



## COMMERCE COMMISSION

### Decision No. 491

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

**CONTACT ENERGY LIMITED**

**and**

**NATURAL GAS CORPORATION HOLDINGS LIMITED**

**The Commission:** MJ Belgrave  
DF Curtin  
PJM Taylor

**Summary of Application:** The acquisition by Contact Energy Limited or one of its interconnected bodies corporate of 100% of the shares in Stratford Power Ltd, which owns Taranaki Combined Cycle Power Station, a 100% wholly owned subsidiary of the Natural Gas Corporation Ltd.

**Determination:** Pursuant to section 66(3)(a) of the Commerce Act 1986, the Commission determines to give clearance for the proposed acquisition.

**Date of Determination:** 4 Feb 2003

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## THE PROPOSAL

1. A notice pursuant to section 66(1) of the Commerce Act 1986 (“the Act”) was received on 18 November 2002. The initial notice sought clearance for an application from Contact Energy Limited (“Contact”) to acquire 100% of the shares in Stratford Power Limited, the owner of the Taranaki Combined Cycle power station (“TCC”) and the associated hedge book, and a wholly owned subsidiary of Natural Gas Corporation Holdings Limited. Initially, the applicant also sought clearance to acquire 100% of the shares in Cobb Power Ltd, the owner of the Cobb hydroelectric power station (“Cobb”).
2. On 28 January 2003, Contact amended its application, in view of the fact that NGC announced on 24 December 2002, that its preferred buyer for Cobb was TrustPower. The s66 application from Contact now seeks clearance solely for 100% of the shares in Stratford Power Limited.

## THE PROCEDURES

3. Section 66(3) of the Act requires the Commission either to clear or to decline to clear a notice given under section 66(1) within 10 working days, unless the Commission and the person who gave notice agree to a longer period. Extensions of time were sought by the Commission and agreed to by the applicant. Accordingly, a decision on the application was required by 4 February 2003.
4. In its application, Contact sought confidentiality for specific aspects of the application. A confidentiality order was made in respect of the information for a period of 20 working days from the Commission’s determination notice. When that order expires, the provisions of the Official Information Act 1982 will apply.
5. The Commission’s determination is based on an investigation conducted by staff.
6. The Commission’s approach is based on principles set out in the Commission’s *Practice Note 4*.<sup>1</sup>

## THE PARTIES

### Contact Energy Limited

7. Contact was established by the Government to introduce competition in electricity generation, and was formed when the existing monopoly supplier, Electricity Corporation of New Zealand Limited (“ECNZ”), was split into two competing entities. Contact was incorporated on 8 November 1995 and became a state owned enterprise on 18 November 1995 pursuant to the State Owned Enterprises Act 1986.
8. In October 1998, the Government floated a 60% public share of Contact and sold the remaining 40% to Mission Energy Pacific Holdings, a subsidiary of Edison Mission Energy.
9. The principal business activities of Contact are:
  - Electricity generation – Table 1 below sets out Contact’s generation portfolio.

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<sup>1</sup> Commerce Commission, *Practice note 4: The Commission’s Approach to Adjudicating on Business Acquisitions Under the Changed Threshold in section 47 – A Test of Substantially Lessening Competition*, May 2001.

**Table 1: Contact's Electricity Generation Portfolio**

<b>Plant Name</b>	<b>Type</b>	<b>Capacity (MW)</b>
Otahuhu A	Diesel	40
Otahuhu B	Gas	380
Te Rapa	Cogeneration	44
Ohaaki	Geothermal	104
Wairakei	Geothermal	165
Poihipi	Geothermal	55
New Plymouth	Gas/Oil	400
Clyde	Hydro	432
Roxburgh	Hydro	320
<b>Total</b>		1940

- Electricity wholesaling - Contact offers electricity into the New Zealand Electricity Market ("NZEM"), and also sells electricity contracts to industrials and other generator/retailers.
- Electricity retailing - Contact is a significant retailer of electricity throughout New Zealand, with incumbencies in the Far North, Counties, Eastland, Hawkes Bay, Kapiti-Horowhenua, Tasman, North Canterbury, South Canterbury, Dunedin, Invercargill and Southland.
- Gas wholesaling and retailing – Contact is a wholesaler of gas to large users such as other generators, large industrial users and petrochemical producers. It is also the incumbent gas retailer in Auckland, Manawatu, Hawkes Bay and Wellington.

#### **Natural Gas Corporation Holdings Limited**

10. NGC is a company incorporated in New Zealand and listed on the New Zealand Stock Exchange. Australian Gas Light Company ("AGL"), and its wholly owned subsidiaries hold 66.05% of the total shares in NGC. The Hutt Mana Energy Trust and its associated Hutt Mana Charitable Trust together hold 10.19% of the total shares in NGC. The public and institutions hold the remaining 23.76% of the total shares of NGC.
11. NGC's operating subsidiary Natural Gas Corporation of New Zealand Limited undertakes the business of the acquisition, transmission and marketing of gas throughout the North Island. NGC, through this subsidiary, owns and operates the high pressure gas transmission pipelines in the North Island as well as operating the Maui gas pipeline on behalf of Maui Development Limited. NGC holds long-term entitlements to Maui and Kapuni gas, and operates a gas treatment and conditioning facility at Kapuni. In addition, NGC is a distributor of gas in Northland, Waikato, Bay of Plenty, Taupo, Gisborne, and Kapiti, having recently sold its gas retail customers to Genesis Power Limited<sup>2</sup>.
12. NGC also produces, sells, stores and transports LPG and provides electricity and gas meters and metering services.

<sup>2</sup> Decision 475 - *Genesis Power Limited and Natural Gas Corporation Holdings Limited*, 26 September 2002.

13. Of particular relevance to this application are NGC's electricity generation assets. NGC owns and operates, TCC and the Cobb hydro station. Until recently, NGC owned 50% of the Southdown cogeneration plant but sold its interest to its joint venture partner, Mighty River Power Limited. Together with Todd Energy, NGC also owns 50% of the Kapuni Energy joint venture, which undertakes electricity and steam generation at the Kapuni gas treatment plant site. NGC intends to maintain its share in the Kapuni cogeneration plant.

## **THE INVESTIGATION**

14. In the course of their investigation of the proposed acquisition, Commission staff have circulated the application widely within the industry, and have discussed the application with a number of parties, including:

- Genesis Power Limited ("Genesis")
- Meridian Energy Limited ("Meridian")
- Mighty River Power ("MRP")
- TrustPower Limited ("TrustPower")
- Todd Energy Limited ("Todds")
- Ministry of Economic Development
- Major Electricity Users Group ("MEUG")
- Norske Skog Tasman Limited
- Fonterra
- NZ Steel Limited
- Carter Holt Harvey Limited
- Comalco Power (NZ) Limited ("Comalco")

## **INDUSTRY BACKGROUND**

### **Taranaki Combined Cycle Power Station**

15. TCC was completed in 1998 and is a combined cycle gas-fired turbine situated 3km east of Stratford in Taranaki. TCC has a maximum capacity of 354 MW (approximately 3000 GWh), with an additional 10MW available from supplementary firing. TCC is typically run as a base load station. In addition to TCC, NGC is offering for sale a gas supply contract until 2010, resource consents to extend the TCC site and increase the capacity/output by up to 500MW (4380GWh), as well as its book of hedges written against TCC's output.

### **Electricity Trading**

16. The national electricity generation and wholesaling market is the market in which the generators (sellers) and buyers of wholesale electricity interact to determine the prices and quantities traded. The buyers are electricity retailers (some of whom are vertically integrated with particular generators) and large industrial users (or their agents) of electricity, which buy at wholesale. This market comprises various interrelated forms of transactions including spot trading, bilateral contracts, time of use contracts ("TOUs"), hedge contracts, and reserves trading.
17. Spot trading of wholesale electricity began with the commencement of operation of the New Zealand Electricity Market ("NZEM") in October 1996. This market operates as a pooling arrangement, under which generators and buyers make price/volume offers and bids for electricity supplied and demanded respectively for discrete half-hourly periods

on a day ahead basis (although bids can be revised up to two hours prior). This offer process establishes a dispatch order for generation plant running from lowest bid to highest bid, and individual plants are generally dispatched in that order until demand in the relevant period is met. The spot price in that period is determined by the price bid by the last power station to be dispatched, called the “marginal station”.

