period of authorisation, could remain effective up to the year 2018, thus providing an effective period during which jointly marketed sales could continue for a total of 20 years. In contrast the Competition Commission Draft Determination proposes an authorisation for the Pohokura joint venture of 5 years. This is considerably less than the 20 years joint selling authorised in the case of the North West Shelf.

It is not at all clear that the limited term imposed by the Commission on the Pohokura joint venture will make it practical to cover the amortization of fixed assets, and this may seriously hamper any project financing which may be necessary.

6.3 COAG Energy Markets Review – Implications of its conclusions:

The Energy Markets Review Panel recognised the importance to Australia of encouraging a more competitive gas industry. It also recognised that there are structural features in that industry which detract from its competitiveness, and that one of those features is the predominance of joint marketing by companies sourcing their gas from production joint ventures. The Panel concluded that it would improve competitiveness in the Australian gas industry if a way could be found to bring about separate marketing by companies involved in those production joint ventures.

The Panel examined gas markets in other countries where this had been achieved, and commissioned a consultant (KPMG) to provide some analysis. The Panel concluded that except where special circumstances prevailed, separate marketing will only be practically achieved in a mature gas market. The features of a mature market includes at least some of the following characteristics.

- Large enough for any single buyer's requirements or seller's output to be very
- small in comparison to the market.
- The pipeline infrastructure is comprehensive and facilitates effective trading.
- Storage facilities for gas exist in the vicinity of the "trading hub".
- A market exists to facilitate trading in financial instruments.

The Panel concluded that the Australian market was immature and lacked any significant trade in short term gas sales. The Eastern States market was growing and diversifying in supply options, as well as upgrading the pipeline interconnection points, and has the potential to develop a spot trading market. It was not clear when that may take place. The KPMG analysis made many points that were important to the Panel's conclusions, but not every conclusion of the consultant was accepted by the Panel, and those which it did not endorse were discussed in 5.0 above.

In view of the current immature state of the market, the Panel recommended in future a case by case review by the ACCC to determine if market conditions had evolved sufficiently to be able to require separate marketing.

It is my opinion that the New Zealand gas market is even less mature than the Australian equivalent. It is considerably smaller and has less depth in terms of market participants. I would expect the development of a liquid trading market to occur in Australia in advance of that development in New Zealand, and that has not yet occurred in Australia. I would therefore anticipate that considerable market development will need to occur in New Zealand before the preconditions for a liquid trading market will exist.

Accordingly, it is my opinion that joint selling by joint venture producers is the only practical mechanism available for a greenfields development under the conditions that currently prevail in New Zealand. Even an already established brownfields venture would be faced with serious problems which would require a high degree of coordination between sellers, which would remove effective competition between them while decreasing efficiency and increasing costs.

6.4 Summary:

Separate marketing would not appear to be a suitable regime for the Pohokura joint venture in my opinion, because:

- The New Zealand market is immature in the sense that the COAG Energy Market Review found the Australian market to be immature, but in the case of New Zealand, arguably more so.
- Without at least some of the characteristics of a mature gas market, there is very little scope for gas sales outside of contractual supply arrangements.
- A greenfields offshore development, with its high capital requirement, typically requires quite high market certainty in order to proceed, and in the absence of a mature, liquid trading gas market, contracts of an appropriate term are necessary.
- Arranging supply contracts individually as opposed to collectively will be more time consuming and likely to lead to higher costs through:
 - Project schedules being affected.
 - Potential for plant design parameters to be unnecessarily complex and oversized.
 - A loss of flexibility in the operation of the system.

