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Commerce Commission

Decision No. 408

Determination pursuant to the Commerce Act 1986 in the matter of an application for clearance of a business acquisition involving:

SHELL EXPLORATION COMPANY B V

and

FLETCHER CHALLENGE ENERGY

The Commission:	M J Belgrave M N Berry P R Rebstock
Summary of Application:	Shell Exploration Company B V (or an interconnected body corporate) has sought clearance to acquire 100% of the shares of Fletcher Challenge Limited associated with its Energy Division and 100% of the shares in Zurich Holdings (No. 7) Limited, the holding company for Fletcher Challenge Energy.
Determination:	Pursuant to section 66(3)(b) of the Commerce Act 1986, the Commission determines to decline to give a clearance for the proposed acquisition.
Date of Determination:	12 October 2000

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THE PROPOSAL

1. Pursuant to section 66(1) of the Commerce Act 1986 (the Act), Shell Exploration Company B V (Shell) gave notice to the Commission dated 16 August 2000, seeking clearance for it, or its interconnected body corporate to acquire:

   - 100% of the shares of Fletcher Challenge Limited ("FCL") associated with its Energy Division (FCE"); and

   - 100% of the shares in Zurich Holdings (No. 7) Limited ("Zurich"), being the holding company for FCE.

Undertaking

2. The notice includes the following:

> "Shell Exploration undertakes, pursuant to section 69A of the Commerce Act 1986 (the "Act"), to divest all the legal and equitable interest in certain assets of Zurich within 12 months after the date of settlement of the acquisition to which the clearance relates. Those assets to be divested are:
>
> - all of FCE's equity interest and any other involvement in the Kupe field;
>
> - all of FCE's equity interest and any other involvement in Kapuni Gas Contracts Limited ("KGCL");
>
> - all of FCE's equity interest and any other involvement in Fletcher Challenge Gas Investments Limited ("FCGIL");
>
> - all of the shares in, or all of the assets employed in connection with, the retail business of Challenge Petroleum Limited *("Challenge!")*'
>
> - all of FCE's equity interest (being 14.2%) in the New Zealand Refining Company Limited ("NZRC")."

3. In addition, Chapman Tripp, on behalf of the applicant stated in a facsimile dated 26 September 2000 addressed to the Commission:

> "... I can confirm that pursuant to section 69A of the Commerce Act 1986, the applicant further undertakes to divest all of FCE's equity interest in the assets comprising the New Plymouth terminal which are currently employed in connection with the retail business of *Challenge!*.

4. Section 69A states:

> Commission may accept undertakings –
>
> (1) In giving a clearance or granting an authorisation under section 66 or section 67 of this Act, the Commission may accept a written undertaking given by or on behalf of the person who gave notice under section 66(1) or section 67(1) of this Act as the case may be, to dispose of assets or shares specified in the undertaking.

> (2) The Commission shall not accept an undert aking in relation to the giving of a clearance or the granting of an authorisation under section 66 or section 67 of the Act, other than an undertaking given under subsection (1) of this section.
>
> (3) An undertaking given to the Commission under subsection (1) of this section is deemed to form part of the clearance given or the authorisation granted in relation to the acquisition to which the undertaking relates.

5. The Commission is satisfied that the Undertaking has been given by or on behalf of the applicant in this case, and that it relates to the disposal of assets or shares. Accordingly the Commission is able to accept the Undertaking in accordance with section 69A(1). The Undertaking forms part of the application considered below.

Method of Implementation

6. The application states:

> "We do not have precise details on the method of acquisition as yet. However, the essence of the transaction is that Shell Exploration will acquire certain shares in FCL as part of a Court approved arrangement under the Companies Act 1993 which will effectively transfer to Shell Exploration all the assets and liabilities of FCE.
>
> There are some residual assets of FCE which do not relate to FCE's core exploration and mining activities. These assets and liabilities will either:
>
> - be acquired by Shell Exploration, but on the basis that they would be disposed of on an orderly basis at a subsequent date; or
>
> - be disposed of by FCE to third parties before the settlement of the Court approved arrangement whereby Shell Exploration acquires FCE."

7. Since the receipt of the application, FCL announced on 11 October 2000 that it is proposed, subject to regulatory and shareholder approvals, that Shell and Apache Corporation ("Apache") will jointly acquire FCE. Apache is a large oil and gas exploration and production company with operations in United States, Canada, Australia, Egypt, Poland and China. Apache has no current involvement in New Zealand.

8. Further, the announcement stated that some of FCE's assets, including the *Challenge!* service station network and the 14% interest in New Zealand Refining Company will be transferred from FCE to a new company to be formed called Rubicon. Rubicon will be unrelated to Shell.

9. In terms of its statutory obligations the Commission is required to consider the proposal contained in the application, and not the proposal in the announcement of 11 October.

THE PARTIES

Shell

10. Shell is part of the Royal Dutch/Shell Group of Companies. It ultimately has two parent companies:

- Royal Dutch Petroleum Company, based in the Netherlands; and
- The "Shell" Transport and Trading Company plc, based in the United Kingdom.

11. These two companies between them hold, directly or indirectly, all interests in the companies which comprise the Royal Dutch/Shell Group of Companies (the Shell Group). Shell Group companies are involved in activities relating to oil and natural gas, chemicals, electricity generation, and renewable resources in more than 135 countries.

12. The application spells out the following activities the Shell Group is engaged in internationally:

Exploration and Production (or "E&P"): searching for oil and gas fields by means of seismic surveys and exploration wells, developing economically viable fields by drilling wells and building the infrastructure of pipelines and treatment facilities necessary for delivering hydrocarbons to market;

Oil Products: refining and processing crude oil and other feedstocks into transportation fuels, lubricants, heating and fuel oils, LPG and bitumen, and distributing and marketing these products to customers;

Chemicals: processing hydrocarbon feedstocks into base chemical products, petrochemical building blocks and polyolefins, and marketing them globally;

Downstream Gas and Power: marketing and trading natural gas, wholesaling and retailing of natural gas and electricity to industrial and domestic customers, developing and operating independent electric power plants;

Renewables: manufacturing and marketing solar energy systems, implementing rural electrification projects in developing countries, sustainably growing and marketing wood, converting wood fuel into marketable energy, developing wind energy projects.

13. Within New Zealand, Shell is currently active in all the above areas. The primary activities of Shell NZ include:

- the exploration for, and production of, oil and gas, including holding significant shareholdings in the Maui and Kapuni fields;

- the operation of *Shell* brand petrol stations, with more than 350 retail locations nation-wide;

- investments in renewable resources, most notably a joint venture with Carter Holt Harvey in Mangakahia Forest in Northland;

- the production and distribution of chemicals, including petrochemicals and detergents;

- the production and distribution of commercial products, including marine and aviation fuels, and lubricants; and

- equity investments in NZRC (17.1%), Fulton Hogan Limited (37.6%), Loyalty New Zealand Limited (25%) and the New Zealand Burger King franchise (50%).

14. Shell NZ owns 50% of the shares in Shell Todd Oil Services Limited (STOS). The remaining 50% of the shares are owned by Todd Energy Limited (Todd).

15. Shell and Todd are parties to an agreement made in 1955 (the 1955 JV) under which they agreed to carry out, as a joint venture, prospecting and mining for petroleum in an area including Taranaki, the surrounding areas and offshore from those areas, and production of any petroleum that may be discovered. Part of this agreement proposed the setting up of a servicing company "to do the prospecting and mining on behalf of the joint venture". The agreement provides that Shell is responsible for the staffing of the servicing company and for providing technical advice to the company.

16. This servicing company is now known as STOS and is the operator of the Maui field, and its onshore production facilities, and of the Kapuni field and production facilities.

FCE

17. FCE is a division of FCL and is separately listed on the New Zealand Stock Exchange.

18. The application lists the activities of FCE in New Zealand as:

- exploration for, and the production and marketing of, oil, LPG and natural gas;

- operatorship of the McKee, TAWN, Kaimiro, Pohokura and Mangahewa fields;

- a 14.2% interest in NZRC, which operates the refinery at Marsden Point;

- wholesale, retail and marketing of petroleum products, motor spirits and convenience products through the *Challenge!* service stations.

19. FCE's activities overseas include:

- exploration for, and production, transmission and marketing of, oil and gas in Canada and Brunei;

- exploratory drilling ventures in Argentina;

- petroleum storage and wholesaling in Brisbane;
- a 50% interest in the 120 MW gas fired Cogeneration Project, located at the Worsley Alumina plant in South Western Australia;
- an 11% interest in the Capstone Turbine Corporation, a Los Angeles based "Micro-Turbine" manufacturer which has recently listed on NASDAQ; and
- a 15% interest in Petroz NL, an Australian oil and gas exploration and production company with interests in Australia, the Timor Gap Zone of Co-operation, Indonesia and Italy.

PROCEDURES

20. The application was registered by the Commission on 21 August 2000. Section 66(3) of the Commerce Act requires that the Commission, within 10 working days after the date of registration of the application, or such longer period agreed by the Commission and the applicant, gives, or declines to give, a clearance for the acquisition. The tenth working day after the registration of the application was 4 September 2000. The Commission and Shell agreed to extensions of the period, with the Commission's determination being required by 13 October 2000.

21. Shell advised the Commission that it did not seek a confidentiality order for the fact of the application, but that it did require confidentiality for some specific information contained in the application. The Commission, in accordance with section 100 of the Commerce Act, made a confidentiality order on 22 August 2000 prohibiting the publication or communication of that information until 20 working days from the Commission's determination of the application. When the confidentiality order expires, the provisions of the Official Information Act 1982 will apply to the information.

22. The Commission's determination is based on an investigation conducted by its staff and the information subsequently provided by staff to the Commission.

INVESTIGATION

23. In the course of their investigation of the proposed acquisition, Commission staff have discussed the application with, and received submissions from, a number of parties including:

- Contact Energy Limited (Contact);
- Contract Strategies Ltd;
- Power Project Associates;
- FCE;
- Major Electricity Users' Group;
- Swift Energy New Zealand Limited (Swift);

- Natural Gas Corporation (NGC);
- Orion New Zealand Limited (Orion);
- Liquigas Limited (Liquigas);
- Todd Energy Ltd (Todd);
- Methanex New Zealand Limited (Methanex);
- Genesis Power Limited (Genesis);
- The Treasury;
- Ministry of Economic Development - Crown Minerals Group (Crown Minerals);
- Vanco Energy Company (Vanco);
- NZ Oil & Gas Limited (NZOG);
- Westech Energy New Zealand Limited (Westech);
- Rockgas Limited (Rockgas); and
- BP New Zealand Limited.

24. In addition staff have sought and received comment and further information from Shell.

OVERVIEW OF THE NEW ZEALAND GAS INDUSTRY

25. An overview of the New Zealand gas industry is contained in a report produced by the Ministry of Economic Development entitled the Energy Data File July 2000. This overview contains diagrams showing gas ownership and physical flows for the March year 2000 and a gas flow summary for the March year 2000. These diagrams are attached as Appendices A and B.

MARKET DEFINITION

Introduction

26. The purpose of defining a market is to provide a framework within which the competition implications of a business acquisition can be analysed. The relevant markets are those in which competition may be affected by the acquisition being considered, and in which the application of section 47(1) of the Act can be examined.

27. Section 3(1A) of the Act provides that:

> "... the term 'market' is a reference to a market in New Zealand for goods or services as well as other goods or services that, as a matter of fact and commercial common sense, are substitutable for them."

28. Relevant principles relating to market definition are set out in *Telecom v Commerce Commission*[1] ("the AMPS A case") and in the *Business Acquisitions Guidelines*[2]. A brief outline of the principles follows.

[1] *Telecom Corporation of New Zealand Ltd v Commerce Commission* (1991) 4 TCLR 473

29. Markets are typically defined in relation to three dimensions: namely, product type, geographical extent, and functional level. A market encompasses products that are close substitutes in the eyes of buyers, and excludes all other products. The boundaries of the product and geographical markets are identified by considering the extent to which buyers are able to substitute other products, or across geographical regions, when they are given the incentive to do so by a change in the relative prices of the products concerned. A market is the smallest area of product and geographic space in which all such substitution possibilities are encompassed. It is in this space that a hypothetical, profit-maximising, monopoly supplier of the defined product could exert market power, because buyers, facing a rise in price, would have no close substitutes to which to turn.

30. A properly defined market includes products which are regarded by buyers or sellers as being not too different (the product dimension), and not too far away (the geographic dimension), and are therefore products over which the hypothetical monopolist would need to exercise control in order for it to be able to exert market power. A market defined in these terms is one within which a hypothetical monopolist would be in a position to impose, at the least, a "small yet significant and non-transitory increase in price" (*"ssnip"*), assuming that other terms of sale remain unchanged.

31. Markets are also defined by functional level (the functional dimension). Typically, production, distribution, and sale occur through a series of stages, with markets intervening between suppliers at one vertical stage and buyers at the next. Hence the functional market level affected by the application has to be determined as part of the market definition. For example, that between manufacturers and wholesalers might be called the manufacturing market while that between wholesalers and retailers is usually known as the wholesaling market.

Identifying Relevant Markets

32. To identify the markets relevant to the application, it is necessary to consider the business activities undertaken by the merging firms and to assess whether, post-acquisition, dominance would, or would be likely to, result or be strengthened.

33. Thus the relevant market can vary depending on the matter at issue. As stated in the AMPs A case:

> 'The boundaries {of the market} should be drawn by reference to the conduct at issue, the terms of the relevant section or section, and the policy of the statute. Some judgment is required, bearing in mind that "market" is an instrumental concept designed to clarify the sources and potential effects of market power that may be possessed by an enterprise."

34. In respect of those activities undertaken by one or other of the firms, but not both, it may be that the competitive situation will not change by the acquisition, and in these circumstances the Commission will not usually need to identify the specific market in which the activities may fall.

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[2] Commerce Commission, *Business Acquisitions Guidelines*, 1999.

35. The primary activities of Shell in New Zealand include:

- the exploration for, and production of oil, gas and LPG, including holding significant shareholdings in the Maui and Kapuni fields;
- the operation of Shell branded petrol stations, with more than 350 retail locations nation-wide;
- investments in renewable resources, most notably a joint venture with Carter Holt Harvey in Mangakahia Forest in Northland;
- the production and distribution of chemicals, including petrochemicals and detergents;
- the production and distribution of commercial products, including marine and aviation fuels and lubricants; and
- equity investments in NZRC (17.1%), Fulton Hogan Ltd (37.6%), Loyalty New Zealand Ltd (25%) and the New Zealand Burger King franchise (50%).

36. FCE's activities within New Zealand include the following:

- exploration for, and the production and marketing of, oil, LPG and natural gas;
- operatorship of the McKee, TAWN, Kaimiro, Pohokura and Mangahewa fields;
- a 14.2% interest in NZRC;
- wholesale, retail and marketing of petroleum products, motor spirits and convenience products through the *Challenge!* service stations.

37. Both FCE and Shell have extensive overseas interests, but these interests do not impact directly on competition in markets in New Zealand and are not considered further in this report. Rather the report concentrates on the domestic interests where there may be competition consequences, namely gas and LPG.

Gas

Product Market

38. In the past, when the Commission has considered business acquisitions in the energy sector it has received submissions from some parties suggesting that gas, electricity and other energy forms are substitutable and that each falls within an "energy" product market. This has not been the approach adopted by the Commission to date. The Commission stated in Decision 270:[3]

[3] Decision 270, *Natural Gas Corporation of New Zealand Limited and Enerco New Zealand Limited*, 22 November 1993.

> "None of the evidence presented to the Commission points to a clear cut answer to the market definition problem. However, all of the evidence is consistent with the conclusion that natural gas and other fuels, especially electricity and to a lesser extent coal, are indeed substitutes for each other, both technically and commercially – but they are at best imperfect substitutes, and cannot be regarded as being in the same market". (para129)

39. This approach is consistent with recent decisions of the courts. In the High Court judgment in Power New Zealand v Mercury[4], subsequently upheld in February 1997 by the Court of Appeal, the court said:

> "It is common ground that gas is not in close competition with electricity. We see no reason to question this approach". (p.704)

40. In the Kapuni litigation[5] the High Court heard a substantial amount of economic evidence on market definition. It said:

> "We accept that {light fuel oil, coal and electricity} are substitutable {for natural gas} in certain favourable circumstances, but always at the edges and seldom in response to a SSNIP". (p.527)

41. In subsequent decisions[6] the Commission in each case considered it appropriate to adopt discrete product markets for electricity and gas. The Commission recognised that while inter-fuel competition provided some constraint on each energy form, it did not consider the constraint sufficiently strong to include electricity and gas in the same market.

42. In its application, Shell has not argued for the use of an energy market. Nor is the Commission aware of any new information which would persuade it that its past practice of placing gas in a discrete product market is now inappropriate.

Functional Markets

43. In the past the Commission has considered competition issues relevant to the gas product market within discrete production, transmission, distribution, wholesaling and retailing functional markets. In this instance the applicant has stated that it does not accept the appropriateness of separating the production and wholesaling functional markets for the period prior to the expiry of the principal gas supply contract, the Maui contract, in 2009.