18. In practice, the wholesale and dispatch activities are more complex. A number of examples of relevance to this determination are now cited. Firstly, it would appear that individual power stations do not bid their entire capacity at a single price. Rather, a range of prices for different tranches of capacity may be bid, with that for the first tranche often being bid at zero to ensure operation of the plant. The actual price received for that output will be the market price, which is determined by the bid of the marginal station.
19. Secondly, the aggregate supply and demand patterns for each half-hour uncovered by the bidding process have to be reconciled with possible physical constraints arising from the structure of the transmission system. The most significant of these is the central North Island constraint, which carries power north to feed the major Auckland load centre. Such lines have a finite capacity which cannot be exceeded, and that capacity falls during the period of high summer temperatures. Moreover, when demand is high, voltages can fall when power is transmitted over long lines, which may have to be rectified by the ‘forced’ (constrained on) operation of power stations close to the load centre.
20. A third example of the complexity in the operation of the generation and wholesaling market is that wholesale electricity is not priced on a national basis, but at approximately 244 grid entry or exit points, or ‘nodes,’ throughout the country. The price at each node is calculated by starting with the optimal generation configuration for the half-hour period, and then separately for each node computing the increase in total cost of supplying a hypothetical additional MW of demand at that node. The cost will reflect the reconfiguration of generation and reserve capacity for the system as a whole needed to minimise the cost of supply to the country as a whole.
21. Bilateral contracts generally occur between generators and large users outside the spot market and are essentially contracts for direct supply. The most notable bilateral contract is that between Meridian and Comalco.<sup>3</sup>
22. Hedge contracts may be attractive to both a generator and a purchaser of electricity through the protection provided against the price volatility involved with spot trading. Essentially, a hedge contract is a contract for differences. The two sorts of trading are clearly related, in that prices of hedge contracts will reflect participants’ expectations about spot prices over the period of the contract.
23. TOU customers purchase variable volumes of electricity at fixed prices for a contracted period of time.
24. The NZEM accepts bids from generators on reserves for each half-hourly period, and a supply curve is built up. This is equated with the demand for reserves, based on the biggest contingency in the system. This could be the failure of the HVDC link, or the emergency shutdown of a power station. Available reserves have to be large enough to

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<sup>3</sup> Meridian supplies Comalco New Zealand Ltd’s aluminium smelter at Bluff under contract for approximately [ ] GWh pa.

cope with such an event in order to prevent the potential collapse of part of, or even the entire, supply system.

## MARKET DEFINITION

25. The Act defines a **market** as:

*. . . 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.*

26. For the purpose of competition analysis, a relevant market is the smallest space within which a hypothetical, profit-maximising, sole supplier of a good or service, not constrained by the threat of entry, could impose at least a small yet significant and non-transitory increase in price, assuming all other terms of sale remain constant (the ‘*ssnip* test’). For the purpose of determining relevant markets, the Commission will generally consider a *ssnip* to involve a five percent increase in price for a period of one year.
27. It is substitutability at competitive market prices which is relevant in defining markets. Where the Commission considers that prices in a given market are significantly different from competitive levels, it may be necessary for it to assess the effect of a *ssnip* imposed upon competitive price levels, rather than upon actual prices, in order to detect relevant substitutes.
28. The Commission will seek to define relevant markets in terms of four characteristics or dimensions:
- the goods or services supplied and purchased (the product dimension);
  - the level in the production or distribution chain (the functional level);
  - the geographic area from which the goods or services are obtained, or within which the goods or services are supplied (the geographic extent); and
  - the temporal dimension of the market, if relevant (the timeframe).
29. The Commission will seek to define relevant markets in a way that best assists the analysis of the competitive impact of the acquisition under consideration. A relevant market will ultimately be determined, in the words of the Act, as a matter of fact and commercial common sense.
30. Where markets are difficult to define precisely, the Commission will initially take a conservative approach. If the proposed acquisition can be cleared on the basis of a narrow market definition, it would also be cleared using a broader one. If the Commission is unable to clear the proposed acquisition on the basis of the narrower market, it will be necessary to review the arguments and evidence in relation to broader markets.

## Product Dimension

### *Electricity*

31. The delineation of relevant markets as a basis for assessing the competitive effects of a business acquisition begins with an examination of the goods or services offered by each of the parties to the acquisition. Both demand-side and supply-side factors are generally considered in defining market boundaries. Broadly speaking, a market



includes products that are close substitutes in buyers' eyes on the demand-side, and suppliers who produce, or are able easily to substitute to produce, those product on the supply-side.

32. The Commission takes the view that the appropriate time period for assessing substitution possibilities is the longer term, but within the foreseeable future.<sup>4</sup> The Commission considers this to be a period of one year, which is the period customarily used internationally in applying the 'ssnip' test (see below) to determine market boundaries. The Commission will take into account recent, and likely future, changes in products, relative prices and production technology in the process of market definition.
33. For its analysis of competition in the electricity sector over recent years the Commission has adopted a discrete electricity product market. It has recognised that price and demand for different energy forms can impact on each other either because they are substitutable in some circumstances or because, in the case of coal and natural gas, they can be major cost components in the generation of electricity. However this inter-relationship, and the degree of competition between the different energy forms has not been considered by the Commission, or the Courts<sup>5</sup>, to be sufficient to place them within the one product market. The Commission has not found reason to vary this position in this instance.

#### *Ancillary Services*

34. Included in ancillary services are instantaneous reserves, frequency control reserves, over-frequency arming, voltage support, and black start. As noted in the application, to assist its analysis the Commission considered these services within the one product market in Decision 369 (MACQS) and Decision 473 (EGB).
35. Trading in reserves is made necessary by the need to maintain a capability within the electricity supply system to meet inevitable but random plant failures or demand spikes. This capability is provided in two ways: by generators who operate plant which is either synchronised to the network but is not producing electricity (spinning reserves), or which is operating below maximum or efficient output; and by electricity consumers who are willing to shed load with no notice (interruptible load). In the current integrated system where generators can supply both electricity and (for a price) reserves, and where users can consume electricity and provide (at a price, by way of a discount on the retail price for electricity) interruptible load, the two areas of trading are closely interrelated. For example, generation capacity held back for reserves cannot be used to generate electricity, thereby reducing supply and potentially raising the spot price.

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<sup>4</sup> In *Tru Tone Ltd v Festival Records Retail Marketing Ltd* [ ] 2 NZLR 351 Smellie J and the Court of Appeal on appeal approvingly quoted an earlier decision of the Commerce Commission in *Edmonds Food Ind Ltd v W F Tucker & Co Ltd* (Decision 21, June 1984) where the Commission had ruled: "A market has been defined as a field of actual or potential transactions between buyers and sellers amongst whom there can be strong substitution, at least in the long run, if given a sufficient price incentive". See also *News Limited v Australian Rugby Football League Limited & Ors* (1996) ATPR at 41,687, where Burchett J stated: "Long term prospects that can be more or less clearly foreseen are, to that extent, a present reality, from the point of view of identifying the constraints upon commercial action. This fact emphasises the importance of the principle . . . that substitution possibilities in the longer run may be very significant for market delineation." Also *Re Tooth & Co Ltd v Tooheys Ltd* (1979) 39 FLR 1 emphasises longer run substitution possibilities.

<sup>5</sup> For instance in *Power New Zealand Ltd v Mercury Energy Ltd* [ ] 1 NZLR 686, subsequently upheld by the Court of Appeal, and in *Shell (Petroleum Mining) Company Ltd & Anor v Kapanui Gas Contracts Ltd & Anor* (1997) 7 TCLR 463.

36. The NZEM accepts bids from generators on reserves for each half-hourly period, and a supply curve is built up. This is equated with the demand for reserves, based on the biggest contingency in the system. This could be the failure of the HVDC link, or the emergency shutdown of a power station. Available reserves have to be large enough to cope with such an event in order to prevent the potential collapse of part of, or even the entire, supply system.
37. Contact is an important purchaser of reserves, and this will increase should it acquire TCC. It is also a “supplier” of reserves. The application notes that, because of the nature and size of its generation plant, Contact post-acquisition would be required to pay for approximately four times as many reserves as it sells and therefore will be a price taker. This is discussed further in the Ancillary Services market section.

