THE NORTH WEST SHELF NATURAL GAS PROJECT:
AN ANALYSIS OF CRITICAL EVENTS

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A thesis presented for the degree of
Doctor of Philosophy of Murdoch University, 1989
DECLARATION

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any University.

Signed: ______________

Robert Scott Gardner
ACKNOWLEDGEMENT

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THESIS LIST OF ABBREVIATIONS

JVP - Joint Venture Participants
SECW - The State Energy Commission of Western Australia
NWS - North West Shelf
MCMFD - Million Cubic Feet Per Day
MTPA - Million Tonnes Per Annum
MITI - The Ministry for International Trade and Industry (Japan)
LNG - Liquefied Natural Gas
LPG - Liquefied Petroleum Gas
MOU - Memorandum of Understanding
SPA - Sales and Purchase Agreement
SIPM - Shell Internationale Petroleum Maatschapij
bbl - Barrel Condensate/Crude Oil
FOB - Freight on Board
CIF - Cost Including Freight
KJR - Kellog/Japan Gas/Raymond Engineering
MIMI - Mitsui/Mitsubishi Consortium
DRD - Department of Resources Development
DDD - Department for Development and Decentralisation
WOP - Woodside Offshore Petroleum
BCF - Billion Cubic Feet
BCM - Billion Cubic Metres
TJ - Terajoules

Conversion Factor: 1 BCM = approx. 770,000 tonnes of LNG
"THE NORTH WEST SHELF NATURAL GAS PROJECT: AN ANALYSIS OF CRITICAL EVENTS"

The thesis which follows is an attempt to examine a complex organisational phenomenon - corporate policy within a multinational resource based joint venture. It employs a multidisciplinary conceptual framework which draws on a range of disciplines including Business Policy/Strategy, Organisation Theory and Macroeconomics (see 1.1).

The central concern of the thesis is to "Explain how prevailing political and economic factors have influenced the policy decisions undertaken by the North West Shelf (NWS) joint venturers throughout critical periods or 'events' in the history of Australia's largest capital project." This objective is accommodated within the main body of the thesis along with two other interrelated goals - "Production of an original and comprehensive commentary on the history of the North West Shelf project from 1973 to 1986 and the design of a broad conceptual schema to describe the decision making environment of the NWS joint venturers." (see Figure 3). This schema is ultimately developed into a model with general applications for the study of corporate policy and strategy within multinational resource based joint venture projects (see 8.3). Policy, Strategy and Environment are the three keynote terms employed in the theoretical base of the study which attempts to highlight the essential connection between them (see 1.1.3).

The topic of corporate policy and strategy relating to the North West Shelf joint venture was chosen for a number of reasons, not least the sheer scale and significance of the project for the Australian and Western Australian economies. The NWS project has been given a high media profile
since the Woodside joint venture participants (JVP) made their first commercial gas finds off North Western Australia in 1972 (see Introduction).

It has also been the subject of extensive parliamentary debate at Federal and State level, with continuing political controversies over government control and high levels of foreign interest in Australia's premium natural gas fields.

Federal and West Australian legislative frameworks and policy instruments relating to large scale petroleum and mineral developments are examined in some detail in the thesis (see Chapter 4). The essential interaction between corporate and public policies (host governments and multinational joint venturers), is also an important focal point of the study.

To date no comprehensive historical commentary has been produced to describe the planning and development of Western Australia's largest resource project: in terms of capital invested ($A12 billion by 1995) (1987 dollars) and revenue from sales of hydrocarbons, piped natural gas and liquified natural gas (LNG) to domestic and export markets. The thesis accommodates this goal through the use of published sources and interview material (see 1.1 and 1.2) within a unique theoretical framework.

Interview respondents provided both general background on the NWS venture and a variety of perspectives on a series of 'critical events' in the history of the project. Analysis of these 'events', through comparison of interview responses and information from a range of
published sources, provides an essential insight into the policy decisions taken by the NWS joint venturers during critical periods in planning and development of the project.

The central reference point in the thesis is the 'Conceptual Map' which is comprised of a series of schematic diagrams outlining various sectors of the North West Shelf project organisation's internal and external environment. The map and relevant concepts are used to demonstrate how policy outputs from the NWS joint venture influence and are influenced by other organisations or interest groups within the project organisation's internal and external environment.

The NWS project organisation is seen to be linked to a series of other influential organisations and government bodies through an interorganisational network. This follows Odell (1983) who developed the concept of an international petroleum network to highlight essential connections between corporate and governmental bodies operating at each level within the vertically integrated international petroleum industry (see 3.1).

The network concept is usefully employed in the thesis to illustrate the influence which World level (multinational), National and State level interests can hold in relation to corporate policy and strategy within a multinational joint venture project.

The thesis is structured in a form which allows Chapters 3 to 8 to pursue and develop a series of discrete themes relating to the NWS project. These are bound together by the theoretical framework and conceptual schema set out in Chapters 1 and 2. In broad terms the content
of the study breaks down as follows: Introduction - (i) Historical background to the NWS project; (ii) the structure of the NWS joint venture, (iii) chronology and overview of key events influencing the planning of the project. Chapters 1 and 2 cover the theoretical structure and methodological basis of the study. The contribution of various writers to the multidisciplinary conceptual framework of the thesis is discussed in detail. Chapter 3 covers the worldwide petroleum network, the structure of the Australian oil and gas industry, the position of the NWS project as an exporter of liquified natural gas (LNG) and the growing international trade in this product. Chapter 4 is primarily concerned with the legislative and public policy framework, which has been developed at Federal and State level to govern the development of large scale petroleum and minerals projects in Australia. Provisions with particular relevance to the NWS project are considered at length. Chapter 5 is a simple but detailed description of the Conceptual Map, highlighting the influence of a series of key external bodies on the corporate policies of the NWS joint venturers over specified periods of time. Chapters 6 and 7 provide a detailed analysis of three 'critical events' identified by interview respondents as having an important impact on the future development of the NWS project.

Each event is set within a wider context of political and economic change within Western Australia and Australia. Major macroeconomic shifts in relevant international markets are also considered.

In the final chapter information presented in Chapters 3, 6 and 7 is updated bringing important themes pursued in these sections through to
the end of 1988. A simple model of 'Policy Making Environment' for multinational resource based joint ventures is presented incorporating major features drawn from the conceptual map employed throughout the thesis. Final conclusions are presented in order to draw together both the theoretical and thematic content of the work and identify key areas for future research.
REFERENCE SYSTEM

The Harvard referencing system is employed in this study indicating:

1. The author/editor's surname.
2. Date of text/journal article publication.
3. In certain cases page numbers are included for the reader's convenience.

Newspaper articles and certain journal and corporate/government sources are quoted directly in brackets in the main body of the text.

The study also uses a separate Endnoting system to allow certain information to be referenced at the end of each chapter rather than directly into the bibliography. This information includes:

A. Material which is not of primary importance to the description or commentary being presented in the text but provides a useful supplement (i.e. normally footnoted).

B. Material drawn from interviews which has been used to support or develop certain commentaries or arguments presented by the author.

Endnote Symbols

The reference symbol used to denote type 'A' information is *[1] and **[1] for type 'B' information (interview material).
NOTE TO THE READER

Prior to delving into the considerable detail on the nature and content of the study presented in Chapters 1 and 2, it is recommended that the introduction should be read carefully. Section 'A' serves to provide the reader with essential historical background to the North West Shelf project, whilst Section 'B' will furnish a working knowledge of the corporate profile of the complex multinational organisation commonly labelled the Woodside joint venture. Section 'C' 'The Strategic Overview of Project Development' serves as an orientation map for the reader. The diagram and supporting text show how key events linked to the corporate strategy of the NWS joint venture participants can be placed within a broader political and economic context.
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INTRODUCTION

PART A. THE HISTORICAL BACKGROUND OF THE NORTH WEST SHELF PROJECT

This thesis is a study of corporate policy relating to the planning and development of the North West Shelf natural gas project. It attempts to place a number of key policy decisions taken by the North West Shelf (Woodside) joint venturers, within a broad political and economic context. Woodside (corporate) and relevant government (public) policies are considered in relation to a series of key events in the history of the project. In view of this it is essential that the reader has a good grasp of the historical background to these events prior to delving into the main body of the thesis.

From the earliest days in the planning of the giant $12 billion (1986 dollars) North West Shelf (NWS) gas production project, it was evident that foreign based multinationals were to play a crucial role in its development (Woodside, 1986). As with all large scale petroleum related ventures, there was an immediate need to raise large amounts of project capital and to harness the specialist knowledge that would be required at each stage in the undertaking.

Woodside Petroleum, the operator for the NWS joint venture, had acknowledged the need for powerful financial and technical backup from the outset of exploration over the vast 367,000 km² area designated to them under the terms of their initial offshore exploration licences. Thus in 1964 in order to support an intensive exploration programme and ensure the development of any commercial discoveries, they extended an earlier partnership with Mid-Eastern Oil into an unincorporated joint venture with the Burmah Group and Royal Dutch Shell who were joined shortly after by British Petroleum and the California Asiatic Oil Company.
The new venture was to meet with little success until 1971, when gas was struck on the Scott Reef, at a depth of 2.6 miles some 270 miles off the North Western tip of Australia. Later, major discoveries to the south made at North Rankin, Goodwyn and Angel were to prove sufficiently attractive to encourage the joint venture participants to draft preliminary development plans for NWS gas and hydrocarbon reserves.

Throughout the early seventies progress was slow in the face of Federal opposition to high levels of multinational interest in Australian based resource projects. Development was also hampered by ongoing disagreements between the Federal and West Australian governments over a number of key political and legislative issues relating to the project.

The election of the Fraser Liberal/NCP government in December 1975 proved to be something of a landmark in the history of the NWS. The new administration, eager to revitalise foreign investment in Australian resource projects, introduced a number of measures including a benevolent taxation package, which provided a major financial incentive to the joint venture participants (see 4.2.1).

The Federal coalition's new deal for the Petroleum and Minerals sector was phased in during 1976 and 1977 and served to pave the way for a number of structural agreements between the Federal government, Sir Charles Court's Western Australian administration and the NWS joint venturers. In November 1977 the joint venturers announced the establishment of a Memorandum of Understanding (MOU) with the State Energy Commission of Western Australia for the purchase of 250 million cubic feet a day (MMCFD) of NWS gas. With this agreement in place and the subsequent launch of a $50 million project feasibility study in 1978, the mould was set for the development of Australia's largest capital undertaking (see 4.3.1).
By the end of 1979 detailed outlines of an integrated project plan based on the delivery of 10.9 million cubic metres of gas a day (370 MMCFD) to the SECWA and 6 million tonnes of LNG per annum to the Japanese market were being prepared by the joint ventures. From the joint venturers' point of view it appeared to be an appropriate time to launch the project in view of promising international market demand projections for natural gas and LNG. Index linked crude oil prices stood in excess of US$30 bbl, having effectively doubled in the wake of the Iranian revolution of November 1978 (International Petroleum Encyclopedia 1984:p308).

In response to these favourable economic conditions and in expectation of a continued rise in oil and gas prices, the joint venturers launched the project in early 1980. Site preparations and construction work for onshore and offshore infrastructure continued without serious disruption until the end of 1981. This period had witnessed the signing in September 1980 of a firm sales contract for the purchase of 350 (MMCFD) of NWS gas by the SECWA from the joint venturers and the establishment in June 1981 of a Memorandum of Intent (MOI) on the part of eight Japanese power utilities to contract a total of 6 million tonnes per annum of NWS LNG by the mid 1990s (see 5.1, 6.1 and 6.2).

By the end of 1981, the effects of rapid wage and price inflation in Australia, promoted by the expectation of a national resources boom, had added massively to the front end loading of capital required by the joint venturers to launch a single phase gas production and processing project. In response to the massive financial burden which this would place on Woodside Petroleum and to a lesser extent the other four companies participating in the project at the time, a two phase project plan was devised under a new development proposal.
In 1982, the project was split into two distinct phases - the Domestic gas phase (Phase I), supplying natural gas to the Western Australian market and the LNG Export phase (Phase II) supplying liquified natural gas to Japan.

The Domestic phase was scheduled for completion in 1984 with construction work on the LNG plant and additional infrastructure to commence in 1985. Under the new arrangements with the Domestic and LNG phases to be developed sequentially over a fifteen year period, the JVPs could supply project capital in smaller increments spread over a longer period than had originally been planned (Allen, 1984).

Whilst this measure eased the situation for a short period a number of significant shifts which took place within international energy markets in 1982 and 1983, led the joint venture to make further changes in their development plans for the NWS project. A slow drop in oil prices and a downward revision of Japanese LNG demand projections for the 1990s were two of the factors which affected the joint venture's strategic position at the time. Japanese estimates for total national LNG demand in 1990 were set at 44 million tonnes per annum (mtpa) in 1977, with the 1983 estimate indicating a drop to 36.5 mtpa. This potential threat to the joint venture's sole export market for LNG coupled with problems which were developing with sales to the West Australian market, indicated a clear need for revising existing project plans (see 5.1.1 and 6.2.1). Faced with these difficulties and a continued rise in final project construction costs from an estimated $8 billion (1981 dollars) to $11 billion (1983 dollars), the joint venture devised a strategy to ensure the long term future of the NWS development (Allen, 1984). This involved:
(i) Restructuring the equity ownership profile for the NWS project by introducing a sixth participant for the LNG phase in 1984. This profile changed again in the wake of a successful takeover bid for Woodside Petroleum launched by Shell and Broken Hill Proprietary Limited (BHP) in April 1985 (see 5.2.1).

(ii) All aspects of project hardware were reviewed i.e. plant, equipment and materials for areas where cost reductions could be implemented.

In 1984 the one-sixth participation scheme was introduced for Phase II as an attempt to divest the equity interests and associated financial commitments of the operator for the project, Woodside Petroleum. Once agreement was reached between the venturers, Woodside's 50% stake in the LNG export phase was divested to give all the participants an equal 1/6th share, through transfer of a 1/12th share to both Shell and BHP and the introduction of the Mitsui-Mitsubishi (MIMI) partnership as a sixth participant. The latter measure was justified by the joint venturers as an attempt to stabilise Woodside's financial position in relation to the project and increasing the client nation's investment in the LNG programme (Allen, 1984).

A new technical scheme had emerged in late 1983 to instigate a series of changes in the design of the LNG plant. The principal change was a decision to shift from the "W" concept steam turbine water based cooling system to the "SIPM" 'Y' concept gas turbine air cooled system. This measure coupled with a decision not to produce LPG on the Burrup Peninsula site in North Western Australia was estimated by the Western Australian government to have saved up to $1 billion on the overall cost of the project (DRD May 1985: p92).
This series of policy changes appeared to enjoy a measure of success in that they served to reassure Japanese buyers of the long term financial viability of the NWS project prior to their signing of the LNG export contracts in August 1985. These adjustments in the long term planning of the NWS project may have influenced the Japanese actions. However, more decisive factors leading to the signing of the all important LNG contracts were:

(i) At project level, the Shell/BHP takeover of Woodside Petroleum which they claimed would assure investors of the future financial stability of the Woodside group.