Curriculum Vitae
M. D. Agostini

1. Biographical Data:

Name: Michael David Agostini BSc. FIE Aust.
(Known as David)

Date of Birth: 20th January 1939

Marital Status: Married

Address: 29 Colleran Way
Booragoon, WA 6164
Australia

Occupation: Retired Oil Company Executive
Some consulting activities

2. Education / Qualifications:

- (a) St. Marys' College. Port-of-Spain, Trinidad. Sr. Cambridge Certificate
1957
- (b) North Carolina State University. BSc in Geological Engineering 1963
- (c) Institution of Engineers Australia. Registered Professional Engineer
1978

3. Work Experience:

1957 – 1959 Texaco Trinidad Inc.
(a) Student apprentice – Forest Reserve, Trinidad
(b) Drilling fluids supervisor – Forest Reserve, Brighton,
Trinmar

1959 – 1963 Student at North Carolina State University
Graduated 1963
BSc in Geological Engineering

1963 – 1972 Texaco Trinidad Inc.
(a) Petroleum Engineer, Barrackpore
- Well design
- Workover design
- Production optimisation.
(b) Petroleum Engineer, Forest Reserve
- As above
(c) District Engineer, Eastern District
- Supervision of 4 engineers

- (d) District Engineer, Western District
 - Supervision of 12 Engineers
 - (e) Asst. District Superintendent, Western District
 - Responsible for production in Grand Ravine & Brighton
 - (f) Asst. Chief Petroleum Engineer
 - Pointe-a-Pierre based. Supervision of 30 engineers
- 1972 – 1989 Woodside Energy Limited, Perth, Australia
- (a) Petroleum Engineer
 - Assessment of discovery wells for development in new exploration province.
 - (b) Sr. Drilling Engineer
 - Supervision of engineering design for 3 offshore rigs
 - (c) Chief Drilling Engineer
 - Establish company policy on well design.
 - Responsible for implementation programme.
 - (d) Chief Engineer Production Operations
 - Technical acceptance during design phase of first offshore platform.
 - (e) Offshore Operations Manager
 - Responsible for upstream operations of North West Shelf Project with production capacity of 1000 mmscfd and 100,000 bopd.
- 1989 – 1991 Shell International in the Hague (on secondment from Woodside)
- (a) Deputy to Strategy Manager for Americas and Middle East. This had a downstream focus (Refineries & LNG Plants). Responsibilities included coordinating scouting studies for refinery projects, and developing downstream country specific strategies where there was no corporate presence.
- 1991 – 1999 Woodside Energy Limited
- (a) General Manager Operations. Responsible for all company operations including drilling, both exploration and development, production system of 2000mmscfd and 200,000 bopd, and the operation and maintenance of a 3 train LNG Plant. Annual operating budget approx \$300 million.
 - (b) General Manager Commercial Interests. Represent Woodside corporate at the NW Shelf JV Operating governing body. Responsible for performance of Woodside's investments and for marketing LNG in Asia.
- 1999 Retired

4. Current Activities in Retirement:

- (a) Adjunct Professor at University of Western Australia.
- (b) Chairman of Industry advisory Board. Centre for Oil & Gas Engineering at University of Western Australia.
- (c) Chairman of Industry Advisory Board, Centre for Offshore Foundation Systems at University of Western Australia.
- (d) Chairman of Western Australian Petroleum Research Centre, a joint venture between two Universities.
- (e) Chairman of the Gas Policy Forum. This body develops and provides advice to the Minister in the Australian Federal Government responsible for Energy. Emphasis is on issues concerning competition and gas penetration in the market.
- (f) Member of Engineering Faculty advisory Board at University of W.A.
- (g) Member of Resources Council of W.A. Advisory body to State Minister of Education on issues concerning curriculum and research in W.A.
- (h) Member of Panel which carried out the COAG Energy Markets Review (known as the Parer Review) during 2002.
- (i) Member Organising Committee for World Energy Conference, Sydney 2004. Represent Woodside's CEO, on contract basis, planning this event.
- (j) Consultancy Advice. Ad hoc consulting service to Oil Companies and Management Consulting Companies, from time to time.

5. Professional Memberships.

- | | | |
|-----|-------------------------------------|--------|
| (a) | Institution of Engineers, Australia | Fellow |
| (b) | Society of Petroleum Engineers | Member |
| (c) | Australian Gas Association | Member |