### **The Functional Dimension**

38. In previous decisions related to electricity trading the Commission has used a national electricity generating and wholesaling market to assess competitive impacts. As the Commission noted in Decision 340, this is the market in which the generators (sellers) and buyers of wholesale electricity interact to determine the prices and quantities traded.
39. As discussed above this interaction takes place in a number of ways.
40. Between 70% and 80% of all electricity generated is bought and sold on the NZEM “spot” market. Generators play a substantial role as purchasers as well as being sellers to the market. In general they consider that the spot market provides them with an efficient means of both disposing of their output and of obtaining their requirements to meet supply arrangements with individual customers.
41. However perhaps between 20% and 30% of electricity generated is not offered to the spot market but is the subject of direct bilateral trades (subject to the provisions of the MARIA agreement) between generators and large purchasers or retailers. The contract between Meridian and Comalco accounts for most of these “MARIA” trades. (The potential for this type of bilateral trading may be greatly reduced or removed should the proposed new wholesale market rules – authorised by the Commission in Decision 473 – come into effect.)
42. The spot market, because it is subject to fluctuating supply and demand circumstances (which are often difficult to predict) on a half hour by half hour basis, is characterised by considerable price volatility. Higher than anticipated supply or lower than anticipated demand will lower spot prices and can place generators’ revenue at risk; conversely lower levels of supply and increased demand will increase spot prices and could raise costs to purchasers. Both generators and purchasers seek to mitigate the risk associated with this price volatility by entering into contracts for at least some of their electricity requirements which gives them greater certainty over price. That is, the contracts have hedge provisions.
43. Increasingly these contracts are varied to meet the particular requirements of the purchaser as to volume, delivery requirements and price certainty.
44. These contracts are of a varying length and can take a number of forms, such as fixed price, fixed volume; fixed price, variable volume; prices which vary between a limited range; a fixed percentage of volume at a fixed price, the remaining at spot price; contracts for differences (“cfd’s”); and so on.
45. Typically the electricity price in each type of contract depends on the parties’ assessment of likely future supply and demand characteristics and how they may impact

on the spot market, and also on the parties' relative willingness to carry the risk associated with spot market volatility. The greater the risk carried by the generator, the higher the electricity price in the contract. However there is a close interrelationship between all types of contracts and spot sales – the underlying critical feature of all is the physical supply and demand of electricity.

46. Accordingly the Commission considers that market power issues associated with generators and retailers and large users buying and selling electricity, whether through the spot market or through individually negotiated contracts, can be properly assessed within the national electricity generating and wholesaling market. The Commission's adoption of this market is consistent with its approach in Decision 340 and previous decisions.
47. A number of parties spoken to by the Commission have suggested that the proposed acquisition could impact on future competition in the retail market. The Commission notes that while Contact is an important participant in this market, the proposed acquisition would not, in itself increase Contact's involvement in this market – NGC is not currently a retailer. However, to consider the concerns raised about the impact on retailing, the Commission has considered separately the national electricity retail market in a later section.

### **Conclusion on Relevant Markets**

48. The Commission has concluded that the following markets are relevant for the purpose of considering the application:
  - The national electricity generation and wholesaling market;
  - The national ancillary services market; and
  - The national electricity retail market.

## **COMPETITION ANALYSIS**

### **Substantially Lessening Competition**

49. Section 47 of the Act prohibits particular business acquisitions. It provides that:
 

A person must not acquire assets of a business or shares if the acquisition would have, or would be likely to have, the effect of substantially lessening competition in a market.
50. Section 2(1A) provides that substantial means “real or of substance”. Substantial is taken as meaning something more than insubstantial or nominal. It is a question of degree.<sup>6</sup> What is required is a real lessening of competition that is not minimal. The lessening needs to be of such size, character and importance to make it worthy of consideration.<sup>7</sup>
51. Section 3(2) provides that references to the lessening of competition include references to the hindering or preventing of competition.<sup>8</sup>

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<sup>6</sup> *Commerce Commission v Port Nelson Ltd* (1995) 6 TCLR 406, 434; *Mobil Oil Corporation v The Queen in Right of NZ* 4/5/89, International Centre for Settlement of Investment Disputes, Washington DC, International Arbitral Tribunal ARB/87/2 (paras 8.2, 19, 20).

<sup>7</sup> *Dandy Power Equipment Ltd v Mercury Marina Pty Ltd* (1982) ATPR 40-315, 43-888; *South Yorkshire Transport Ltd v Monopolies & Mergers Commission* [ ] 1 All ER 289.

<sup>8</sup> For a discussion of the definition see *Commerce Commission v Port Nelson Ltd*, supra n 6, 434.

52. While the Act defines the words “substantial” and “lessening” individually it is desirable to consider the phrase as a whole. For each relevant market, the Commission will assess:
- the probable nature and extent of competition that would exist in a significant section of the market, but for the acquisition (the counterfactual);
  - the nature and extent of the contemplated lessening; and
  - whether the contemplated lessening is substantial.<sup>9</sup>
53. In interpreting the phrase “substantially lessening competition”, the Commission will take into account the explanatory memorandum to the Commerce Amendment Bill (No 2). The memorandum notes that:
- Two of the 3 key prohibitions are strengthened to bring New Zealand into line with Australian competition law, which will facilitate a more economic approach to defining anti-competitive behaviour.
- and, in relation to s47:
- This proposed new threshold is the same as the threshold for these types of acquisitions in section 50 of the Trade Practices Act 1974 (Australia).
54. For the purposes of the analysis, the Commission takes the view that a lessening of competition and a strengthening of market power may be taken as being equivalent, since they are the two sides of the same coin. Hence, it uses the two terms interchangeably. Thus, in considering whether the acquisition would have, or would be likely to have, the effect of substantially lessening competition in a market, the Commission will take account of the scope for the exercise of market power, either unilaterally or through co-ordination between firms.
55. When the impact of enhanced market power is expected predominantly to be upon price, the anticipated price increase relative to what would otherwise have occurred in the market has to be both material, and able to be sustained for a period of at least two years, for the lessening, or likely lessening, of competition to be regarded as substantial. Similarly, when the impact of increased market power is felt in terms of the non-price dimensions of competition, these also have to be both material and able to be sustainable for at least two years for there to be a substantial lessening, or likely substantial lessening, of competition.

### **The Counterfactual**

56. The Commission will continue to use a forward-looking, counterfactual, type of analysis in its assessment of business acquisitions, in which two future scenarios are postulated: that with the acquisition in question, and that in the absence of the acquisition (the counterfactual). The impact of the acquisition on competition can then be viewed as the difference between those two scenarios. It should be noted that the status quo cannot necessarily be assumed to continue in the absence of the acquisition, although that may often be the case. For example, in some instances a clearly developing trend may be evident in the market, in which case the appropriate counterfactual may be based on an extrapolation of that trend.

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<sup>9</sup> See *Dandy*, supra n 5, pp 43–887 to 43-888 and adopted in New Zealand: *ARA v Mutual Rental Cars* [ ] 2 NZLR 647; *Tru Tone Ltd v Festival Records Retail Marketing Ltd* [ ] 2 NZLR 352; *Fisher & Paykel Ltd v Commerce Commission* [ ] 2 NZLR 731; *Commerce Commission v Carter Holt Harvey*, unreported, High Court, Auckland, CL 27/95, 18/4/00.

57. The present state of competition in a market can be referred to in order to illuminate the future state of the market where there is a range of possible scenarios should a merger not proceed.<sup>10</sup>
58. One of NGC's reasons for selling TCC is the risk to which it is exposed when unplanned outages occur at TCC. Without a substantial generation portfolio, an unplanned outage at TCC cannot be covered by other plant, exposing NGC to spot prices in relation to the electricity hedges it has written against TCC's output.
59. While NGC has been able to obtain cover for planned outages, it has been unable to insure the risk of unplanned outages, leaving it exposed to the spot market when it is out for unplanned repairs. During such periods, with 354 MW of capacity withdrawn from the market, this can lead to extremely high spot prices. To cover this risk NGC has written extensive force majeure clauses in its hedge contracts, which in turn reduce the value of its hedges to the market. NGC, to date, has not invoked these clauses in order to preserve the customer base for its contracts, however, it has indicated to the Commission that this position is not sustainable.
60. NGC advised the Commission that if it did not sell TCC to either Contact or Genesis, it would retain ownership of TCC but that a likely future strategy would be to reduce the level of contract cover it offers, and sell the uncontracted output at spot prices, in order to mitigate the risk associated with a single plant portfolio. NGC have suggested that this reduction in hedge cover could be much as 50%.
61. Currently NGC has written around [ ] MW of hedges against TCC, which it would reduce over time to [ ] MW if it retained ownership of TCC. Those parties interviewed by Commission staff confirmed that this would be a logical approach to managing the risk involved with a single plant generation portfolio.

