

DRAFT SUBMISSION TO COMMERCE COMMISSION

ON BEHALF OF INDO-PACIFIC ENERGY LTD

GAS PRODUCTION AND SALES IN TARANAKI

Introduction

The Commerce Commission has called for public submissions on the application by Todd Energy, Preussag Energie and SPM to allow joint marketing of gas from the Pohokura discovery in Taranaki.

Indo-Pacific Energy (IPE) wishes to make a submission on this subject in support of the proposition that gas produced from on- and offshore oil and gas fields in New Zealand should be marketed as a joint venture activity.

IPE has considered the public versions of submissions by the Pohokura JV.

IPE supports the thrust of their arguments.

This submission is confined to the issues in practical marketing gas from smaller fields and illustrates the difficulties currently facing all explorers in New Zealand.

At the producer end of the supply chain, competition in gas sales comes from inter-field competition and inter-fuel competition. The producer share of the value chain is such that the maximum disintermediation value available to produce retail price competition is embedded in the transmission, distribution and retailing sectors. The best value for consumers is derived from the most economical supply of gas into the transmission and distribution infrastructure.

The inability to market gas as a joint venture activity would severely constrain the viability of any exploration in New Zealand. It would discourage overseas investors whose vitally important risk capital is not available from the New Zealand financial markets.

A decision by Com Com to prevent joint marketing of gas may well lead to the end of the small scale exploration industry in New Zealand.

A decision to allow the joint marketing of gas may assist in the transition from an abundant cheap source of natural gas from Maui to the future of higher gas prices and more restricted gas availability to support major industry.

Com Com is encouraged to differentiate between producer competition based on the most economic input to the value chain and buyer competition based on price.

Background

Since the discovery of gas in Kapuni and Maui gas reticulation and sales have been developed in New Zealand to provide up to 42% of the raw energy needs of the nation. This effort was underwritten by several key developments:-

- the take-or-pay contract for Maui
- the establishment of bulk purchase markets for electricity, urea and methanol
- the construction of gas transmission and reticulation systems to and around major conurbations
- the negative 50% CPI index applied to Maui gas since production started
- energy parity pricing to reduce interfuel competition in the late 1970's

In addition gas is seen as a cleaner fuel for thermal applications in respect of the greenhouse gas concerns. This has resulted in a move from solid and liquid fuels to gas in major plant.

The oil and gas exploration industry during this period was subjected to various negative pressures:-

- an inability to sell gas into a saturated market
- the introduction of new tax and regulatory frameworks that placed a moratorium on the award of new licences and permits during the early 1990's
- the introduction of the RMA which increased compliance costs and time delays before exploration could commence significantly
- a general lack of trust in the New Zealand business environment making international investors difficult to attract into a high risk industry
- a move away from NZ of major oil companies (still continuing) and a replacement with small to medium sized organisations

Prior to 1991, the general direction of exploration drilling was orientated towards deep wells with high risks and, occasionally, high rewards. The discoveries made included gas fields with associated oil and condensate and oil fields with associated gas. The scale of the gas fields was such that the small New Zealand market was completely saturated with oversupply. Oil is a tradeable commodity on the spot market and is buyer price driven. New Zealand became over 50% self sufficient in own hydrocarbon production with gas assuming a 42% share of gross energy demand.

This situation changed in 1991 with the Ngatoro oil discovery in the shallower Mt Messenger formations. The investment and therefore risk was reduced. This exploration proposition was seen to be fairly widely applicable to many areas of Taranaki and the industry focus moved up, in geological terms.

The ability to discover oil and sell it without the problems of what to do with the often associated gas, enabled some returns to be established for the smaller explorers, who have been the mainstay of exploration effort since in this country since the late 1880's.

Gas produced from small fields has unique problems:-

- the reserves bases is very difficult to establish without extensive testing
- without testing the investment to develop the field cannot be made
- gas developments are often marginal requiring predictive forecasting of prices and costs to achieve positive life cycle economics
- the royalty regime has a big impact if AVR transforms to APR (relatively more than for a larger development)
- there is no gas gathering system in Taranaki that covers all the potential licences
- gas has to be treated before it can be transported in NZ and this makes gas production uneconomic for the small producer
- the gas price is artificially low, in fact gas is now about 1/3rd the price of electricity in energy terms (50% negative CPI factor has reversed the energy parity pricing balance)
- there is no incentive for any buyer to substitute an uncertain supply for bulk transmission supply
- there has been a reluctance over the years to allow 'new' gas into the system at any price
- even at this late stage in the field life. Maui dominates and access to remote markets is constrained by price, high cost + access to transmission, and quality requirements

The Small Gas Discovery Development Dilemma

The following is a typical model of the exploration cycle for information purposes. The numbers quoted are indicative but based on real information. The 'company' is staffed by very highly qualified specialist technologists and uses similarly specialised contractors and consultants. All these individuals and organisation work on a global pricing basis.

The Exploration Cycle involves the following:-

- competitive application for licences from the MED
- licence award under terms and conditions involving work commitments and expenditure expectations

These first two activities may take up to 2 years to complete if successful.

- assembly of either existing knowledge of the region and licence area
- review and development of work plans to fill in gaps in understanding
- marketing of potential prospects to the 'industry' of other exploration companies who may be interested in an equity 'farm-in' to share the risk and rewards
- rework of plans to include new partners views and ideas
- decision to acquire more information on the licence
- acquisition of new information
- review and rework of all the now available information
- decision to drill or relinquish licence

These steps take up to 5 years depending on the term of the licence. Funding is internal during this period and may cost \$1 million per annum in staff and specialist areas. Acquisition of new information again could cost up to \$5million per seismic survey and processing, interpretation, and discussions another \$1million.