Production and Wholesaling

44. The applicant has stated in an introductory paragraph of the application:

> "Until 2009, when the Maui Contract expires, gas production and gas wholesaling effectively form a single functional market in which none of the producers has significant market power, owing to the fact that the substantial majority of current gas production and proven + probable gas reserves ("2P reserves") are committed through long term contracts to wholesalers or major industrial users."

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[4] *Power New Zealand Ltd v Mercury Energy Ltd* (1996) 1 NZLR 686

[5] *Shell (Petroleum Mining) Company Limited and Another v Kapuni Gas Contracts Limited and Another* (1997) 7 TCLR 463.

[6] Including Decision 330, *NGC/Powerco*, Decision 333 *Contact/Enerco*, Decision 340 *TransAlta/Contact*, Decision 345 *UnitedNetworks/TransAlta*, Decision 380 *UnitedNetworks/Orion*.

45. This argument is expanded on in the NECG Report attached to the application. NECG, for the applicant, has argued that "at an abstract analytical level" wholesale would not appear to be a discrete functional market because wholesalers could not integrate into production were producers to increase price. However, it has argued that, in practice, if the wholesalers have contractual entitlements to gas, they take on some of the characteristics of producers. These contracts "endow wholesalers with a set of assets which they can substitute from the wholesale layer to the production layer in response to changes in production prices".

46. NECG notes that electricity generators and petrochemical companies buy from both wholesalers and producers. For example Genesis has contracts with both FCE (a producer) and with Contact (a wholesaler). Methanex has purchased gas both direct from Maui and from NGC for supply from Kapuni. In addition, Kiwi Co-operative Dairy Company has a relatively small contract with the Kapuni producers, not with a wholesaler.

47. The Commission has given careful consideration to the arguments for having one functional market for the production and wholesaling of gas to 2009. It has taken into account the arguments of all the parties, and legal precedent including the following extract from the AMPS A case:

> "If we ask what functional divisions are appropriate in any market definition exercise the answer, plainly enough, must be whatever will best expose the play of market forces, actual and potential, upon buyers and sellers. Wherever successive stages of production and distribution can be coordinated by market transactions, there is no difficulty: there will be a series of markets linking actual and potential buyers and sellers at each stage. And again, where pronounced efficiencies of vertical integration dictate that successive stages of production and distribution must be coordinated by internal managerial process, there can be no market."

48. For the following reasons the Commission has not accepted that one market for production and wholesaling is appropriate in this instance:

- As stated in the AMPS A case cited above, "market" is an instrumental concept designed to clarify the sources and potential effects of market power that may be possessed by an enterprise. Substitution on supply and demand sides is very important to the way the market is defined, but ultimately the Commission defines the relevant market in a way which assists the analysis of the competitive impact of the acquisition under consideration.

- There is no evidence that transactions between production and wholesaling require the close co-ordination that can only be achieved by vertical integration, or that vertical integration brings about a level of efficiency which could not be matched by non-vertically integrated firms.

- A useful guide for the assessment of market power can be market shares. However market shares can be either impossible to measure, or those shares may be largely meaningless when firms undertaking quite different functions are placed within the same market. Thus the assessment of market shares is not facilitated by placing production and wholesaling within the same market.

- The production and wholesaling functions have vastly different characteristics. Production is very capital intensive requiring drilling equipment, mining licences and access to commercially viable gas fields. Wholesaling does not require substantial specific assets. New entrants to the two functional levels face quite different conditions. A combined production/wholesale market does not facilitate an assessment of the likelihood of new entry.

- The adoption of discrete production and wholesaling markets does not prevent the Commission from giving full weight to all factors which might constrain the merged company from exercising market power. In other words it does not change the conclusion on the application. When considering whether the merged entity would be in a dominant position, the Commission is required by the Act to have regard not just to market shares and the constraint from the conduct of competitors or potential competitors in the market, but also the extent to which the merged entity would be constrained by the conduct of suppliers or acquirers of goods or services in the market. Thus the ability of wholesalers and large consumers to divert gas for which they have contractual rights from its current uses to supply other large gas users is a very relevant matter for consideration in the competition analysis. The fact that the Commission has chosen not to place them in the same functional market in this instance does not reduce its ability to give appropriate weight to this factor.

49. For the purpose of analysing the current proposal, the production market encompasses transactions between the producers of gas and their customers. The wholesale market encompasses transactions between those who acquire gas from producers and sell it to large final users (such as electricity generators) or retailers. While technically the Crown, through the Maui contracts, can be considered a purchaser in the production market and a seller in the wholesale market, its "back-to-back" contracts mean that it does not normally have a significant ability to influence either functional market. For Maui gas, the producer is the Maui Mining Companies' joint venture while the acquirers in the production market are NGC, Contact and Methanex.

Time Dimension

50. As the Commission has stated in its Business Acquisition Guidelines, where a market exhibits distinct differences in the situation at different time periods, it may be appropriate to include a time element. In this instance, the production market is strongly affected by the availability of gas, in particular from the Maui field which currently accounts for around 80% of total gas production. It is anticipated that the Maui field will be depleted around 2009. The supply situation from other fields will also change by that time.

51. The applicant has suggested that, given the change in likely circumstances from 2009, it is appropriate to have a discrete gas production market for the post 2009 period.

52. The Commission notes that a change on the supply side, such as the depletion of Maui, is not the only matter which could have a significant impact on current market conditions. Currently Methanex takes around 38% of all gas produced in New

Zealand, and the principal contract under which it acquires this gas is likely to end in 2005. Methanex has stated to the Commission that whether or not its plants continue in production after that date will depend on it negotiating further significant quantities of gas for supply after that date. Clearly, if it did not reach a satisfactory conclusion to its negotiations, the demand side of the gas production market would look substantially different.

53. Further, the Commission considers that it is likely that the supply changes, including the depletion of the Maui field, will impact gradually over time. The price of gas at any time will be likely to reflect the future supply situation as well as the current situation. In addition major acquirers of gas are likely to enter contractual arrangements with suppliers which will overlap the time when the Maui field is depleted, and the price in these contracts will be likely to reflect the supply and demand situation over the term of the contract. Thus if the Maui field is depleted in 2009 as anticipated, it will not necessarily result in a dramatic price increase at that particular time.

54. Nevertheless, the Commission considers that, when it assesses the possible competitive consequences of the proposed acquisition, it is appropriate to give full consideration to the likely scenarios that will be in place over time. It can best do this by adopting two markets for the consideration of gas production. One is "the current gas production market" in which the present general market circumstances and foreseeable short-term changes prevail, and the other is "the post-2009 gas production market".

Wholesaling

55. Shell and FCE have minor interests in the gas wholesale market at present. The FCE owned KGCL takes all the gas from the Kapuni field. It is able to use half that gas to meet its supply contracts with NGC and Methanex. It is obliged by a 1997 decision of the High Court[7] to supply the other half to the KMCs (in which Shell has a 50% interest). The KMCs are currently supplying Kiwi Co-operative Dairy Company, Nova Gas and Fresh Start. In addition the FCE-owned FCGIL buys gas from Contact and sells to TCC (Stratford Power) pursuant to a back-to-back gas supply agreement.

56. In the first instance therefore, the proposed acquisition would result in a small aggregation in market share to significantly less than 20% of the market. In practice the involvement of FCE in the wholesale market is less than would normally be indicated by such a market share. KGCL is essentially merely a paper vehicle, administered by NGC, through which the sales of Kapuni gas under contracts to NGC and Methanex are administered. It is not in a position to act as an independent trader. Similarly FCGIL is not in a position to provide a independent competitive presence in the market.

57. In any event, however, the undertaking by Shell to divest KGCL and FCGIL within 12 months will remove any effect from the aggregation of market share.

58. Accordingly the Commission considers that it is not necessary to consider further the competitive implications for the gas wholesale market.

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[7] Supra note 5

LPG

Product Market

59. LPG is essentially a by-product associated with the production of natural gas. LPG comprises either propane, butane or a mixture of the two. The physical properties of the two gases are such that alone, or as a mixture, they can be liquified under moderate pressures and at normal temperatures.

60. LPG is produced from natural gas by chilling the gas to the temperatures at which propane and butane condense into liquids. The LPG production rate depends on the natural gas flows through the LPG extraction plants. Those flows in turn depend on demand for natural gas.

61. The Commission has previously considered that there is a separate product market for LPG. In Decision 323[8], the Commission noted that on the supply-side, the limited possibility for supply-side substitution appears to indicate that LPG may form its own product market, rather than being part of a wider energy market. LPG is a by-product of natural gas production, and the quantity of LPG produced is dependent on the level of natural gas production.

62. On the demand-side, there is a wide variation in the degree to which different consumers can substitute different fuel types. Some applications are dependent on LPG, particularly in the absence of natural gas as an alternative fuel. In other applications, LPG offers significant advantages which limit the cost-effectiveness of substituting a different fuel type.

63. As described above, LPG comprises propane, butane or any mixture of the two. Industry participants have noted a trend towards segmentation of the market, with demand for propane or mixes high in propane increasing. Propane is marketed as a premium product, particularly in cold areas, where it is more suitable because of its lower boiling point. At temperatures below zero, butane will not vaporise and will remain in the cylinder as a liquid, while the propane is all used.

64. LPG suppliers may supply a range of products, for example butane is used as an industrial fuel, the traditional 60/40 propane butane mix is generally used as an automotive fuel, and propane is more suitable for cylinders situated outside in cold areas. While there is a trend towards demand for specific combinations of product, these are all forms of LPG, and are close substitutes in most circumstances. None of the industry participants spoken to by Commission staff have suggested that the product market should be defined more narrowly than that for LPG.

65. Hence in order to best analyse the competitive impact of an acquisition involving aggregation of LPG production, the Commission considers that it is most appropriate to define a product market for LPG.

[8] Decision 323, *Rockgas Ltd and Energy Supply Ltd*, 24 April 1998.

Functional/Geographic Market

66. Shell has a range of interests across the various functional levels of LPG supply. These include retail sale of LPG at its service stations, wholesaling of LPG to service stations, other commercial resellers and industrial customers, a shareholding in Liquigas, which is an LPG distribution and wholesaling company, and production of LPG as part of the Maui and Kapuni joint ventures.

67. FCE is also a party to the Maui joint venture, as well as a producer of LPG from the TAWN fields. FCE does not have any interests in the downstream LPG markets, apart from the fact that some *Challenge!* service stations may retail LPG.

68. In the application, Shell used an LPG market, noting that aggregation in relation to LPG was limited to the production level and that the market at that level is a national one.

69. In assessing the current application, consistent with its past practice, the Commission adopts a national market for the production of LPG.

Oil and Condensate

70. The principal oil and condensate production fields are Maui, McKee, Kapuni, TAWN, Ngatoro and Kaimiro. Shell and FCE between them have a substantial interest in all these fields. Nevertheless the Commission does not consider that the proposed acquisition would result in any change in the present competitive situation in the oil production market. This is because the supply and price of oil is determined by international market conditions, and not by market conditions relevant to production within New Zealand.

71. Accordingly, the oil and condensate production market is not considered further below.

Refining of Oil

72. Shell has a 17.1% shareholding in NZ Refining Company Ltd (NZRC) which operates the only oil refinery in New Zealand. FCE holds a 14.2% shareholding in NZRC.

73. The Commission notes that the acquisition by Shell of FCE's interest in NZRC would not result in any change in the competitive situation in the refining services market – the ownership of NZRC would change but not its market power. In any event Shell has undertaken to divest all of FCE's equity interest in NZRC within 12 months of the acquisition to a third party unassociated with Shell.

74. The refining services market is not considered further below.

Retailing of Petrol

75. Shell and FCE both operate in the retail market for petrol and diesel and associated petroleum-based products. Shell operates an extensive network throughout New Zealand comprising approximately 350 service stations. In April 1998, FCE established its own network under the brand name *Challenge!* This network

comprises 93 service stations throughout New Zealand and 17 fuel stops in the North Island.

76. As Shell has undertaken to divest all of the shares in, or all of the assets employed in connection with the retail business of, Challenge Petroleum Ltd within 12 months of the acquisition, it is not necessary for the Commission to consider this activity further in the context of the current application. (The announcement by FCL on 11 October about the proposed sale of FCE suggests that *Challenge!* will not be sold to Shell in any event. However the Commission is obliged to consider the proposal in the application, not that in the subsequent announcement.) The Commission notes however that if any of the other major retailers of petrol seek to acquire *Challenge!*, the Commission will give careful consideration at that time as to whether such an acquisition has the potential to breach section 47 of the Commerce Act.

Conclusion on Market Definition

77. The Commission concludes that the markets which are relevant to the assessment of the application are:

- the current gas production market;
- the post-2009 gas production market; and
- the LPG production market.

In each case the market is national.

COMPETITION ANALYSIS

Introduction

78. The competition analysis assesses competition in the relevant markets in order to determine whether the proposed acquisition would not result, or would not be likely to result, in an acquisition or strengthening of dominance.

79. Section 47(1) of the Commerce Act prohibits certain business acquisitions:

> "No person shall acquire assets of a business or shares if, as a result of the acquisition, -
>
> (a) That person or another person would be, or would be likely to be, in a dominant position in a market; or
>
> (b) That person's or another person's dominant position in a market would be, or would be likely to be, strengthened."

80. Section 3(9) of the Commerce Act states:

> "For the purposes of sections 47 and 48 of this Act, a person has … a dominant position in a market if that person as a supplier … of goods and services, is or are in a position to exercise a dominant influence over the production, acquisition, supply, or price of goods or services in that market and for the purposes of determining whether a person is … in a position to exercise a dominant influence over the production, acquisition, supply, or price of goods or services in a market regard shall be had to-

(a) The share of the market, the technical knowledge, the access to materials or capital of that person or those persons:

(b) The extent to which that person is … constrained by the conduct of competitors or potential competitors in that market:

(c) The extent to which that person is … constrained by the conduct of suppliers or acquirers of goods or services in that market."

The Dominance Test

81. The test for dominance has been considered by the High Court. McGechan J stated:[9]

> "The test for 'dominance' is not a matter of prevailing economic theory, to be identified outside the statute."
>
> …
>
> "Dominance includes a qualitative assessment of market power. It involves more than 'high' market power; more than mere ability to behave 'largely' independently of competitors; and more than power to effect 'appreciable' changes in terms of trading. It involves a *high degree of market control*."

82. Both McGechan J and the Court of Appeal, which approved this test,[10] stated that a lower standard than "a high degree of market control" was unacceptable.[11] The Commission has acknowledged this test:[12]

> "A person is in a dominant position in a market when it is in a position to exercise a high degree of market control. A person in a dominant position will be able to set prices or conditions without significant constraint by competitor or customer reaction."

83. The Commission's *Business Acquisitions Guidelines* state:

> "A person is in a dominant position in a market when it is in a position to exercise a high degree of market control. A person in a dominant position will be able to set prices or conditions without significant constraint by competitor {or} customer reaction."
>
> …
>
> "A person in a dominant position will be able to initiate and maintain an appreciable increase in price or reduction in supply, quality or degree of innovation, without suffering an adverse impact on profitability in the short term or long term. The Commission notes that it is not necessary to believe that a person will act in such a manner to establish that it is in a dominant position, it is sufficient for it to have that ability." (p21)

84. The role of the Commission in respect of an application for clearance of a business acquisition is prescribed by section 66 of the Commerce Act. Where the Commission is satisfied that the proposed acquisition would not result, or would not be likely to result, in an acquisition or strengthening of a dominant position in a market, the Commission must give a clearance. Where the Commission is not satisfied, clearance is declined.

85. An important element in the competition analysis is often the market concentration following the acquisition. An examination of concentration in a market often

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[9] *Commerce Commission v Port Nelson Ltd* (1995) 5 NZBLC 103,762 103, 787 (HC).
[10] *Commerce Commission v Port Nelson* (1996) 5 NZBLC 104,142 104,161 (CA).
[11] *Commerce Commission v Port Nelson Ltd* (1995) 5 NZBLC 103,762 103,787 (HC)
[12] *Business Acquisition Guidelines*, Section 7

provides a useful first indication of whether a merged firm may or may not be constrained by others participating in the market, and thus the extent to which it may be able to exercise market power.

86. The *Business Acquisitions Guidelines* specify certain "safe harbours" which can be used to assess the likely impact of a merger in terms of s 47 of the Act –

> "In the Commission's view, a dominant position in a market is generally unlikely to be created or strengthened where, after the proposed acquisition, either of the following situations exist:
>
> the merged entity (including any interconnected or associated persons) has less than in the order of a 40% share of the relevant market;
>
> the merged entity (including any interconnected or associated persons) has less than in the order of a 60% share of the relevant market and faces competition from at least one other market participant having no less than in the order of a 15% market share." [13]

87. These safe harbours recognise that both absolute levels of market share and the distribution of market shares between the merged firm and its rivals is relevant in considering the extent to which the rivals are able to provide a constraint over the merged firm. The Commission went on to state that:

> "Except in unusual circumstances, the Commission will not seek to intervene in business acquisitions which, given appropriate delineation of the relevant market and measurement of shares, fall within these safe harbours."[14]

88. Although, in general, the higher the market share held by the merged firm, the greater the probability that dominance will be acquired or strengthened (as proscribed by s 47 of the Act), market share alone is not sufficient to establish a dominant position in a market. Other factors intrinsic to the market structure, such as the extent of rivalry within the market and constraints provided through market entry, also typically need to be considered and assessed.