(ii) The joint Federal/State government rescue plan for the SECWA, involving the transfer of $315 million in forfeited royalties over the 20 year operating period of the project.

(iii) Market conditions within the international petroleum network and the Japanese market for LNG.

These important areas are all examined in this work which attempts to place the strategy and corporate policy of the NWS joint venturers within a broad political and economic context (see part C).

PART B. THE EVOLUTION OF THE JOINT VENTURE 1964-1986

The original joint venturers - Woodside (Lakes Entrance) Oil NL, Mid-Eastern Oil NL, Burmah, Shell, BP and California-Asiatic - came together in the mid-1960s in order to explore the 367,000 km² permit area which had been granted to the Woodside, Mid-Eastern Oil partnership in 1963. However, by the mid-1970s the financial pressures concomitant with participation in a large scale capital venture like the North West Shelf development, initiated a significant change in the internal structure of the venture. This came in 1976 when the Burmah Oil Company
sold out its interests to BHP and established a participation structure for the Domestic phase which endured until March 1985. After this point, equity arrangements were altered by the Shell/BHP takeover of Woodside Petroleum (see Table1).

In 1972, the year of several major NWS commercial gas discoveries, a new company - Woodside-Burma Oil NL - had been formed, merging the interests of Woodside (Lakes Entrance) Oil, Mid-Eastern Oil and Burmah. The new company in which Burmah held the controlling interest held a 50% stake in the joint venture, leaving the remaining 50% equally divided between BP, Shell and Cal-Asiatic. By 1976 Burmah was facing a major financial crisis, due in part to heavy investment in oil tankers in the post oil crisis period of 1974/75. This financial problem and a number of other intramural differences which arose within the Woodside-Burmah Company, eventually led to Burmah selling out its company shares to the Australian minerals giant of BHP. After this restructuring, BHP and Shell consolidated their interests in the joint venture and the Woodside Petroleum company was formed.

In the period between the formation of the Woodside Petroleum company in 1976 and the Shell/BHP takeover of April 1985, a number of additional alterations were made to the equity structure of the joint venture. The first minor change came with the formation of the North West Shelf Development Pty. which was assigned to manage part of the Shell and BHP joint shareholding in the Woodside Petroleum company. Direct and indirect joint shareholdings in Woodside for the two companies totalled more than 43% in early March 1985, a month prior to the takeover. A year after the takeover in the joint shareholding had risen to over 80%. Recent figures for the proportion of this equity held through NWS
Development Pty. are not available although a report issued by Woodside in 1980 placed indirect equity in Woodside Petroleum held through the NWS Development Pty. at 32% (Allen, 1986) (see 6.2 and Table 1).

No further significant changes in the equity structure of the joint venture arose until November 1984 when the MIMI consortium was officially introduced as a sixth participant in Phase II. This resulted in Woodside's 50% stake in the LNG phase being divested 8 1/3% to each of Shell and BHP, 16 2/3% to MIMI leaving 16 2/3% to Woodside. Woodside retained its 50% stake in the Domestic phase. A few months after the entry of the MIMI consortium to the joint venture, Shell and BHP launched a bid to take over Woodside Petroleum's remaining equity in the project. Shell and BHP now hold in excess of 80% of Woodside stock in addition to their direct shareholding in the project as a whole and have established themselves as the dominant joint venture participants.

Equity holding in the North West Shelf joint venture in the pre-takeover and post takeover periods broke down as follows:

**PHASE I**

Woodside Petroleum through subsidiaries (Woodside Petroleum Development Pty., Mid-Eastern Oil and Woodside Oil) 50%, BP Petroleum Development Australia Pty. Ltd and California Asiatic Oil Company each 16 2/3%. Shell Development Australia and BHP through a subsidiary (Hematite Petroleum Pty.) each 8 1/3%. In addition, Shell and BHP directly, and indirectly through NWS Development Pty. held between them 43% of the shares in Woodside Petroleum the remaining 57% being held by the public (see Figure 1 for pre-takeover ownership structure with post-takeover figures).
### TABLE 1

**PARTICIPANTS EQUITY IN THE NWS PROJECT (AUGUST 1984) (APRIL 1986)**

#### A. AUG 1984

<table>
<thead>
<tr>
<th>Participant</th>
<th>Equity Percentage</th>
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<tr>
<td>California Asiatic</td>
<td>16.66%</td>
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<tr>
<td>BP</td>
<td>16.66%</td>
</tr>
<tr>
<td>Shell via Shell Dev. Australia</td>
<td>8.33%</td>
</tr>
<tr>
<td>via Woodside Petlm Ltd (13.66% of 50%)</td>
<td>6.83% 19%</td>
</tr>
<tr>
<td>via NWS Dev. and Woodside (50% of 15.37% of 50%)</td>
<td>3.84%</td>
</tr>
<tr>
<td>BHP via Hematite Petroleum</td>
<td>8.33%</td>
</tr>
<tr>
<td>via Woodside Petroleum</td>
<td>6.83% 19%</td>
</tr>
<tr>
<td>via NWS Dev. and Woodside (50% of 15.37% of 50%)</td>
<td>3.84%</td>
</tr>
<tr>
<td>Public shareholding - via Woodside Petroleum Ltd. (57.31% of 50%)</td>
<td>28.66%</td>
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Shell + BHP direct equity in Woodside (2 x 13.66%) ........... 27.32%

 indirect equity in Woodside via NWS Development Pty .......... 15.37%

Total equity held in Woodside ................ 42.69%

Foreign equity in project via Shell, BP & Cal-Asiatic .......... 53% app.*

#### B. APRIL 1986

Phase I of project: Equity as above
Phase II of project: Equal one-sixth shares for Shell, BHP, Woodside, Cal-Asiatic and Mitsui/Mitsubishi (MIMI)

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<th>Equity Percentage</th>
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<td>Shell + BHP total equity held in Woodside</td>
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<td>Public shareholding Woodside Petroleum Ltd.</td>
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Foreign equity Phase I via Shell, BP, Cal-Asiatic ........... 53.00% app.
Foreign equity Phase II via Shell, BP, Cal-Asiatic & MIMI 73.00%

Total foreign equity held in project .................. 63.00% *

* Figures do not account for nominee shareholdings in BHP which would raise the level of foreign equity held in the project.

**Sources:** Harman, 1984; Allen, April 1986

"Chairmans address to shareholders"

* Note no significant change in equity structure since 1986. (Oct. '88)
Figure 1
Equity Holdings in the NWS Joint Venture (August 1984)

NORTH WEST SHELF JOINT VENTURE

BP AUSTRALIA LTD 100%

BP Petroleum Development Australia Pty Ltd

16.66%

57.31%

Shell Development (Australia) Pty Ltd

13.66%

Woodside Petroleum Ltd

8.33%

North West Shelf Development Pty Ltd

13.66%

Shell

SHELL AUSTRALIA LTD 100%

BHP CO. LTD 100%

Hematite Petroleum Pty Ltd

50%

50%

Woodside Oil Ltd

25%

Mid-Eastern Oil Ltd

8.33%

8.33%

Woodsie Petroleum Development Pty Ltd

100%

North West Shelf Joint Venture

BP Petroleum Group

British Petroleum Group

Public Shareholding

8.33%

16.66%

Standard Oil of California

Chevron

CALIFORNIA ASIATIC OIL COMPANY


Direct interest in the Venture

Corporate shareholding

* Source: Harman 1984
Each participant and the new sixth party, MIMI, equally hold a one sixth 16 2/3% equity holding. This situation remained until April 1985 when Shell and BHP officially took over Woodside Petroleum by crossing the 50% shareholding threshold in the company. By 30th April 1986 the joint equity held by the two companies in Woodside Petroleum amounted to 80.06%. This represented an increase of approximately 37% on their joint shareholding prior to April 1985 (Allen, 1986). Officially, the Woodside corporate identity was retained which has meant that Woodside’s stake in the project remains at pre-takeover levels. However, the public shareholding in Woodside has been cut from 57% approximately (January 1985) to 20% in April 1986.

This resulted in a 10% reduction in the public shareholding for the project as a whole from approximately 29% (August 1984) to approximately 19% (April 1986) (Allen, April 1986).

The 10% increase in foreign equity holdings in the project shown in Table 1 is recorded as a direct result of the divestment of Woodside Petroleum's stake in Phase II and the entry of MIMI as a sixth participant for the LNG phase. No changes in the foreign/Australian equity balance for the project have been attributed to the Shell/BHP takeover of Woodside Petroleum. The figures presented are therefore approximations which are not adjusted for the nominee shareholders in BHP which could have led to an increase in foreign equity as Woodside shares were transferred throughout 1985 and 1986.

PART C. A STRATEGIC OVERVIEW OF NWS PROJECT DEVELOPMENT

Figure 2 sets out an overview of events which held considerable significance for the planning and development of the North West Shelf project during the period 1973 to 1986. Each event shown is plotted on a
Chronological Order

Feb 1972 - Major commercial finds of natural gas and condensate at Goodwyn and N. Rankin 'A'.

Dec 1972 - Election of Whitlam government advocating policies of centralistic control, natural energy planning and new limitations on exports and foreign equity holdings in Australian based resource projects.

April 1974 - Return of Liberal/NCP government in WA under the leadership of Sir Charles Court.

Dec 1975 - Election of Fraser Liberal/NCP, Federal government. Liberals express a commitment to attracting foreign investment and launching the North West Shelf project.

Aug 1976 - Burmah sells shares to "BHP", raising Australian held equity in the project to around 48%. Entry of "BHP", provides the foreign participants with a new vehicle with which to access the Australian government.

Nov 1977 - SECWA with the concurrence of the WA State government, enter into a Memorandum of Understanding (MOU), with the JVPs, for the purchase of 250 million cubic feet a day (MMCFD), for selling in the South West of the State. Alcoa's commitment (MOU) with the SECWA to take over 50% of the gas seen as crucial to the launch of the Domestic phase of the project.

June 1978 - Loan Council agrees to new guidelines on State loans for prescribed purposes, notably for the development of indigenous resources.

Oct 1978 - Go ahead for Alcoa's Wagerup refinery seen as positive indicator that the company may exercise the MOU option to increase their gas take from the SEC by 40 MMCFD to a total of 190 MMCFD.

Nov 1978 - Loan Council approval for SEC to raise finance to build the Dampier - Wagerup pipeline.

* Critical Event.

---

** Important or significant event.

---

JVP = Joint Venture Participant.

SECWA = State Energy Commission of Western Australia.

(LTKE SEC as same.)

MMCFD = Million Cubic feet per day.

LNG = Liquified Natural Gas.

LPG = Liquified Petroleum Gas.

---

1973 Oil Crises

1974

1975

1976

1977

1978

1972

1973

1974

1975

1976
Nov 1979 - SEC assumes responsibility for 70 MMCFD of gas originally designated for sale by the JVPs to end users in the Pilbara.


Dec 1979 - Federal government export approvals for North West Shelf LNG, for 20 years from 1986.

Sept 1980 - Sales contracts for a total of 370 MMCFD signed between the SEC and the JVP.

Jan 1981 - Woodside Petroleum sign a US$ 1400m loan agreement with a syndicate of 62 Australian and overseas banks lead by the Morgan Guaranty Trust Co.

June 1981 - JVPs sign a memorandum of intent (MOI) with eight Japanese power utilities for 4m tonnes of LNG p.a. This amount was scheduled to rise to an anticipated peak of 6m tonnes in the early 1990s.

Mar 1982 - First postponement of scheduled LNG delivery dates to Japan. Construction work is rescheduled for Phase II and the date for the first shipment of LNG is changed from April 86 to April 87.

Jul 1983 - Second postponement of scheduled LNG delivery dates for Japan. Delivery date put back from April 87 to April 88.

Dec 1983 - JVPs claim that returns on the project are becoming increasingly marginal in the face of increasing labour and capital costs coupled with a consistently soft market for oil. Sets up an event string whereby several technical and financial solutions are proposed.

i) Abandonment of LPG production on the Burrup Peninsula site.

ii) Redesign of LNG cooling system, shifting from the "W" concept, water cooled steam turbine system to the SPM "Y" concept air cooled gas turbine system.

iii) Proposal to bring Goodwyn field onstream prior to any secondary development of North Rankin.

iv) Stripping condensate at N. Rankin wellhead and reinjecting surplus gas.


Oct 1984 - Third postponement of LNG delivery date for Japan. Dates changed from April 86 to Oct 89.

Mar 1985 - Announcement that agreement has been reached between SECWA and the JVPs over alterations to the existing gas sales contracts. The new package is agreed in the light of new governmental provisions which involve the transfer of S315m in State and Federal government to SECWA to ensure it can meet its financial commitments to the JVP.

Apr 1985 - Shell and BHP successfully take over Woodside Petroleum. (Crucial event which may have been part of an established Shell corporate strategy.)

May 1985 - Woodside secures a US$1.5 billion loan originally sourced to help finance the company's commitments to Phase II. Loan managed by 59 financial institutions led by Chase Manhattan of New York, who replaced the Phase I financiers Morgan Guaranty Trust Co.

July 1985 - Sales and purchase agreements for Phase II, executed with representatives of eight Japanese power utilities.

Aug 1985 - Woodside in one for three renouncable rights share issue attempt to raise $208.3m.

Jan 1986 - Further two floating share issues under umbrella of the Phase II loan. Woodside attempts to raise $840m.

Downward Trend in Oil Prices

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chronological scale which also shows some major macroeconomic changes which had an important bearing on the strategic thinking of the NWS joint venture participants (JVP) throughout the period indicated. The thesis serves to provide a descriptive catalogue of these events which can be usefully employed by students seeking a comprehensive historical account of the development of Australia's largest resource project. However the main thrust of this work is to provide key insights into the nature of corporate strategy within multinational resource based joint ventures, using the NWS project as a case study.

In view of the scale and complexity of such an undertaking it was necessary to identify a small number of Critical Events for analysis. These were a series of processual changes which unfolded over an identifiable period of time, and were considered by 20 interview respondents to have influenced a major policy change or strategic shift on the part of the joint venturers (see 1.3). (Strategic milestones marking the relevant time periods are designated by a * on Figure 2.) The analysis of these events is undertaken in an effort to place JVP corporate policy in the period 1980-1986 within a broader political and economic perspective.

