Review of the Structure of Electricity Generation in New South Wales

Report of the Generation Reform Working Group –

August, 1995

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GENERATION REFORM WORKING GROUP

Chair: Prof. F.G. Hilmer
Secretary: Dr. B. Kelly
Members: Mr. K.P. Baxter; Mr. M. Costa; Mr. P. Higginson; Mr. M. Lambert; Mr. R. Wilkins

Mr. Bob Carr, M.P.
Premier of New South Wales
Parliament House
Sydney, New South Wales 2000

Dear Premier:

I have pleasure in enclosing the report of our Working Group, as well as an appendix containing the major analyses and reports on which our recommendations are based.

The work has been completed well ahead of the deadline of year end set by the government. In summary the report recommends that:

i. Pacific Power be disaggregated.
ii. A choice be made between two options for disaggregation, each of which is consistent with the government's goals of low prices, industrial development and a commercially sound industry.
iii. Governance, management and financial structures consistent with real competition be established for each of the new generators.

The Review Group would like to thank the many people and organisations who contributed to our task, including the management of Pacific Power, the Industry Commission, Dr. Robin Roy and those who provided us with submissions and advice.

We trust that this report will provide the basis for the ongoing development and reform of this important industry in what will be a quite new and challenging national market environment.

Yours sincerely,

Frederick G. Hilmer, Chair
P. Higginson, Member
K.P. Baxter, Member
M. Lambert, Member
M. Costa, Member
R. Wilkins, Member

REFORMING ELECTRICITY GENERATION

Ensuring that the NSW economy is served by an electricity industry that is effective and efficient in the interests of consumers and taxpayers is a key goal of the NSW Government. This is to be achieved by applying the principles of national competition policy recently agreed to by the Council of Australian Governments (NSW Government Electricity Reform Statement, May 1995). For the electricity industry these principles require:

- Separating transmission, distribution, supply and generation
- Creating a distribution and supply industry of sufficient size, scale and diversity to apply effective competitive pressure to generators in the national market
- Ensuring that generation is structured so as to be subject to effective national competition.

The NSW Government has met the first requirement and is well advanced in its reform of distribution. This review was established to examine the structure of generation.

The review was asked to report in two phases, a progress review by mid August 1995 and a final recommendation by end December 1995. The Review Group has however sought to complete its work ahead of schedule so as not to delay reform and to remove uncertainty. This report is therefore intended to provide the basis for a final decision by the Government.

In preparing its recommendations, the Review Group sought advice from a number of sources about the future of the electricity generating industry in NSW in the context of the development of the national electricity market, the implementation of competition policy and the desire by the NSW Government to reduce costs for NSW consumers and industry.

Advice was received from the Industry Commission; BT Australia, Dr.Robin Roy, and a working group from Pacific Power, as well as from a number of submissions that were sent to the Review Group. The Industry Commission itself sought a range of submissions and commissioned work from London Economics and D. Harbord & Associates.

The Review Group acknowledges that its considerations and judgements are made within the context of uncertainty about the future national market developments and price paths for electricity and gas. In summary the Review Group recommends that:

i. Pacific Power be disaggregated.
ii. Bearing in mind the balance between competition and commercial viability, a choice be made between two options for disaggregation, both of which are commercially viable.
    - **Option A:**The Review Group's preferred position, if the Government wishes to give more weight to competition, particularly national competition, is for Pacific Power to be disaggregated into three organisations comprising:
        - Bayswater/Liddell
        - Mount Piper, Wallerawang, Vales Point and Munmorah, and
        - Eraring which would have the incentive to link with an interstate generator(s) and so form a new national competitor.
    - **Option B:** If greater weight is to be placed on commercial viability the Review Group's preferred position is a disaggregation into two organisations (the small hydro and gas units could be accommodated in a variety of ways, and are not central to this recommendation) comprising:
        - Bayswater and Liddell;
        - Mount Piper, Wallerawang, Eraring, Vales Point and Munmorah.
iii. Governance, management and financial structures consistent with real competition should be established for each of the generators.
    - Corporatisation guidelines to deal specifically with the situation of Governmentowned competitors should be adopted
    - If Option A is chosen, the Government may also wish to consider a range of structural and ownership options for Eraring, the capacity of which is excess to NSW requirements, such as joint venture or float (whole or part) prior to expiration of the existing lease back arrangements with Westpac Banking Corporation.