#### *Conclusion on Counterfactual*

62. The Commission therefore proposes to use the continued ownership and operation of TCC by NGC but with a reduced level of hedges as the counterfactual.

#### **Potential Sources of Market Power**

63. Two types of market situation conducive to the exercise of substantial unilateral market power are now considered. These involve making the distinction between undifferentiated and differentiated product markets. That distinction may also have a bearing on the scope for co-ordinated behaviour in a market.
64. In undifferentiated product markets, where buyers make their purchases largely on the basis of price, and the production capacities of firms are an important element in competition, a business acquisition may have the potential to substantially lessen competition when the combined entity has acquired a market share below that required for dominance. This is especially likely in circumstances where the rivals of the combined entity cannot easily expand production to offset its output contraction within a one year time frame.<sup>11</sup> The inability of rivals to expand may result either from their facing binding capacity constraints, or because additional capacity is significantly more expensive to operate.

<sup>10</sup> *Stirling Harbour Services Pty Ltd v Bunbury Port Authority* (2000) ATPR 41 at paras 113 & 114.

<sup>11</sup> See, for example, Roger D Blair and Amanda K Esquibel, "The Roles of Areeda, Turner and Economic Theory in Measuring Monopoly Power" (1996) *Antitrust Bulletin*, 781, especially pp 791-95.

65. In differentiated products markets, where the product offerings of different firms vary, and in which buyers make their purchase decisions on the basis of product characteristics as well as of price, the products of firms are by definition not perfect substitutes for each other. The substitutability between products will vary depending upon differences in their various characteristics, which may include their physical specifications, brand image, associated services and location of sale. In simple terms, differentiated products can be thought of as being arranged in a “chain of substitutes”, where those in adjacent positions in the chain tend to be close substitutes, and those positioned further apart are less close substitutes.
66. The supply-side characteristics of differentiated products markets are important, as the potential market power of the combined entity may be offset by the actions of rivals. However, rivals may not be able to offer a competitive constraint where they are unable either to re-position their products closer to that of the combined entity to replace the lost localised competition, or to strengthen the promotion of existing products. A further possible constraint would be lost if it were not possible for new products to be added through new entry.

### **Conclusion – Competition Analysis Principles**

67. The Act prohibits business acquisitions that would be likely to have the effect of substantially lessening competition in a market. The Commission makes this assessment against a counterfactual of what it considers would be likely to happen in the absence of the acquisition. In the present case the counterfactual is considered to be similar to the status quo, but with a lesser amount of hedges being offered by the owner of TCC. A substantial lessening of competition is taken to be equivalent to a substantial increase in market power. A business acquisition can lead to an increase in market power by providing scope either for the combined entity to exercise such power unilaterally, or for the firms remaining in the market to co-ordinate their behaviour so as to exercise such power.
68. In broad terms, a substantial lessening of competition cannot arise from a business acquisition where there are sufficient competitive constraints upon the combined entity. The balance of this Decision considers and evaluates the constraints that might apply in the wholesale electricity market under the following headings:
- existing competition;
  - potential competition from entry; and
  - other competition factors.

## **THE NATIONAL ELECTRICITY GENERATION AND WHOLESALING MARKET**

### **Introduction**

69. One consequence of a merger between competitors is that the number of firms competing in a market is reduced or, put another way, concentration is increased. This raises the possibility that competition in the market may be substantially lessened through the exercise of unilateral or coordinated market power. These are the subject of the analysis in this section.

## Scope for Exercise of Market Power

### *Introduction*

70. An examination of concentration in a market post-acquisition can provide a useful guide to the constraints that market participants may place upon each other, including the combined entity. Both structural and behavioural factors have to be considered. However, concentration is only one of a number of factors to be considered in the assessment of competition in a market. Those other factors are considered in later sections, as noted above.
71. Market shares can be measured in terms of revenues, volumes of goods sold, production capacities or inputs (such as labour or capital) used. All measures may yield similar results in some cases. Where they do not, the Commission may, for the purposes of its assessment, adopt the measure which yields the highest level of market share for the combined entity. The Commission considers that this will lead to an appropriately conservative assessment of concentration, and that the factors which lead to the other different market share results are more appropriately considered elsewhere during the assessment of the acquisition.<sup>12</sup>
72. In determining the significance of market shares, the Commission will take into account the existing participants (including ‘near entrants’), and inter-firm relationships. This is followed by a specification of the Commission’s ‘safe harbours’, an estimation of market shares, and an evaluation of existing competition in the market. Each of these aspects is now considered in turn.

### *Safe Harbours*

73. Once the relevant market has been defined, the participants have been identified, and their market shares estimated, the Commission’s ‘safe harbours’ can be applied. Under these safe harbours, a business acquisition is considered unlikely to substantially lessen competition in a market where, after the proposed acquisition, either of the following situations exist:
- where the three-firm concentration ratio (with individual firms’ market shares including any interconnected or associated persons) in the relevant market is below 70%, the combined entity (including any interconnected or associated persons) has less than in the order of a 40% share; or
  - where the three-firm concentration ratio (with individual firms’ market shares including any interconnected or associated persons) in the relevant market is above 70%, the market share of the combined entity is less than in the order of 20%.
74. As noted below, market shares by themselves are insufficient to establish whether competition in a market has been lessened. Other relevant issues are discussed in later sections.

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<sup>12</sup> For example, where market share measured in terms of capacity produces a significantly lower share of the market in the hands of participants than a measure in terms of sales volumes, the constraint on a combined entity from that unemployed capacity might be taken into account when identifying near entrants or the constraint from new market entry. In some cases, the model of market power being used may influence the choice as to which market share measure is used.

### Market Shares

75. On the basis of the preceding discussion, the Commission proposes to use generation capacity as its primary measure of market share and concentration. The resulting shares are shown in Table 2.

**Table 2: Estimated Market Shares by Generation Capacity**

<b>Firm</b>	<b>Capacity (MW)</b>	<b>% Of Total Generation</b>
<b>NGC Total</b>	<b>399</b>	<b>5%</b>
TCC	354	4.4%
Cobb	32	0.4%
Kapuni	12.5	0.2%
Contact	1940	24%
Genesis	1596	19%
Mighty River	1213	15%
Meridian	2323	28%
TrustPower	423	5%
Todd	132	2%
Others	205	2%
<b>Total</b>	<b>8230</b>	<b>100%</b>
<b>Combined Entity</b>	<b>2294</b>	<b>28%</b>
<b>3 Firm Concentration Ratio</b>		<b>76%</b>

76. Table 2 indicates the merged entity will have a market share of 28% and the three firm concentration ratio, post acquisition, is 76%. Thus the proposed acquisition falls outside the Commission's safe harbour guidelines as stated in paragraph 74.
77. As already noted, market shares are insufficient in themselves to establish whether competition in a market has been lessened. It is the interplay between a number of competition factors, of which seller concentration is only one, that has to be assessed in determining the impact of a business acquisition on competition. Other competition factors include entry conditions; the presence of an aggressive, innovative or maverick firm; countervailing power of buyers or suppliers; rapid innovation in the market; and others. These are considered for the relevant market in subsequent sections.

### State of Existing Competition

78. As noted in the market definition section, the NZEM balances supply and demand in real time, producing a spot price for each half-hour trading period. However, it is important to note that the degree of consumer direct exposure to the spot market is relatively limited, with all residential load and a high proportion of small commercial and industrial load covered by fixed price, variable volume tariffs. Exposure to the spot market is principally limited to large industrial users, who may seek a small (10-15%) exposure to the spot market, small to medium size industrial users who may also have a partial exposure to the spot market, or generators who may have contracted customer load beyond their generation levels. The latter may occur in some periods where it is



more economic to buy from the spot market than use own-generation. Hence, in percentage terms the overall immediate exposure to spot prices is limited to around 10-15% of sales. However, the Commission notes that contract prices are closely linked to spot prices. Essentially contract prices reflect principally anticipated future spot prices. Notwithstanding this close link, for the purpose of its analysis in this case the Commission has considered separately the impact of acquisition on spot prices and on contract prices.