In the thesis, attention is focused on the essential interface between private sector, corporate policy and public policy as the major determinant of change in the planning and ongoing development of the NWS project. A series of key policy decisions taken by the NWS joint venturers and the WA government are examined within the context of a broad institutional network. This network spans several conceptual levels from within the NWS project organisation itself up to the worldwide arena of the international petroleum network (see 2.3).
In the analysis of critical events set out in Chapters 6 and 7 of the study, a number of key organisations within the network are identified as exerting an identifiable influence on JVP policies over the time period specified. These nodes in the institutional network range from government departments and independent organisations within Western Australia, through to multinational corporations with direct links to one or more of the joint venture participant companies (see Section I, Conceptual Map).

A multidisciplinary theoretical framework is set out in Chapters 1 and 2 to facilitate the study of corporate policy within a complex institutional environment. This conceptual environment incorporates detail on the internal structure of the joint venture project organisation although the principal focus is on external influences on JVP policy.

The 'Decision making' or Institutional environment of the joint venture policy makers is set out in a conceptual map developed in seven sections I-VII. It provides an essential contextual backdrop for the events described in the text and serves as a visual reference point for the reader throughout Chapters 2 to 5. A final objective of the work is to develop some of the more salient and generalisable features of the 'map' into a simple 'model' with broader application in the field of strategic and policy analysis.
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## CHAPTER 1

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CHAPTER ONE

AN OVERVIEW OF THE STUDY

1.1. The North West Shelf in Context

In September 1980 following seven years of political debate in the Federal and West Australian parliaments, the national press reported the official start-up of construction on the North West Shelf offshore natural gas (NWS) project. The 'Melbourne Age' covered the event by focusing on an agreement established between the NWS joint venture participants (JVP), Shell, BP, BHP, California Asiatic, Woodside Petroleum and representatives of the Western Australian government. The Age stated: "The West Australian Premier, Sir Charles Court, and the chairman of Woodside Petroleum, Mr. J.G. Donaldson, will sign an agreement and hold a press conference to explain it. The State Energy Commission will then make the Shelf project a marketing reality by signing a contract to buy up to 10.9 million cubic metres of Shelf gas a day for the next 20 years."

In November 1979 when the NWS gas development (Woodside) Agreement was ratified as an Act of Parliament in Western Australia, the State government had effectively paved the way for the launch of the nation's largest ever capital venture (see 4.2.4). However, it was not until the signing of the "take or pay" sales contracts with the State Energy Commission of Western Australia (SECWA), in September 1989, that the joint venturers obtained the virtual monopoly on natural gas sales to the West Australian domestic market, which they had sought since the early seventies.
The SECWA contracts covering sales to the Pilbara region, Perth metropolitan area and major industrial users in the South West represented the bankable document which the joint venturers (JVP) required to secure investment capital for development of the two-phase NWS project. The Age commented on the essential link between the 1980 sales contracts and the future development of the potentially lucrative North West Shelf (NWS) liquified natural gas export programme servicing Japanese customers...

"Signatures from Japanese industrial and utility companies for similar 20 year contracts are expected to follow quickly despite quibbling by some Japanese negotiators in the past two weeks over the possibility of industrial disruption in the already notorious Pilbara...". "Japan is expected to take up to six million tonnes a year of liquified natural gas (LNG), beginning in 1986.³ (Age, September 30th 1980)

A series of subsequent political and economic changes which occurred in the seven years (1979-1987) since the LNG programme was approved by the Federal government, have lent weight to the joint venturer's (JVP) argument that the NWS project could not be developed solely as a gas producer for the W.A. market (see 4.1). Key macroeconomic and political shifts which have affected the development of the NWS project since December 1979 include:

(i) The emergence of a massive shortfall in demand for piped natural gas in W.A., set against optimistic sales projections tabled by the SECWA in the late seventies (see 7.2.1).

A steady drop and eventual slump in the LNG indexed price of crude oil (see 6.12. and 6.1.3)*4.

A substantial blow-out in original costing estimates for the construction of the Domestic and Liquified natural gas plants and associated infrastructure (see 6.1.3 and Appendix 1).

The implications of the broad changes outlined above for the NWS joint venturers, the W.A. government and other major parties directly concerned with the planning and development of the NWS project are examined in considerable detail in this work. Particular emphasis is placed on the analysis of three 'critical events' which had an identifiable influence on JVP corporate policy during the period 1980-1986 (see 1.3). The thesis employs a multidisciplinary approach to the study of corporate policy within a multinational joint venture organisation and aims to highlight the essential connection between policy, strategy and environment.

1.1.1. Key contributors to the study

The current work deals with the broad political and economic context of corporate policies and decisions produced by senior JVP management which have significantly affected the planning and development of the NWS project. Both the internal and external environments of the NWS project organisation are examined. Analysis of the former however is severely limited by lack of available information on the internal functioning of the joint venture project organisation. It is an area which falls within the domain of commercial intelligence, but also mainstream organisation theory with its concern with structure, process and group dynamics within organisations. The thesis acknowledges the
importance of this perspective and draws selectively on the work of Mintzberg (1979) and Thompson (1967). However, the main concern is with the interorganisational network in the external institutional environment. This environment is assumed to extend to encompass the macro level of State, Federal and ultimately International, political and economic frameworks. At these levels policy outcomes on the development of the NWS project can be assessed in broad terms (see 1.3).

To date, no study has been attempted which examines multinational corporate policy within such a broad context. Problems of manageability and the need to cross several disciplinary boundaries have always served as a major deterrent to academics who feel most comfortable within the confines of their own discipline. Starting from the bottom up, Organisation Theorists have traditionally preferred to concentrate on group dynamics and other intraorganisation elements affecting structure, process and design.

This limited perspective was extended in the 1960's by Open Systems theorists who encompassed environmental influences on organisational functioning into their theoretical gambit (Parsons, 1960; Thompson, 1967).

In the 1970's network theorists (mainly sociologists) and the proponents of Organisational Ecology stimulated interest in studying organisational interfaces shifting the focus of analysis from the single organisation to the multi-organisational field (Trist, 1977). Inter-organisational communication and networks became objects of major concern, but did not always result in conceptual clarity.
Several writers in this field have influenced the conceptual framework of the thesis and their contribution will be discussed in Section 1.4.

A major failing of the organisation ecologists is that their theories do not adequately explain macro level phenomenon like the policies of national governments and the dynamics of the international economic and political environment.

Some of the authors make their focal point of analysis at the intermediate level between the socially micro (i.e. groups and sub-systems) and society at an aggregate level. Social theorists working at this level are often political economists who view governmental and corporate behaviour as the outcome of competition for power and scarce resources (see 1.4).

The work of Benson (1977) partially bridges the gap between the political economists at the macro level and the organisational ecology theorists at the intermediate inter-organisational level. His network theory examines linkages and communications between public service agencies in terms of vertical and lateral flows of power and resources (Benson, 1975:p247).

Finally, areas such as strategic planning in the public and private sectors, economic policy and world market behaviour have in the past divided up between the Strategy/Business Policy analysts and the macroeconomists. Work from both these broad disciplines is incorporated into the NWS study. Key writers examined include Johnston & Scholes (1984), Taylor and Hussey (1982), Palia & Hitt (1982) in the area of corporate strategy and Odell (1982) the principal writer cited under the broad heading of Macroeconomics. In summary, no individual theory appears
adequate, but useful insights may be obtained from an amalgamation of such approaches.

1.1.2. A multidisciplinary study of the NWS

Broadly defined, the central theoretical concern of this thesis is to develop a multidisciplinary approach to the study of strategic decision making in multinational resource based joint ventures. This is in no way incongruous with the study of corporate policy in the NWS joint venture, in view of the essential connection between strategy and policy which is cited by a number of writers including Mintzberg (1979), Quinn (1980) and Summer (1980) (see 1.2.3). (See also general literature review 2.4).

However, prior to defining the essential relationship between Strategy, Policy and the third key word for the study, Environment, it is important to address the question "Why undertake a multidisciplinary study of the North West Shelf project?"

There are numerous reasons which could be cited for conducting a broad socio/scientific study of the planning and development of Australia's largest capital project:

(i) Economic. In terms of the impact on the W.A. and Australian economies, i.e. the multiplier effect on employment, the expansion of markets for natural gas/LNG and other cost/benefit considerations (see Brown and Copeland, 1985).

(ii) Political. The important debate at State and Federal level surrounding the planning and ongoing development of the NWS project, the legislative and public policy framework governing this and the controversy which has been associated with the project since 1973.
(iii) **Strategic.** The important implications, in terms of national sovereignty and social rate of return of the ongoing bargaining process between a multinational joint venture and host governments, over a major petroleum resource (see Brown and Copeland, 1985).

(iv) **Historical.** The need for a complete catalogue and commentary on key events in the history of the NWS project, since initial plans were presented to the Whitlam energy ministry in 1973.

The current study encompasses aspects of the above within a theoretical framework which draws on the work of writers in the fields of Business Strategy, Organisation Theory, Macroeconomics and Public Policy. Certain areas are afforded a more in-depth treatment than others, with the major emphasis on the political and organisational environment of the NWS joint venture. Strategic factors are considered in relation to a number of key policy decisions undertaken by the JVP between 1980 and 1986. These relate to the ongoing development of the NWS project, the marketing of natural gas in W.A. and the export market for LNG based on projections from October 1989 to 2005 (3.3, 8.1 and 8.2).

The study aims to provide the student, academic, resource industry executive and public sector planner with an holistic view of the development of the NWS project. However in order to avoid the danger of pursuing too many diverse themes which are only tentatively connected, JVP corporate policy has been chosen as a focal point. The central 'raison d'être' of the thesis is "To provide an improved insight and understanding of JVP corporate policy through an analysis of critical events between 1980 and 1986" (see 1.3 'Study goals').
It is anticipated that the theoretical framework and conceptual tools employed will have applications for future research into corporate policy and strategy within multinational joint venture resource projects.

The clearly defined goals of this work (see 1.2) and the tight conceptual boundaries set out in Chapter 2 ensure that the apparently diverse themes pursued in Chapters 3 and 4 are relevant to the core of the thesis. This contextual material is included to provide the essential historical, political or economic background to key JVP policy decisions analysed later in the work.

1.1.3. **Primary working definitions**

As indicated in 1.2.2 three key words to be used in the study are **Strategy**, **Policy** and **Environment**. Specific usages for these terms apply throughout the thesis and definitions are required at this stage to avoid ambiguity and ensure that the reader has a clear understanding of the theoretical content of the thesis.

The terms **Strategy**, **Corporate Strategy** and **Strategic Analysis** are examined at length in the Business Policy literature with a comprehensive overview of these definitions to be found in Palia and Hitt et al., 1982:p8-24).

Haner (1976) in Palia and Hitt et al. (1982) provides a useful definition of **Strategy** and **Policy**. "**A Strategy** is a multiple-step approach to achieve a specific objective. It is controlled by a plan, involves coordinated use of selected components and resources and covers the time frame necessary to meet the objective." "**A Policy** is a statement, verbal, written or implied of those principles and rules that are set by managerial leadership as guidelines and constraints for organisational thought and action."
The study will employ Haner's definition of Strategy and Policy as a point of departure. However, it also follows the logic of Quinn (1980) and Summer (1980) who view policies as essential increments of an overall strategy which can be adjusted to deal with political, economic and other environmental contingencies over time. Summer (1980:p38) states that "Strategies are logically connected networks of policies." ... "They are only approximations of reality to be tested in a real work of policy formulation. Strategy and policy formulation influence each other. Strategy precedes policy but after this, adjustments are made by senior executives to fit the realities of the world. ..."Policy formulation works out increments or pieces of strategy taking into account the strategic whole."

Summer's conception of policy and strategy supplement the basic definition supplied by Haner but does not indicate the essential connection with Environment. Hofer and Schendel provide this link in their definition of Organisational Strategy: "The basic characteristics of the match an organisation achieves with its environment." (Hofer and Schendel, 1978:p4).

The theoretical scheme of Mintzberg (1979) also recognises the key area of the organisation's interface with its environment. Mintzberg views strategy as "A mediating force between the organisation and its environment". He states that "Strategy formulation therefore involves the interpretation of the environment and the development of consistent patterns in streams of organisational decisions (strategies) to deal with it." (Mintzberg, 1979:p25).
Mintzberg addresses the question "What does the word environment really mean?" The broad definition is "The aggregate of surrounding things, or influences." (Random House Dictionary). In this sense the environment of an organisation comprises all its surroundings, its technology, markets, products, economic, political and even ecological climate.

Mintzberg cites the idea that the literature in Organisation Theory focuses on certain characteristics of organisational environments and associated variables. Examples quoted include Stability (Stable to Dynamic), Complexity (Simple-Complex), Market Diversity (Integrated-Diversified), Hostility (Munificent-Hostile) (Mintzberg, 1979:p269).

The view adopted about organisational environment employed in this study is more specific than popular usages in the literature and encompasses elements both Internal and External to the project organisation (see 1.3.1 secondary definitions).

In the thesis the term "Decision Making Environment or Institutional Environment" is used to refer to "a set of abstract boundaries which enclose all the major political, economic and technical influences which impinge upon the decision making processes of the joint venturers over a set duration." The terms internal and external environment are used to distinguish between those activities which take place within the corporate structure of the joint venture, the operational core of the organisation and those undertaken by external organisations and government agencies. This conception of environment is illustrated in Figure 1 which provides a visual clarification and removes the charge of tautology in the use of the terms Internal and External. Section 1.3.1 provides a more detailed definition of the "Decision Making Environment",
demarcated on the "Conceptual Map" which is explained in 1.3. The next major concern, however, is to clearly delineate major study goals and the research framework to be employed.
1.2. Study Goals and Research Framework

In the preceding sections key working definitions and the broad objectives of the study were established. However, prior to setting out the research framework employed in the study, the major goals of the thesis must be clearly explained. Clarification of these goals is a prerequisite to understanding the discussion of research methodology set out in 1.2.2 and 2.1.

1.2.1. Study goals

The work which follows can be split into two broad areas: the Analytical component and the Descriptive component. This distinction becomes apparent when the broad goals of the study are examined.

(i) To afford a clearer understanding of key policy decisions taken by the NWS joint venture participants (September 1980 - July 1985), which have had a crucial impact on the development of the NWS gas project.

This objective, which suggests a research structure dedicated to policy analysis, is complemented by an objective which broadens the scope of the study.

(ii) To combine published material and interview data using an original methodological framework to produce a comprehensive commentary on the major political and economic events in the history of the NWS project 1973-1986.

A third objective provides a means to synthesise (i) and (ii), producing a descriptive study with an analytical core.
(iii) To develop a "Conceptual Map which sets out the key components of the Internal and External institutional environment of the NWS project (see 1.3).

(iv) Extend this map to an analytical model, incorporating generalisable features which can be applied to future research on policy or strategic planning within multinational resource based joint venture projects.