BACKGROUND TO THE GAS MARKETS

Production Fields

89. The New Zealand gas industry consists of production, high pressure transmission pipelines, low pressure local distribution networks and wholesale and retail gas sales.

90. Currently, gas is entirely produced in the Taranaki region, where seven fields produce oil and gas (including condensate and naphtha). New Zealand's production of natural gas is dominated by the Maui field which is currently producing around 80% of total production. The next largest producer is Kapuni with around 11%. Other production fields include McKee, Kaimiro and Tariki/Ahuroa/Waihapa/Ngaere (usually referred to collectively as the "TAWN" fields).

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[13] Page 17.
[14] Page 17.

91. In addition to the production fields there are a number of other fields which the owners anticipate, with varying degrees of confidence, contain gas in commercial quantities. These include Mangahewa, Kupe, Pohokura, Rimu and Kauhauroa.

92. The three major users of gas in New Zealand are electricity generation, petrochemical manufacture and retail sale. Electricity generation including co-generation accounts for around 41%, petrochemicals (principally methanol) also accounts for around 41% and the remaining 18% is reticulated throughout the North Island to major users and to gas distributors to other industrial users and to commercial and residential sectors.

Current Gas Production

93. Gas production for the 1999 calendar year is shown in the following table prepared from information in the Ministry of Economic Development's Energy Data File July 2000:

Field	**Field Owners**	**1999 Gas Production**	
		PJ	**%**
Maui	FCE 68.75%	175	80
	Shell 25%		
	Todd 6.25%		
Kapuni	Shell 50%	24	11
	Todd 50%		
TAWN	FCE 96.73%	9	4
	Bligh 3.27%		
McKee	FCE 100%	8	4
Kaimiro	FCE 100%	1	1
Total		**217**	**100**

94. As indicated in this table, a merged Shell and FCE would have a substantial ownership interest in all current gas production fields.

95. Total current "proven and probable" gas reserves as indicated by the Energy Data File July 2000 are as follows:

Field	**Net Reserves (PJ)**
Kaimiro	9
Kapuni	256
Kupe	300
Maui	1359
McKee	78
Mangahewa	119
Ngatoro	0
Piakau	0
Tariki/Ahuroa	95
Waihapa/Ngaere	0
Total	**2,216**

96. The principal production fields are considered separately below.

The Maui Field[15]

97. The Maui field is owned 68.75% by FCE, 25% by Shell and 6.25% by Todd.

98. The field is situated off-shore Taranaki and is by far the largest production field in New Zealand. As at 1 January 2000, after 21 years' production, it contained 61% of New Zealand's estimated oil reserves and 60% of New Zealand's gross gas reserves (excluding the Pohokura discovery). It was discovered in 1969 when the gas market was very small, and the Crown concluded that it was the only entity capable of finding a use for such a large quantity of gas. It purchased a 50% share in the field and entered a 30 year take-or-pay gas purchase contract with the mining companies. This contract, known as the White Paper, in effect dedicated all of the then estimated recoverable reserves to the Crown. The first Maui gas came ashore in 1979. Initially the Crown had expected to use most of the gas in meeting anticipated growth in electricity demand and had planned to construct four new major power stations. However the electricity market did not develop as quickly as forecast and less than half the thermal generating capacity was built. In the early years this lack of demand resulted in the Crown building up, under its take or pay obligation, large quantities of gas which it had paid for but not taken.

99. In 1981 and 1982, in part to utilise its take or pay obligations, the Crown entered into agreements to establish a petrochemical industry centred on Taranaki. These included an ammonia-urea plant at Kapuni, a chemical methanol plant at Waitara Valley and a synthetic gasoline plant at Motonui – the latter two involving the Crown as joint venture partners. All plants had passed into private hands by 1990.

100. In 1990 the Crown negotiated, or renegotiated, contracts with downstream users with the principal aim of reducing the Crown's petroleum industry exposure. This was achieved by transferring the bulk of the Crown's rights and obligations under the Maui Contract to the actual users via a back-to-backing framework. The counterparties were New Zealand Liquid Fuels Investment Ltd (for use at the synfuels plant), Petralgas, NGC and Electricorp (now Methenex, NGC and Contact Energy.)[16]

101. The 1990 contracts were negotiated concurrently in an attempt to ensure that they jointly matched most of the rights and obligations included in the Crown's contract with Maui Development Ltd (MDL), a company made up of the joint venture partners. The new contracts approximately sum to the Crown's take-or-pay obligation, match rights to gas with actual gas available from the field prior to 2009, and rights to delivery with those available, and so on.

102. At the New Zealand Petroleum Conference on 19-22 March 2000, David Taylor, Manager of the Energy/SOEs section of the Asset and Liability Management Branch of the Treasury, stated:

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[15] Information in this section is drawn largely from a paper given to the 2000 New Zealand Petroleum Conference by David Taylor of the Treasury.

[16] With ownership changes NZLFI and Petralgas contracts are now with Methanex. With the split of ECNZ, the ECNZ contract was surrendered and the Crown entered into a new contract with Contact Energy.

> "The Crown has no current plans to exit the contracts. If Seller [ ] and Users [ ] were to put a proposal to the Crown, some of the issues the Crown would have to consider (general policy considerations aside) are:
>
> - the extent to which the Crown would obtain full consideration for the value it holds via the contracts;
> - whether the proposal left the Crown with any residual liabilities or contractual connections; and
> - whether the negotiation process could be conducted at moderate cost and without being unduly resource consuming.
>
> It remains to be seen whether Users and Seller will identify sufficient mutual benefits and determine to pursue a goal of Crown exit in the months ahead."

The Kapuni Field

103. The Kapuni field is located onshore in Taranaki and was the first of the significant gas discoveries when it was found in 1959. The mining licence is held by a joint venture between the Kapuni Mining Companies (KMCs) (which since the withdrawal of BP, comprises Shell and Todd, each with a 50% interest). The field is rich in condensate, but the gas in the field has a high carbon dioxide content and must be treated before it can be used for the reticulated market. Commercial gas was first produced from the field in 1970. Again the Government of the day had a substantial say in the use to which the gas was put – principally at that time in the reticulated market. Subsequently it has been utilised mainly in the petrochemical industry as Maui gas has replaced it for reticulation.

104. The Kapuni gas is contracted to KGCL. However, as a result of the High Court judgment in 1997, KGCL is required to sell half the output back to the KMCs. The application notes that any gas supplied to KGCL as part of its entitlement is sold at [

].

105. The judgment limited the use to which KMC's entitlement could be put. It notes:

> "The plaintiffs {the KMCs} will be able to sell their half into the wholesale or retail market. We note and enforce the undertaking incorporated in counsel's final submission not to sell gas to the Petrochemicals nor for electricity generation, other than for co-generation projects."

106. At current levels of production the field is expected to last until 2014.

The TAWN Fields

107. The TAWN fields comprise the Tariki, Ahuroa, Waihapa and Ngaere fields. They are onshore fields located in reasonable proximity of each other in eastern Taranaki and were discovered by Petrocorp between 1985 and 1993. The fields produce both gas and condensate.

108. The fields are now 96.73% owned by FCE and 3.27% by Bligh. Tariki and Ahuroa have around 95 PJ of reserves remaining, while Waihapa and Ngaere are now largely depleted.

109. All gas from TAWN is currently sold to Contact under a contract [ ] At the present rate of production the contract quantity will be met in [ ]

The McKee Field

110. The McKee field perhaps has greatest value as an oil field but is also a small but significant gas producer. It is an onshore field located inland from Stratford. It was discovered in 1982 by Petrocorp and is now 100% owned by FCE. The field is expected to be depleted by 2010.

111. All McKee gas is currently sold to Methanex under a generic gas contract which expires at the end of this year. FCE has stated that it is close to signing a new contract with Methanex to take effect once the current contract expires.

The Kaimiro Field

112. The Kaimiro field produces a small amount of gas and condensate. It was discovered in 1988, is located in north Taranaki and is wholly owned by FCE. At present low levels of production (around 1 PJ per annum), it is expected to continue to produce gas until around 2010.

113. The gas from Kaimiro is not currently contractually committed to any party.

Gas Committed to Meeting Contracts

114. A substantial proportion of production from New Zealand gas fields is committed to particular buyers by long term contracts between the field owners and wholesalers or major industrial users. NECG, for the applicant, has stated:

> "The current reserves and production for Maui, McKee, Kaimiro, TAWN, Ngatoro, Kaimiro[17] and most of Kapuni are committed to NGC, Methanex, Contact, Kiwi and Genesis. These contracts confer all control over production to beneficiaries...

115. The extent to which long-term contracts could constrain the merged entity from exercising market power is considered below in paras 146 to 163.

[17] The Ngatoro field is not considered separately in the Commission's report, but for practical reasons is treated as if it is part of the Kaimiro field.

THE CURRENT GAS PRODUCTION MARKET

Introduction

116. The analysis below takes into account the particular characteristics of gas production. These include the fact that gas fields have a finite life, that the discovery of viable new gas fields is always subject to some uncertainty, that presently at least there is no transparent spot market for gas and that most gas is sold in the first instance by way of long-term contracts which specify price and quantities and may be entered into before the producer has developed the gas field.

117. When considering whether a person acquires or strengthens dominance in a market, the Commission is not concerned with ephemeral or transitory market power. If market power is likely to be removed readily by new entry within a reasonable time, for instance, the Commission considers that in most circumstances the firm in question is not dominant. The Commission has stated in its Business Acquisition Guidelines that for most markets entry which cannot be achieved within two years from initial planning is unlikely to be sufficiently timely to alleviate concerns about market dominance. Contrariwise in many markets where apparent market power could not be sustained for longer than two years because of the likelihood of new entry or other changes in market circumstances, the Commission may consider it appropriate to find no dominance.

118. In the analysis below the Commission has considered those factors which may limit or prevent the merged company from exercising "a high degree of market control" (in the words of the Port Nelson decision[18]). It has done this by considering:

- the constraint from competitors;
- the constraint from potential competitors;
- the constraint from new entry;
- the constraint from acquirers of gas – current supply contracts;
- the constraint from acquirers of gas – ability to on-sell gas; and
- the constraint from acquirers - ability to switch to alternative fuel forms.

Constraint from Competitors

119. As noted above, the merged Shell/FCE would have a substantial interest in all current gas production fields. Others with an ownership interest in current production fields are Todd, Bligh, NZ Oil & Gas and Ngatoro Energy Ltd. Their ability to provide a competitive constraint rests on their ability to obtain gas from those fields and to market it viably independent of Shell/FCE. Their situations are considered below.

Todd

120. Todd has a 50% ownership interest in Kapuni through the KMCs and a 6.25%[19] interest in Maui through the MMC.

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[18] *Commerce Commission v Port Nelson Ltd* (1995) 5 NZBLC 103,762 103,787 (HC).

121. The Commission considers that Todd's ownership interest in Maui is not likely to give it access to gas. The gas from the Maui field is committed to the Crown which, in turn, has back-to-back long-term contracts with NGC, Contact and Methanex. If the reserves contained in the Maui field prove greater than is necessary to meet the contractual obligations with the Crown, Maui Mining Companies (MMCs) joint venture can offer that surplus gas to the market. However, it may be several years before MDL would be sufficiently confident about these extra reserves (if they exist) to do this.

122. Todd's interest in the Kapuni field comes through its joint venture (with Shell) in the KMCs which owns 100% of the field. Until 1997 the output of the field was contractually committed to KGCL for the life of the field. The effect of the 1997 Court decision is that from 1 April 1997 gas from the Kapuni gas field is committed equally between KGCL and the KMCs. [

]

123. The gas the KMCs are currently acquiring from KGCL is being used to meet contracts the KMC consortium has with Kiwi Dairy Company and Taranaki By-Products. Nevertheless it is envisaged that Shell and Todd individually can acquire gas from the KMCs. A mechanism was put in place earlier this year to establish the price of any Kapuni gas marketed independently by either of Shell or Todd, by reference to the lowest tranche of contracted treated Kapuni gas.

124. Shell has suggested that Todd would have an incentive to take gas from Kapuni and compete with either Shell alone or with the KMCs if, for instance, it could sell that gas at more than the transfer price, or if it has a different view of future gas prices, if it was unhappy with the joint venture marketing approach, if its overall interests were best served by providing additional gas in the short-term to its downstream businesses, or if Todd sought to provide a total package along with its energy and LPG businesses.

125. The Commission has given careful study to the relevant agreements, including the 1955 JV, and considers that there is a reasonable argument that Todd can legally access, in its own right, rather than jointly, its 50% share of the 50% of gas available to the KMCs (after allowance for the Kiwi contract). If this is correct then Todd may choose to sell separately if that would be advantageous to it. It is likely to be able to access the existing infrastructure, and the quantities of gas involved are not such as to cause major disruption to the market if Shell and Todd compete separately for sales.

126. However the Commission considers that in most circumstances, there will be a greater incentive on the parties to work together. It is recognised that, as Shell has indicated in a letter to the Commission, the parties have a joint obligation to meet contractual commitments first, there are limits to Kapuni's production capacity, and arrangements

[19] Todd also manages a 6.25% interest in the field on behalf of Taranaki Offshore Petroleum Co Inc, A Delaware company controlled by Shell offshore. For the purpose of the analysis of the current application this interest is counted as being a Shell interest rather than a Todd interest. This is consistent with the approach adopted, in the main, in the application.

may need to be put in place to deal with possible imbalances between liquids and gas outputs if the parties market gas separately. In addition there are likely to be cost efficiencies achieved from joint marketing and the prospect of higher prices.

127. On balance, the Commission does not consider that Todd, from its position in the KMCs, is likely to place an effective competitive constraint on Shell, post acquisition.

Bligh Oil & Minerals (NZ) Ltd

128. Bligh is an Australian-based oil and gas exploration company with mining interests in various parts of the world. Todd has a 50% shareholding in Bligh. Bligh's involvement in New Zealand gas production fields is limited to a 3.27% interest in the TAWN field. FCE holds the other 96.73% interest in this field.

129. The Commission does not consider that this involvement is sufficient to allow it to exercise a significant competitive influence in the current gas production market.

New Zealand Oil & Gas

130. New Zealand Oil & Gas (NZOG) has a 35% interest in the Ngatoro production gas field. Last year the Ngatoro field produced 1.13 PJ or 0.5% of total gas production. The majority interest in the field is held by FCE. Even if NZOG was able to exercise control over all the gas in the field, it would not be sufficient to allow it to exercise an effective competitive influence in the market.

Ngatoro Energy Ltd

131. Ngatoro Energy Ltd (NEL) is a subsidiary of a Canadian exploration and mining company, Indo-Pacific Energy Ltd. It has a 5% interest in the Ngatoro field.

132. Neither the size of the interest nor the size of the Ngatoro field allows NEL to exercise a significant competitive influence on the current gas production market.

Conclusion on Constraint from Competitors

133. For the reasons discussed above, the Commission considers that the constraint from competitors is not sufficient to preclude Shell from exercising significant market power post-acquisition.

Constraint from New Entry

134. The key to entry into the current gas production market is, of course, access to a viable gas field. At present there are five undeveloped fields which are anticipated, with different degrees of likelihood, to contain commercial quantities of gas. These fields are:

- Mangahewa;
- Kupe;
- Rimu;
- Kauhauroa; and
- Pohokura.

135. In addition exploration continues to take place for new fields.

136. As the Commission has noted in its Business Acquisition Guidelines, it considers that in order for the threat of market entry to be such a constraint on the exercise of market power as to alleviate concerns of market dominance, entry of new participants in response to the exercise of market power must be likely, sufficient in extent, timely and sustainable. For most markets, entry which cannot be achieved within two years[20] from initial planning is unlikely to be sufficiently timely to alleviate these concerns. The Commission considers that in this case for a new field to be an effective constraint, it must be able to produce gas in commercial quantities by the end of 2002.

137. In general, the time between the discovery of a new gas field and commercial production from the well is several years. The Commission does not consider that it can rely on future discoveries to be developed to provide a competitive constraint, within the relevant time frame. However there are two discovered fields which have some potential to be producing gas by 2002. They are Mangahewa and Rimu and are discussed further below.

Mangahewa

138. The Mangahewa field is wholly owned by FCE. It is an onshore field located around 20 km east of New Plymouth. The July 2000 Energy Data File shows it has "proven and probable" reserves of 119 PJ. A small amount of gas was taken from the field in 1997 and 1998 from test wells.

139. FCE has informed the Commission that it has begun development of Managahewa in the current financial year with an onstream date of [ ]. FCE has applied for a petroleum mining permit to undertake production from the field. [

]

140. The size of the Mangahewa reserves means that it is unlikely to have a strong impact on the current gas production market. In any event, as it is wholly owned by FCE, it will not provide a competitive constraint on the merged Shell/FCE.

Rimu

141. The Rimu field is an on-shore field situated in South Taranaki. It was discovered in 1999 by Swift, a North American oil and gas producer. The field is now 90% owned by Swift, 2.5% by a Bligh subsidiary, and 2.5% by Antrim Oil and Gas Ltd.