### **Impact of Acquisition on Spot Prices**

79. The spot market has the twin objectives of achieving real time balance between supply and demand, a function fulfilled by Transpower, and determining a market price for electricity for each half-hour.
80. Generators offer into the market at up to five tranches for each generation station, and may revise bids up to 2 hours prior to trading. Prices are determined in each half hour by the price set by the last station to be dispatched. The Scheduling, Pricing and Dispatch (“SPD”) model also determines marginal losses, which vary according to the location.
81. Since the Commission considered the TransAlta acquisition of a 40% stake in Contact in Decision 340, the market appears to have generated prices for the majority of the time at prices tending towards short-run marginal cost. Prior to winter 2001, prices averaged around \$30 to \$35/MWh. Since then, prices have trended upwards, largely driven by demand growth on the system, and low hydrology during winter 2001 which was characterised by an extremely dry year coupled with a cold winter. This established conditions where hydro generation was backed off considerably and thermal generators were setting prices at levels previously unseen in the New Zealand market. For the period June 2001 to August 2001 prices averaged more than \$150/MWh. However, since the return of more normal hydro conditions prices averaged around \$35/MWh between June 2002 and September 2002.
82. With demand growth of around 2% per annum, and no new significant generation capacity, the balance between total system capacity and system demand is becoming much tighter. Genesis’ combined cycle gas turbine (CCGT) plant, e3p, is forecast to be the next new generation plant to come on line, and is currently expected to be commissioned around the end of 2005, although that date is provisional and depends on gas contract certainty. Independent of the change in ownership of TCC, demand growth in the intermediate period of 2% per annum is likely to put further upwards pressure on spot prices as higher cost generation is required to satisfy demand.
83. The real time nature of the wholesale electricity market makes the analysis of market power issues complicated. Because of the need to coordinate dispatch of electricity generation, and the fact that every supply and demand decision has impact on every other market participant the opportunities for strategic behaviour are greater relative to markets where sales are independent. An extensive economic literature has developed which examines the scope for market power to arise in electricity markets, and the factors that may lead to incentives and ability to raise prices above costs.
84. The general finding of the literature appears to be that in situations where there are low levels of contracting coupled with inelastic demand, there may be greater potential to exercise market power. The elimination of a competitor from the market tends to lead to individual generators facing a larger residual demand curve and greater incentive to exercise what power they have over prices. The repeated auction nature of electricity

spot markets also allows participants to “learn” about other participants’ behaviour and may result in non-cooperative oligopoly outcomes. Extensive amounts of market information available to participants appear to allow generators to reverse engineer contract positions, hence, relative to other markets the capacity for strategic behaviour to lift prices may be higher.

85. Nevertheless, the ability to engage in this type of strategic behaviour can be limited if the output of the generation plant is inflexible. When making this assessment it is necessary to consider the total portfolio of generation, rather than just the operating characteristics of the generation plant being acquired. Even if some plant within the portfolio cannot be backed off to push prices higher because of operating limits, other plant may be capable of operating more flexibly.
86. In general Contact’s generation plants are not particularly flexible. Its hydro rivers have very limited storage capacity. Geothermal plants are substantially “must run”. The output of cogeneration plants is primarily determined by the steam requirements. CCGT plants (such as Otahuhu B and TCC) have reduced thermal efficiency at lower operating levels and, in addition, ramping these plants up and down places stresses on the hardware which creates risks of forced outages. Furthermore, the nature of gas contracts may limit plant operating flexibility. Take or pay gas contracts, with restrictions on the ability to bank gas, also create incentives to operate these plants continuously at a high level.

### *Modelling*

87. On 22 November Contact provided to the Commission a report Contact had commissioned from Orbit Systems (“Orbit”) which modelled the impact of the proposed acquisition on the electricity spot market and potential market behaviour. Subsequently the Commission engaged PA Consulting Group to undertake a similar modelling exercise. The models used by the consultants have their genesis in the prototype DUBLIN model which was used by PHB Associates to examine the acquisition by TransAlta of a 40% stake in Contact, discussed in the Commission’s Decision 340.
88. Both consultants used a simplified two-node model of the New Zealand electricity supply system. The model attempts to incorporate the structure and market interactions between participants in the New Zealand wholesale electricity market. Each participant owns a portfolio of generation plant together with a possible fixed price hedge contract for part of its output. Each is assumed to act independently to maximise its profit subject to the outputs of the other participants, the level of market demand, capacity limitations over the HVDC link, and water inflow data for hydro stations. The model simplifies South Island hydro generation into a Waitaki chain, and North Island hydro into a Waikato chain.
89. A key concept in the modelling is that of “Cournot-Nash” equilibria. A Cournot type model is commonly employed by economists to analyse pricing outcomes in oligopoly markets where participants choose an output quantity of a homogenous product and allow price to be determined by the level of demand. Because an oligopoly market comprises a relatively small number of firms, they are interdependent, in the sense that one firm’s output decision has an impact on that of others in the market, which are likely to react in setting their own respective output.
90. Cournot models, like any other, typically make a number of simplifying behavioural and informational assumptions regarding the participant firms. If firms behave according to Cournot assumptions there is a single market price and quantity at which equilibrium

will be achieved, in the sense that each firm will be maximising its profits given the actions of other firms (i.e. a Nash equilibrium), and its belief about the others' behaviour will be correct. Cournot outcomes in the same market under either of greater competition (more firms) or monopoly will result, respectively, in a lower or higher priced equilibrium. As a corollary, the greater the number of firms in a Cournot oligopoly, the greater the quantity that is produced. Any difference in respective market shares is a reflection of a difference in costs – lower cost firms will have larger market shares.

91. Thus a Cournot based model in essence isolates the effect of a structural change in a given market and under the model the merger of two of the players (all else equal) automatically leads to a prediction of a reduction in industry output and to an increase in market price. The model's assumption of a Cournot-Nash equilibrium is critical to the ensuing merger analysis.
92. In order to determine the potential impacts of an acquisition the Cournot models need to be calibrated to replicate current spot prices. To achieve this, two key parameters are varied to get a close fit between model prices and actual prices. These parameters are the contract positions of the generators and demand elasticities. A limitation of the modelling is that contract positions tend to be understated, in order to calibrate to the pattern of actual market prices.
93. Once the calibration process has been completed, it is possible to investigate what impact the acquisition would have on spot prices by running the model with and without the acquisition. Because of the limitations in the calibration process it is also necessary to investigate how sensitive the model is to different contract position assumptions and different elasticities in comparison to the base scenario. Both PA and Orbit investigate a number of sensitivity scenarios. The model results are an average over all possible hydro inflow sequences.
94. Orbit's model results<sup>13</sup> suggest that the acquisition by Contact might increase prices by around 2%, [ ].
95. PA's results<sup>14</sup> suggest that the acquisition by Contact might increase prices (in its "base" scenario) by around 3.5% up to 2005 (but with different scenarios it could range from 0.91% to 5.15%) at which time the impact attributable to the acquisition is ameliorated as additional generation capacity becomes available and a carbon tax is introduced.
96. The Orbit results tend to indicate less variability in potential price increases, with the results not all that sensitive to changes in the calibration process. Although it is difficult to establish the precise source of the difference between the PA and Orbit results, it does appear that the Orbit model is calibrated with more elastic demand than the PA model but has lower contract levels.
97. There does not appear to be a 'best' means of calibrating the models, so it is not possible to determine with any certainty which model is generating more likely outcomes. However, the PA model indicates likely prices over the next 3-4 years of around \$30 to \$32/MWh, which a number of industry participants suggested seemed low, with many expecting average spot prices to be closer to \$40-\$50/MWh.
98. The Commission understands that the Orbit model generates results closer to the [ ]/MWh figure, which may explain the difference in the percentage change figures. PA

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<sup>13</sup> See Appendix 1.

<sup>14</sup> See Appendix 2.

indicates that at prices around this level its model would tend to predict slightly lower price increases than the 3.5% suggested above.