These broad study goals set out above were not precise enough to form the basis for a tightly structured research programme. In order to meet this requirement, more clearly defined sub-objectives were needed which could provide stepping stones towards the attainment of broader objectives. These second level objectives which provided a point of departure for the research programme were:

(i) To define, identify and analyse a series of Critical events in the history of the NWS project (see 1.3), and

(ii) Clarify the principal corporate, political and commercial linkages which existed between key organisations in the institutional environment of the JVP between September 1980 and July 1985 (see 1.3 and 2.1.1).

1.2.2. Research framework (synopsis)

The research programme employed in the study is described in detail in Chapter 2. At this point it should be noted that research drew on both interview material and a broad review of secondary sources which were combined to produce the descriptive and analytical content of Chapters 3 to 8.

The research framework encompassed the following broad steps:
(i) Definition of broad study objectives.

(ii) Collection of preliminary information and review of existing literature broadly relevant to the study.

At this point, material to support the theoretical content of the study was selected according to a number of key search terms including: Strategy, Policy, joint-ventures, multinational, petroleum and natural gas.

Background material (political and economic) and technical data on the NWS project were collected from a wide variety of sources including government publications and Woodside press releases.

(iii) Collation of information and refinement of study objectives.

(iv) Draw up an outline of economic and political background of the NWS project. Collated detail on the physical dimensions of the project, the structure of the joint venture and the major internal systems of the project organisation.

(v) Production of an interview schedule (Stage I) and selected an initial sample of 30 interview respondents according to set criteria (see 2.2.1).

This represented the preliminary stage of a two part interview programme, which following withdrawal of several interviewees spanned 35 interviews with 20 respondents over the two stages (see 2.2).

New information obtained from Stage I interviews was combined with secondary data (published material and media reports) and used to (a) identify critical events which respondents perceived to have had a crucial impact on the development of the NWS
project; (b) build the first five sections of the schematic plan and (c) supplement existing information on the political and economic background to the project.

(vi) On the basis of information obtain at Stage I, a second interview schedule (Stage II) was drawn up to produce detail on specific critical events and major political and economic pressures affecting JVP decision making between September 1980 and July 1985 (see 2.2.2).

The research steps set out above are intended to provide the reader with an outline of how the information used in this study was collected, collated, structured and ultimately used to provide the descriptive detail in Chapters 3-5 and support the policy analysis presented in Chapters 6 and 7. Further detail is provided in Chapter 2.
1.3. Analytic Tools: Critical Events and the Conceptual Map

The research methodology employed in the study is discussed in considerable detail in Chapter 2. At this stage, the only section of the research format set out in 1.2.2 which requires further explanation is the isolation and analysis of specific critical events as a means to understand the policies and planning processes of the joint venturers. They are defined as "Specified periods" in the history of the NWS project, where identifiable political and economic forces within the institutional environment of the joint venturers, have led them to introduce key policy changes affecting future project development."

This apparently tenuous definition was employed for several reasons: (i) it encouraged interview respondents to consider a wide range of economic and political pressures from within and outwith the structure of the project organisation which affected JVP policy making over a clearly defined time period; (ii) a detailed definition allowed respondents to distinguish between critical events which reshaped the future planning of the project and broader historically significant events. Significant events refer to any broad political or economic changes which may have influenced the development of the NWS. They may encompass broad macroeconomic change, adjustments to the State or National economy, broad political change, i.e. election of a new Federal or State government, and public policy changes introduced on either tier. Examples include: the election of Sir Charles Court's coalition government in W.A., April 1974, or the signing of the Memorandum of Understanding (MOU) between the JVP, the SECW A and Alcoa in November 1977.
Three of the original significant events selected were subsequently upgraded as a majority of interview respondents stated that they should be designated as critical events. None of the other significant events outlined were deemed to fall within the given definition of a critical event in the history of the NWS project, i.e. there was insufficient evidence or agreement to support the point that these events had an identifiable impact on major policy shifts introduced by the JVPs between September 1980 and July 1985.

The first two critical events identified were: (i) the renegotiation of the SECWA contracts in March 1985, (ii) the string of three postponements in specified LNG delivery dates to Japan in 1982, 1983 and 1984, both of which represented a considerable departure from the plans which the JVPs had been publicly pursuing prior to each event developing (see 7.2 and 6.1). (iii) The third critical event selected, namely the Shell/BHP takeover of Woodside Petroleum differs slightly in the sense that it is hard to identify any explicit policy by Shell or BHP in the public arena which suggested the takeover was imminent, apart from some press commentary during March and April 1985.*5 This latter event relates more to intramural discussions between the NWS participants behind closed doors. (The corporate relationship between Shell and BHP prior to the takeover is examined in 6.2.3 and combined with existing published material to present a thorough analysis of this turning point in the history of the NWS project.)

At this point it is important to reiterate that critical events were not arbitrarily selected by the writer but identified by respondents.
The three events chosen were those which a majority of the 20 respondents interviewed at Stage I perceived to be critical events, i.e. they met the criteria set down in the definition of critical event. The critical event methodology employed in this study is elaborated in 2.1 which covers the development of the thesis research plan.

The interpretation and analysis of critical events and the influence they brought to bear on JVP policies over specific time periods is dependent on two other crucial components of this study. Firstly, it relies on a solid understanding of the history of the NWS project and the events which shaped its development from the earliest planning stages in 1972. The history of the project is essentially a political one with ongoing negotiations and disputes between the joint venturers, the W.A. government and the Federal government playing an important role in shaping project plans which have been operationalised since 1980. The politics of the project has not been restricted to negotiations between the JVPs, governments and other external bodies but has also been evident in inter-mural disputes between the joint venturers (see 6.2.2. and 6.2.3).

The second major area which must be explored prior to gaining an understanding of JVP policies is the institutional environment of the joint venture project organisation. Each of the seven diagrams which comprise the conceptual map employed in this thesis effectively provide the reader with a picture of a section of the institutional network which spans both the internal and external environment of the joint venture organisation.

For analytical purposes, the map is split into Internal and External environment and four other conceptual levels: Systems, Project, State, National and World. Systems and Project level encompass the
structure of the joint venture, the project organisation which the participant companies operate and the major project management functions which are carried out under the umbrella of this organisation. The State and National levels cover all governmental and independent organisations operating within W.A. and Australia which have an identifiable interest in planning, financing, managing or regulating the development of the NWS project. World level covers the multinational corporations with direct links to the NWS joint venture through subsidiaries or divisions, client governments, notably the Japanese major petroleum producer and importer governments represented through OPEC and the OECD and finally international bankers and project financiers (see Figure 3 and Section 2.3).

The conceptual map is essential to the study for a number of reasons:

(i) It provides a simplified picture of the complex decision making environment of the joint venturers.

(ii) It maps out the institutional network which links the NWS project to a variety of other key bodies in its external environment and in diagrams VI and VII highlights the major corporate and commercial connections which exist between each organisation.

(iii) It shows the institutional network described in 3.1 and 5.1 which serves as an important integrating device linking the various themes developed in Chapters 3 to 7 of the study.
Figure 3

**JVP DECISION MAKING ENVIRONMENT**

**Simplified Diagram**

**WORLD LEVEL**

**EXTERNAL INFLUENCES**

(3 LEVELS)

**NATIONAL LEVEL**

**EXTERNAL INFLUENCES**

**STATE LEVEL**

**POLICY OUTPUT**

**PROJECT LEVEL**

**THE JOINT VENTURE PARTICIPANTS (JVPSP)**

- SHELL
- BHP
- WOODSIDE
- BP
- CAL-ASIATIC
- MIMI

**PROJECT ORGANISATION SUBSYSTEMS**

**CONTRACTOR & SERVICE COMPANIES**

**SYSTEMS LEVEL**

**INTERNAL POLICY DIRECTIVES**

**INTERNAL INFLUENCES**

**LEGEND**
- Demarcates the Joint Venture Corporate Structure.
1.3.1. **Summary and definitions (1.1 - 1.3)**

Restating the principal objectives of the study we have the following:  
(i) To facilitate an increased understanding of a number of key policy decisions taken by the JVP between September 1980 and July 1985;  
(ii) Production of an original and comprehensive commentary on the history of the NWS project 1973 to 1986;  
(iii) Develop a 'Conceptual schema' of the JVP decision making environment and extend this into a model with applications for policy/strategic analysis relating to multinational resource based joint ventures.

The research methodology and conceptual framework employed to facilitate these objectives draws upon two major heuristic devices:  
(a) A modified critical event approach to the study of planning and corporate policy;  
(b) A schematic plan or conceptual map of the JVP decision making environment developed in seven stages throughout the study. These are used to produce information which is integrated in a broad chronological account of the major events which have shaped the planning and development of the project between 1973 and 1986.

Figure 4 illustrates the synthesis between the analytical core (critical event analysis), conceptual background (schematic plan) and the broader descriptive framework which is suggested by the two other components. Critical events are demarcated by the bold lines on a time scale which covers the period September 1980 to July 1985. It should be noted that these events are processual unfolding over time. In view of this the black dot in Figure 4 represents the start and finish of crucial policy periods for the JVP.

Throughout 1.1-1.3 a number of concepts were introduced as components of the theoretical framework of the study. These included critical events, the schematic plan with its five conceptual levels and
THE THREE MAJOR COMPONENTS OF THE STUDY

Figure 4

DM/CP Conceptual Background (Map & Supporting Concepts)

Descriptive Framework

Analysis of Critical Events (Core)

Chronology

(Sept 80)

(july 85)
the institutional network spanning from Systems level at the bottom of the hierarchy through to World level at the top.

In the course of explaining the critical event methodology and the application of the plan, a number of terms were used which require clarification at this stage. Figure 3 illustrates the "Decision Making Environment" of the joint venturers. Drawn from the language of organisation theory (Mintzberg, 1971), the term refers to a set of abstract boundaries which enclose all the major political, economic and technical influences impinging upon the decision making processes of the joint venturers. The concept of a decision making environment is applied as an attempt to gain a clear insight into areas of an extremely complex reality. The Conceptual Map presents a simplified representation of this reality showing a number of important government agencies and corporate bodies, a few common links between them and any visible direct or indirect trading or corporate connections to the joint venture project organisation.

The plan simplifies the complex web of political and economic influences on JVP decision making by focusing on institutional factors, notably organisations and their policy outputs.

The terms internal and external environment are used to distinguish between those activities which take place within the corporate structure of the joint venture, the operational project organisation and those undertaken by external organisations and government agencies. Terms such as corporate structure, project system, institutional environment and policy output are based on concepts developed in the works of mainstream organisational theorists notably (Simon 1960; Parsons 1960; Mintzberg 1979). The language employed by these writers has been adopted for use in
this study as the most effective means of describing the relationship between the joint venture project organisation, contractor bodies working for the joint venturers and various key external parties like SECWA, the State Department of Resources Development and the principal project financiers (see 5.1.1).

For analytical purposes a distinction is made between the joint venture corporate structure and the project organisation. The term corporate structure refers to the formal organisational relationships which exist between the joint venture participants. These are defined in the contractual conditions which bind all the parties wishing to be incorporated into the joint venture. The structure reflects the balance of share equity and other interests held by Shell, BP, BHP, Cal-Asiatic, Woodside and MIMI in each phase of the project. The operational core of the joint venture corporate framework is referred to in the study as the project organisation. (See Parsons 1960). It reflects a series of ongoing processes and relationships between those parties responsible for coordinating and operating various project systems, i.e. Design, Procurement, Construction, Commissioning and Maintenance (see 2.3). These parties include JVP planners and senior executives, employees of the project operator Woodside Offshore Petroleum (WOP), engineers, management and other operatives employed by the major subcontractors Kellog/Japan Gas/Raymond Engineering (KJR). (See 2.3)

The information which could be obtained on these internal processes was limited and difficult to test against published sources. As a response to this, the study is primarily concerned with identifiable policy outputs produced by the joint venturers. These outputs refer to policy statements or actions on the part of representatives of the joint
venturers which have been identified through media coverage, parliamentary debates and other publicly accessible sources. Policy outputs from external bodies and government agencies are also integral to the descriptive and analytical framework of the study.

It should be noted that this study does not employ a totally mechanistic black box approach to the study of JVP policy and its effect on the development of the NWS project. The material produced acknowledges the importance of internal processes and informal organisational influences in shaping high level policy decisions. However, this is qualified by the fact that only limited access could be obtained to publicly verifiable information on the internal mechanics of the NWS project organisation (see 2.3).
1.4. Precedents in the Literature

In Sections 1.1.1 and 1.1.3 there is an outline of some of the key concepts developed by the cross section of writers whose work is drawn upon in the theoretical framework of this study. In the following four sections (1.4.1-1.4.4) there is a brief discussion of the precedents established by a number of these writers and the contribution which they made to the literature in their own field. The relevance of this work to a multidisciplinary study of corporate policy within a multinational resource based joint venture is indicated throughout.

1.4.1. The organisational and the environment

As indicated in 1.2.2 the theoretical scheme employed in this study aims, in part, to bridge a gap which exists between writers in the field of Business Policy/Strategy and Organisational Theory. Following an extensive review of the literature in these two broadly defined areas, it became apparent that many overlaps do exist in the work of a number of writers with widespread recognition of the essential interdependence between organisational, structure, technology, policy and strategy and the wider "Task environment". Dill (1958) in one of the earliest studies of environmental influences on organisational planning defined Task environment as those parts of the environment which are "Relevant or potentially relevant to goal setting and goal attainment" (see Thompson, 1967:p27).

Dill (1958) paved the way for later organisational writers who moved increasingly towards an 'open-systems' view, with the organisation interacting with its wider environment. Thompson (1967) and Mintzberg (1979) present divisionalised process models with the organisation split
into distinct spheres or tiers of responsibility, i.e. technical/production, administrative, planning/external liaison, support services. Mintzberg (1979) extends the ideas of earlier writers like Simon (1957), Parsons (1960) and Thompson (1967) into a five-part model and retains the basic idea of a central operating core supported and protected by administrative and specialist sub-organisations (Mintzberg, 1979:p22).

The writings of both Mintzberg and Thompson provide a good bridge into the traditional realm of Business Policy and Strategy which is usually concerned with Environmental scanning, identification of key environmental variables, the development of typologies reviewing a range of strategies to cope with environmental change, i.e. Summers (1980), Johnston and Scholes (1984).

Both Thompson (1967) and Mintzberg (1979) discuss the importance of the organisation's "boundary spanning" functions which help assimilate it to prevailing environmental conditions. Mintzberg discusses the role of senior management at the "Strategic Apex" of his five-part organisation, stressing the importance of developing a strategy to deal with changes in the external environment. "Middle Line" management, who link the "Operating Core" to the policy makers at the top and serve a primarily administrative function, carry out boundary spanning functions within the organisation's internal environment. This coordinative role ensures a flow of lateral communication with the "Technostructure" and "Support Staff" and vertical communications with the "Operating Core" (Mintzberg, 1979:pp20-29).
Thompson (1967) stresses the importance of the interface with the external environment as a means to attain knowledge of environmental characteristics and hence reduce uncertainty. This is seen as the key to successful managerial policy making and strategic planning. Thompson extends his theory to the point where he produces four basic environmental classifications: (i) stable and homogeneous; (ii) stable and heterogeneous; (iii) unstable and homogeneous; (iv) unstable and heterogeneous. Thompson's major hypothesis centres on the idea that heterogeneity and instability in the environment have significant implications for organisation structure (Palia and Hitt, 1982:p27).