142. At present it has no booked "proven and probable" (2P) reserves although the applicant suggests that they may be [ ]. Swift has expressed confidence to the Commission that the field is viable and suggested that it could be producing oil, gas and LPG next year.

[20] See Commission's Business Acquisition Guidelines 1999, para 5.3.

143. At this stage the Commission is unable to place a significant amount of weight on the gas from the field. The size of the field has not yet been proven, but it is very likely that its primary importance will be as an oil field rather than as a gas field. Swift has stated to the Commission that initial production of gas [.] In any event it is not clear that the necessary regulatory consents and infrastructure will be in place for significant gas production in the next two years. It is noted that Swift has not yet applied for a petroleum mining permit.

Conclusion on Constraint from New Entry

144. The Commission concludes that new gas production in the next two or three years is likely to be small, and that a significant proportion of that will come from the Mangahewa field which is owned by FCE. The only other field which may come on stream in that time frame is Rimu, but the Commission is not satisfied that that it is sufficiently certain, or will be of a sufficient scale, to provide an effective constraint on Shell in this market post acquisition.

145. In summary, the Commission considers that competing new gas fields are not sufficiently likely, of sufficient size nor will be in production in sufficient time to constrain the merged entity.

Constraint from Acquirers of Gas – Current Supply Contracts

146. The great majority of gas produced is supplied to acquirers under long-term contracts which cover quantity and price. These contracts include the following:

Field	**Owner**	**Acquirer**	**Expected Termination**	**Current Take per annum**
Maui	MMCs	Crown	2009	170 PJ
Kapuni	KMCs	KGCL	2014	25.5 PJ
McKee	FCE	Methanex	[ ]	9 PJ
TAWN	FCE/Bligh	Contact	[ ]	9 PJ
Kaimiro	FCE/NZOG/NEL	NGC	[ ]	1 PJ

147. The principal contract is the Maui contract. The Maui contract is between the Crown and the Maui Mining Partners (MMPs – ie FCE, Shell and Todd). It runs for 30 years from the first delivery of gas which was on 28 June 1979. While the MMPs have the right to sell to other than the Crown, they undertook within the contract not to sell to another party if by doing so it would imperil the ability to meet their supply obligations to the Crown. The contract sets out supply obligations on the MMPs in some detail. The Crown is committed to take or pay for the annual quantities , although that can be subject to some adjustment. The contract fixes the price from the outset with an escalation clause largely based on the PPI. The price increases at half that inflation rate up to 6% then increases at 3% plus all excesses over 6%. That price formula runs until the end of the contract.

148. The Crown, in 1990 entered into contracts with NGC, ECNZ (since assigned to Contact), and Petralgas and NZLFI (whose assets, including their rights and obligations under the agreements, have been transferred to Methanex). In doing this, the Crown sought to match its future obligations under the Maui contract with back to

back deals. The agreements with NGC and Contact expire in 2009 and that with Methanex expires in 2005.

149. The Commission has given careful consideration to the constraint placed on the producers of gas by the existence of long-term supply contracts.

150. In the case of the producers of Maui gas, the relevant contract is that between the MMCs and the Crown. There have been concerns expressed about whether the MMCs would be quite as constrained as suggested by the applicant in this case. For instance, in the abstract to a paper to the New Zealand Petroleum Conference 2000, D J Salisbury, Commercial Strategy Manager of FCE noted:

> "{The Maui contract} is ambiguous or poorly written in a number of areas that are critical to the efficient and effective management of Maui gas supplies during the last third of the field life. The potential exists within this ambiguity to compromise gas production and ultimate recovery in the last years of the field life. Moreover, the potentially adverse impacts of this ambiguity are compounded by poor precedent in that the contract has not been implemented as was envisaged at the time of execution. This has resulted in it being informally adapted or stressed in practice."

151. This general concern has mirrored comments made to the Commission.

152. The Commission accepts that in terms of the contract there is no ability for the MMCs to amend or alter the price of gas to the Crown until the expiry of the contract on 27 June 2009. In general there is little ability to alter the availability or quantity of gas without a redetermination of the field. However the Commission considers that there are a number of possible ways in which supply could be influenced by the producer:

- The MMCs could trigger a redetermination which could alter the amount of gas recoverable under the contract;
- There is a discretion as to the sale of excess gas (if the field proves to have excess gas) and how much LPG is stripped out of the gas;
- The MMCs have discretion to give a termination notice should the contract extend beyond 27 June 2009;
- The sellers do have some discretion as to the amount of maintenance carried out on the platforms. That could affect the life of the field or the size of the Economic Recoverable Reserves; and
- Arguably, there is a possibility that the MMCs could sink some new wells from the existing platform and thereby increase the quantity of gas available but that is fairly theoretical (at least during the life of the contract).

153. The Commission considers that the Maui contract is substantially watertight for much of its life, but that there is some uncertainty over the last quarter of the contract and particularly from 2005 to 2009. This uncertainty applies particularly to the supply of gas under the contract. The contract was written many years ago in a different environment and, as may be inevitable, the provisions relating to the on-going supply of gas are clearer than those relating to the wind-down of the field.

154. The ability to redetermine the reserves in the field becomes increasingly important as the contract approach the end of its life. The Commission notes in respect of the ability to trigger a redetermination, the incentives on MMCs to trigger a

redetermination may alter post merger. If, for instance, Shell thought there was extra gas in the field it may not want to trigger a redetermination if it is trying to sell gas from another field. Alternatively, if it thought there was less gas it may suit it to trigger the early redetermination in order to increase the scarcity value of the other gas. It is open to the Crown to trigger a redetermination provided this is requested of it by a downstream purchaser. However the Crown (and its downstream purchasers) will, in large measure, be dependent on the MMCs and field operator (STOS) for their information about the field. In the short term they are unlikely to want an upward redetermination in case further sales are then permitted which may affect available reserves although that risk will diminish as 2009 approaches.

155. A second important contract is that between the KMCs (Shell and Todd) and KGCL. The contract, which was entered into in 1967, effectively dedicates the gas from the field to KGCL for the life of the field. However the contract was challenged by the KMCs as they were dissatisfied with, inter alia, the price they were receiving from KGCL under the contract. The High Court found[21] that while the contract gave KGCL a right to all the gas in the field, the contract in its present form was voidable from the date of the Court decision for Commerce Act reasons. The Court ruled that after 1 April 1997 the output of the Kapuni field be divided equally between Shell/Todd and KGCL and NGC (to whom the rights to the gas had been assigned by KGCL). The price at which KGCL acquires its half of the output of the field remains the contract rate.

156. In summary the Commission concludes that the producer of Maui gas, the MMCs, do not have unlimited discretionary power in respect of their contractual sales to the Crown. While the contract provides a strong constraint on their ability to increase price, the position in respect of output is not so clear-cut, especially in the latter years of the contract. The potential to vary production as discussed above may be limited, but do raise the possibility of the MMCs being able to exercise some market power.

157. The Kapuni contract, on the face of it, appears to give less discretionary power to the producer, but the Commission notes that the contract now effectively applies to only half the output of the Kapunui field. Other gas contracts with producers are for more limited periods or are not field specific contracts.

158. Apart from gas which is committed to meeting contracts, there is also uncommitted gas. The Commission considers that current uncommitted gas is an important element to the gas production market. It is this gas which potential new gas users must compete for, and it therefore provides much of the market dynamics.

159. This uncommitted gas includes the KMCs' share of Kapuni gas, less that contractually committed by the KMCs to Kiwi Dairy. The applicant has suggested that this gas may amount, at maximum production, to [ ] PJ per annum. [
]

160. In addition, a contract between Methanex and FCE for gas is currently being met at the rate of around 10 PJ per annum from the McKee field. This expires in [

[21] Supra note 5.

] Further there is some potential for producers to increase output from existing fields or to bring currently undeveloped fields such as Mangahewa and Pohokura on-stream in the short-term. This gas is not contractually committed to any particular buyer at a set price.

161. Thus current supply contracts would not prevent a merged Shell/FCE from exercising market power in respect of uncommitted gas. Those seeking to acquire present uncommitted gas from a producer currently have the option of negotiating only with FCE and Shell (and their joint venture interests). That option would not be available should the proposed acquisition proceed.

162. The total amount of uncommitted gas is uncertain at this stage. However the Commission is satisfied, on the basis of the above discussion, that it would be greater than 12 PJ per annum. While the minimum figure of 12 PJ is a relatively small percentage of current production (less than 6%), in absolute terms it is very significant. If priced at what appears to be the approximate current market price of $2.50, its value would be in the order of $30 million.

Conclusion on Constraint from Acquirers of Gas – Current Supply Contracts

163. The Commission concludes that the constraint which would be placed on the merged entity by acquirers of gas by their ability to exercise their contractual rights is not sufficient in itself to prevent the merger resulting in the acquisition or strengthening of dominance in the current gas production market.

Constraint from Acquirers – Ability to On-sell Gas

164. The applicant has argued in effect that at least some existing acquirers of gas under long-term contracts, who are protected from undue price increases by the provisions of their supply contracts, would have the ability and incentive to divert at least a proportion of their gas to compete away any supra-competitive gas prices a merged Shell/FCE may seek to impose.

165. NECG, for Shell, has stated that a wholesaler with substantial contractual entitlements to gas is able to sell this gas in the event that the producer attempts to raise margins by increasing the price of its first instance gas. It notes that at present Genesis buys significant quantities of gas from FCE (a producer) and from Contact (a wholesaler), while Methanex purchases gas both direct from Maui (through a back-to-back agreement with the Crown) and from NGC which in turn is supplied from the Kapuni field.

166. NZIER, for Shell, in its submission states:

> "Contact has already demonstrated that economic quantities of gas can be resold from existing take-or-pay contracts. It has done deals with Genesis and Methanex to take its surplus gas. The Maui contracts stipulate that gas can be delivered to any point along the Maui pipeline. Hence there should be no barrier to the resale of Maui contract gas, which comprises most of the market.
>
> Given the large gas entitlements held by Genesis and Methanex there should be sufficient annual quantities available to provide economic quantities of gas to wholesale users if the

> wholesale gas price exceeds the opportunity cost of gas foregone in Genesis or Methanex's operations."

167. The parties with substantial contractual entitlements to gas include Contact, Methanex and NGC. The keys to the amount of competition they can bring to the market are their access to gas, the amount of gas which is currently uncommitted and their ability and incentive to divert gas from its current usage.

168. The Commission has sought comment from each of the parties with substantial contractual entitlements.

Contact

169. Contact uses gas in its own electricity generation plants, in its gas retail business and also supplies some large users. It has available to it a significant amount of gas which it has paid for under its take-or-pay agreement with the Crown but not yet taken.

170. Contact has two major sources of gas, Maui (via the Crown) (including its pre-paid gas) and TAWN, as well as [

]

171. Contact has stated:

> [
>
>]

172. The Commission asked Contact whether there were any practical or legal constraints around Contact's ability to compete with Shell. Contact has responded as follows:

> [
>
>]

Methanex

173. Methanex's interests in New Zealand comprise its ownership and operation of the Motunui and Waitara Valley natural gas to methanol production plants. The vast bulk

(98%) of Methanex's methanol production is exported. It currently consumes some 41% of New Zealand's natural gas supply.

174. In March this year, Methanex Corporation (the parent of the New Zealand company), Shell Development Australia and Woodside Energy Ltd announced that they had signed a letter of intent that specifies the key commercial terms for supply of approximately 110 PJ of natural gas per year for a proposed large-scale synthesis gas (syngas) generation facility near Darwin, Australia.

175. NECG has stated:

> "We do not know 0their current contract obligations but if the Darwin facility is constructed and were dedicated to methanol it is likely to be able to meet any contractual obligations with spare capacity. These factors combine to suggest that if the Darwin plant were constructed and if Methanex retained Maui gas entitlement at that time then it might resell on the wholesale market at a price somewhere in the order of $2.50-$3.00/GJ."

176. Methanex has stated:

> "Methanex's methanol production draws on the Maui field under purchase contracts in favour of the plants under which entitlement to gas substantially ends in 2005. Whether or not the plants continue in operation after that date will depend on Methanex negotiating further significant quantities of gas for supply after that date. The plants themselves have potential production lives in excess of 50 years and are very motivated to extend their useful lives."

177. Further, it has said:

> "…the New Zealand methanol plants are an excellent facility which will remain competitive internationally for many years, if the plant has access to competitively priced gas."

And:

> "The Maui agreement does not automatically allow entitlement holders to take delivery of gas at any point on the Maui pipeline. Methanex has been trying in vain for several years to obtain delivery of gas in Auckland. [
>
>]"

178. Methanex has indicated that at present it does not have access to gas which is surplus to its own requirements. It has stated that it is seeking new gas contracts to maintain production post 2005.

179. The Commission notes that in terms of the original contract for the acquisition of Maui gas entered into by NZLFI (and subsequently assigned to Methanex) there is a requirement that it use the gas purchased principally for the processing at the Synfuel plant but an acknowledgment that it need not use it exclusively for that purpose. There are no sanctions expressly contained for any breach, and it is unclear how the courts might interpret such a provision. In the Petralgas contract for Maui gas (also subsequently assigned to Methanex) there was originally a prohibition on disposal other than for the manufacture of methanol at the methanol plant but that provision was expressly deleted in October 1990. In terms of that contract, Methanex is now free to onsell.

NGC

180. NGC's principal source of gas is Maui (around 40 PJ per annum) under its take-or-pay agreement with the Crown which extends to 2009. In addition it takes around 7 PJ per annum from Kapuni (via KGCL) and around 1 PJ per annum from Kaimiro.

181. In February this year NGC announced that it had signed a five year contract to supply Petrochem with 35 PJ of gas. This followed its announcement in January this year that it had entered into an agreement to supply Genesis with a total of 90 PJ of gas over the next eight years.

182. These contracts allow NGC to use up fully its annual entitlement to natural gas from Maui under the take-or-pay contract. NGC's chief executive was quoted at the time[22] of the signing of the Petrochem contract as saying that any large natural gas contracts would have to be supplied by new discoveries.

183. NECG notes:

> "NGC uses gas in reticulation. It owns and operates a reticulation network, an asset that has high fixed costs (such as the depreciation, operation and maintenance of the network) and low variable costs (such as bill collection). Accordingly, its avoidable costs are likely to be small. We would therefore not expect NGC to divert gas to the wholesale market from its reticulated customers unless there were substantial increases in wholesale gas prices."

184. NGC has stated:

> "Certainly for the likes of NGC {the divert supply proposal} is not a valid argument. NGC could not just abandon its existing markets. The political fallout from abandoning the smaller customers in the retail market would be untenable, while the liability provisions in the industrial and power generator contracts would make such an exercise very expensive besides NGC losing its contract/professional reputation."

Genesis

185. Genesis has entered into long-term contractual arrangements with Contact, and NGC for the supply of its gas. In addition it is in litigation with FCE in respect of a Heads of Agreement for the sale and purchase of gas. Earlier this year, the High Court[23] found the HOA to be a binding contract for the sale and purchase of gas. The decision is currently subject to appeal.

186. Notwithstanding its challenge to the FCE contract, Genesis has informed the Commission that [

] It has stated that even if it were to on-sell its gas it is contractually limited to sales in the generation market and the petrochemical market. (The Commission considers that generation and petrochemicals are the likely purchasers of large quantities of gas, so the provision in the contract may not place a major constraint on Genesis.)

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[22] NZ Herald of 24 February 2000.

[23] *Fletcher Challenge Energy Limited v Electricity Corporation of New Zealand Limited* CP412/98, 9 June 2000 (Wellington Registry, Wild J.)

Conclusion on the Constraint from Buyers' Ability to On-Sell

187. The Commission accepts the general proposition put forward by the applicant that if initial acquirers of gas could readily divert the gas to other consumers, and if the price they could achieve by doing so exceeded their opportunity cost, that would place an upper ceiling on the price the producers of gas could charge in the market.

188. What is important to the Commission's analysis, however, is the extent that prices would have to increase before this diversion would be likely to occur.

189. The buyers who, it has been suggested, could provide a competitive constraint on a merged Shell/FCE by on-selling their gas are Contact, NGC, Methanex and Genesis. These buyers have indicated that they would not be likely to on-sell their gas entitlements – that is, compete with producers, in the event that producers attempted to exercise market power by for instance increasing prices for those purchasers who are not protected by existing long-term contracts. In some cases (such as Methanex) they say that on-selling may be constrained by transportation difficulties, and in other cases (Contact, for example) much of its gas is already contractually committed to other parties. In addition, the buyers have suggested that on-selling gas may lead to the closure of the plants in which the gas is currently used, at a significant cost.