99. Another important aspect is that in order to generate the possible price increases suggested by PA, Contact would be required to back off TCC generation to around 30%-50% of its capacity. This seems unlikely given that CCGT plant is designed to operate close to capacity.
100. Overall, the Cournot modelling suggests potential price increases from the acquisition of between less than 1% and 5%, although the Commission considers that the 5% figure (at the upper limit of the *ssnip* threshold) is likely to be an extreme result and would be unlikely. Such an outcome would require underlying prices of \$30-\$32 MWh, and these are significantly below most predictions of industry participants. It would also require TCC to operate at levels which would be likely to give rise to significant production inefficiencies.

#### *Factors Affecting Contact's Potential to Game the Market*

101. The models discussed above are useful tools for the analysis of market power issues. However it is generally recognised that they are unable to take into account all the practicalities of the market. For instance they do not have regard to the possibility of more elaborate strategic behaviour by market participants in terms of optimising contract positions to achieve profit-maximising spot and contract prices, nor do they take into account the greater complexity of the electricity system where the procurement of ancillary services and transmission losses and constraints have a bearing on behaviour.
102. In general a generator whose fixed-price contracts closely match its generation would not have a strong short-term incentive to engage in strategic behaviour to force up spot prices (i.e. to "game the market".) The generator could, of course, decide to reduce its contract position over time to increase its ability to benefit from spot market manipulation. However such a strategy would carry some risk as it could be undermined at least in part by the competitive response of other generators, unpredictable changes in market circumstances and so on.
103. A generator's ability to game the spot market may also be affected by the flexibility of its plant, its ability to generate at times of peak demand, and by new entry.
104. The Commission has therefore considered these matters in addition to the modelling results, and its conclusions are summarised below:
  - Contact's current output is currently substantially committed to meeting either its contracts or the demand of its retail customers. Contact reports<sup>15</sup> that on a volume basis the business had total hedging (retail and other contracts) of approximately 86% in the period ended 30 September 2002.
  - The output from Contact's plant, and from TCC, is relatively inflexible, and any attempt by it to alter output significantly on an ad hoc basis would expose it to inefficiencies and the risk of plant outages.
  - The period of peak electricity demand tends to correspond with the period when Contact's ability to generate at its hydro stations is at its lowest.

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<sup>15</sup> Contact Energy Limited, Annual Report 2002.

- The timing of significant new entry or expansion into electricity generation is uncertain at this time, and is likely to be dependent on such matters as future gas availability. Nevertheless advanced planning has taken place – for instance for e3p, which PA modelled as coming on stream in 2006. Such new entry would enhance the competitive dynamics of the market.

105. Overall, the Commission has concluded that given the hedge position of Contact, the composition of its hedge book, the nature of its generation portfolio and medium to longer-term commercial drivers to contract up to high levels, the acquisition of TCC would be unlikely to lead to a significant change in Contact's ability or incentive to game the spot market.

#### *Impact of the Proposed Acquisition on Contracted Sales*

106. Sales of electricity may either be covered by purchases on the spot market where the price is discovered in real time, or through fixed price contracts with either fixed or variable volumes. These fixed price sales can be more simply described as contracted sales.
107. Generators have strong incentives to sell a high proportion of their output through contracted sales as they mitigate uncertainty as to price. In particular, it reduces downside-risk in wet years where prices may fall to low levels. Contract sales may be required to satisfy either equity holders seeking non-volatile returns or creditors. This may be particularly so when generators are seeking debt finance to build new generation plant. Forward sales would tend to reduce the riskiness of investment.
108. Buyers of electricity also tend to seek price certainty for electricity supply. With limited opportunities to reduce demand, or switch to alternative energy sources, customers seek to minimise considerable downside risk of high prices. This is particularly acute in New Zealand where the hydrology situation has a strong bearing on energy available for electricity supply. During winter of 2001, spot prices spiked to more than 20 times their 'normal' levels, and over a four month period were on average 3-4 times higher than normal.
109. In principle, generators may be willing to offer contracts up to their entire capacity in a 'dry-year'. It appears that [ ] is currently reasonably balanced, in that its contracted load is relatively equal to its existing generation capacity plus inter-generator hedges. However, customer turnover in the contract market is reasonably regular, with most customers on contracts ranging from 1 to 3 years.
110. [ ] These generator-retailers currently use these TCC hedges to reduce their risk when selling to consumers, including residential, TOU, and larger consumers. [ ] expressed concern that if Contact acquired TCC, hedges would not be made available in future by Contact to support these sales. This would require them to decline to roll over existing contracts, or reduce their retail customer bases through attrition to other retailers. However [ ] have advised the Commission that they would remain active sellers of contracts, which can include selling to [ ]. The Commission considers it likely that these companies will increase or differentiate contracts in order to fill any gap in the market.
111. If Contact engaged in a strategy to reduce the level of contract cover that it offers, Contact would also face the risk that the uncontracted load would face low prices in the spot market. As long as Contact could obtain a reasonable price for TCC hedges it is

not clear to the Commission why it would refuse to offer contracts following its acquisition of TCC.

112. MEUG, TrustPower, Genesis, and other major industrials also suggested that Contact, post-acquisition, would refuse to sell the same level of hedges based on TCC generation as NGC. However, as discussed in the Counterfactual section above, the Commission considers that if NGC retained ownership of TCC it would reduce the level of hedges it offered in the future. A key reason for NGC seeking to sell TCC is that it is not able to manage the risks of owning a single turbine plant satisfactorily. If the plant suffered an unplanned outage NGC would be faced with buying on the spot market to meet its contractual obligations, and this may be particularly onerous as the removal of TCC's output is likely to have the effect of lifting spot prices. To reduce this risk NGC (if it retained ownership of TCC) may either place extensive force majeure clauses in its contracts (as at present), or limit the amount of contracts it offers to the market. It is the latter option which NGC has suggested it would pursue in the future. It would sell its uncontracted output at spot prices. NGC has suggested that this reduction in hedge cover in this option could be much as 50%.
113. In contrast, Contact has stated to the Commission that it should be able to expand hedge capacity from TCC because it has a portfolio of plants which allows it to manage risk, and its ability to back TCC from the New Plymouth plant. Also it suggests that the quality of hedges from TCC is also likely to improve post-acquisition because force majeure provisions need not be as extensive.
114. The Commission accepts the general logic of these statements from Contact and considers that the acquisition is more likely to lead to an increase in hedge contracts from TCC rather than a decrease.
115. Because of growth in demand for electricity, the gap between the total amount of capacity available for contracts and total demand is narrowing. However, the Commission is aware that innovations in the contract market are providing additional competition. [
- ].
116. The Commission concludes it is likely that, despite the reduction in the number of players that can offer contracts, relative to the counterfactual it is likely that there would be little or no reduction in the intensity of competition in the contract market. Rather, because of Contact's greater ability than the counterfactual owner of TCC to manage plant outage risk within its portfolio of generation, it is possible that the acquisition could have a pro-competitive outcome.

#### *Transmission Constraints*

117. As the Commission noted in Decision 340, in certain market conditions generators may be able to use bidding strategies to force transmission constraints. This may result in price separations between the region inside the constraint and the region outside the constraint. During the winter of 2001, transmission constraints within the Taranaki region prevented electricity from being exported from the region. This appeared to be caused by security constraints on transmission lines heading south, as North Island generation was being exported south across the HVDC link between the North and South Islands.

118. Flows on the New Zealand power system tend to flow from South to North, as there is significant excess generation capacity in the South Island, and significant load in the North Island. Constraints under a South-North flow occurs when the DC link is constrained, and, according to Transpower, the Taranaki region is subject to the constraint rather than cause of the constraint. In other words it is difficult to export power from the Taranaki region and Taranaki generators are not the marginal stations.
119. In a dry year when power flows are North to South, constraints are determined by security in the Wellington region. Under that scenario Taranaki generation can set the marginal price. However, because of the nature of the TCC plant and its baseload output, Contact's ability to set high prices with New Plymouth generation is unchanged by the acquisition.
120. Transpower has also noted that work has been done to alleviate transmission constraint issues around the Taranaki region, so, in any event, the scope for persistent constraints to be created by Taranaki generation has been reduced.
121. The Commission concludes that the acquisition by Contact of TCC would not affect the likelihood or extent of transmission constraints impacting on spot prices.