American strategy writers Hambrick and Snow (1977) have developed some of Thompson (1967) in their efforts to produce "A Contextual Model of Strategic Decision Making in Organisations". They cite the idea that "In order to understand fully why a particular strategic alternative is chosen also requires knowledge of the environmental and organisational context in which the decision is made." (Palia and Hitt:p34.)

Hambrick and Snow (1977) developed their model (see Figure 5) to support the idea that managerial perceptions of environmental and organisational variables in the strategic decision making process are of prime importance. They follow Simon (1957) in recognising his concept of "bounded rationality". This suggests that managerial decisions are based on a limited field of vision which cannot encompass every aspect of the organisation and its environment (Palia and Hitt:p34).

The current study acknowledges the important point outlined above and the implications which this holds for corporate policy making. It is anticipated that the broad multidisciplinary approach to the study
FIGURE 5
A Contextual Model of Strategic Decision Making

of corporate policy employed in the NWS study will provide a guideline to help overcome the problem of limited managerial vision. The 'Map' and broader conceptual schema of the study is designed to provide the reader (manager or academic) with a more holistic view of the NWS project organisation and its environment. It is anticipated that the conceptual framework and associated model may provide a precedent for similar research into a wide range of organisational phenomena.

1.4.2. The relevance of the organisational ecology perspective

The origins of "Organisational Ecology" appear to date back to the mid-sixties, when work on multi-organisational relations was being conducted at the Tavistock Institute in London. At that time Trist and Stringer were the major exponents of the prescriptive value of an Organisational Ecology approach to the study of a variety of social scientific phenomena. The former went on to develop his ideas within an American open systems framework focusing on means to improve institutional cooperation and communication within an equilibriating network (Trist, 1977). Stringer (1980, 1982) chose to delimit the application of organisation ecology concepts, adopting them for use in the study of management problems in large scale engineering projects.

Although the latter suggests a clear relevance to most studies concerned with the management of a large scale construction venture, Trist's work is also of value in contributing to the theoretical framework of the current study.

Trist (1977) stresses building an increased understanding of the intermediate level (interorganisational) as opposed to group or single organisational processes. This perspective delineates the need for a
multi-tier analysis of the organisational world. He assumes a fair measure of complexity within any large organisation's internal and external environments. However, the major concern is to study the interface between various organisations which comprise an "organisational field" (Trist, 1977). The latter suggests a system or network of organisational influences similar to that described in the theoretical scheme adopted in the NWS study. The distinction between the "Transaction" or "Task Environment" and "Contextual Environment" is another key point of relevance in Trist's work. The importance lies not so much in the distinction between the two but in the great stress that he places on the conceptual division of the organisational environment. The "Transaction environment" in Trist's scheme refers to the organisations of direct relevance to the task of a focal organisation whilst the "Contextual environment" refers to a broader field of interwoven organisational relations.

The theoretical scheme in the NWS study does not make this distinction but uses the Organisational Network and five conceptual divisions from Systems-World level to facilitate analysis of distinct sectors of the organisational environment. This parallels the work of Stringer (1980) more than that of Trist (1977). Stringer developed the concept of the Project Multi-Organisation (PMO) to describe the broad field of organisations which are directly or indirectly connected with a central referent organisation engaged in achieving some end result.

Taking Stringer's case study example of a large project organisation established to build power stations, we can see a clear analogy with the NWS project. Stringer's project organisation has within its broader environment the client, contractors, subcontractors, national
industry bodies, trade unions, political lobbies, and interest groups and numerous agencies representing the interests of the local economy. Stringer (1980:p12) describes the Multi-Organisation as "Situations in which parts of several organisations, each with its own affiliation, its own goals and its own values - are involved in the achievement of some end result. None of the components is in a position of dominance, all are strongly affected by others, and all share in a joint culture which is more than the sum of the component parts" .... "A multi-organisation might be of a temporary nature (as lasting for the life of a project) or a more continuing one (as is a general hospital)" (Stringer, 1980:p5).

The general idea of the PMO is adopted in the NWS study although not expressed in quite the same terms. Certain ideas which are central to both Trist and Stringer's scheme of an Organisational Ecology are not included. In the NWS study, the Project Level, where strategic decisions and key policies are formulated represents the starting point for analysis. However it would be over-simplistic to assume that all final policy decisions or strategic planning initiatives on the future direction of the NWS project are taken in the project administration centres in Melbourne and Perth. There is also a flow of influence coming directly from multinational HQ's at World Level, i.e. The Hague, LA and London.

The five-tier conceptual map which forms the basis for the analytical model (8.1) facilitates the study of organisational phenomena at any of these levels. Lateral and Vertical interphases between organisations within the broader environment of the NWS project are highlighted for analysis.
A final quote from Trist (1977) should serve to illustrate the potential for application of organisational ecology thinking to the NWS project. ... "A critical feature of systems of organisational ecology as contrasted with bureaucracies, ... is that they involve the evolution of a negotiated order, founded on collaboration rather than competition." He adds in a later paragraph that ... "Joint ventures and the clustering they produce are organisational ecological phenomena."

At first glance, this type of thinking appeared to fit in well with the theoretical base of the NWS thesis. The fact that any academic had undertaken a study of multi-organisational phenomena, interfaces and advocated the idea of producing an holistic cognitive map was in itself very seductive. However, whilst Trist's ideas provide some useful guidelines for devising a conceptual scheme to study a multi-national resource project, his overall theoretical argument is too distant from the subject matter at hand to be applied directly to the NWS thesis. Trist (1977) adopts a highly prescriptive approach and seems to be more concerned with devising a grand social theory rather than improving the study of large scale organisational networks as such. Stringer (1980, 1982) is more illuminating in that direction and may be developed further, probably through a largely empirical approach, possibly based on "operational research" and computer networking principles.

To conclude, it can be stated that the "Organisational Ecology" perspective still holds currency in Australia and Europe as evidenced by recent literature, i.e. (Jarillo, 1988).*7 However, it is likely to be limited to studies where the political component is not as pronounced as is the case with the NWS project, and some form of empirical research can be undertaken.
1.4.3. **Insights from economics and political science**

The study encompasses a limited amount of material drawn from writers who can be broadly categorised as Macroeconomists and political scientists. The latter are not referred to as political economists as this refers to a well recognised body of theory which has only been paid lip service in this study.

Previous works concentrating on clearly demarcated aspects of the NSW project have drawn, primarily on the language and methodology of classical economics. Studies conducted by Gray (1976) Bambrick (1977) and Brown and Copeland (1985) all devote considerable attention to a cost/benefit analysis of the NWS project with returns to the national and W.A. economies based on standard measures like labour, capital and construction costs, offset against potential returns to the W.A. and Federal governments through royalties and tax revenues. Broader benefits to the W.A. and national economy are seen to accrue through the employment multiplier and technology transfer. Gray and Bambrick concentrate on the latter whilst the Brown and Copeland study covers a wider range of indicators including oil indexed LNG pricing. (For full discussion see General Literature Review 2.4).

With the exception of Gray who addresses the topic of host government/multinational company (MNC) relationships in relation to the NWS, these writers pay little attention to major political influences which shaped the project's development. Harman (1984) partially rectifies this oversight in a paper covering the history and politics of the NWS project during the period 1973 to 1983.
The descriptive component of this study draws widely on the Harman paper, updating it and supplementing the broad coverage with additional detail. Research for the current work drew on information from a diversity of sources including press releases, newspaper and journal articles. There is also a reliance to a lesser degree on the type of macroeconomic indicators employed in the Brown and Copeland study. However, in contrast to traditional types of economic analysis the approach adopted in this work incorporates language and concepts drawn from macroeconomics, organisation theory and policy studies. It is an examination of powerful state and multinational bodies and the interplay between corporate and public policy.

Harman (1984) and Odell (1981) are the two major contributors from the politico/economic writers. Odell’s work on the macroeconomic and geopolitical influences on the world oil industry provides the basis for the international petroleum network discussed in the current work. Detailed explanation of Odell’s contribution and that of other writers like Danielsen (1982) and Zorn (1983) is provided in Section 2.4.

1.4.4. Review of international dissertation extracts

In order to support the idea that the current thesis on corporate policy making within a multi-national joint venture project displayed originality in methodology, theoretical concepts, analytical and descriptive content, a review of previous doctoral theses was undertaken for the years 1972 to 1986.

The search undertaken over the period of one week used the following key words: Petroleum, Resource, Strategy/Strategic, Decision Making, Energy. The broad disciplinary headings covered were: Business and Economics, Sociology, Law and Political Science.
A large number of studies fell into the Petroleum bracket, but were mainly economic analyses based on standard economic or econometric models and techniques for examining commodity markets. Harman (1977) deviated slightly from this norm in his study of investment policies in the Canadian Oil and Gas industry, but retained a highly empirical approach using statistical measurement as the basis for his analysis of the impact of these policies.

Only two doctoral studies had been undertaken on joint ventures within the International Petroleum Industry (Sturgeon, 1974 and Munkirs, 1973). Both these works used interviews and reviews of three major Oil and Gas journals as the primary source of data on joint ventures. Sturgeon concentrated on the Exploration and Drilling end of the international petroleum industry whilst the sister study submitted in 1973 covered downstream operations.) (Munkirs, 1973). Empirical techniques were used to correlate, quantify and analyse this data for definite characteristics of joint venture organisations spread over ten geographic areas.

Some interesting conclusions were drawn from the Sturgeon study including:

(i) Joint venture activity was widespread across ten major geographic regions between participants including Oil Majors and Minors, local private capital, 'local' governments (National and State), non-host governments and 'others'.

(ii) The majors control more joint ventures as a group, but joint interlocking ownership arrangements are so numerous as to limit unilateral action by one company.

(iii) Joint ventures represent a significant, if not dominant, part of the market structure in the international petroleum industry.
These conclusions were informative as background information for the NWS study but would not be used as a starting point for investigation or as primary evidence to support any arguments in the course of the research programme.

Hampson (1982) on "The Political Economy of Petroleum Policies in Canada and Mexico", was of interest in that it placed petroleum policy and associated legislation brought into force in these nations within a broader political and economic context. However the main body of the thesis which is in effect a critique of existing economic theory and theories of the state held limited relevance to the current work. Two other studies of the Canadian oil and gas sector set out a theoretical framework which had applications for a study of corporate policy within a multinational joint venture petroleum project.

The most recent of these is the work of Doern and Toner (1985) on the politics of Canada's Natural Energy Programme (NEP). The study is conducted within a public policy framework and examines the history of the NEP since 1945 and the shifts in the all important balance between private and public energy interests since that time. The analysis is conducted within an Energy Politics Framework which comprises:

(i) INTERESTS - defined as "Those economic and political actors that have the capacity to exercise power in order to achieve their objectives and exercise their will." (p12) These include the government of Canada, two provincial governments, Oil companies (Multi-national and Canadian majors) and service companies referred to as second line Canadian firms.

(ii) MATERIAL/PHYSICAL FACTORS - Geographical, spatial, climatic, world markets.
(iii) NORMATIVE FACTORS - Ideologies and dominant ideas.

(iv) KEY INSTITUTIONS - Capitalism, Federalism, Cabinet-parliamentary democracy.

The Doern and Toner (1985) analytical framework offers certain parallels with that employed the NWS study, although the emphasis is primarily political, with economic factors seen as secondary considerations. The key contribution of this work however, undoubtedly lies in its illumination of the largely neglected area of public policy/private sector interface. This area receives considerable attention in the NWS study, but from the starting point of JVP corporate policy rather than an examination of how public policy influences the private sector.

The final example in the Canadian trilogy which influenced the theoretical basis of the current study is the work of Patton (1973) on the effect of foreign ownership and control on government-business relations in the Canadian petroleum industry. This study is perhaps the most significant of the three in that it addresses the key areas of: (a) Government-business relations and (b) Multinational/Host government relations within the context of the Canadian petroleum industry. It is also important from a methodological point of view and in terms of the conclusions it draws about factors (a) and (b) above.

The research methodology is largely qualitative based on extensive interviews with heads of private firms, government representatives, employees of industry associations and individual observers of the oil and gas scene. Patton (1973) stresses the need for a range of perspectives on the central issues being examined, notably "The degree to which foreign ownership and control influence channels of communication that are used, the content of communication on certain
issues, and the weight given to information by government decision makers."

Secondary data was drawn from a range of sources including testimony at hearings on a series of energy related matters raised by Royal Commissions and government agencies between 1957 and 1971.

Key conclusions and illustrations of behaviour patterns exhibited by foreign controlled subsidiaries as opposed to Canadian firms include:

(1) Foreign based parent companies tend to restrict the subsidiaries' decision making powers (Parallels with SIPM and Shell Australia on the NWS project) (see 5.2.4).

(2) The subsidiary's policies relating to the Canadian petroleum industry were seen to be strongly influenced by its status within a larger international business unit and the attitudes of foreign managers.

(3) Foreign ownership is seen to have unequivocally influenced the channels of and content of business communication and it is assumed that this has significantly altered the private Canadian Petroleum sector.

The above is supported by a series of examples drawn by the authors from documented hearings involving Canadian and foreign owned companies. Patton's rigorous but largely qualitative approach provides the clearest example of a study and methodological framework similar to that employed in the NWS thesis. It serves to support and if necessary, legitimise the multi-disciplinary approach adopted in the above which is intended to contribute to the broad band of literature headed "Management Theory".
1.5. **The Structure of the Thesis**

The first section of this chapter (Chapter 1) is designed to present the reader with an overview of all the major elements of the study which are incorporated into Chapters 2 to 8. It sets out a brief description of the topic, broad themes to be developed in later chapters and the major study objectives. The research methodology employed in the study is discussed briefly and the key concepts which are embodied in the theoretical framework of the study, are defined.

Following a summary of 1.1.1 and 1.1.3, which clarifies the relationship between the descriptive and analytical components of the study and its conceptual base, there is a short presentation of precedents in the literature. This section discusses the work of key theorists from several fields who have influenced the theoretical base of the study. Areas covered include Business Policy/Strategy, Organisation Theory and Economics.