190. The general argument that there were constraints on buyers on-selling gas were put to Shell by Commission staff. Shell responded as follows:

> "Essentially, the argument seems to be that contractual constraints on use of the Maui pipeline restrict supply side substitution and, therefore, limit the extent to which these Maui entitlement holders could discipline exercise of market power by Shell.
>
> Our understanding is that any such constraints could be overcome with little difficulty and at relatively low cost. For example, the Maui entitlement holders could introduce a system of swap contracts which would allow them to swap gas at different exit points on the pipeline. Such arrangements are common in the gas supply and oil industries. Further, it is clear that current entitlement holders are willing and able to trade gas, as evidenced by the following:
>
> - Gas *is* being traded already. For example, Shell understands that gas trades have been conducted between NGC and Genesis, NGC and KGCL/FCE, and Contact and FCE.
>
> - There is flexibility, at least potentially, in terms of the operation of the Oaonui pipeline. The current arrangements for off take on the Maui line are arrangements with the Crown, and so we are not aware of the detail of those arrangements. However, it may be that some amendment could readily ensure access to the line, on comparable terms and subject to capacity constraints, for other users. Shell has already indicated to Vanco that it would not oppose any attempt by Vanco to negotiate access to the line for supply of its gas northwards.
>
> - Swaps have been conducted. For example, Shell understands that NovaGas and Contact have entered into Gas Swap arrangements.
>
> - Kapuni gas is being cycled.
>
> We would therefore conclude that the existence of the constraints on off take should not be seen as material constraints on supply side substitution.
>
> We also understand that a number of parties have claimed that they could not, under any circumstances, divert gas from current use to some alternate use in the event of Shell seeking

> to raise price. The argument was phrased by Commission staff in terms of the very high value that users obtain from current use. This position would appear to be at odds with the facts of the market:

- First, Methanex clearly states that it would exit the market at gas prices close to the Kupe development cost. We would conclude from this that Methanex is price elastic, and does not place a high value on gas for current use; and

- Second, if consumers were earning such high profits from current gas use, one would expect all available gas to be contracted and used. The opposite appears to be the case. For example, substantial quantities of Kapuni gas are currently re-injected by the KMCs and are not under contract."

191. The Commission accepts that there may be some validity in the points made by Shell, and agree that the barriers to supply-side substitution are not insurmountable. Nevertheless the Commission notes that most of the trades cited by Shell relate to contracts entered into when NGC and Contact had substantial amounts of surplus pre-paid gas available to it and strong incentives to use that gas before the Maui field is depleted. These firms do not now have such surpluses. Further the Commission notes that Methanex has placed a priority on using its gas for methanol production and, in any event, some doubts remain about its ability to transport gas to the Auckland region.

192. After considering the submissions from those with major gas supply contracts and those of Shell, the Commission considers that there is some constraint provided from buyers' ability to on-sell, but in itself it is not likely to be such as to pose a sufficient competitive constraint on Shell post-acquisition.

Constraint From Acquirers – Ability to Switch To Alternative Fuel Forms

193. In its submission with the application, NECG has stated that even if structural evidence did lead to a view that the acquisition would lead to dominance, Shell's ability to raise prices would be limited by:

> "... a number of price elastic customers who could be expected to cease consumption and release gas to the wholesale market if Shell were to seek to rise prices."

194. It considers that these price elastic customers include Methanex and Genesis.

195. In respect of Methanex, NECG notes that Methanex has indicated to Shell that the price at which they must secure natural gas in order to remain in operation in New Zealand is close to [ ]. Further it notes that the Ministry of Economic Development (MED) gas market analysis suggests that the break-even price (i.e., the wholesale price at the time when MED forecasts indicate the exit of Methanex) is approximately [ ]. Further it notes that that Methanex has announced a possible large-scale synthesis gas generation facility near Darwin, Australia, as previously noted, and has shown its willingness to close existing facilities elsewhere. It goes on to say:

> "We do not know their current contract obligations but if the Darwin facility is constructed and were dedicated to methanol it is likely to be able to meet any contractual obligations with spare capacity. These factors combine to suggest that if the Darwin plant were constructed and if Methanex retained Maui gas entitlement at that time then it might resell its gas entitlement on the wholesale market at a price somewhere in the order of $2.50-3.00/GJ."

196. The Commission accepts that if gas prices in New Zealand increase relative to overseas gas prices, the long-term presence of Methanex in New Zealand would be at risk. A current or potential gas supplier to Methanex would no doubt recognise this and would be constrained in its pricing behaviour accordingly. However the Commission is not satisfied that the price at which the constraint applies would necessarily be close to the competitive price, or that in itself it would prevent a merged Shell/FCE from charging higher prices to other customers.

197. In respect of Genesis, NECG has noted that Genesis has contracts for the supply of gas and that it owns the Huntly power plant which can switch between gas and coal. It also notes that the Ministry of Economic Development has suggested that this switch would be likely to occur when gas prices exceed those of coal. NECG anticipates that switching would occur, and Huntly gas would be released to the wholesale market if gas prices exceeded [ ].

198. Genesis has stated:

> "Genesis can substitute coal for gas at Huntly within the physical capability of the plant. However, the constraint on our ability to substitute is the ability of the coal producers to supply. [
>
>]

199. The Commission is not satisfied at this stage that the constraint provided by the ability of Genesis to switch from gas to coal is sufficient in itself to protect Genesis or other gas users from any market power held by Shell post-merger.[24]

Ability to Defer New Production

200. During the course of the Commission's investigation, a number of parties referred the Commission to newspaper articles[25] suggesting that if the acquisition went ahead, Shell might use its position in the Pohokura Joint Venture to delay the development of the Pohokura field to advantage Shell's interest in Darwin. When the matter was raised with Shell, it responded by saying that funding has already been set aside by Shell's head office in the Hague for the development of Pohokura and further, by saying the economics of the matter do not favour deterring development of the field in the way that has been suggested.

201. It added:

> "To elaborate, the owner of any non-renewable resource like a gas field, will be incentivised to defer production if the expected increase in the value of gas that is "banked" is greater than the owners' cost of capital. For example, suppose the gas that could be extracted from the field over a 12 month period is currently valued at $100m and the owner's cost of capital is 10%. This implies that the holding cost of the gas field is $10m per annum. If the price of gas is expected to increase over the next year by 11%, then the value of the gas field will rise to $111m over that period (assuming that extraction costs stay constant). The increase in value

[24] This position is consistent with the Commission's market definition analysis above.
[25] Including National Business Review of 1 September 2000.

> more than compensates the holding cost, so the owner maximises profits by delaying production. Suppose, on the other hand, that the price of gas is expected to increase by 9%. Now the value of the gas field will be $109m in the next period, and the increase in value is less than the holding cost. Under these circumstances the owner maximises profits by producing from the field. This logic, which is a simple application of real option theory, applies irrespective of whether the owner in question does or does not possess market power. Given the expected prices, the commercial imperatives on any gas field owner require it to produce, or not produce, as dictated by these considerations. The only way that market power can be used to alter these commercial imperatives is through the manipulation of current and expected prices. But this will not happen for the reasons set out ..."

202. The Commission accepts the general logic of this position. However, it is possible that the situation would change if a dominant firm owned a number of production fields and the effect of delaying the development of an additional field was to increase prices for the output of all its fields. In the current gas production market, however, the issue is not strictly relevant to the question of dominance in the current production market as Pohokura is not likely to be on-stream within the next three or four years in any event.

Overall Conclusion on Constraints

203. The Commission has given full consideration to the possible factors which might constrain a merged Shell/FCE from exercising market power in the current gas production market.

204. The Commission recognises that post-merger Shell will not be able to act in a totally unconstrained manner. In particular existing large customers will be substantially protected by their ability to enforce the provisions of their long-term supply contracts. Further, some constraint would also arise from arbitrage potential, although the Commission considers that this potential is considerably more limited that suggested by the applicant.

205. However the merged entity will not face an effective competitor, significant new entry within the next two years is very unlikely, and in respect of current uncommitted gas the merged entity will not be constrained by current contractual arrangements.

206. The Commission considers that overall the constraints on the merged entity would not be such in themselves as to prevent it from being able to exercise a high degree of market control.

Conclusion on Dominance in the Current Gas Production Market

207. Having regard to the market share of Shell post-acquisition and the constraints which Shell would face, the Commission concludes that the merged entity would face some constraint in respect of gas which is being supplied under long term contracts, and would also face some limited constraint from the potential of those customers with long-term supply contracts to on-sell gas. However the Commission considers that in respect of new gas purchasers, or of existing gas users wishing to increase supply, the merged entity would not face a sufficient constraint to prevent it from being able to exercise a high degree of market control.

208. The Commission is not satisfied that the proposed acquisition would not result, or would not be likely to result in the acquisition or strengthening of dominance in the current gas production market.

THE POST-2009 GAS PRODUCTION MARKET

Introduction

209. As discussed in the market definition section above, the Commission believes that the supply side of the gas market can be expected to alter substantially as the Maui field and others approach their depletion date. Accordingly the Commission has defined a discrete market in which to analyse the likely competitive situation at that time and the effect of the acquisition.

210. In the analysis below, the Commission has considered the influence of Shell post-acquisition over those current gas production fields which are anticipated still to be producing gas in 2010. It has also assessed possible entry into the market by 2010. In addition it has considered the impact of other possible constraints on Shell post-2009.

Output From Current Gas Production Fields in 2010

Kapuni

211. Of the current gas production fields only Kapuni is expected to be producing gas in 2010. The applicant anticipates that the output at that time will be in the order of 17 PJ per annum. The field is expected to be depleted by 2014.

212. Shell and Todd each have a 50% interest in the field. Half the output of the field is committed to KGCL for the life of the field. KGCL currently on-sells its gas to Methanex and NGC. These contracts are likely to terminate in 2003 and on the depletion of the field (probably 2014) respectively.

213. As a result of the 1997 Court decision, the half of the output of the Kapuni field which does not go to KGCL goes to Shell and Todd. However the Court decision prevents Shell and Todd from selling that gas to the petrochemical industry or for electricity generation, other than for co-generation projects.

214. For the reasons set out above, the Commission does not consider that Todd is in a position to place more than a minor competitive constraint on Shell, post acquisition from its 50% interest in KMC.

Output From Current Undeveloped Fields in 2010

215. NECG, for Shell, has suggested that there are three undeveloped fields which could be developed in the period 2000 to 2009. These are Kupe, Pohokura and Mangahewa. There are also two other undeveloped fields which the Commission believes have some potential to have a competitive influence by 2010. These are Rimu and Kauhauroa. The potential of each to provide a competitive influence on the market is discussed below.

Kupe

216. The Kupe field was discovered in 1986 by NZOG. It is situated 27 kilometres offshore from Manaia, South Taranaki. The Energy Data File[26] dated July 2000 shows "proven and probable" reserves in the field of 300 PJ of gas and 95.4 PJ of condensate. As discussed below, the gas reserve figure may be amended in future.

217. Current ownership of the field is FCE 36.75%, Genesis 25.75%, NZOG 16.5%, the Crown 11% and SODEC 10%. SODEC's interest has been placed on the market and was the subject of an offer by Vanco. However it is understood that Genesis and NZOG have exercised their pre-emptive rights and therefore those two parties are likely to increase their shareholdings by 7% and 3% respectively.

218. The current interest of FCE and Genesis in the field is the subject of on-going Court action. As noted in the current application, the Commission is seeking pecuniary penalties, divestiture and other relief against FCL, FCE, ECNZ, and Genesis in respect of FCE having increased its shareholding in the Kupe field and FCE and ECNZ having entered into an agreement regarding the operation of that field. This action includes seeking a Court order requiring that FCE divest all of its interest above its original holding in Kupe of 2.5%.

219. For the purpose of the competition analysis, the Commission has recognised the divestment undertaking which forms part of the current application, and which will mean that within 12 months after the date of settlement of the FCE acquisition all of FCE's equity interest and other involvement in the Kupe field will be divested to a third party unassociated with Shell.

220. FCE, which is the current operator of the field as well as having a 36.75% ownership interest, has informed the Commission that the field is of a complex structure and is highly faulted. The cost of extracting gas from the field is further increased by it being off-shore in difficult conditions, the relatively high CO_2 content may have to be removed before it was marketable, and significant new on-shore infrastructure would be required to get the gas to the market. [

]. Based on its assessment of future gas prices it considers that the field would not be viable to develop until Maui is depleted, and even then only if no other commercial reserves are found.

221. The view of FCE generally matches the view of most other interested parties, albeit the other parties did not have access to the sort of detailed analysis and information which field operators and owners might hold.

222. There were two parties spoken to who considered that the Kupe field had more immediate prospects for development. These were NZOG (currently with a 16.5% interest in the field) and Vanco.

[26] New Zealand Energy Data File – July 2000, Ministry of Economic Development.

223. NZOG has stated that it believes that gas production from Kupe would be viable well within the period of Maui production. [

]

224. Vanco is a Texas-based company with exploration and mining interests in the North Sea and off the coast of West Africa. It has been seeking to acquire an interest in the Kupe field and made an offer to acquire SODEC's interest, but this offer was unsuccessful when Genesis and NZOG exercised their pre-emption rights.

225. Vanco's proposal for the development of the field involves [

]

226. On the basis of the information obtained from the various parties, the Commission considers that Kupe has potential to be an important production field post-2009. It is one of the few undeveloped fields which has proven reserves, and while it may require a significant increase in gas prices for the field to be viable, this is possible based on potential supply and demand scenarios.

227. In its analysis of the post-2009 market the Commission has counted Kupe as a significant competitive influence.

Pohokura

228. The Pohokura field was discovered in March 2000 by FCE and is approximately 5 km off-shore and very close to Motonui, the location of Methanex's plant. The field is currently owned by FCE 33.3%, Shell 18.3%, Todd 15% and Preussag Energie GmbH 33.3%. Preussag is part of the large German-based Preussag AG group which also has mineral and industrial divisions.

229. The field is in its early appraisal stage – 2 wells have been drilled to date, but FCE states that current booked reserves (750 BCF or around 825PJ) make it equivalent to New Zealand's third largest field after Maui and Kapuni. FCE has stated that it is a simple structure in shallow water depths, close proximity to shore and infrastructure. The field also has a high liquids yield. FCE indicated to the Commission that the field may prove to have significantly greater reserves than those currently booked.

230. The Ministry of Economic Development appears to support that view. The Dominion on 12 October 2000 reports:

> "The size of the offshore New Zealand gas-condensate discovery at Pohokura was much larger than first thought, the Ministry of Economic Development's crown minerals unit said yesterday.
>
> 'Laboratory work and reservoir evaluation in the months after discovery suggest that the Pohokura reserves will grow by roughly 30 per cent on the current mean estimate of 750 billion cubic feet of gas and 40 million barrels of condensate.' "

231. FCE has said that there is potential for commercial development of the field within [

]

232. While different parties spoken to expressed different views on the likely size and importance of the field, almost all believed that it was likely to be the next major production field brought on stream and will be a very important supplier to the post-2009 market.

233. Post-acquisition, Shell will hold a 51.6% interest in the field and, it is anticipated that STOS will take over from FCE as the field operator. It will have a strong influence over how the field is developed. Nevertheless the Pohokura JV agreement permits the JV partners to "take in kind" – that is, to take ownership of a share of the output of the field which equates to their share of the JV, and to market that gas independently of the other partners.

234. The Commission sought Shell's views on the ability and likelihood of the take in kind provision being used by the other parties in the joint venture, Todd and Preussag, to compete with Shell. Shell stated:

> "The incentive for Todd and/or Preussag to take Pohokura gas independently from Shell will depend largely on the extent to which gas is contractually committed to a single customer (the most obvious contender being Methanex), or customers, early in the field life. Assuming, however, that surplus Pohokura gas was available to the market at a particular time, the incentive will operate in the same way as ... in respect of Kapuni."

235. Shell also noted that while the joint venture partners could take in kind, in general they would only be able to take such gas as is available in excess of that already contractually committed, and is consistent with optimal extraction rates as determined by the joint venture partners in consultation with the operator. It also points out, however, that the provisions of the joint venture agreement imply that "equity selling" is intended to be a feature of the marketing arrangements in respect of Pohokura gas.

236. Todd has told the Commission that [

]. Preussag has had no past involvement of any significance in the New Zealand energy sector and would appear to have limited ability and little incentive to undertake a marketing role independently of its JV partners in the short-term.

237. The Commission also considered the possibility of Todd and/or Preussag undertaking a "sole risk development" as provided for in the JVA. In terms of this agreement, under certain circumstances when the parties to the JVA cannot reach an agreement on the development of a field, each party has the right to propose a sole risk development. Other parties then have the right to join in the sole risk development.

Where there are competing sole risk development plans the plans supported by parties holding more than 50% in aggregate can proceed. (Shell post-acquisition would have more than a 50% interest in the Pohokura joint venture.)

238. There would be obvious difficulties and disincentives for Todd and/or Preussag to go it alone, especially as it means that the party or parties concerned would have to bear all the development costs. In addition, the Commission notes that it is common for parties to a joint venture agreement to work together to reach a common approach, particularly where the parties are also in other joint venture arrangements together. Shell and Todd are involved in a number of these ventures.

239. The Commission is of the view that, having regard to the above, including the fact that Shell would have in excess of a 50% interest in the joint venture, it cannot give significant weight to either the possibility that Todd or Preussag may exercise the take in kind provision, or the possibility of a sole risk development by Todd and/or Preussag. Accordingly it does not see Pohokura as being likely to be a source of competitive gas able to provide a constraint on Shell in the post-2009 gas production market.