As a result of these reforms, direct customers of generation in NSW will have a number of choices in the emerging national market. From the end of 1996 they will be able to contract with the proposed new generators, with the corporatised Snowy, with one or more of the Victorian generators, and with ETSA. By 1999, Queensland generators should also be an option. Moreover, wholesale customers will increasingly have the choice of installing or buying from new gas generators similar to the unit being developed by Sithe Energy. It is not inconceivable that by the early part of the next century small gas and other plants will supply over 15 percent of the State's electricity.

This competition from restructuring and new entrants ought deliver the reductions in price outlined in the Government's *Electricity Reform Statement* while building a viable and effective generation industry in the State. The diversity of generators in NSW and elsewhere ought be able to effectively meet the demands of the different kinds of customers in NSW, thus underpinning continued industrial development and job creation.

The proposed reforms are unlikely to be the end of structural change in generation. As the market develops, pressures for further change will undoubtedly emerge. The recommendations both anticipate and are consistent with further change. Our aim has been to create the conditions that will allow the market to reshape the industry over time, rather than impose a rigid bureaucratic solution.

In developing recommendations we sought to build on the very real achievements of Pacific Power's management and staff over the last decade. The NSW system now in place has improved markedly in efficiency and reliability and compares well with similar plant overseas and interstate. The reforms proposed for this state are not intended to "fix" either operating or balance sheet problems. Instead they are aimed at spurring continued improvement, and over time allowing the industry to further develop in what will be a growing and dynamic energy market.

The next section outlines the approach taken in carrying out the review. Each recommendation is then discussed in turn. Detailed backup is contained in the appendixes and in the reports provided to the Review. The analyses and views provided to us illustrate the considerable uncertainty that exists at this time, and that had to be taken into account in reaching conclusions.

Approach

Determining whether and how to disaggregate firms in an industry has always been a vexing issue in competition policy. Economic theory at best provides a broad guide. Even among the most distinguished scholars one finds controversy on such issues as:

- How many competitors are needed for competition to work in particular kinds of industries- two, five or more?
- How much market share of a leading competitor is "too much". For example, is anything over 50 percent excessive? Can a competitive market exist with a few large competitors and a number of smaller firms, and if so under what conditions, e.g. with respect to possible entry of new competitors.
- What is the impact of potential competitors as opposed to actual competitors in a market. Would two competitors in an industry be enough if additional competitors could enter relatively easily?
- How narrowly or broadly should markets be defined in terms of possible substitutes, geography and time scales. For example, is the relevant market generation in NSW, or three or four States? Is the market for electricity only, or for energy uses where other fuels, especially gas, can substitute over a 2to 5year time frame?

Consequently, an assessment of effective competition requires a pragmatic analysis taking account of the particular economic, operating, financial and institutional features of an industry rather than a resort to a general theory or philosophy.