### **Scope for the Exercise of Coordinated Market Power**

#### *Introduction*

122. A business acquisition may lead to a change in market circumstances such that coordination between the remaining firms either is made more likely, or the effectiveness of pre-acquisition coordination is enhanced. Firms that would otherwise compete may attempt to coordinate their behaviour in order to exercise market power by restricting their joint output and raising price. In extreme cases, where all firms in the market are involved and coordination is particularly effective, they may be able to behave like a collective monopolist. Where not all firms are involved, and market share in the hands of the collaborators is reduced, coordinated market power becomes more difficult to exercise because of competition from the independent firms in the market.

#### *Collusion*

123. "Collusion" involves firms in a market individually coming to a mutually profitable expectation or agreement over coordination. Both explicit and tacit forms of such behaviour between firms are included.
124. While circumstances presently exist which may be conducive to collusion, the proposed acquisition will result in a relatively small generator exiting the market. As such, the Commission considers that the potential for collusion is unlikely to be enhanced by the proposed acquisition. Therefore, the Commission has found it unnecessary to determine the potential for discipline.

#### *Conclusions – Co-ordinated Market Power*

125. The Commission concludes that the scope for the exercise of co-ordinated power is unlikely to be enhanced by the acquisition.

### **Conclusions – Existing Competition**

126. Overall, the Commission considers that the acquisition by Contact of TCC is unlikely to result in a substantial degree of market power in the electricity wholesale market with the existing competitive position. Although electricity wholesale markets tend to be more conducive to co-ordinated conduct, due to the network effects of individual supply

and demand decisions, in this case a number of constraints would prevent Contact from exercising market power relative to the counterfactual. In summary these are:

- Contact's plant is generally insufficiently flexible to be suited for gaming strategies;
- Contact has a significant retail base which would be difficult to shed, and it must therefore retain its present level of hedging;
- There are commercial drivers to maintain a high level of contracts;
- Constraints from other generators, who can respond to attempts by Contact to reduce contract sales; [ ];
- Longer term constraints from generation expansion will limit the incentives of Contact to withdraw from contract sales;
- In the counterfactual, NGC would be likely to reduce its contract sales in order to minimise its risk exposure to the spot market when there are plant outages.

## **CONSTRAINTS FROM MARKET ENTRY**

### **Introduction**

127. A business acquisition is unlikely to result in a substantial lessening of competition in a market if behaviour in that market continues to be subject to real constraints from the threat of market entry.
128. Where barriers to entry are clearly low, it will not be necessary for the Commission to identify specific firms that might enter the market. In other cases, the Commission will seek to identify likely new entrants into the market.
129. The Commission will consider the history of past market entry as an indicator of the likelihood of future entry. The Commission is also mindful that entry often occurs on a relatively small scale, at least initially, and as such may not pose much of a competitive constraint on incumbents within the relevant time frame.

### **Barriers to Entry**

130. The likely effectiveness of the threat of new entry in constraining the conduct of market participants, following a business acquisition that might otherwise lead to a substantial lessening of competition in a market, is determined by the nature and height of barriers to entry into that market.
131. The Commission considers that, for the purpose of considering this issue, a barrier to entry is best defined as an additional or significantly increased cost or other disadvantage that a new entrant must bear as a condition of entry. In evaluating the barriers to entry into a market, the Commission will generally consider the broader 'entry conditions' that apply, and then go on to evaluate which of those constitute entry barriers.
132. It is the overall obstacle to entry posed by the aggregation of the various barriers that is relevant in determining whether entry is relatively easy or not, and therefore whether or not potential entry would prevent a substantial lessening of competition.
133. For entry to act as an antidote to a substantial lessening of competition stemming from a business acquisition, it must constrain the behaviour of the combined entity and others in the market.



134. Over the past 10 years, electricity demand growth has averaged 1.8% pa. Higher economic growth rates, rising population and the prospect of more energy intensive projects, such as wood processing, will put upward pressure on future demand.<sup>16</sup> As such, new generation is required if present demand growth continues.

#### *Small Scale Entry*

135. There is some, but limited, opportunities for small independents to enter – e.g. isolated cogen opportunities, wind farms, geothermal, hydro etc. However the Commission is not convinced at this stage that in the near future it will be sufficient to meet annual demand growth of around 2% per annum.

#### *Large Scale Entry*

136. Large scale new entry with a single large plant is unlikely because of the risks which would be faced by a new entrant not being able to cover the risks of outages. This is the primary reason for NGC's exit from the market.

137. The Commission concludes that large scale new entry appears unlikely.

#### *Planned Expansion*

Table 4 below outlines publicly announced plans by existing generators to build new electricity generation capacity.

**Table 4: New Generation Proposals<sup>17</sup>**

<b>Company</b>	<b>Type</b>	<b>Location</b>	<b>MW</b>	<b>GWh / yr</b>	<b>Expected Timing</b>	<b>Consents</b>	<b>Comment</b>
Genesis	Gas (CCGT)	Huntly	360	3000	Dec 2005	Yes	Depends on availability of gas contracts
Contact	Gas (CCGT)	Otahuhu	400		On hold	Yes	Deferred pending gas contracts
Tuaropahi Power Trust	Geothermal	Mokai (expansion)	39	350	2004	Partial	
Geotherm Group	Geothermal	Tukairangi Rd	45		2006 - 2007	Applied for	
Genesis	Wind	Haunui	8	30	Dec 2004	Yes	Requires agreement on line connection costs
Meridian	Hydro (Project Aqua)	Lower Waitaki	285+	1600	2008 - 2010		
Meridian	Hydro	Lower	285	1600	2010 -	No	

<sup>16</sup> Ministry of Economic Development, *Electricity: Supply and Demand Issues* Media Briefing, 24 September 2002.

<sup>17</sup> Ibid

	(Project Aqua)	Waitaki			2012		
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138. Contact has announced that it does not intend, at this stage, to proceed with the building of its planned CCGT plant, owing to the uncertainty of future gas supply with Maui now expected to decline around 2007 and the size of the Pohokura field still uncertain.
139. On this basis, Genesis also recently announced that it has its plans to build its eP3 CCGT plant at Huntly on hold.
140. Meridian is in the consent process to establish a large scale chain of hydro generation on the Waitaki River. The additional capacity will not be on stream for some time yet. However, when such generation comes on to the market prices will be expected to dip as contract sales are made to underpin the new investments. Hence, competition from capacity expansion is likely to provide a longer term constraint on prices.

#### *Near Entry*

141. In principle, an external party, such as a merchant bank, could compete by offering contracts independent of back-to-back contracts or own-generation. It could potentially arbitrage between sales at spot prices and contract sales. Such a participant would need extremely deep pockets to avoid the situation that On Energy found itself in, and probably an ability to write long-term contracts to ensure that over the longer-term it is able to make a suitable margin to compensate for the risks. Given the potential for extreme prices over reasonably lengthy periods and the difficulties in estimating the risks, it could be extremely difficult for a merchant bank to provide contracts at competitive levels.

#### *Conclusion on Barriers to Entry*

142. The Commission has concluded that de novo large scale entry is unlikely to occur. However, capacity expansion is likely to provide some competitive discipline over the longer term as generators compete to provide the next plant on the system.
143. There is likely to continue to be small scale entry. However, it is possible that the demand/supply position will continue to tighten before large scale new entry will occur.

#### *Other Competition Factors*

##### **Elimination of a Vigorous and Effective Competitor**

144. Sometimes an industry contains a firm that is in some way non-typical, or has different characteristics, or is an innovator, or is regarded as a maverick. The independent or less predictable behaviour of such a firm may be an important source of competition in the market, and may undermine efforts by other firms to engage in coordination. Such a firm need not be large to have an impact on competition out of proportion to its relative market size. Should it become the target of a business acquisition, the resulting elimination of a vigorous and effective competitor could have the effect of substantially lessening competition in the market (especially if there are barriers preventing the entry of new, effective competitors).
145. Apart from the fact that NGC is a non-vertically integrated generator, it could not be regarded as a maverick electricity generator or wholesaler. As stated in the counterfactual, NGC's generation portfolio is insufficient for it to continue to operate at

its present contract level, and to that extent, should the proposed acquisition not proceed, it is likely to offer less hedge contracts to the market thereby becoming a less vigorous competitor.