Rimu

240. The Rimu field is discussed above in the Current Gas Production Market section. As noted in that section , the size of the field has not yet been determined and accordingly the Commission has not placed a significant amount of weight on the ability of the field to place an effective competitive constraint on the merged entity in the current production market.

241. The Commission considers that it is possible that Rimu will be developed and will be producing around 10 PJ per annum in 2010 if the field proves to be around the size suggested by the applicant (in excess of [ ]). However the Commission considers that this level of output is not certain at this time.

Kauhauroa

242. The Kauhauroa field is situated close to Wairoa in the East Coast region. It was discovered by Westech in 1998. Westech and Orion own the field.

243. At present the size of the field remains uncertain, although the applicant suggests that it could be of the order of 100PJ. [

] A major difficulty faced by the field owners is that it is sited a substantial distance from the major gas transmission pipelines and gas users. While a new electricity generator close to the field has been suggested as a possible user of the gas, if it is to be used elsewhere a gas transmission pipeline from Wairoa to Hastings will need to be built. [

]

244. Westech believes that it is likely that the gas fields in the East Coast region will be developed in the foreseeable future, and will be able to supply the market at a lower

cost than the Kupe field. However the Commission considers that while the size of the reserves in the field and its economic viability remains doubtful, it cannot attach a large amount of weight to it as a possible competitive constraint on a merged Shell/FCE.

Summary of Possible Production from Current Fields in 2010

245. The following table shows the Commission's best estimate of likely 2010 production from known developed and undeveloped fields. The Commission recognises that, with the extent of the forward projection, these estimates necessarily involve a considerable degree of speculation and guesswork.

Field	**Shell/FCE**	**Other**	**Total**
Likely production			
Kapuni	[ ] PJ		[ ] PJ
Pohokura[27]	[ ] PJ		[ ] PJ
Kupe		[ ] PJ	[ ] PJ
Total likely	[ ] PJ (75%)	[ ] PJ (23%)	[ ] PJ
Possible production			
Rimu		[ ] PJ	[ ] PJ
Kauhauroa		[ ] PJ	[ ] PJ
Total possible		[ ] PJ	[ ] PJ
Total likely and possible	**[ ] PJ (63%)**	**[ ] PJ (37%)**	**[ ] PJ**

246. It is noted however that, for the reasons described above, the Commission considers that production from Kapuni, Pohokura and Kupe is likely in 2010, while production from Rimu and Kauhauroa is only possible.

Constraint from New Entry

247. As noted above, the Commission considers that in order for the threat of market entry to be such a constraint on the exercise of market power as to alleviate concerns of market dominance, entry of new participants in response to the exercise of market power must be likely, sufficient in extent, timely and sustainable.

248. A key to new entry into the gas production market is the discovery of a viable gas field. Thus a principal factor impacting on new entry is exploration conditions. Another factor which has been raised with the Commission in the context of the current application is access to the infrastructure which is necessary for the processing and transportation of gas and oil from new discoveries. Exploration and infrastructure issues are discussed further below.

249. Frequently raised concerns by those seeking new gas fields are problems obtaining access to land, the requirements of the Resource Management Act and the potential of environmental policies such as greenhouse gas emission to impact on investment

[27] The possible outputs from Pohokura, Rimu and Kauhauroa are estimates by the Commission based on possible reserve levels.

decisions. These are matters faced by all engaged in exploration, and do not appear to provide an insurmountable barrier to new entry at this time.

Exploration

250. Companies wishing to undertake petroleum exploration are subject to the provisions of the Crown Minerals Act 1991, which governs the management and allocation of rights in respect of petroleum and other Crown owned minerals.

251. The Minerals Programme for Petroleum[28] published by the then Ministry of Commerce states:

> "Petroleum exploration permits are granted for the purpose of undertaking work to identify petroleum deposits and evaluating the feasibility of mining any discoveries made. Exploration activities include geological, geochemical and geophysical surveying, exploration and appraisal drilling and testing of petroleum discoveries."

252. Companies interested in acquiring petroleum exploration permits carry out these types of activities. Firms may themselves apply for an exploration permit or may acquire an interest in an existing permit. This is a necessary part of their overall exploration activity, as described above.

253. Until recently, exploration activity was centred on Taranaki. It is understood that the great bulk of this activity has come from those seeking oil, although FCE has suggested that as the depletion date for Maui draws closer, exploration for gas is becoming more common. (The fact that an explorer is primarily seeking oil does not rule out the finding of gas, and vice versa.)

254. Exploration activity outside Taranaki has increased. (The map attached as Appendix C shows the areas which are covered by exploration permits.) However the fact that the existing infrastructure for the production and distribution of oil and gas is in Taranaki has contributed to the concentration of exploration effort in that area. If an explorer makes a discovery in another area, the cost of developing the discovery will be higher.

255. Crown Minerals[29], in the monthly publication Petroleum News[30], advised:

> "Petroleum exploration in New Zealand is going through a major upsurge with a record 26 wells planned or already drilled for the 2000 calendar year.
>
> Only 10 wells were drilled in 1999. The previous highest number of wells sunk in New Zealand in one year was 23 in 1994, though 10 of these were appraisal/development wells drilled from the Maui B platform.
>
> This year overseas-based oil exploration companies are responsible for 16 of the wells being drilled and many other international companies will be participants in a number of the other wells.

[28] Minerals Programme for Petroleum. Issued to take effect from 1 January 1995

[29] Crown Minerals is part of the Ministry of Economic Development. It manages on behalf of the New Zealand Government, all oil, gas, minerals and coal resources the government owns, known as the Crown Mineral Estate.

[30] NZ Petroleum News, Issue 26, June 2000.

> The big difference about this year's exploration programme is the number of "wildcat" exploration wells where companies are drilling unexplored prospects. Exploration wells will account for 18 of this year's wells against only five exploration wells in 1999. The other five wells sunk last year were appraisal wells testing limits of known fields.
>
> The exploration effort is now more broadly spread with nine exploration companies operating the 26 wells being drilled in 2000. This compares with 1997 when 11 of the 12 wells were drilled by one operator, FCE.
>
> Much of the exploration investment is in the Taranaki region where 18 wells will be drilled. But there are also five wells being drilled in the Hawke's Bay and Gisborne areas and two in rural Canterbury."

256. Entry into the petroleum exploration market is subject to a number of regulatory approvals.

257. The Crown Minerals Act 1991[31] governs the allocation and management of rights to explore for and extract petroleum. The Act provides that all petroleum existing in its natural untapped state within the territory of New Zealand and extending 200 miles offshore is the property of the Government.

258. Three types of permit may be obtained:

- Petroleum Prospecting Permits

  These are for general investigative studies over large areas. More than one permit may be issued over the same area. Permits are generally granted for one year.

- Petroleum Exploration Permits

  These are the main permit mode for exploration. They are granted for undertaking work to identify petroleum deposits and evaluate the feasibility of mining any discoveries made. Exploration includes geological, geochemical and geophysical surveying, exploration and appraisal drilling and testing of petroleum discoveries.

  These permits give exclusive rights, and are usually issued for a five year period with a right of renewal for a further five years.

- Petroleum Mining Permits

  These are granted for the development of a petroleum field allowing the extraction and production of petroleum.

  A permit holder has the right to any petroleum discovered, subject to the conditions contained in the permit. These would include royalty conditions and the requirement to undertake a defined programme of work.

259. The need to obtain these permits does not appear to be a major barrier to new entry. The desired outcome of the regime, as expressed in the Minerals Programme for

[31] Pre 1991, the regime used licences rather than permits. These were Petroleum Prospecting Licences (PPL) and Petroleum Mining Licences (PML).

Petroleum, is to allow continuing investment in petroleum prospecting, exploration and mining. The Crown Minerals Publication Explore New Zealand Petroleum, states:

> "The New Zealand Government is keen to attract new explorers and developers from around the world. The Government has put in place a highly competitive regime, a very open and innovative allocation system, and a business environment designed to attract foreign investment."

260. Commercial discoveries since Kapuni was discovered in 1959 are shown in the following table[32]:

YEAR	DISCOVERY	OPERATOR AT DISCOVERY
1959	Kapuni	Shell BP Todd
1969	Maui	Shell BP Todd
1982	McKee	Petrocorp
1983	Tuhua	Petrocorp
1983	Pouri	Petrocorp
1984	ToeToe	Petrocorp
1985	Waihapa	Petrocorp
1986	Kupe South	NZOG
1986	Tarika	Petrocorp
1986	Ahuroa	Petrocorp
1988	Kaimiro	Petrocorp
1990	Stratford	Petrocorp
1991	Ngatoro	NZOG
1993	Ngaere	Petrocorp
1996	Mangahewa-2	FCE
1997	Piakau	FCE
1998	Kauhauroa	Westech
1998	Maari	STOS
1998	Toko	FCE
1999	Rimu	Swift
2000	Pohokura	FCE

261. The Commission notes that the largest discoveries – Maui, Kapuni, Pohokura, TAWN – have all been discovered by Shell, FCE or their predecessors or associates, Shell/BP/Todd and Petrocorp. While this in part may be a reflection of the more limited interest in gas exploration in the past, more restrictive licensing regimes, and the Government involvement in Petrocorp, it is likely that Shell and Todds' past successes will have given them information and expertise not available to more recent entrants.

[32] Table provided by FCE.

Likely Future Gas Discoveries

262. The number and size of future gas finds is impossible to determine with any precision. This is recognised by the report prepared by the Ministry of Commerce in February 2000 entitled New Zealand Energy Outlook to 2020. It states:

> "The future level of gas discoveries is uncertain in any scenario of the New Zealand energy sector.

263. In respect of its forecasts the publication said:

> "The baseline scenario [ ] assumes that new gas discoveries are around 80 PJ pa; however, two additional scenarios have also been explored. These are a high gas availability scenario, where 120 PJ pa of new gas discoveries is assumed and a low gas availability scenario, where around 40 PJ pa of new gas discoveries are made."

264. The forecasts were made before the discovery of the Pohokura field.

265. The report states that as existing reserves, particularly of the Maui field, decline, gas is likely to be traded to its highest value uses. As a result, the wholesale price of gas is expected to rise over time to the long-run cost of new discoveries, reflecting the increased scarcity of the resource. It anticipates that the higher price will lead Methanex, for instance, to scale down its operations in New Zealand over the period 2003 to 2005 as its existing contracts expire.

266. Under the baseline forecast in the report, gas supply falls from around 217 PJ now to 121.4 PJ in 2010 and gas prices increase from around $2.50/GJ now to $3.50/GJ in 2010. The projected higher prices are likely to have an important impact on the viability of currently undeveloped fields and on the incentive to undertake exploration for new fields.

267. The Commission understands from the Ministry that the forecasts were based on a number of general assumptions and not necessarily on recent geological studies or on an extrapolation of recent outcomes. There does not appear to be any other body which has attempted a future forecast of new gas discoveries in New Zealand. General comment made to the Commission by a number of industry participants was that not much weight was usually placed on the forecasts when they were undertaking their own planning exercises.

268. At the 1998 New Zealand Petroleum Conference, held in March 1998, a paper was presented entitled " Analysis of Oil and Gas Exploration and Discovery in New Zealand – a Basis for Supply Forecasting" [33]. This paper was provided to the Commission by the applicant. In the abstract to the paper the authors stated:

> "The long term sustainability of oil and natural gas supply in New Zealand will depend upon several factors, in particular the size and location of commercially exploitable resources, and the success of industry in locating undiscovered resources. A growing body of geological research supports a good case for the likely occurrence of oil and gas in several sedimentary basins, and exploration effort (primarily directed at finding oil) has increased from the very low levels of the early 1990s.

[33] Analysis of Oil and Gas Exploration and Discovery in New Zealand – a Basis for Supply Forecasting – J Upasena, B D Ward, R Cullen and R A Cook.

> This research analyses the record of exploration and discovery in New Zealand since 1970 to provide answers to three questions: what is the level of reward obtained from investment in oil exploration? Given the reward for effort relationship what level of exploration investment will be required to provide reasonable assurance of new discoveries of a magnitude to maintain New Zealand's current petroleum self sufficiency level? What factors determine the levels of exploration investment in New Zealand?
>
> A simple recursive modelling approach is used to establish answers to the three questions. Using data for the period 1970-3, a reward for effort relationship is estimated at 0.92 MMBOE per kilometre drilled. This figure is remarkably close to the value 0.90 calculated by Cook (1985) using cumulative 1950-85 data. Given current New Zealand oil and gas reserves, petroleum usage growing at 1.6% per annum, and the calculated reward for effort relationship, the level of exploration required to maintain New Zealand's current level of petroleum self sufficiency is estimated at 40 wells per year. At current drilling costs, the exploration programme will require annual investment between $240 million (onshore) and $800 million (offshore)."

269. The Commission has seen no forecasts which provide a reliable basis for future gas supply predictions ten years out. Such forecasts do not appear to have been made. The Commission recognises that there have been important discoveries in recent years, that the level of exploration has increased and current high oil prices and that the oncoming depletion of the Maui gas field provide additional incentives to explorers. It accepts that there will be discoveries over the next decade. However it notes that, at present at least, the level of exploration estimated by Upasena, Ward, Cullen and Cook as being required to maintain New Zealand's current level of petroleum self sufficiency – 40 wells per year – is not being undertaken.

Discoveries by other then Shell/FCE

270. Of relevance to the Commission's analysis is not only the number and size of new discoveries, but also the extent to which these discoveries are likely to be made by other than Shell/FCE.

271. The Commission sought the views of Shell on possible future discoveries by other than Shell and FCE. It said, in part:

> "Shell considers that the potential for New Zealand to continue to deliver commercial oil and gas discoveries throughout 2000 to 2010 is high – which is why Shell itself is planning to maintain an active exploration portfolio. Numerous plays are still under-explored in Taranaki; other basins are wholly-under-explored; the deep water offers longer term potential; and technical advances are bringing down the minimum volumes required for commercial development of accumulations once found.
>
> While Shell intends to participate, using its substantial expertise and resources, in that increased level of exploration – if its proposed acquisition of FCE is allowed to proceed – other participants in the industry, like Swift, and potential new entrants, like Vanco Energy Company, bring their own expertise and resources.
>
> ...
>
> ...[ ]ncreased exploration results in increased discovery and production, and increased international oil prices result in increased exploration.
>
> ... [ ]as sales from new fields would be treated as a by-product of the extraction of liquids, so gas sales would not be required to contribute to common costs (which are substantial). The net result is an increase in gas production but no increase in break-even gas prices."

272. As noted above the amount of exploration has increased in the current year. Crown Minerals has advised that it anticipates from work programmes provided to it that there will be 14 exploration wells drilled in the coming year. (There will also be other appraisal or development wells drilled to determine the scale of the discovered fields. It is likely that FCE and Shell will be major participants in this respect. It is not necessary for the operator to advise Crown Minerals of these appraisal or development wells.) Of the 14 exploration wells, it is anticipated from submitted work programmes that FCE will drill one and Shell none. Ten of the 14 wells will be in the Taranaki region (including the FCE drilling) and most will be on-shore.

273. Crown Minerals currently has 50 exploration permits on issue. Of these FCE holds 3 and Shell 3, all in the Taranaki region. There are 26 permits issued altogether in Taranaki. These figures may overstate the importance of the non FCE and Shell parties. Not all of these parties have a direct interest in exploration, or have access to the expertise and knowledge of New Zealand conditions which Shell and FCE have.

274. The drilling of wells does not, of course, guarantee that viable oil or gas fields will be found. On average less than one well in 10 leads to a viable oil or gas field. Most of the gas fields discovered in New Zealand are in the Taranaki region**.** This is the area where FCE has concentrated its exploration activity and where it currently holds interests in prospecting/exploration permits. However, as noted, FCE and Shell together hold less than 20% of the exploration permits currently on issue. This is in marked contrast with the situation in recent years when FCE was the predominant explorer in New Zealand.

Timeliness of New Entry

275. The applicant notes in the application:

> "Development of a new field typically takes between 3 and 6 years from the date the decision is taken to bring a field into production."

276. Of course before a development decision is made, a new field must be found.

277. Of relevance to timeliness of new entry is the following extract from a speech made by Dr LWH Taylor, Chief Operating Officer of FCE, at the NZ Petroleum Conference in March this year:

> "New Zealand's gas reserve life index on a proven basis is less than eight years at current levels of gas demand. As a result there is an emerging requirement to establish new gas reserves. Yet historically, annual exploration drilling and exploration success rates in New Zealand (which average four wells per year and less than 10% respectively) are insufficient to guarantee a satisfactory outcome. Based on the historical averages, it can be statistically demonstrated that in order to achieve a 90% confidence of material gas discovery in the next three years we require a level of wildcat drilling three times that of historic levels. Given the three to five year lead time required for commercialisation and development of any major new gas reserve, three years is potentially all we have to find sufficient reserves to replace Maui."

278. The Commission considers that for a new field to be able to provide a significant competitive influence on the gas market in 2010, it must be producing gas at that time, or be likely to do so within two years of 2010. On the basis of the comments on

lead times in the application, and of Dr Taylor, it is possible that new fields would need to be discovered by 2005/6 if they are to provide an effective competitive constraint on Shell/FCE in the post-2009 market.