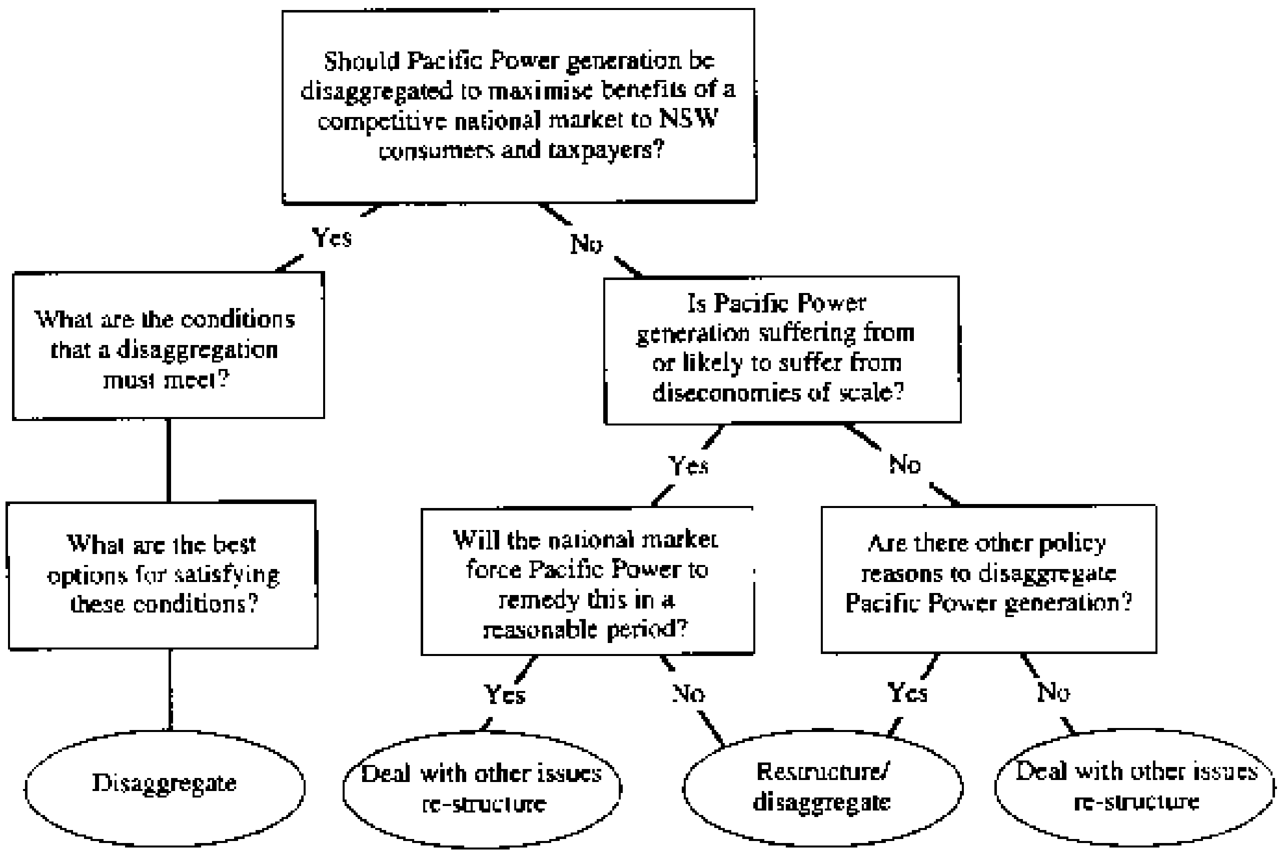
To guide this analysis, the basic questions facing the review were organised into the framework set out in Exhibit 1. The central question is the one at the top of the exhibit, namely: "Should Pacific Power generation be disaggregated to maximise benefits of a competitive national market to NSW consumers and taxpayers?" In answering this question the review needed to consider whether Pacific Power generation's market power in the national market would likely allow it to:

- Set prices for the market for significant periods of time to increase revenue or profit without triggering effective retaliatory actions by customers or competitors
- Force an allocation of capacity onto the market so that more efficient plant is kept idle and less efficient plant operates for significant periods of time
- Drive out competitors that are more efficient
- Prevent entry of new capacity that is more efficient.

Put another way, we needed to ask whether the customers dealing with generators could freely choose and bargain so as to exert price and cost discipline on the generators. Once this question was answered other factors such as commercial viability and environmental outcomes were then considered.

It is important to distinguish this type of review from a merger or divestment analysis under conventional trade practice or antitrust approaches. As pointed out in the National Competition Policy Report (*National Competition Policy,* Report by the Independent Committee of Inquiry, AGPS, Canberra, August 1993) in the discussion of the need for structural reform of public monopolies, "... most public monopolies developed their anticompetitive structures while sheltered from competition through government ownership or ... regulation." Our brief is to provide the government owner of the enterprise with procompetitive, viable options. This is quite different to the analyses and criteria that a competition regulator might apply in ruling on a merger between private firms.