Chapter 2 is primarily concerned with the research methodology and the application of the major tools and concepts outlined in Chapter 1. It incorporates a discussion of the design of the interview programme and its application within a broader research plan which combined information drawn from interviews and secondary sources. The first five diagrams of the conceptual map, which when complete forms the central reference point in the study, are described in Chapter 2. The relevant Section 2.3 covers diagrams I-V in detail in order to clarify the hierarchical relationship between organisational systems, the main project organisation and the external institutional environment. The network which links these bodies is described in Chapters 3 and 5. Chapter 2 concludes with a general literature review covering a cross section of
published texts and reports which have been consulted prior to embarking on the main body of the research. This has been set out as a guide to future research on the NWS project or multinational activity within the international petroleum industry.

Chapters 3 and 4 offer a descriptive commentary starting with the nature of the worldwide petroleum network of which the NWS project and its client and service organisations form an integral part. The focus of the commentary then shifts to the legal and contractual framework operating at State and Federal level which regulates the activities of all the parties involved with the development of the NWS project. Chapter 3 examines the international production, distributional trading network for natural gas and associated products like LNG, spanning world, Japanese and Australian markets. The NWS is seen as a nodal point within this network.

Chapter 4 covers historical detail on the role played by government in influencing the direction and pace of development of the NWS gas reserves. The major focus is on Federal and State petroleum legislation introduced by the Whitlam and Fraser governments during their respective terms in office. Consideration is also given to the NWS Gas (Woodside) Development Agreement, co-signed by the W.A. government and the JVP in 1979.

Chapter 5 contains a purely descriptive account of how the schematic plan developed in the study can be used to provide important insights into public policy and the strategies adopted by the JVP at crucial turning points in the history of the NWS project. In Chapters 6 and 7 an analysis of three critical events is presented. The first event or "event string" covered is the three successive postponements of the agreed delivery dates for NWS LNG consignments to Japan. These are
considered from a strategic point of view in the context of world oil prices, the Japanese market for LNG and internal problems being experienced within the JVP organisation at the time. The second event, the Shell/BHP takeover of Woodside Petroleum is viewed in the context of internal pressures being brought to bear on the project operator Woodside Offshore Petroleum (WOP), by the other participants and external pressures emanating from the principal project financiers and investors. The position of the Japanese government on import quotas for NWS liquified natural gas is also examined in the light of changes in the demand for oil and LNG in the industrial sector of the nation’s economy.

In Chapter 7 a detailed analysis of the renegotiation of the SECWA sales and purchase agreement signed with the JVP in September 1980, is presented. Published material, extracts from parliamentary debates and interview data were assembled to provide a profile of the principal economic changes and political arguments which brought representatives of the JVP, the SECWA and Alcoa back to the negotiating table between January and March 1985. The research findings and the analysis of this critical event provided a revealing insight into the nature of the political relationship which had existed between the JVP and the W.A. government between 1977 and 1985.

The final chapter covers several major concerns. Sections 8.1 and 8.2 set out a strategic overview of key influences on JVP policy over the next decade. The major area examined in 8.1 is the WA energy economy - the structure of the domestic market and the impact of new industrial developments on the Dowding government’s energy equation. Section 8.2 covers NWS LNG export markets - future market windows, market structure and LNG prices and potential competition from new projects 1995-2005.
In the concluding section an outline model for the analysis of 'Corporate Policy' within multinational resource based joint ventures is presented and the main components reviewed. This is followed by conclusions and recommendations for future research.
ENDNOTES

*1. In 1984 the Mitsui/Mitsubishi consortium (MMI) joined the joint venture as a sixth participant in the LNG phase of the project.

*2. The Melbourne Age "$5000m Shelf Project Starts", 30.9.80.


*4. In September 1980 the joint venturers planned to develop an integrated Domestic gas and LNG project. This plan was abandoned in 1982 due to rising construction costs and the massive front end loading of capital required for such a venture. A new plan was devised proposing a two phase development (Phase I) Domestic gas to be completed in 1984 and (Phase II) LNG export programme (Phase II) was to be commissioned in 1986. Three subsequent amendments to this latter date followed during 1983 and 1984 with the scheduled start-up for the LNG programme currently set at October 1989. Full capacity will be reached in the mid-1990s when construction work on LNG trains 2 and 3 is scheduled for completion (Woodside, May 1985).


*6. For a more detailed account of the work of Simon (1957) and Parsons (1960) see the general literature review 2.4.

*7. At the time of writing (November 1988) theory embodying the "Organisation Ecology Perspective" is being taught in the Advanced Management units at UWA and the University of NSW.
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2.1. Developing an Approach to Study Multinational Corporate Policy

The study of corporate policy within a complex institutional environment presents a number of problems which have been addressed in the writings of prominent organisation theorists, notably Simon (1957) and Mintzberg (1967). To date, however, no writer in this field has developed a composite model of policy making processes within a multinational joint venture organisation operating in the international petroleum industry (see 1.12 and 1.4).

Economists Brown and Copeland (1985) and geopolitical writers including Odell (1981), and Zorn (1983) have developed a range of models and typologies relating to the international petroleum industry, some of which touch upon the institutional aspects and bargaining processes. However, none of this work deals directly with managerial or policy making processes active within the corporate structure of the multinational oil companies.

In some respects the problems associated with such a study are self evident, multinational oil companies are security conscious organisations operating in a highly political environment, where diplomacy and confidential information are at a premium.

Limited information may be surrendered by senior management to government agencies, accountants or economists conducting cost-benefit type analyses. However, studies proposed by external parties examining in-house managerial and policy making functions are unlikely to receive open endorsement.
The research programme adopted in this work was designed to fulfil objectives which did not encompass the standard hypothesis - model building - empirical testing format adopted in many organisational studies. In practical terms the programme had to address the problem of how to effectively describe and analyse multinational corporate policy within a highly complex, politically sensitive environment. The research framework and methodology employed in the thesis (outlined in Chapter 1) are described in detail in this chapter. Sections 2.1 and 2.2 provide the major coverage of interview techniques, design of the interview schedule, collation, interpretation and use of interview and secondary material. It should be noted at this point that although the interviews provided a significant component of the original material produced in this thesis, the descriptive content is primarily based on a review of a broad cross-section of published information (see 2.4).

2.1.1. Barriers to effective research

As stated above there are a number of potential difficulties which confront the researcher attempting to obtain information on the policy making processes of a multinational joint venture organisation. Three of the common difficulties facing the social scientist conducting research in this area are as follows:

(i) The need for prior knowledge of internal issues

A common problem facing many academic researchers is the fact that they may have no first hand experience of working in the type of business or organisation which is the subject of their study. This need not be a major problem in some instances; however, first hand experience is likely to be an asset when
studying the internal mechanics and policy outputs of a complex multinational organisation. In the case of the NWS project the highly political nature of its operational environment has meant that very little publicly accessible material is available on the internal technical and managerial systems of the project organisation. This limitation on the amount of data available on internal organisational processes would make a traditional empirical hypothesis and model based study difficult to conduct. No comprehensive model could be created on the basis of the published material available and it is difficult to formulate a firm hypothesis under these conditions. In view of this it was concluded that the study devised would be of an exploratory nature taking in information in increments or manageable amounts and building a picture of the policy making environment of the JVPs step by step.

(ii) Access to required information:

Assuming that the researcher is attempting to obtain information for an exploratory study based partially on interview or questionnaire material, information may be blocked if the respondent perceives it to be of a politically sensitive nature. It is often the case that even apparently unimportant information which is common knowledge in the upper echelons of the organisation will not be divulged to a researcher even when assurances of confidentiality are offered.
"Political loading": The third main danger associated with research conducted within a politically sensitive environment is that any responses gained through direct interviewing or survey techniques, may be heavily censored and lead to a badly distorted picture of the way in which the organisation in question actually operates.

The use of broad survey methods based on mailshot questionnaires is particularly susceptible to political loading. The executive who has received a mailed questionnaire with a written assurance of confidentiality has plenty of scope for collaboration with his colleagues and superiors as to what would be politically expedient to put in the replies. A questionnaire of this type probing into the internal decision making processes of a large joint venture undertaking is likely to stir sufficient interest to ensure that the responses are screened by senior organisational officials. Consequently, the results drawn from the survey are likely to be misleading and may lead to the creation of a completely false cameo of certain microcosms of organisational life (Mintzberg (1979:p224 and 270).

2.1.2. The corroborative interviewing technique

The research framework employed in this study attempts to ameliorate the effects of the problems outlined above, through the use of direct corroborative interviewing and comparison with a broad base of published material. The term 'corroborative' refers to the fact that the various perspectives offered by respondents on a specific critical event were compared and checked for consistency. It should be noted, however,
that in the final analysis no single account was rejected outright. This follows Allison (1971) in his contention that key events and policies can be considered through a variety of "conceptual lenses" (Allison 1971: p.5).

The interview programme which was designed to elicit detail on the JVP corporate structure, the project organisation and its external environment and provide insight into specific 'critical events' was divided into two stages:

Stage I was designed to a) facilitate of critical events by respondents; b) provide general information on the internal systems, corporate structure and external environment of the NWS project organisation.

At Stage II respondents were asked to answer a number of questions relating to the critical events identified at Stage I. Information relating to critical events was supplemented by material recorded from the open comment section included at the end of each interview. Other more specific information obtained at Stage II related to the policies and activities of various key governmental and independent organisations operating in the external environment of the JVP project organisation.

Prior to the initiation of the interview programme each respondent was placed in one of three categories, which related to the level and nature of involvement they had with the NWS project and its operators (see 2.2). Each category "External parties", "Political operatives" and "Internal parties" covered the relative objectivity which individual respondents were likely to display when answering questions relating to JVP policies and the operations of the project organisation.
After information had been collected from each category of respondent interviewed at Stages I and II, it was possible to compare a range of different perspectives on a particular critical event. The corroborative technique also allowed information gathered at each stage to be checked for internal inconsistencies and screened for obvious bias.

This approach proved effective in producing detailed information on JVP corporate policy which could not have been obtained by a mailed questionnaire or a purely literature based study. Material obtained from the interview programme when checked against secondary sources made an important contribution to the analysis of corporate and public policy presented in the Chapters 6 and 7 of this study.
2.2. The Interview Programme in Detail

2.2.1. Selection of the Interviewees

The interview programme employed in the study was initiated by drawing up a list of 30 people who were likely to have knowledge or job experience relating to the planning and development of the NWS project. Each potential interviewee was mailed initial outline details of the research to be conducted and later contacted by telephone. Respondents were requested to grant an interview if they could meet the following criteria:

(i) They possessed a sound understanding of the key economic and political issues which had affected the development of the NWS project, or

(ii) Could provide information relating to JVP corporate policy or the planning of the NWS project.

Of the thirty original respondents, eight declined an interview on the grounds of insufficient knowledge of the issues to be addressed. A further two refused to grant an interview for confidentiality reasons. The final sample of twenty respondents remained and was split into three broad categories. The category assigned to each respondent was set in accordance with how much vested interest an individual was likely to have in the project at the time of each interview. It was assumed that people without an identifiable direct involvement with the management of the project may lack an in-depth knowledge of the internal systems of the project organisation. However, it was these people who were more likely to offer a relatively objective account of critical events in the history of the project. It was also the case that some ex JVP or service company employees were in a position to offer an insight into specific aspects of
the project, even though they were no longer working directly for the joint venturers or a major client or subcontractor. This broad group of respondents were labelled "External Parties" and placed in Category 1.

**CATEGORY 1:** Academics, journalists, business consultants not working directly for the JVPs, ex-JVP and service company employees.

The second category of respondents was labelled "Political Operatives" since they were seen to have a measure of direct political interest in the administration, coordination, planning and development of the NWS project.

**CATEGORY 2:** Union officials, representatives of employers organisations and Civil servants working with the government agencies charged with administering the terms of the 1979 Woodside (North West Gas) Development Agreement and relevant Federal legislation (see 4.1.2 - 4.1.6).

These people were in a position to offer an insider's perspective on a number of issues related to past and current JVP policies. The government agencies and independent organisations from which political operatives were drawn included the DRD, the SECWA and the TLC which represented all unionised labour working on the NWS project. Information supplied by union representatives offered a useful alternative perspective on a number of events recounted by public servants and JVP representatives.

The third category of respondents used in the study were "Internal Parties".

**CATEGORY 3:** Direct employees of the NWS joint venture organisation or service companies contracted by the JVPs to undertake specific project management or engineering tasks. In view of their direct
involvement in the day to day administration and operation of various project subsystems it was assumed that internal parties were likely to offer politically expedient and possibly contentious accounts of some of the events on which they were asked to comment.

2.2.2. The two interview stages

Prior to reaching any final agreement on interview formats with the 20 specialist respondents they were informed that:

(i) The interview programme would be divided into two stages:

   Stage I: Identification of critical events and general information on the NWS corporate structure, project systems and institutional environment.

   Stage II: Specific detail on critical events and related corporate and public policy measures.

(ii) Interview would be based on standard questions drawn from a pre-prepared schedule and would allow for a degree of flexibility in response.

(iii) The sessions would be taped and would last approximately one hour at each stage.

(iv) Stage I and II interviews would be conducted in separate sessions, wherever possible, in order to allow time for collation of Stage I data.*1

(v) Information drawn from these sessions would be transcribed and sources would remain confidential.

Once each respondent was satisfied with these arrangements the Stage I interview programme was initiated, running between March and July 1986. The second stage of the programme was carried out later in the year between August and October.
STAGE I: Interviews were conducted with the sample of 20 respondents covering 10 Category 1 respondents, 5 Category 2 and 5 in Category 3. The interview schedule which had been drawn up after the preliminary data gathering exercise, was delivered on a direct dialogue face-to-face basis, with each question allowing the interviewee a fair measure of flexibility in response. These questions encouraged respondents to designate a list of significant events in the history of the NWS project, detailing those organisations which they perceived had played an important role in influencing JVP policy since 1973. The respondents were also asked to comment on the internal mechanisms of the joint venture organisation. Finally, each respondent was asked to pick out 'critical events' in keeping with the definition supplied. These were designated for further analysis at Stage II. Stage I interviews also provided the basic components for Sections I-V of the schematic plan.

STAGE II: After the information obtained from respondents in Categories 1-3 at Stage I was compared and checked against data from secondary sources, a second interview schedule was drawn up. On this occasion only 15 of the 20 respondents interviewed at Stage I felt that they could offer the more in-depth knowledge required for Stage II. This meant that the total number of interviews conducted was limited to 35.

The Stage II questionnaire was based on a more tightly structured format than had been used at Stage I. The questions focused primarily on critical events and the political and economic forces which had impinged on JVP policy making processes at the time. Respondents were asked to identify the key organisations which were active in the institutional environment of the joint venture organisation and the role which they played prior to and for the duration of each critical event.
An open comment section was included at the end to encourage respondents to pull together the arguments they had pursued during the interview and to promote open discussion of broader issues relating to the NWS project.