Infrastructure as a Possible Barrier to New Entry

279. The Commission received a number of submissions which raised concerns about the detrimental effect the proposed acquisition would have on the ability of new producers of gas or oil to obtain access to infrastructure assets at competitive prices. It has been argued that by making access to infrastructure assets more difficult, the likelihood of new entry into gas and oil production is reduced.

280. The infrastructure assets referred to are predominantly the Taranaki oil and gas processing facilities, the pipelines to take the processed product to the port, and the storage tankage at the port.

281. FCE currently owns and operates liquids processing facilities at TAWN (Waihapa) while Shell owns processing facilities at Oaonui (with FCE and Todd) and at Kapuni (with Todd). It is understood that the Oaonui and TAWN plants are also capable of processing natural gas and LPG in competition with NGC's gas processing facility at Kapuni.

282. It has been claimed that post-acquisition all of the Shell and FCE facilities will be under the effective control of Shell and operated by STOS, thereby eliminating all competition for liquids processing, pipeline transmission, storage and port loading services. This, it is claimed will have a detrimental effect on the level of exploration effort undertaken in the Taranaki region by independent explorers.

283. This concern has been put to Shell. It has responded as follows:

> "Any new entrant who discovers commercial quantities of gas and liquids in the Taranaki region has at least three broad options for developing its product streams. Ultimately, the choice of an economic development option will depend on the actual field location and the composition of the reservoir fluids.
>
> As regards geographic location, proximity of the field to pipelines and distance from existing facilities and storage will be a major factor.
>
> Importantly, however, each hydrocarbon production facility in Taranaki is built to specific wellhead pressures, flows and compositions, unique to the particular field. Although production facilities have some flexibility to treat other reservoir fluids there are limitations, especially where the composition of the gas varies. NZ5442, the specification for natural gas, which is reticulated through out the North Island, is very specific and some gases need comprehensive treatment to meet this standard. LPG has similar standards but some flexibility exists in the mix of butane and propane. Oil and condensate, once stabilised as fluids can have varying compositions and can be transported by pipeline, road, rail or sea. In some cases the fluids between reservoirs can not be easily mixed because of the wax content and tars.
>
> Having regard to those factors, a new entrant has three options, namely:
>
> - Develop its own or joint (with another new explorer) stand-alone facilities to separate the liquids, LPG and treat the gas. These facilities would include utilities, separators, fractionation columns, storage vessels and possibly specialist equipment, such as

membranes if the gas had a high content of CO2. Pipelines would be needed to connect the treated gas to NGC's gas pipeline network. LPG could be stored on site then transported by rail or road tankers. Oil or condensate would be transported by pipeline, or road to the nearest port, for intermediate storage, then onwards transportation to the Whangarei refinery or export. Rail transport direct to the refinery is also an option. Typical costs for a stand-alone facility to treat 3,500bbls/d would be in the order of $NZ30 million;

- Build basic separation and fractionation facilities to separate the liquids (say $25m) and then send gas to be treated elsewhere, subject to plant availability, pipeline costs and proximity. The stabilised liquids would be transported as suggested above and the LPG's would be reinjected into the gas stream;

- Utilise existing production station facilities to process the full production stream such as can be offered at Waihapa or Kapuni through a Kapuni Mining Company/NGC combination.

Options 2 and 3 would depend on spare capacity in the existing facilities to process the gas, LPG and liquids.

Storage facilities for the condensate or oil at the port could be independent (new facility) or rented (including space in a tank), again depending on spare ullage, ability to mix the product and tanker frequency.

Note that if it is too expensive to treat the gas to meet NZ5442, a further option is to utilise the gas in a dedicated power station or reinject it back into the reservoir."

284. The Commission has discussed this matter with prospective gas producers in Taranaki (Swift, Vanco, NZOG and Westech). Their views have varied, although most indicated a strong preference to have more than one provider of infrastructure facilities. [

]

285. The Commission considers that the ability of oil and gas producers to utilise, on competitive terms, infrastructural assets already in place would lower costs to those producers and would therefore increase, to some extent, the incentive to undertake exploration. The proposed acquisition would be likely to reduce, for some, the potential to obtain competitive terms. However the Commission notes the following points:

- to some extent the existing facilities are specific to particular fields, or to gas of particular specifications and may not be able to be utilised by some other producers, in any event;

- the facilities are located in Taranaki and would be unlikely to be able to utilised by producers elsewhere in any event;

- if it was practical and economic for particular producers to share facilities, there would appear to be the potential for a number of new producers to

jointly-build and operate new facilities if they could not get access to Shell's facilities on terms they considered appropriate.

286. Having regard to all the views provided, the Commission considers that Shell's acquisition of FCE's facilities would raise entry costs to some new producers, but would not be likely to amount to an insurmountable barrier to new entry into the gas production market post-2009.

Conclusion on Likelihood of New Entry

287. The Commission recognises that there is an important amount of exploration being undertaken by other than Shell and FCE, and that this is likely to lead to commercial gas discoveries able to compete with gas from the merged entity.

Conclusion on Extent of Entry

288. The Commission recognises that it is extremely difficult to predict the scale of new gas discoveries. It notes however that in a paper provided to the Commission by the applicant[34] it was suggested that a greater level of exploration than is currently being undertaken would be necessary to maintain New Zealand's current level of petroleum self sufficiency. Because of the uncertainty about future discoveries, the Commission considers that it cannot be confident that the extent of new discoveries in the relevant time frame will be sufficient in itself to prevent dominance being acquired from the proposed acquisition.

Conclusion on Timeliness of New Entry

289. The Commission notes that it is usual for a three to five or perhaps six year lead time between the discovery of a viable new field and it being brought into production. It recognises that this period can be shorter in special circumstances. In general, however, the Commission considers that a new field would need to be discovered by 2005/2006 if it is to act as a competitive constraint on the merged entity. The Commission's view is that it is reasonable to assume that there will be new discoveries by that date.

Conclusion on Sustainability of New Entry

290. The Commission considers that it is reasonable to conclude that new entry, to the extent suggested above, will be sustainable at the likely price level for gas in 2009.

Overall Conclusion on New Entry

291. Having regard to all the matters discussed above, the Commission considers that sustainable new entry is likely to occur within the time frame relevant to the Commission's consideration of the post-2009 gas production market. However the Commission cannot be confident of the extent of new entry and that it will be sufficient to ensure that the merged entity will not be in a dominant position in the market.

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[34] *Ibid.*

Conclusion on Dominance in the Post-2009 Gas Production Market

292. The Commission recognises that there can be no certainty about the shape of the gas production market ten years hence. However, based on the available information, it considers that Shell/FCE will be likely to account for at least 63% of production from fields currently existing and probably as much as 75%. It will likely face competition from the owners of the Kupe field and possibly the Rimu field and the Kauhauroa field. Further, the Commission considers it likely that new gas production fields will be discovered and developed by parties independent of Shell/FCE but it is not confident that these fields will be sufficiently substantial to constitute an effective competitive constraint on Shell/FCE.

293. The Commission considers that the likely competitive constraints from current fields and from new fields together would not be sufficient to prevent the merged entity from being able to exercise a high degree of market power.

294. Accordingly the Commission concludes that it is not satisfied that the proposed acquisition would not, or would not be likely to result in an acquisition or strengthening of dominance in the post-2009 gas production market.

THE MARKET FOR THE PRODUCTION OF LPG

Introduction

295. This market comprises the process of the separation of LPG from natural gas and the supply of LPG to wholesalers. LPG is currently produced from three gas fields: Maui, Kapuni and TAWN. Extraction of LPG is only necessary if the liquids content of the gas is too high for transmission on the high pressure network. Availability of LPG in any period is largely tied to the offtake of natural gas, and to a far lesser extent, oil production.

296. The applicant has provided its estimates of ownership/entitlements to LPG from the various gas fields in New Zealand. These estimates are recorded in Table 1 below:

Table 1: Applicant's estimates of annual LPG ownership/entitlements

Field/LPG entitlement	LPG production (tonnes pa)	LPG production (%)
Kapuni / Todd	[ ]	[ ]
Kapuni / Shell NZ	[ ]	[ ]
Kapuni / NGC	[ ]	[ ]
Maui	[ ]	[ ]
TAWN / FCE	[ ]	[ ]
Rimu / Swift	[ ]	[ ]
Total	**[ ]**	**100%**

297. The applicant notes that 75,000 tonnes of LPG produced from the Maui field is exported. This figure is not included in Table 1 above.

298. The Commission has obtained from the relevant industry parties their estimated annual production volumes of LPG. The production volumes have been delineated by field, and are recorded below in Table 2.

Table 2: Commission's estimates of annual LPG production

Field	Producer	LPG production (tonnes pa)	LPG production (%)
Maui	FCE/Shell/Todd	[ ]	[ ]
TAWN	FCE/Bligh	[ ]	[ ]
Kapuni	NGC	[ ]	[ ]
Total		**[ ]**	**100%**

299. The Maui field alone is capable of producing more LPG than is necessary to supply the whole New Zealand market, which uses around 120,000 tonnes per annum. As noted above, approximately half of the LPG produced from the Maui field each year is exported.

300. Most of the Maui LPG is transported through a pipeline to the port at New Plymouth from where it can be exported, or transported by ship to the Liquigas storage facilities in Auckland or in the South Island. Neither the Kapuni nor TAWN fields have any links with port facilities, and none of their LPG is transported by ship. The majority of the TAWN and Kapuni LPG is sold in the North Island, and is distributed by truck. Todd transports approximately [ ] of LPG from Kapuni to the South Island by rail and is restricted from increasing this volume by the limited number of rail wagons able to carry LPG and by the availability of ferry sailings which are able to transport LPG. Other LPG sold in the South Island comes from Maui.

Purchasers of LPG

301. The principal acquirers of LPG from the producers are Liquigas, Rockgas, NGC, Shell and Todd.

302. Liquigas was established in 1981 as a New Zealand LPG distribution venture. The parties which established Liquigas and were its initial shareholders were:

- BP Oil New Zealand Ltd
- Rockgas Ltd
- Natural Gas Trading Ltd
- Shell New Zealand Holding Co Ltd
- Todd Petrogas Ltd.

303. Since that time BP has sold its interest to NGC. Shell is a 18.75% shareholder in Liquigas. The other shareholders are also participants in LPG wholesale markets. They are: NGC which has a 60.25% shareholding, Todd which has a 12.5% share and Rockgas which has a 8.5% share.

304. Rockgas is an LPG wholesaler and retailer. Its ownership is 50% Origin Energy Ltd and 50% Caltex Gas New Zealand Ltd.

305. NGC is a listed company which undertakes the business of the acquisition, transmission and marketing of gas throughout the North Island, as well as electricity retailing. It owns the gas treatment plant at Kapuni which produces LPG and is a wholesaler and retailer of LPG, supplying LPG to BP service stations.

Contractual Entitlements to LPG

306. The TAWN LPG is subject to a contract between FCE and Rockgas, giving Rockgas the right to purchase [ ] tonnes per annum. [ ] However, FCE advised on 19 September that:

[

]

307. Of the total Kapuni production, [ ] tonnes is contractually committed to the Kapuni Mining Companies, Shell and Todd. Should Shell and Todd take their full

entitlements, the maximum quantity of Kapuni LPG able to be sold by NGC is approximately [ ] tonnes per annum, depending on the level of gas offtake from the field.

Maui/Liquigas Contract

308. The contract between Liquigas and the MMCs was entered into in 1981 and terminates in 2009. The contract provides that Liquigas has a right to purchase up to [ ] tonnes of LPG per annum.

309. This contract is discussed in more detail below.

Assessing the Competitive Implications of the Proposed Acquisition

Market Concentration

310. The effect of the proposed acquisition is to remove FCE as an independent supplier of LPG from the TAWN field, and to give Shell control of the Maui joint venture. Thus Shell would control the LPG sold by the MMCs from the Maui field and all production from the TAWN field. Together Maui and TAWN produce [ ]% of New Zealand's total current LPG production and [ ]% of LPG which is sold on the New Zealand market.

311. Market shares of this size place the merged entity outside the Commission's "safe harbours" (refer paragraph 86). However, the fact that a proposed acquisition may lead to a market share falling outside these "safe harbours" does not necessarily mean that it will be likely to result in the acquisition or strengthening of a dominant position in a market. Additional factors must also be considered before a conclusion on dominance is reached. These factors include the constraints which would be placed on the merged entity by:

- current competition;
- potential entry; and
- existing supply contracts, in particular the contractual arrangement between MMCs and Liquigas.

Constraints from existing competitors

NGC

312. NGC operates the Kapuni gas treatment plant, which currently produces approximately [ ] tonnes of LPG per annum. This represents [ ] of total current production including exports, or [ ] of current production sold on the domestic market.

313. The Commission considers, however, that these percentages overstate the importance of NGC as a competitive constraint on Shell post acquisition for two reasons.

- First, a significant proportion of NGC's production is contractually committed to Shell and Todd for the life of the Kapuni field, and therefore cannot be used by NGC to compete against Shell.
- Second, NGC cannot increase its LPG output without an increase in supply of gas from Kapuni, and this is subject to an increase in gas sales made by the KMCs.

These factors are expanded upon below.

314. Shell and Todd, the owners of the Kapuni field, each have entitlements in terms of their contractual arrangements with NGC of up to [ ] tonnes of LPG per annum. Shell and Todd do not always take up their entitlement – for instance Shell estimates that this year it will take [ ] tonnes and Todd will take [ ] tonnes. The reason given by Shell for not taking its full entitlement is that its customers do not require a greater volume. Nevertheless NGC cannot rely on more than around [ ] tonnes per annum, and this limits its ability to effectively compete against Shell.

315. The production of LPG from the Kapuni gas treatment plant is tied to the level of gas offtake from the Kapuni field. The High Court judgment concerning the Kapuni Gas Contract ordered that the annual output of the field was to be divided equally between the KMCs and KGCL. The KMCs are free to sell their gas either with or without the CO_2 removed and/or with or without liquids removed. Only the quantity of gas which the KMCs sell with CO_2 and liquids removed is processed in the Kapuni gas treatment plant. For example, the gas supplied by the KMCs to Kiwi Co-operative Dairy Company is sold as untreated gas, and does not have the CO_2 or liquids removed. Accordingly Shell and Todd, as the KMCs, have the potential to affect NGC's level of LPG production.

316. As NGC is not able to increase production and its throughput of gas partly depends on the KMCs, it would not be a fully effective constraint on the merged entity.

Todd

317. As discussed above, Todd has an entitlement of [ ] tonnes of LPG in terms of its contractual arrangements with NGC. In general, Todd and Shell carry out LPG wholesaling and retailing separately, but they each have a shareholding in Liquigas, which is a wholesaler. At the production level, Todd's interests are aligned with Shell's through their joint venture interests in LPG production from the Maui field. The Commission understands that the Maui joint venture operating agreement provides for joint marketing of product.

318. As in its analysis of the current gas production market, the Commission considers that in most circumstances there will be a greater incentive on Shell and Todd to work together. Post acquisition, Todd's share in the Maui joint venture will be 6.25% with Shell holding the other 93.75%. The Commission does not consider that Todd would be an effective constraint on Shell post acquisition.

Conclusion on constraints from existing competitors

319. Based on the analysis above, the Commission does not consider that either NGC or Todd is able to provide an effective constraint on the merged entity.

Potential Competition

320. In the Commission's view, a business acquisition is unlikely to result in a dominant position in a market if the threat of new entrants acts as a significant constraint on behaviour in that market. An assessment of the nature and extent of that constraint represents a key element of the Commission's assessment of competition and market dominance. Evaluation of the weight to be given to the possibility of new entry requires assessing the conditions of entry, and identifying any barriers to entry. If these barriers are high in aggregate, the likelihood of new entry is diminished.

321. The applicant submits that "the Rimu gas field is expected to commence production before the end of 2000 and is appropriately considered and included as a market participant". The application has not suggested any other potential new entrant to the LPG market. The Commission considers that no other new entrant is likely in the time frame for its analysis. (Refer to para 117 above.) **check**

322. Swift, the owner of the petroleum exploration permit which includes the Rimu field, has not yet begun construction of processing facilities nor has it entered into any contracts to use existing processing facilities. The Commission has given consideration below to the position of Swift and the entry conditions to the LPG production market.

Conditions of entry

Regulatory Consents

323. Swift has applied for the resource consents necessary for the construction of a production facility. Swift advised Commission staff that its target is to begin some level of commercial production by [ ]

324. Before Swift is able to start production from the Rimu field, it must apply for a petroleum mining permit. Once an application is made, Crown Minerals advises that it may take at least six months for the application to be processed and the permit awarded. This period may be longer if Crown Minerals requires further information from the applicant on the extent of the resources, for example if the applicant has not completed an appraisal programme before making its application. Until the permit is issued, Swift would not be likely to commence construction of permanent production facilities.

Technical Knowledge

325. The Commission does not consider that the technical knowledge required to compete in the market is such as to deter new entry.

Access to Materials and Capital

326. Access to a source of natural gas with a suitable liquids content is necessary before a new entrant can produce LPG. Swift has made a discovery of oil and gas but does not yet have enough information to estimate the level of reserves in the field. The necessary capital required by a new entrant is not considered to be a barrier to entry to the market.