Exhibit 1
The approach to analysing structure requirements for Generation in NSW



Recommendation 1: Disaggregation

Disaggregation is recommended to underpin low prices and economic development in what is a rapidly changing and uncertain market place. A number of reasons support this conclusion.

i. Disaggregation reinforces an industry structure where all generators face the continuous incentive to keep prices low, efficiency high and to spend capital wisely. Sustained low prices are critical not only to household consumers but also to industry in planning expansion and creating jobs. While there have been recent improvements in efficiency, these have occurred largely because of the prospect of competition. Before this time the industry was characterised by long periods of high prices, low efficiency and poor capital expenditure decisions. The enhancement of competition by disaggregation is the only structural reform open to the government to keep these pressures on the generators more sharply and more quickly than might otherwise be the case.

ii. Unless Pacific Power is disaggregated, NSW customers who wish to exercise choice in buying electricity have no option in the short term other than to buy from an interstate generator if they are unhappy with the performance of Pacific Power. In the longer term their only other option is to become involved in developing a new generator, e.g. a combined cycle gas plant.

iii. Not disaggregating and relying solely on the emerging national market to ensure that Pacific Power keeps lowering prices and improving efficiency is risky. The timing and extent of competitive forces in the national market are uncertain. If the national market does not develop quickly and effectively, the gains that have been made could be eroded. For example, while the plans for the national market are well advanced, what is being implemented is in many respects a world first, and until experience is gained, it is impossible to be certain about how effective the market will be. Nor is the nature and timing of Queensland's participation fully resolved. Similarly, the impact of efficient new entrants is uncertain although the potential exists for gas plants in particular to have advantages both in terms of cost and environmental impact. Finally, the reorganisation of distributors and the emergence of intermediaries and large direct customers is also designed to put more pressure on generators. But again, it will be a number of years before customers gain the sophistication to deal in the new market and before effective intermediaries emerge.

iv. In terms of the broad trade practices screening tests for market power, Pacific Power and the industry generally is at the margin of concern. Until Queensland is effectively part of the eastern states market, market share for Pacific Power of the three state market is likely to be about 40 percent, and the top four firms would have a combined share of 74 percent. Trade practices concerns tend to be raised when a firm has a market share of 40 percent and when the top four firms have a share of 75 percent. With Queensland in the market, Pacific Power's share would drop to 28 percent, though the share of the top four firms would remain high, at 69 percent. Failure to disaggregate could thus require more intense regulatory scrutiny of the industry by the ACCC and NSW government than would otherwise be the case, and further industry restructuring could be constrained. The concerns about market power are supported by assessments from the Industry Commission, London Economics and D. Harbord & Associates. Their assessment is that unless disaggregated, Pacific Power would have market power in NSW and the interconnected states under a wide range of assumptions with respect to new entry and use of the interconnections between states.

v. Arguments with respect to scale economies do not support retaining the status quo though scale is a factor to be considered in deciding on the degree of disaggregation. We note that studies of optimal scale economies are inconclusive, as there are efficient and successful firms that are both larger and smaller than Pacific Power. Under either option, there would be generators of size and scale to support major industries in NSW.

vi. International expansion is possible under either option. In the Review Group's view, successful international expansion is less a function of scale than of ownership and strategic intent.

We therefore concluded that disaggregation would be a pro-competitive step.

Recommendation 2: Disaggregation Options

Two options for disaggregation are presented, both of which are commercially viable.

- **Option A:** The Review Group's preferred position, if the Government wishes to give more weight to competition, particularly national competition, is for Pacific Power to be disaggregated into three organisations comprising:
  - Bayswater and Liddell
  - Mount Piper, Wallerawang, Vales Point and Munmorah
  - Eraring which would have the incentive to link with an interstate generator(s) and so form a new national competitor.
- **Option B:** If greater weight is to be placed on commercial viability the Review Group's preferred position is a disaggregation into two organisations comprising:
  - Bayswater and Liddell
  - Mount Piper, Wallerawang, Eraring, Vales Point and Munmorah.

Option A.