For Stage II it was possible to establish an equal ratio of Category 1, 2 and 3 respondents. This was made possible by the fact that all the Stage I respondents who had professed too little knowledge to answer Stage II questions had been 'External parties' (Category 1).

Stage II yielded sufficient information to facilitate the completion of the two most detailed sections of the conceptual map (see Diagrams VI and VIII). It also generated a body of information which, used in combination with existing published material, provided the basis for an analysis of the three critical events identified at Stage I.

Once the material from Stage II was collated, it was possible to compare a range of different perspectives on each critical event. The accounts offered by individual respondents could then be checked against secondary sources i.e. relevant published material, notably government debates, media reports and documents released by the joint venturers. This approach provided the basis for the critical event analysis presented in Chapters 6 and 7.
2.3. The Conceptual Map in Detail

2.3.1. The development of the map

The central importance of the broad conceptual schema to the theoretical framework of this study was highlighted in 1.3 which discussed its conceptual basis and application as a tool of analysis. The contents of this section go beyond the superficial coverage of 1.3 by describing each conceptual division or clearly defined locus within Sections I-V of the plan in detail. The final Sections VI and VIII are discussed in Chapter 5. However, prior to describing the major features of Diagrams I-V it is important to understand their relationship to the conceptual map as a whole (see 2.3.2 for content of diagrams).

Each of the first five diagrams were developed from Stage I interviews and the limited amount of published material available on the NWS project in early 1986. Each of these diagrams shows only sparse visual information which had to be supplemented in order to support any meaningful study of the internal and external forces which shaped JVP policy throughout critical periods in the history of the NWS project.

Diagrams VI and VII were developed several months later when the interview programme was completed and all Stage II information had been collated and compared to a secondary database. These diagrams reflect information compiled in the final stages of the research process. They have effectively evolved from Diagrams I and V showing in more precise detail key corporate and governmental relationships which affected JVP planning during two specified time periods (1980-1985 and 1985-1986). Some of the organisations shown in Diagram I do not feature in VI and VII as they were only influential during the preliminary planning stages of the project (1973-1979). The systems level activities shown in Diagrams
II and IV are discussed as an integral part of the theoretical basis of the study.

However, the measurable impact of these technical processes on JVP policy is not covered in the later stages of the study due to lack of publicly available information relating to this subject matter.

The next subsection (2.3.2) will commence with a brief description of the main boundaries and institutional components within Diagram I in order to clarify the idea of conceptual levels within a broad plan of the JVP Decision Making Environment. The relationship between various interest groups and organisations operating at each of these levels will then be elaborated with reference to Diagrams I-V.

2.3.2. The five conceptual levels (Diagram I)

Diagram I of the map sets out each conceptual boundary discussed in 1.3 with the exception of systems level. The major internal organisational processes which take place at this level are illustrated in Diagrams II-IV. In Diagram I we see a simple illustration of the corporate relationship which exists between the six participants in the NWS joint venture. On the left hand side of the diagram three principal multinational participants are grouped in order to show the direct link with parent companies (in the case of direct subsidiaries) or world level operations. Shell and the Australian steel and minerals corporation, Broken Hill Propriety Co. are linked through a common holding company, NWS Development Pty., which until March 1985 provided indirect share equity in the NWS project through its 15% stake in Woodside Petroleum (Introduction Table 1 and Figure 1). Woodside Offshore Petroleum (WOP) and Hematite Petroleum, the operating subsidiaries of Woodside Petroleum and BHP in the
THE NORTH SHELF DEVELOPMENT

"A Schematic Plan of the JVP Decision Making Environment"
NWS project are not shown. The sixth participant Mitsui-Mitsubishi or MIMI is only active in the development of phase II, LNG related operations and officially holds no direct equity in the Domestic phase (see Table 1, Figure 1).

The external environment boundary demarcates all those sectors of the institutional network which fall outwith the joint venture project organisation. The diagram shows a selection of the most important governmental and independent corporate bodies operating at State and National level during the planning and construction period for the Domestic gas plant, SECWA pipeline, North Rankin ‘A’ platform and all associated land based and subsea infrastructure required for Phase I (1973-85). In the early planning stages of the project, Federal government bodies were of particular importance, notably BMR, DRE and Treasury. These bodies liaised with W.A. State government agencies who would take over responsibility for various administrative and regulatory functions relating to the NWS project once Federal approval has been granted for the joint venturer’s development plans. The principal W.A. State government body charged with administering the terms of the NWS Development agreement signed with the joint venturers in December 1979 is the Department of Resources Development (DRD) (see 4.1.3 and 4.1.5).

At World level the major concern in this study is with the multinational parent companies of Shell Development (Australia) Pty, BP Developments Australia Ltd and California Asiatic Oil Company and the influence which this parent-subsidiary relationship has brought to bear on planning and policy making within the joint venture organisation (see 6.2.1-6.2.4). The influence of these parent companies and the major project investors and financiers on JVP policy is discussed in Chapters 6
and 7. Finally, the role of OPEC, the Japanese and other foreign governments as key actors in the international petroleum network is a theme which is raised in Chapter 3 and pursued throughout the study.

2.3.3. Systems and project level (Diagrams II-V)

A. Systems level:

Systems level is used in this study to refer to the range of technical and project management functions which are necessary for the ongoing planning and development of a large scale resource project. It is at this level that a number of technical decisions are taken to implement the broader development plans laid out at Project level.

Examples of individual project systems shown in Diagrams II-IV include Planning, Design, Procurement/Selection of materials, capital equipment and manpower, Construction, Operation and Maintenance of completed plant.

When considering the various Project systems shown in Diagrams II-IV, it should be noted that the NWS project splits into two distinctive phases: (i) The Domestic Gas phase supplying piped gas to the Western Australian commercial and household market, and (ii) The LNG phase established primarily to produce liquified natural gas for export purposes.

Diagrams II-IV reflect this two-phase development scheme for NWS gas and condensate reserves. Diagram II concentrates on the procedures necessary for the construction of the North Rankin 'A' platform which will be the sole producer of gas for both phases of the project until the Goodwyn platform is
OFFSHORE PHASE 1ST PLATFORM

PLANNING
Location, Capacities, Structural and Operational Spec'ns based on survey data

DESIGN
Platform and Subsea Pipeline

Tenders to Contractors

Selection of Contractors

PRODUCTION/SELECTION
- Materials
- Capital Equipment
- Manpower

CONSTRUCTION
Offshore - Platform J'KT Modules, other structures, subsea pipeline.
Onshore - Slug Catcher Process Piping

Plant Hire/Lease

Various Subsystems

Purchasing/Quality Control

Onshore - Civil, Mech/Inst'mt, Elec/E'tnc, Pipework

Offshore - Civil, Mech/Inst'mt, Elec/E'tnc, Pipework

Operational & Maintenance

Personnel

Unions
Ongoing Planning + Design Processes

Tenders to Contractors

Selection of Major Contractors

KJR: Detailed design

Tender List Drawn Up

Final Subcontractors Selected

Procurement/Selection
- Materials
- Cap E'qpmnt
- Manpower

Construction

Operations + Maintenance

"DID" Survey
Potential Subcontractors
W.A. + Interstate

Systems Level
**PLANNING**
- Primary: PH 1 & 2
- Secondary: PH 2

**DESIGN**
- Preliminary: PH 1 & 2
- Advanced: PH

**Tenders to Contractors**

**Selection of Contractors**

**PROCUREMENT SELECTION**
- Materials
- Capital Eq'pmt
- Manpower

**CONSTRUCTION**
- Civil Infrastructure
- Domestic Gas Plant
- Domestic Pipeline

**COMMISSIONING**
- Domestic Pl't/Pipeline
- Platform 1 Onstream

**OPERATIONS & MAINTENANCE**

**VARIABLE SUBSYSTEMS**
- Plant Hire/Lease
- Personnel
- Purchasing/Q.C.
- Unions

**Legend:** PH = Phase
DIAGRAM IV

LNG EXPORT PHASE

PLANNING
- Secondary

DESIGN
- Advanced

PROCUREMENT/SELECTION
Additional Plant, M'tls and Specialised Manpower

CONSTRUCTION
Infrastructure
Civil Work
LNG Plant
Platforms 2 & 3
LNG Loading Facilities

COMMISSIONING
LNG Plant
Platforms 2 & 3
Onstream**

OPERATING & MAINTENANCE

Tenders to Contractors
Selection of Contractors

VARIOUS SUBSYSTEMS

Plant Hire/Lease
Personnel

Purchasing/Q.C.
Unions

Onshore -
Civil
Mech/Inst'mt
Elec/E'tnc
Pipework

Offshore -
Civil
Mech/Inst'mt
Elec/E'tnc
Pipework
commissioned in 1993. Diagram III shows the processes relevant to the Domestic phase, whilst Diagram IV concentrates on the LNG phase. Each system can be broken into smaller, more specialised groups of activities referred to as subsystems. These include Tendering procedures (see Diagram IIA), Plant Hire/Lease, Purchasing/Quality Control, Personnel Management/Industrial Relations, Planning, Design, Procurement, Construction, Commissioning and post-commissioning activities like Maintenance and Operations can also be broken into specialised subsystems. A simple example is 'Construction' which breaks down into Civil, Mechanical, Electrical, Electronic and Piping work for onshore infrastructure like the LNG and Domestic gas plant and the onshore pipeline. Offshore work can be split into the same disciplines covering the production platform (jacket and modules) and submarine pipeline carrying gas and condensate to shore.

Diagrams II-IV have been assigned secondary importance in the study, which concentrates primarily on external political and economic influences rather than managerial and technical determinants of JVP policy. Systems level influences on JVP policy have not been researched in any detail in this work, due to problems of access to the required information. However, these are still considered in the conceptual scheme of the study which acknowledges the importance of both internal and external pressures in shaping those policy outputs (see Figure 3, 1.1.3: "Simplified Diagram of JVP Decision Making Environment").
The schematic plan incorporates Systems level activities and draws broadly on some of the traditional conceptions of Systems theory found in sociological and organisational studies literature (Parsons, 1960; Simon, 1957). Subsystems are seen to function in their own right as essential components of the main project body. From an holistic perspective they are seen to have a direct functional relationship with other interdependent subsystems which are essential for the maintenance and development of the main project body (Parsons 1960). For analytic purposes, Systems level functions are simply viewed as any series of interrelated activities which are depicted in the schematic plan below Project Level.

**Project level:**

The analysis of critical events presented in this study is based on the assumption that the major project planning and policy making functions of the JVP organisation are based at Project level. Any commentary or analysis relating to JVP policy begins at Project level and broadens out to consider the influence of external organisations and where possible pressures from within the joint venture organisational structure. Project level is of particular importance in this study as it is identified as the point of interface with the external environment (see 1.1.1 and 1.4, Thompson (1967), Trist (1977)).

Although the study uses JVP policies devised at Project level as the focal point of analysis, this broadens out into a consideration of influences at other conceptual levels. World
"NWS PROJECT OPERATIONS: INTERACTION WITH THE EXTERNAL ENVIRONMENT"
level institutions in particular seem prima facia to be very distant from the policy making mechanisms of the joint venturers. However, many major planning decisions relating to the NWS project are assumed to have originated at this level. The influence of the international headquarters of the multinational subsidiaries participating in the NWS project is an important issue which is raised in Chapters 3, 5 and 6. Of particular interest is the pervasive influence exerted by Shell Internationale Petroleum Maatschappij (SIPM) over Shell Development Australia Pty. Ltd., the company which assumed the lead role in the planning and development of the LNG phase of the NWS project (see 5.2.3).

The principal decision making body for the NWS joint venturers is the Project Committee, made up of representatives from each participating company, voting in proportion to equity held in the venture (see Diagram V). This Committee devises JVP policies for the ongoing development of the project. Two separate bodies report to the project committee, Woodside Petroleum Ltd., through its subsidiary Woodside Offshore Petroleum (WOP). WOP as project operator is responsible for the design, construction and operation of the project, coordinating development, activities in accordance with the terms and conditions set down in the project development agreement ratified by State parliament in December 1979 (see 3.1.3). The second body shown in Diagram V is the Project Coordination Group, based in Melbourne. This group has representatives from each of the joint venture participant
companies and acts as an executive secretariat to the project committee (Allen 1983:p12). The Project Coordination Group assumes particular importance in that its members communicate with and receive directives from senior executives at the World level operations centres of each multinational participant. This is illustrated in Diagram V which indicates a linkage between the international operations of Shell, BP, Cal-Asiatic and their Australian based operators which are represented on the Melbourne based joint venture coordination group. The Mitsui-Mitsubishi (MIMI) consortium has been included at World level to show their significance as a powerful Japanese based participant in Phase II of the project. A notable omission at World level is BHP, which has been excluded as it is considered for the purposes of this study as an Australian based company rather than an incoming foreign multinational.

An important body depicted in Diagram V which serves to provide an essential interface between the JVP policy makers and their external environment is the National Liaison Group. This body was established in 1985 to provide a regular forum for discussion between JVP executives and representatives from the unions, employer groups, industrial and commercial interests linked to the NWS project. Shown at State level in V, the group is jointly chaired by both the State and Federal energy ministers (see 5.2.2).

Following the scheme laid out in Diagram V the Project Committee makes all the major policy decisions relating to the project, following the recommendations of the Coordination
Committee and representatives of Woodside Offshore Petroleum. These decisions are then implemented at the Perth operations centre and on site at Dampier. The Perth operations base carries out major project planning functions and coordinates systems level or modular planning and development activities on site at Dampier and Withnell Bay. There is constant interface between Perth and onsite project managers and engineers in relation to all Systems level activities, i.e. planning, procurement/selection, construction, commissioning, operations and maintenance.

The decisions made by the Project Committee are influenced from above by the multinationals and their Australian based representatives on the JVP Coordination Group. The input from Project level comes from Woodside Offshore Petroleum and BHP (Diagram V). Any change in the long term planning strategy for the NWS project resulting from widespread policy changes, is seen to reflect feedback from parties operating at World level, Project level and Systems level. Major macroeconomic changes in the world petroleum markets will lead to changes in the strategies adopted by the multinational oil companies operating at their level. Political change which is also of major importance will be reflected in the policies of the Federal and State governments.

C. External environment - State, National and World Levels

The external environment of the joint venture corporate structure is split into three conceptual levels. These are labelled in Diagrams I and V; however, the major detail on
organisations operating within the external environment of the
NWS project organisation is presented in Chapter 5 (Diagrams VI
and VII).

At present a brief discussion of the external bodies shown in
Diagrams I and V will serve to clarify the relationship between
each conceptual division discussed in 2.3.2. At World level we
find the world governments, financial leviathans like the major
banking and insurance groups, powerful politico-economic
agencies like the Organisation of Petroleum Exporting Countries
(OPEC) and the Organisation for Economic Cooperation and
Development (OECD). The other key power brokers at this level
are the world operations of the multinational oil companies.