Access to Distribution

327. LPG produced by Swift at a production facility on its Rimu field would initially be trucked from the site. As with production from the Kapuni and TAWN fields, the Rimu LPG would effectively be able to be sold in the North Island only, unless a pipeline was constructed to allow the LPG to be transported to the port at New Plymouth. Existing distribution facilities at New Plymouth, Auckland, Christchurch and Dunedin are owned by Liquigas, and utilised by the Liquigas shareholders, as LPG wholesalers.

Assessment of the Constraint by Potential Competition

328. In order for the threat of market entry to be a sufficient constraint on the exercise of market power, the Commission's approach is based on the "*lets*" test. Under this test, to constitute a sufficient constraint, entry must satisfy all four of the following criteria: it must be *l*ikely, sufficient in *e*xtent, *t*imely and *s*ustainable.[35] This case is unusual in that the market characteristics are such that the test is applied to a single, identified potential entrant – Swift – rather than to entry in generic terms. Each of these criteria is assessed below in relation to the Swift proposal.

Likelihood of Entry

329. In order to be an effective constraint on incumbent market operators, entry must be likely in commercial terms. That is, there has to be a "reasonable prospect of achieving a satisfactory return on … investment".[36] In addition, entry is likely only if there is likely to be a lasting economic incentive to enter the market.

330. Swift is making a significant investment in exploration in Taranaki and, following the Rimu discovery, Swift has indicated its commitment to proceed with the development of the field:

> "Terry Swift, President of Swift Energy Company, noted that, "The timely spudding of the Rimu delineation well demonstrates our commitment to proceed with the development of our New Zealand oil discovery. Furthermore, the anticipated second quarter production increase, when combined with exceptional hydrocarbon prices, provides the Company

[35] Supra note 12, pp. 19-20.
[36] *Ibid*, p. 19.

> with strong operating cash flows. We remain excited about our foreign and domestic exploration and development opportunities." [37]

331. Swift advised the Commission that it would be close to the end of the year before it would be in a position to "book" an estimate of reserves. It has stated publicly that the discovery could hold between 20-100 million barrels of oil equivalent. Swift has not indicated the likely proportions of condensate and gas in the field.

332. Swift advised that initial production from the Rimu field is likely to be on a small scale with the potential to expand production, while further appraisal of the field is carried out. [ ]

333. As the above quote indicates, Swift considers Rimu an oil discovery. However, Swift's application for resource consent includes condensate, gas and LPG processing plants.

334. On the basis of the above factors, the Commission concludes that Swift is a likely entrant into the LPG production market.

Extent of Entry

335. If entry is to constrain an otherwise dominant firm, then entry must potentially be at a scale and spread of operations as to impact significantly on its behaviour.

336. The applicant estimates the production of LPG from the Rimu field to be [ ] per annum. No evidence has been provided to the Commission to support this estimate. As noted above, Swift does not yet have enough information to calculate likely reserves in the field. Swift is currently in the process of drilling appraisal wells.

337. Some industry sources spoken to by the Commission did not consider that entry at a scale that could effectively constrain the merged entity was likely, commenting that the Rimu field, at best, was likely to be a small-scale field.

338. Given the uncertainty surrounding the expected production of the Rimu field, the Commission is not able to attribute to Rimu the scale of output suggested by Shell.

Timeliness of Entry

339. To constrain the exercise of market power to the extent necessary to alleviate concerns about market dominance, entry must be likely to occur before consumers in the relevant market are detrimentally affected to a significant extent.[38] The Commission has said that the relevant time frame has to be considered on a case-by-case basis, but that "for most markets, entry which cannot be achieved within two years from initial planning is unlikely to be sufficiently timely to alleviate concerns about market dominance".

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[37] Swift Energy updates New Zealand and Domestic Activity for Second Quarter 2000, media release dated 17 July 2000. Available on www.swiftenergy.com

[38] *Ibid.* p.19.

340. While Swift's target is to begin some level of commercial production by the end of the first quarter of 2001, there are a number of steps which it must go through before it can reach that stage. These steps include:

- obtaining resource consent, as required by the Resource Management Act 1991;
- obtaining a petroleum mining permit, which involves a number of distinct decisions before a permit is granted by the Minister, such as the applicant must satisfy the Minister that a petroleum field as been identified and delineated to such a degree that the proposed work programme and mining development can be supported, the Minister must approve the work programme, the area of the mining permit and must determine the appropriate duration of the permit; and
- construction of production facilities.

341. Swift's target time frame for beginning production appears very optimistic, given the potential for delays to occur, and the fact that Swift has not yet applied for a petroleum mining permit. Such an application must include detailed information on the field, as well as a work programme, outlining the possible development or production scenarios. It may take at least six months for the application to be processed. Swift has stated that it will not be able to estimate the probable level of reserves until close to the end of the year. This would appear to be a prerequisite to an application for a mining permit.

342. Taking these factors into account, the Commission concludes that it may be possible for Swift to enter the market within a two year period, although its target of the end of the first quarter of 2001 may not be achievable.

Sustainability of Entry

343. Entry is likely only if it is likely to be profitable at price levels which, in the long term, are similar to those prevailing prior to the proposed business acquisition.

344. At present New Zealand LPG production is well above the level required for the domestic market. Approximately 75,000 tonnes is exported each year.

345. [

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346. However, the economic viability of LPG production at Rimu would no doubt change if LPG production is regarded as a by-product of an oil production field. In this event, relatively low domestic LPG prices would not be likely to deter production if, as at present, oil prices are high.

347. As noted above, Swift has made no decision regarding the marketing of LPG from the Rimu field. [ ].

348. However, Swift has said that it is committed to proceeding with the development of the Rimu field. The Commission considers that, on the basis that oil prices are likely to remain high, LPG production at the field would be likely to be sustainable.

Conclusion on Constraint from Potential Competition

349. Appraisal of the Rimu field is still continuing, and Swift has not yet made any decisions on production from the field. It has yet to meet its obligations under the Crown Minerals Act and the Resource Management Act. Nor has it entered into any contracts, which would typically be a prerequisite to the development of the field.

350. The Commission is satisfied that Swift is a likely entrant into the LPG production market. The Commission is not satisfied, however, as to the extent of Swift's entry, at least within the relevant time frame. Swift advised that it is planning a phased development, with production beginning on a smaller scale with scope for later expansion. Taking into account the necessary steps which Swift has yet to complete, the Commission is not satisfied that it would be likely to enter on a significant scale within a two year time frame.

351. While the Commission acknowledges the view of Swift that preliminary findings suggest that the field is very promising, the Commission considers that it cannot be satisfied at this stage that Rimu has the potential to be an effective constraint on Shell post acquisition in the LPG production market.

Constraint from Potential Imports

352. Industry participants agreed that imports are not a constraint on local production as there is a substantial difference between the landed cost of imported product and the local cost.

353. [
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354. The Commission does not consider that imports of LPG would act as an effective constraint on Shell post-acquisition.

Constraint from buyers or suppliers

355. In the Business Acquisition Guidelines, the Commission states:

> "The activities of a firm may be constrained by countervailing power in the hands of its customers or, when considering monopsony (single buyer) power, suppliers. In some circumstances, this constraint may be sufficient to eliminate concerns that a dominant position may be created or strengthened by a business acquisition."

356. Shell, in its application, states:

> "In practice, the supply to the domestic market of the majority of LPG produced from Maui is controlled by Liquigas."

357. Its rationale for this statement is the existence of a contract between Liquigas and the MMCs for the sale of Maui LPG. The Commission considers below whether this contract would give Liquigas sufficient countervailing power to constrain Shell's activities in LPG production post acquisition.

The Maui Liquigas Supply Agreement

358. This contract was entered into in 1981 as a schedule to the Head Agreement which established Liquigas and includes the following provisions:

- [

  ] tonnes of LPG each year;

- if Liquigas does not require the full amount, the MMCs may sell the remainder (despite at the time when the contract was signed the MMCs were precluded from selling into the New Zealand LPG market);

- the contract continues in force until 31 December 2009, and after that date either party may terminate it on twelve months notice; and

- the MMCs are not obliged to supply Liquigas with "special product". The price payable for special product is set by the MMCs.]

359. As discussed above, Liquigas was established in 1981 by the LPG wholesalers as a national LPG distributor.

The Scope of the Contract

360. The contract specified a fixed price for the product known as LPG mix (defined in the contract as "general product"), a mixture of 60% propane and 40% butane. The price for other combinations of the two is not specified in the contract, as these are designated "special product". In addition the contract does not oblige the MMCs to supply "special product".

361. Industry parties raised the fact that the contract specifies a price for the 60/40 LPG mix, ie "general product" only. Their view was that the constraint provided by the contract is decreasing as the demand for different mixes of propane and butane increases.

362. Liquigas advised that in the South Island, 50% of the sales of LPG now comprise pure propane, compared with five years ago when all sales were of the 60/40 mix. Propane is marketed as a higher quality product. The trend is now to increased sales of propane rich product. Propane rich product falls under the category of "special product" in the contract and its price was not set under the revoked pricing policy schedule, but is set by the MMCs. Accordingly any purchases by Liquigas of product not falling within the "general product" category are not protected by the contract as it currently exists.

The Governance of Liquigas

363. The effect of the Liquigas Constitution and the Head Agreement for the establishment of Liquigas is that there are a number of provisions in the Head Agreement which may only be altered with the unanimous agreement of all the shareholders.

364. Those provisions include:

- any variation in the share capital of Liquigas;
- the requirements for and allocation of product;
- termination of the Head Agreement;
- a decision to cease to pursue as an objective the national distribution of LPG.

365. The constitution sets out the procedures for the appointment of directors of Liquigas. Pursuant to the Head Agreement, particular proposals require the unanimous votes of directors. These proposals include:

- the appointment of the chief executive;
- the disposal of the business of Liquigas or all the assets of Liquigas or a material part of them;
- the commencement of or acquisition of any business other than that of bulk LPG distribution and trading;
- a major or fundamental change of the Maui LPG purchase agreement.

366. These provisions give Shell (and each of the other Liquigas shareholders) a right of veto on major decisions by Liquigas. As regards the contract between Liquigas and the MMCs, post acquisition Shell would control the MMCs on the one hand and would, on the other hand, have a right of veto over decisions on changes to the contract proposed by the other Liquigas shareholders.

367. For decisions which do not require unanimous approval, votes of directors representing a 60% or greater shareholding are required.

Potential for challenge to the contract

368. The Commission has considered the robustness of the contract between the MMCs and Liquigas.

369. Liquigas' role in the market has changed in recent years, as its wholesaler shareholders have begun to purchase direct from producers. The MMCs have been able to sell LPG directly into the New Zealand market since the end of 1993. Following the conclusion of a Commission investigation into the LPG industry, Liquigas waived the provision in the Head Agreement which prevented the MMCs from selling LPG into the New Zealand market.

370. The contract between Liquigas and the MMCs has been subject to dispute, and one factor in the contract still being honoured is the inability of the MMCs to agree on a

course of action regarding challenging the contract. Post acquisition, Shell would have a greater ability to make decisions on behalf of the MMCs.

371. Rockgas expressed the view that [

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372. NGC in its Annual Report for the year ended 30 June 1999, stated "Liquigas, previously an extensive shipper and wholesaler of LPG in New Zealand's 160,000 tonne a year domestic and export trade, has experienced changes to its core business as the market structure has reformed in recent years. It is now primarily a tolling operation, through its New Plymouth, Christchurch and Dunedin storage and loadout facilities, with a residual wholesaling activity through its Wiri depot in Auckland."

373. BP, NGC and Liquigas have advised that the validity of the contract between Liquigas and the MMCs has been challenged in the past. To date, the contract has been honoured. BP, NGC and Liquigas expressed the view, however, that based on the past disputes and with Shell as the controlling interest in the MMCs post acquisition, the contract can not be seen as secure.

374. [

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375. FCE advised as follows:

[

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376. The Commission's view is that the agreements were entered into in an environment which was very different from that which now exists. For example, the regulatory environment has changed with the enactment of the Commerce Act 1986. As noted by industry participants, the role of Liquigas in the market has changed in recent years. Liquigas is no longer the sole supplier of LPG to the New Zealand wholesale market, Liquigas does not acquire any of the LPG from the Kapuni field as was originally envisaged and the provision preventing the MMCs from selling LPG into the New Zealand market in competition with Liquigas has been waived.

377. The applicant advised that the pricing policy schedule was revoked by the directors of Liquigas in 1994. The Commission understands that the price was set in 1986 and has remained unchanged since that time. In the Commission's view, a long term contract without any mechanism for price adjustments cannot be considered robust.

378. The cumulative effect of all these changes and the absence of a pricing formula is significant.

379. NZIER, on behalf of Shell, submitted that:

> "Given the divergence of interests between Liquigas and the MMCs, and the ability of Liquigas to access such quantities of LPG as it might require, in practice there is no incentive for Liquigas to agree to any change in price and it is reasonable to conclude that the price for LPG over the remainder of the contract term will be unchanged."

380. FCE advised that:

> [
>
>]

381. [ ] However, following the acquisition, Shell would have the ability to decide unilaterally to challenge the contract through its control of FCE's share in the Maui joint venture. A successful challenge of the contract would remove the current constraint on price increases.

382. To date, any additional sales by the MMCs direct to wholesalers rather than through Liquigas are more important to FCE than to Shell or Todd, which have far smaller interests in the MMC joint venture, and are also shareholders in Liquigas. Post acquisition Shell would have a 93.75% share in the MMCs, thus altering its incentives regarding sales by the MMCs vis a vis sales by Shell of Kapuni LPG.

383. Shell argued that:

> "We understand that export returns for LPG on average exceed the Liquigas price, but, at the margin, export returns are lower than the price paid by Liquigas. This suggests that a renegotiated price would fall in between, but where in between is unclear. Of course, the current price is "in between" and, therefore, the gains to be had from a price negotiation would be marginal."

384. Other industry parties advised that the export price is considerably higher than the Liquigas price. Whether or not the export price at present exceeds the price paid by Liquigas, the relativity is likely to change depending on factors such as international oil prices and the value of the New Zealand dollar. The issue of relevance to the Commission is whether or not the acquisition would increase the ability of the MMCs to challenge the contract in some way, either by invoking the arbitration provision or by seeking to have the contract overturned. The Commission concludes that, compared with the current position, where FCE must obtain the agreement of either Shell or Todd to challenge the contract, the acquisition would give Shell the ability to decide unilaterally what action to take in relation to the contract, based on its various

interests in the MMCs, Liquigas, the KMCs and as the producer of LPG from TAWN, as well as a wholesaler and retailer of LPG.

385. The contract has become less relevant over time and some aspects have already been revoked or waived, following a Commission investigation under Part II of the Commerce Act. The proportion of domestic sales made pursuant to the contract has decreased. The applicant advised that "The arrangements relating to the provision of LPG from Maui to Liquigas are governed as much by long standing practice as the terms of the Supply Agreement."

Conclusion on the Constraint from Buyers

386. The Commission considers that the countervailing power of Liquigas over the MMCs arising from the contract is not an effective constraint. Shell's increased interest in the Maui joint venture would give it the power to decide unilaterally on a challenge to the validity of the contract which, if successful, would give it the ability to raise prices to Liquigas. Shell retains a right of veto in relation to major decisions by Liquigas, including decisions on changes to the Maui Liquigas contract. The Commission's view is that the contract does not give Liquigas sufficient countervailing power to constrain Shell from exercising market power, post acquisition.

Conclusion on Dominance in the Market for the Production of LPG

387. The Commission has considered the level of constraint provided by actual and potential competitors in the LPG market, and by the constraint from acquirers of LPG – in particular Liquigas.

388. For the reasons set out above, the Commission is of the view that the only current producer other than FCE and Shell and their associated companies, NGC, is constrained in its ability to compete with Shell post acquisition. It considers that the only likely new entrant in the period relevant to the Commission's assessment will be Rimu, but at this stage at least it is not able to give substantial weight to its potential competitive impact. In addition, the Commission is unable to give significant weight to the constraint arising from the contractual arrangements between the MMCs and Liquigas because it is not confident that the contract is sufficiently robust to withstand a challenge.

389. Having regard to the factors outlined above, the Commission is not satisfied that the proposed acquisition would not result, or would not be likely to result, in Shell acquiring or strengthening a dominant position in the market for the production of LPG.

OVERALL CONCLUSION

390. The Commission has considered the impact of the proposed acquisition in the following relevant national markets:
- the current gas production market;
- the post-2009 gas production market; and
- the LPG production market.

391. Having regard to the matters set out in section 3(9) of the Commerce Act, and all other relevant factors, the Commission concludes that it is not satisfied that the proposed acquisition would not result, or would not be likely to result, in any person acquiring or strengthening a dominant position in each of the relevant markets.

DETERMINATION ON NOTICE OF CLEARANCE

392. Accordingly, pursuant to section 66(3)(b) of the Commerce Act 1986, the Commission declines to give a clearance Shell Exploration Company BV to acquire 100% of the shares of Fletcher Challenge Limited associated with its Energy Division and 100% of the shares in Zurich Holdings (No. 7) Limited.

Dated this day of October 2000

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M J Belgrave
Chair