Option A splits Pacific Power into two multigenerator firms and creates a single plant - Eraring - with the possibility and incentive to link with an interstate generator(s) and so form a new national competitor. The main reasons are as follows:

i. This industry structure is well within trade practices guidelines. The largest firm in 1997 would be Bayswater/Liddell, with a share of about 20 percent of the three state electricity market. In 2000 the largest firm would likely be Austa unless further restructuring occurs in Queensland or elsewhere. The top four firms' share would be about 55 percent. Consequently mergers and other industry restructuring would be unlikely to cause competition policy concerns, and regulatory oversight would not need to be intense.

ii. The two multigenerator firms would be commercially viable under a wide range of pricing assumptions. This is less clearly the case for a generator in which Mount Piper and Wallerawang were the only coalfired units. Both proposed multigenerator firms are of a size that should be able to maintain high performance as independent entities provided that the standards of maintenance and operations established in the past are continued and that capital is spent as appropriate.

iii. In the first instance Eraring could operate as an independent entity. However over the long term there may be advantages in being part of a multi generator firm, especially one with operations in a number of states. Such a firm would be able to develop depth in technical, financial, marketing and management skills. It would also add a new dimension to competition in the national market, as it would be able to manage interregional price risks within the firm. The firm would also be well placed to become involved in international generation opportunities. Hence the recommendation that Eraring be encouraged to link with an interstate generator(s) to form the first new national generator. There are a number of forms such a linkage might take, as discussed under recommendation 3.

Option B.

Option B splits Pacific Power into two multigenerator entities. The reasons for such a recommendation are summarised by BT as follows:

"On balance BT favours *Option B* on commercial grounds; however if greater weighting is given to avoiding market power and the ability to be flexible in an emerging market situation, the BT favours *Option A,* which does meet the commercial viability criteria, though in a less robust manner than *Option B."*

The two entities would be better able to maintain the viability of their businesses and maintain capital expenditure programs in the event of long periods of lower than expected prices. Such a price scenario might occur if overcapacity persists (e.g. because of slower demand growth and/or more rapid new entry from gas), and pricing behaviour of generators in the national market is as outlined in the Industry Commission report. Commercial viability as defined in the BT report is also an important criterion.

We recognise that the Industry Commission would prefer to see a disaggregation into at least three entities. However their report deals solely with market power issues, in accordance with their terms of reference.

Environmental outcomes:

The potential impact on desired environmental outcomes was explored for both options.

While the Group felt that there was little difference between the options in terms of potential environmental outcomes, it was generally agreed that a structure which contributed to more effective competition would have greater potential to support desired environmental outcomes. This conclusion was based on the assumption that a more competitive market place would bring greater discipline to the capital investment decision making process which would in turn lead to more efficient use and allocation of scarce natural resources and reduced impacts from their consumption.

The Group recognised, however, that environmental regulation and incentives for efficient alternative technologies would be a necessary complement to the discipline of market forces to secure enhanced environmental outcomes, since markets on their own cannot always be relied upon to fully incorporate environmental considerations. To this end the Working Group has noted the Government's commitment in the May 1995 *Electricity Reform Statement* to improved environmental regulation and the establishment of the Sustainable Energy Fund.

Recommendation 3: Governance

Under either Option A or Option B the situation will exist where a number of competitors will be government owned corporations. Such a recommendation makes sense only if the entities are truly in competition. True competition will be more difficult to achieve, however, if the competing entities remain in common ownership without at the same time having a clear governance structure that allows them to engage in the sort of competitive behaviour that is possible for other generating entities in the national market.

The ability to offer competitive prices and other terms and conditions to customers is not simply a result of the superiority of a company's short term bidding strategy or its ability to contract out. It is the result of other decisions taken by boards and management of the competing generators over a number of years on such items as capital expenditures, R&D, employment arrangements, purchasing, development of relationships and arrangements with customers, and the development of operating and maintenance expertise. Competition occurs when firms try to do these things better than and/or differently from each other. Advantages are often gained by one competitor taking risks that others are not prepared to match.

If the full benefits of competition are to be delivered, governance structures should facilitate such activity by focussing on clear financial outcomes but without unduly constraining responsible innovation in the way these outcomes might be met. Other players in the electricity market will have the flexibility to adopt alternative approaches to deliver outcomes and will use this to gain competitive advantage. For instance, Generator A may purchase most services externally while Generator B may decide to do more work in house. Generator A may decide to invest in particular capital plant in the expectation of greater reliability or efficiency while Generator B might consider this to be foolish and choose a strategy to, say, optimise existing asset operation. Generator A might write a particular type of contract with customers that Generator B will not countenance. Generator A may wish to offer staff and management various incentives. Generator B may not.