### **Constraint from Buyers or Suppliers**

146. The potential for a firm to wield market power may be constrained by countervailing power in the hands of its customers, or alternatively, when considering buyer (oligopsony or monopsony) market power, its suppliers. In some circumstances, it is possible that this constraint may be sufficient to eliminate concerns that a business acquisition may lead to a substantial lessening of competition.
147. Where a combined entity would face a purchaser or supplier with a substantial degree of market power in a market affected by the acquisition, the Commission will consider whether that situation is such as to constrain market participants to such an extent that competition is not substantially lessened.
148. Buyers have limited opportunities to constrain prices. Demand is inelastic as there are limited substitution possibilities, although over the medium to long term some limited opportunities may exist, such as natural gas, coal and fuel oils.

### **Overall Conclusion on the Electricity Generation and Wholesaling Market**

149. The Commission has assessed the likely competitive impact of the proposed acquisition will have regard to market concentration, potential for anti-competitive strategic behaviour and market coordination, entry conditions, and other relevant factors.
150. The Commission is satisfied that the proposed acquisition will not have, or be likely to have, the effect of substantially lessening competition in the market.

### **THE RETAIL MARKET**

151. The proposed acquisition does not increase Contact's interest in the retail market. Contact will remain a significant participant in electricity retailing with around 24% of the national market. There are four other significant participants in this market.
152. The Commission has given careful consideration to the concern expressed by some that the acquisition may allow Contact to use its enhanced position in the generation/wholesale market to foreclose competition in the retail market. This behaviour might be possible if Contact had market power in the generation/wholesale market.
153. The conclusion of the analysis above, however, is that Contact would not significantly enhance any market power it has in the generation/wholesale market by acquiring TCC. Rather this market would remain competitive.
154. The Commission concludes therefore that the proposed acquisition will not have or be likely to have the effect of substantially lessening competition in the electricity retail market.

### **THE ANCILLARY SERVICES MARKET**

155. Ancillary services are required to provide frequency keeping capacity in the transmission system, which is a grid-wide phenomenon (i.e. a fall in frequency affects all electricity users), and local voltage support to keep voltage levels constant.
156. Ancillary services are purchased by Transpower on a competitive basis. Frequency support is purchased in a spot market for reserves. Reserves may be provided by

generators as capacity held in reserve that can be added to the market at short notice to balance energy supply and demand, or customer interruptible load, which can be taken off the market in the event that a generator trips off the system.

157. The demand for reserves is determined by the largest risk on the system. In the North Island this is typically set by the greater of HVDC transfers or the largest generator on the system, which is usually either TCC or Otahuhu B. The cost of reserves is borne by the participant imposing the risk on the system, so Contact is unlikely to have an incentive to increase the price of reserves, since it would face a disproportionate share of the higher cost itself.
158. Overall, the Commission notes that prices for reserves are an order of magnitude lower than energy prices. Typically prices set in the reserves market are around \$1/MWh where energy prices may be in the order of \$50/MWh. To the extent that the costs of reserves are reflected in energy prices, any impacts in this market are likely to be de minimis.
159. Further, the Commission considers that the proposed acquisition would not be likely to materially affect supply to this market. Contact is a much larger buyer than seller (by a factor of four) of reserves, in part because its generation plants do not have sufficient flexibility to be a major supplier to this market. This situation is not likely to change with the acquisition. Accordingly Contact would have no incentive to increase prices in this market, even if it had the ability to do so.
160. The Commission concludes that the acquisition would not substantially lessen competition in the reserves market.

## **OVERALL CONCLUSION**

161. The Commission has considered the probable nature and extent of competition that would exist in the national markets for electricity generation and wholesaling, ancillary services, and electricity retailing but for the acquisition. The Commission considers that the appropriate benchmark for comparison is the retention of TCC by NGC.
162. The proposed acquisition would result in the merged entity obtaining a market share that falls outside the Commission's safe harbour guidelines. However, the Commission has also considered the nature and extent of the contemplated lessening, in terms of the competitive constraints that would exist following the merger from:
  - existing competition;
  - potential competition from entry; and
  - other competition factors.
163. The Commission considers that:
  - Contact would have insufficient incentive to game the NZEM in order to increase spot prices;
  - The proposed acquisition would have minimal effect on the supply of electricity contracts compared to the counterfactual;
  - Contact will be constrained by capacity expansion over the longer term; and
  - The increased vertical integration is unlikely to have a significant effect on the electricity retail market.

164. The Commission is therefore satisfied that the proposed acquisition would not have, nor would be likely to have, the effect of substantially lessening competition in:

- The national electricity generation and wholesaling market;
- The national ancillary services market; or
- The national electricity retail market.

**DETERMINATION ON NOTICE OF CLEARANCE**

165. Accordingly, pursuant to section 66(3)(a) of the Commerce Act 1986, the Commission determines to give clearance for the acquisition by Contact Energy Limited of 100% of the shares in Stratford Power Limited, which owns Taranaki Combined Cycle power station, and the associated hedge book.

Dated this 4<sup>th</sup> day of February 2003

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MJ Belgrave  
Chair

## Appendix 1

### **Orbit Model Results**

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## Appendix 2

### PA Model Results

Scenario	Island Ownership		2003	2004	2005	2006	2007	2008
Base Scenario	NI	Contact	3.81%	3.78%	3.74%	3.37%	2.02%	2.43%
		Genesis	0.12%	0.19%	0.32%	1.13%	0.63%	0.97%
	SI	Contact	4.22%	4.13%	4.07%	3.96%	2.33%	2.04%
		Genesis	0.19%	0.27%	0.41%	1.09%	0.53%	0.59%
Low Elasticity Scenario	NI	Contact	4.81%	4.83%	4.69%	4.24%	2.69%	2.89%
		Genesis	0.92%	1.04%	1.06%	2.05%	1.26%	1.40%
	SI	Contact	5.15%	5.13%	4.92%	4.73%	2.89%	2.53%
		Genesis	0.98%	1.12%	1.10%	1.97%	1.16%	1.05%
High Elasticity Scenario	NI	Contact	3.27%	3.34%	3.26%	2.86%	1.74%	2.17%
		Genesis	-0.23%	-0.07%	0.03%	0.81%	0.41%	0.74%
	SI	Contact	3.68%	3.73%	3.59%	3.41%	2.07%	1.82%
		Genesis	-0.20%	0.01%	0.09%	0.82%	0.33%	0.46%
Contract Levels Scenario	NI	Contact	1.08%	1.25%	1.36%	1.11%	0.91%	1.13%
		Genesis	-3.97%	-3.26%	-3.16%	-2.05%	-0.98%	-0.92%
	SI	Contact	1.35%	1.52%	1.61%	1.50%	1.27%	1.24%
		Genesis	-3.93%	-3.14%	-3.05%	-2.10%	-0.96%	-0.73%
Variation 1	NI	Contact	3.5%	3.5%	3.5%	3.1%	1.8%	2.3%
	SI	Contact	3.9%	3.8%	3.7%	3.6%	2.1%	1.9%
Variation 2	NI	Contact	2.1%	2.2%	2.3%	2.0%	1.2%	1.5%
	SI	Contact	2.6%	2.7%	2.7%	2.5%	1.6%	1.5%

### PA Scenarios

Scenario	Details
Base Scenario	Average contract level of 52%, peak period elasticity -0.15, Shoulder period elasticity -0.3, off-peak elasticity -0.4
Low elasticity scenario	Average contract level of 52%, peak period elasticity -0.1, Shoulder period elasticity -0.2, off-peak elasticity -0.3
High elasticity scenario	Average contract level of 52%, peak period elasticity -0.2, Shoulder period elasticity -0.35, off-peak elasticity -0.45
Contract levels scenario	Average contract level of 75%, peak period elasticity -0.15, Shoulder period elasticity -0.3, off-peak elasticity -0.4
Variation 1	Average contract level of 75%, peak period elasticity -0.15, Shoulder period elasticity -0.3, off-peak elasticity -0.4 (Cobb excluded from analysis)
Variation 2	Average contract level of 75%, peak period elasticity -0.15, Shoulder period elasticity -0.3, off-peak elasticity -0.4 (NGC reduces contract cover to 50% down from 71%)