- In the event drilling is agreed the next stages include
 - Permitting
 - Land owner agreements
 - Regional and local authority discussions
 - Tendering and contracting for services
 - Purchase of inventory and equipment
- Drilling

A typical shallow well in Taranaki costs between \$2.5million and \$5million to drill. Inventory for making the well permanent in the case of a discovery, is another \$500 000 depending on complexity. Deep onshore wells have cost between \$6million and \$15million depending on difficulty in drilling and complexity. Offshore these wells can cost over \$25 million. The most expensive well in New Zealand is believed to have cost in excess of \$50 million.

There are several possible outcomes of a drilling campaign:-

- a dry hole - no produceable hydrocarbons
- a gas well with associated oil and condensate, and LPG's
- an oil well with associated gas

The industry targets only the third preference, i.e. an oil well. Success rates for commercial developments are of the order 1 in 10.

The reasons are clear. Oil is marketable. It is easily transported and stored. It is a spot tradeable commodity. It can be converted to intermediate product if there is a market locally offering higher value than the crude export route.

A dry hole is plugged and abandoned with most of the investment being lost. Some information from the well can be reused as can some inventory.

In a market saturated with cheap gas, another gas well with condensate has been likened to winning third prize (i.e. oil > dry > gas).

Development costs for all the 'success' options vary considerably. A small oil well may cost up to \$500 000 to develop with separators, tanks, load out facilities and permanent utilities and site works. A small gas well with condensate and LPG's may cost in excess of \$3 million depending on the pressures and volumes of liquids produced. A field of many wells, or large producers, may justify a centralised development costing up to \$ 50 million. Offshore developments range from a modest \$150 million to over \$1 billion depending on water depth, scale, export routes etc.

Infrastructure connection costs are also significant ranging from \$300 000 to \$1million+ per kilometre for gas pipelines. Export tankage is either built or rented and in either case it is expensive. A crude export tank can cost in excess of \$10 million. If intermediate processing is required, the plant to perform this function is again expensive to build and operate, or held in monopolies where the user is a price taker.

All of these costs are 'up front' costs. They come before any reward in terms of income from the effort.

Gas Marketing in New Zealand

The only gas that is widely used falls into one of three categories:-

- NZ5442 pipeline specification gas (treated)
- Fuel gas
- Feedstock gas (variable specification depending on contracts)

Accessing remote users requires the gas to be transported in the NGC transmission system and then local reticulation networks. That automatically forces treatment to NZ5442.

Since the start up of Maui there has been no easy way of achieving access to markets.

- Pipeline access although technically and commercially possible, has been at a price that absorbed any producer value.
- Treatment plant is expensive and removes any real value to the producer for small quantities.
- The reserves bases of most small onshore discoveries have been inadequate for a buyer to take the risk of dedicating their production to take only that gas.
- There is no gas market for trading into, meaning that the dedicated contract route is the only option

Gas production cannot be split into physical shares.

In a gas well all the production stream is gas and has to be sold as a single output. Any by-products such as LPG or condensate, increase the separation cost but are spot tradeable in compensation.

In an oil well with associated gas, the production of gas cannot be held back. It simply bubbles out of solution as the oil depressurises. In fact it must be allowed to bubble relatively freely to ensure that oil production is not stifled or resource recovery is threatened.

Produced gas cannot be stored economically unless it is available in vast quantities when it may be liquified (LNG). Rather like electricity, reticulated gas is equivalent to a real time consumer product and pipeline storage, called linepack is of very short duration.

The result of these simple physical realities is that the whole gas stream, in either case, must be flared, used locally or sold to allow any production to proceed.

In a recent (end 2002) policy reversal the MED has effectively prevented flaring in New Zealand for more than 30 days. The producer therefore has to be able to use or market the gas to get any real reserves information or to make any financial return. Use may include on-site power generation for varying durations to establish the reserves volumes.

Joint Venture issues

In a joint venture situation, particularly involving international and non-resident investors, the JV appoints an Operator to look after all the administrative issues and other activities that have to be co-ordinated.

All New Zealand joint ventures reflect the fact that oil can be uplifted by each partner in proportion to their equity share.

In the event of a gas discovery the partners shall 'meet and decide how to proceed collectively'.

It is a principle of international gas production that gas production sales are coordinated.

No one partner can either decide not to produce their share of the gas, nor not sell their share if flaring is not allowed locally, unless they can persuade the whole JV to vote that way.

They can uplift their share if they are prepared to install, at their own cost, any necessary infrastructure.

The effect of not allowing this clear production driven commodity style sales philosophy is dramatic:-

- any gas discovery will either remain shut in until all gas is contracted for sale or use, or be abandoned as not economic
- producers are not retailers
- in most cases producers are price takers not price setters
- the compliance costs would lead to a large increase in the cost of any production
- most explorers would see this as serious country, or political, risk to be avoided by going elsewhere

The short term consequences could easily be a withdrawal of investors from the local exploration scene at a time when New Zealand is facing an imminent shortage of one of its key energy resources.

Conclusion

IPE encourages ComCom to make the distinction between competition to supply and competition to buy.

In the former the producer is a price taker and has no control over buyer end pricing.

The competition for gas in New Zealand comes from inter-fuel competition, e.g. electricity, oil, coal, wood and renewables.

It is in the public interest to ensure maximum choice can be exercised by buyers between the different forms of fuel available to them.

To ensure natural gas remains part of that choice the value chain for supply must remain as economical as possible.

The lowest possible input cost will be achieved by keeping all compliance costs as low as possible and forcing economic ranking of any gas discoveries using the latest technology and production methodology by producers.