Exhibit 2 sets out suggested governance guidelines that will allow the stateowned generators to make decisions of this kind and learn with other players in the market how best to compete. The aim of these guidelines is to create entities that are sufficiently independent to allow competition to be real while retaining them in government ownership in accordance with key criteria put forward in the Government's *Electricity Reform Statement.* These guidelines, which go beyond the stateowned Corporations' Act, are critical to ensuring competition works under government ownership.

Exhibit 2
Recommended Governance Guidelines

iv. Shareholding
- The corporation is to have shares held by an appropriate Minister(s). Such shareholding Minister(s) must not be responsible for regulation of the activities of the corporation.

v. Corporate governance
- The Chair is appointed by shareholders for a fixed term, and can be removed only by cause or by open removal by shareholder(s) at a shareholders' meeting in a transparent process.
- Directors are appointed in consultation with the Chair initially, and then on recommendation of a nomination committee of the board. Directors' term and removal is as for the Chair.
- Directors' remuneration is fixed in total by the shareholder (each year) and the board sets fees for the Chair, Deputy (if appointed) and Directors.
- Ministerial directions are not to be given except in extraordinary circumstances, and then by following a transparent process where the Board's views can be publicly heard.
- Directors are to exercise duties of care and propriety as set out in Corporations law, and to have normal directors' liability under it and other legislation. However where any Ministerial directions are given, all directors' liabilities are to be suspended and/or indemnities provided.

vi. Appointment and remuneration of staff
- The CEO is to be appointed by the board and all terms and conditions of employment including remuneration are to be determined by the board following shareholder consultation.
- Appointment of executives reporting to the CEO and their terms and conditions of employment including remuneration are to be approved by the board.
- The provisions of Public Sector Management Act or any other public sector employment conditions shall not apply and the organisation may employ or contract for such staff or work as it requires, subject to applicable laws, awards and agreements.

vii. Finance
- Dividend policy is to be determined by the shareholders in consultation with the board; the declaration of any dividend each year is to be the responsibility of the board.
- The organisation is to negotiate a credit limit set for, say, 2 or 3 years; individual items of expenditure within this limit are not reported though aggregate profit and cash flows reports are provided as for a public company.

viii. Charter: a "one page" statement of purpose is to be agreed between the board and owner and performance reviewed annually. The statement would include commercial, environmental, customer, employee and community services matters. Each competitor would be encouraged to develop appropriate business opportunities for its skill and resource base.

ix. Community Service Obligations: these apply only where set out specifically under legislation that either applies to all competitors or where the competitive impact is funded by the government.

x. Reporting: as for a public corporation with either brief 6monthly or quarterly reports, and a major annual report. Normal continuous disclosure rules would apply so that the owner is informed of significant developments (without competitive implications) beyond usual expectations.

xi. Protocols: the owner would not be directly involved in governance or operations, and would consult with the chair before, for example, public announcements, or plant visits. The owner would not negotiate or make commitments with respect to the business of the entity with people involved in it or seeking to do business with it but would refer such matters to the organisation, except where the entity was to be sold in whole or part.

There is a second issue that is raised by Option A under which Eraring is separated out. In the Review Group's view, if Option A is chosen, the additional opportunity exists for Government to consider a range of structural and ownership options for Eraring such as joint venture or float (whole or part) prior to expiration of the existing lease back arrangements with Westpac Banking Corporation. There are a number of advantages in such an arrangement.

xii. First, the capacity of the Eraring plant appears excess to NSW market requirements. The combined capacity of the two multigenerator firms is about 9,600 MW. Total NSW demand is on average about 6,300 MW. Peak demand has reached 10,600 MW but the Snowy and other capacity is available and designed for these situations. A simplified analysis of this situation is set out in Exhibit 3.

Exhibit 3
Eraring appears excess to NSW requirements