World level organisations are linked by shared political and
economic interests to lower level organisations which are in
turn connected by a tighter and more clearly defined
institutional network. This network encompasses organisations
operating at every hierarchical level shown in the model
although it is most concentrated at State and National level.

The organisations operating at these levels can be part of the
State or Federal government bureaucracy, quasi-governmental or
totally independent organisations. They are all assumed to
operate within a broad legal framework set up by the State and
Commonwealth parliaments (see 4.1). Examples of key operations
at Federal level include the Department of Minerals and Energy
(DME), the Australian Council of Trade Unions (ACTU), the
Confederation of Australian Industry (CAI) and the Federal
Treasury. Other organisations which were important prior to
1980 but have since lost any major significance in relation to the NWS, were the Bureau of Mineral Resources (BMR) and the Foreign Investment Review Board (FIRB) (see 4.2.3 and 4.3.3). The key organisations at State level like those at Federal level have changed over the years (see Diagrams VI and VII). However, since the election of the Burke Labor government in Western Australia (February 1983), the Department of Resources Development (DRD) has been the major body responsible for administering the State's interests in the NWS. The Western Australian Department of Mines and Department of Industrial Development which respectively held responsibility for the issue of production licences and surveying local manufacturing input into the project, have had all their other responsibilities relating to the NWS subsumed under the DRD umbrella (see 3.1.5).

The principal State level body representing the unions on site at Dampier and Withnell Bay is the Trades and Labour Council (TLC), with the Confederation of West Australian Industry (CWAI) representing employer and small business interests (see 4.1.5 and 5.2.2).
2.4. **General Literature Review**

In view of the interdisciplinary nature of the study and the diversity of themes covered, it was necessary to consult a broad base of published material throughout the research process. Accordingly the review which follows is subdivided under four broad headings each of which covers texts and publications which contributed to a distinct part of the work set out in Chapters 1 to 8. The headings are: A. Research Design and Methodology; B. The International Petroleum Industry; C. The NWS Project Political and Economic Aspects, and D. The Australian Petroleum Sector.

Section 'A' is limited to a discussion of those theorists whose work was not covered in 1.1.1-1.1.3 and 1.4. Section 'B' is important for framing the NWS project within a worldwide context: the vertically integrated, multinational dominated world petroleum industry. Major detail is provided in Section C on a number of writers who have contributed to the description of the political and economic background to the NWS project covered in Chapters 3 to 7. The final section deals with writers on the Australian petroleum sector relevant areas of which are reviewed in 3.4, 3.5 and Appendix I.

The broad scope and detail contained in the Literature review goes beyond that which is normally required for a thesis. In this instance the intention is that the overview of texts and other materials cited will provide a useful reference point and synoptical guide for the student of multinational operations within the international petroleum industry. Section 'C' will be of particular use to those undertaking further research on the North West Shelf project.
A. Research Design and Methodology

Embarking on a study of multinational corporate policy within a complex institutional environment was a task which required careful thought and planning. From the earliest stages it was evident that a multidisciplinary approach would be required to satisfy the major objectives and that it would be necessary to develop a research methodology which could accommodate this (see 1.1.2). A number of texts were consulted to provide assistance in the adoption of an appropriate methodological and conceptual basis for the study. The final research methodology adopted was influenced by the works of several writers including Selltiz, Jahoda et al. (1971), Quinn (1980) and Chalmers (1980). Selltiz, Jahoda et al. set out a broad commentary on different approaches and methods for the study of social and organisational phenomena. In keeping with their typology for a formulative or exploratory study the current work places an emphasis on the discovery of ideas and insights and employs a research structure which is flexible enough to permit consideration of several different aspects of a phenomenon (see 1.1.2 and 2.2.2). More specifically, Selltiz, Jahoda et al. made a useful contribution to the methodology employed in this study through:

(i) Mapping out a clear picture of alternative research methods, their application in previous studies and the basic steps required to apply them.

(ii) Provided a guide to the broad steps which can be followed in social scientific research and how to organise the text in a thesis.

(iii) Highlighted the major problems which are often associated with commonly used field research and data collection methods.
Quinn's study of the decision making behaviour of executives within three leading American corporations during periods of organisational change was another reference point for the current work. His research structure, which was based on a series of in-depth, structured interviews, encouraged respondents to:

(i) Talk freely about the organisational issues most pertinent to their own situations.

(ii) Return to mainstream issues raised by the interviewer whenever they felt that they had fresh information to offer. All the material generated by Quinn's interview programme was then compared to a large file of secondary data collected by research assistants (see Quinn 1980).

The current study draws on a number of techniques employed by Quinn (1980) including:

(i) Use of a flexible interview format based on standard questions but allowing for a measure of open discussion of matters broadly relevant to the major subject matter of the study.

(ii) Cross checking of data drawn from interviews against a large secondary database (see also Patton (1973), 1.4).

The research problems encountered in the early stages of this work encouraged consideration of a number of alternative approaches and methods for the study of the subject matter. Chalmers (1980), provides a stimulus for this type of thinking in his historical overview of the work of major writers in the philosophy of science. In his commentary on social scientific research he highlights the inherent weaknesses of a number of traditional positivist approaches to studying social phenomena,
which have been adopted from natural science. His review of concepts like the scientific paradigm and theory dependence is a useful guide to theories on the advancement of scientific knowledge and raises a number of ideas which can be usefully applied in any form of social scientific research.

The major concepts incorporated into the theoretical framework of this study are drawn from the field of organisation theory. A notable contribution is made by Parsons (1960), a leading exponent of the systems based approach to organisational analysis. The hierarchical schematic plan employed in the study which shows the interphase between the NWS project organisation and its environment, draws on Parsons three tiered model of complex organisations. Parsons (1960) discusses the relationship between three distinct levels of responsibility and control within the organisation: i) Technical, ii) Managerial and iii) Institutional. Parsons technical sub-organisation is similar to the technical systems shown in the schematic plan. The former is serviced and controlled by the Managerial sub-organisation whilst Systems level activities are guided by broader policy prescriptions made at Project level. Parsons Institutional level refers to the interphase with the organisation's external environment, an area covered in the discussion of the institutional network and schematic plan. This broad scheme was advanced by later writers notably Thompson (1967) and Mintzberg (1979), whose contributions to the study are covered in 1.1.1 and 1.4.

Simon (1957) provides an alternative framework for the study of corporate policy within a complex organisational environment. Through elaboration of the idea of bounded rationality, he explains how managers learn to cope with decision making in a complex environment by limiting
the number of variables they have to deal with at any one time. His work concentrates primarily on internal factors which shape organisational policies; however, he also acknowledges and discusses the importance of external environmental factors.

The work of Simon, Parsons and other organisational theorists, notably Mintzberg (1979), provides a useful reference point for the study of managerial decision making and the interphase between the complex organisation and the external environment. However, none of these writers have provided a fully developed model which could form the basis for a study of multinational corporate policy in relation to the development of a large scale petroleum development. It is anticipated that this study may lay the foundations for such a model.

B. The International Petroleum Industry

When examining the activities of multinational oil companies within any nation, it is important to remember that these are linked to a much wider corporate network with operations based in various locations through the world. In this study the NWS project is seen to be linked to an international petroleum industry through trade in petroleum products and the corporate structures of the multinational joint venture participants. Chapter 3 describes the nature of the international petroleum network and the influence which major organisations operating within it can exert over the decision making processes of the joint venture participants. Topics covered include the importance of OPEC and OECD governments and the role of the Japanese government within the world LNG trade.
A number of texts are available dealing with individual aspects of the world petroleum industry. However, the most comprehensive overview covered in the literature search for this study was provided by Odell (1981). Other texts consulted included Sampson (1981), Danielsen (1982) on the evolution of OPEC, and Zorn (1983). Relevant theses extract material is reviewed in 1.4.

Odell's work is devoted to an examination of the structure of the world petroleum industry, its evolution since World War II and the underlying political battles between major producer nations, oil companies and the governments of the major oil importing countries. The book is of considerable importance for this work in that it introduced the concept of a worldwide network of nodes and connections to represent the international petroleum trade. This was adopted as an integral part of the conceptual framework employed in the study. Odell (1981) also makes the important distinction between the trade in crude oil and natural gas which is conducted through different channels within the worldwide petroleum network (see 3.2.2 and 3.3.1).

Danielsen (1982) and Sampson (1981) provide a useful general background to major structural changes in the international oil industry in the past 50 years. Sampson traces the history of the oil industry from the 1930's, when seven major multinationals held an oligopolistic stranglehold on the market, through to the post 1979 period which marked a decline in the importance of oil as the developed world's singlemost important energy source. Danielsen and Sampson trace the role
of OPEC, the OECD and the major multinationals in controlling the world oil industry and the shift to alternative energy programmes which introduced gas as a premium fuel rather than a by-product of oil exploration. This was crucial for the development of the NWS project as it was the move towards the use of piped gas, LPG and LNG, as major power sources. This in turn led to the expansion of the international trade in these products and provided an incentive for the joint venturers to develop the massive North Rankin field some 130 km off the North West top of Australia (see 3.2.2 and 3.2.3).

The study draws on Zorn (1983) when explaining some of the major political and economic links between various governments and organisations operating within the world petroleum industry. As an ex-UN advisor on transnational corporations, Zorn's work reflects a good understanding of the relationships which exist between multinational oil companies and the governments of host nations within which they locate operations. This type of relationship is a central theme of the study which examines the corporate policy of a multinational joint venture organisation, the interplay with Federal and State government policy and the broad legislative framework governing the petroleum and minerals sector in Australia.

C. The North West Shelf: Politics and Economics

A number of reports and academic papers have been issued since the late 1970's which have attempted to assess the potential costs and benefits which would accrue to the Australian and
Western Australian economies from the development of the North West Shelf. This topic has been addressed in the work of Bambrick (1977), Gray (1978), Brown and Copeland (1985). All three studies devote space to cover a cost benefit analysis of the project using standard measures like labour, capital and construction costs, offset against potential returns to State and Federal governments through royalties and tax revenues. Broader benefits accruing to the national and Western Australian economies through increased employment levels, national income and technology transfer are also examined.

The most recent study by Brown and Copeland, a firm of consulting economists, considers the major sources of costs and benefits in considerable detail, covering Phase 1 construction and operation, the SECWA pipeline, Phase II construction and indicators relating to the Domestic market for natural gas and the international market for LNG. All results produced from research in these areas are subjected to a sensitivity analysis to produce a series of cost/benefit profiles in the event of a major change in important variables like oil prices, oil/LNG price relativities and exchange rates for the Australian dollar (Brown and Copeland 1985).

The Bambrick and Gray papers do not offer the breadth of coverage offered in the Brown and Copeland report, although they deal with the potential multiplier effect of the project on national income and employment which is not addressed in the 1985 study. Brown and Copeland's work has been subject to some criticism (see Field 1985) relating largely to sourcing of
figures. However, it provides the most comprehensive update on the cost/benefit economics of the NWS project. Although these economic studies are primarily employed as background reading, some of the material from Brown and Copeland is considered in the study.

A number of basic variables employed in the sensitivity analysis, i.e. oil prices and indexed LNG prices are considered in Chapters 3 and 6, where there is some discussion of broad macroeconomic influences on JVP policy. Although the figures presented by Gray (1978) and Bambrick (1979) must now be qualified by broad changes in the planning of the NWS project, and massive shifts in the international oil market since 1978, they provide a useful source of comparative data and gauge energy price expectations of the post 1973 oil crisis period to those of the mid 1980's.

One of the critical events designated for analysis in this study relates to the renegotiation of the Domestic gas contracts by SECWA at the time (March 1985) which was facing severe financial problems due to a large inventory of unsold gas which it had accrued under the take or pay conditions of the agreement with the JVPs. The background to this major political headache for the Western Australian State government is dealt with in considerable detail in three papers issued by the "Energy Policy Research Group" at Murdoch University. Brotherton (1982) considers some of the key political and economic factors which have affected SECWA forecasting of energy use in Western Australia from the mid-1970's through to
1982. The author points to a number of weaknesses inherent in the forecasting techniques employed by the SECWA economists and that these have contributed to the apparent inaccuracy of SECWA's medium and long term energy demand estimates. Apart from problems associated with forecasting methods, he points to the organisational structure of the SECWA and the prevailing political climate in Western Australia during the 1975-82 period as major influences on the contents of SECWA energy demand forecasts during these years.

Brotherton (1982) and Brotherton and Newman (1983) provide a considerable quantity of background information tracing the major reasons for SECWA's current financial dilemma. In the 1983 paper, SECWA's position is examined in the context of the original development proposal for Phase I. The major financial aspects and market prospects for both phases are covered and in the case of Phase II, compared to a series of alternative proposals which were mooted prior to LNG export approvals from the Federal government in 1979 (Brotherton and Newman 1983). These alternative proposals are significant in the current work in that the plan for a transcontinental pipeline originally proposed by R.F. Connor in 1972, was one of several major political issues which would directly affect the JVPs decision on whether to proceed with the NWS project.

In another key paper in the energy policy in Western Australia series, Harman (1984), documents a short history of the NWS project from the early planning days in 1972 through to 1983. Acknowledging the political nature of the subject matter, the
paper relates the history of the project through an overview of relevant State and Federal government policy in the 1972-83 period. Areas of conflict between State and Federal policy are examined, focusing on the impact which these political struggles had on the development of the NWS project. An attempt is made to explain some of the problems inherited by the Western Australian State government and the SECWA by 1983, through reference to a series of policy measures taken by respective State and Federal ministers since the Whitlam era of 1972 to 1975. The history of the project is divided into four distinct periods and a number of major decisions taken by the joint venturers and governmental agencies are set against the prevailing political background of the time.

The current study draws on a number of observations outlined in the Harman paper relating to key events in the history of the project and the historical linkages which exist between them. In addition to providing the basis for a more in-depth analysis of some historically significant events, the paper also establishes the importance of a number of pieces of key Federal legislation in shaping the policies of the JVPs over specific periods of time. Examples include the Seas and Submerged Lands Act 1973, the Pipeline Authority Act 1973 and the Petroleum and Minerals Authority Act 1974 (see Chapter 4). Details on these acts and other pieces of key Federal legislation affecting the joint venturers over the past thirteen years are presented in a public policy analysis paper by Layer (1985). Layer's work places a number of pieces of key Federal legislation relating
to the petroleum and minerals sector of the Australian economy into a broader framework for analysis. This shows the relationship between individual policy initiatives and how various pieces of key legislation have emerged as a product of political debate over the years. His work is instructive in that it highlights the ongoing power struggle between Federal and State governments over petroleum and minerals deposits and administration of resource sector activity. This ongoing conflict best illustrated by the contestation by the States of the *Seas and Submerged Lands Act* in the High Court, provided some of the important dynamics for development of the NWS project.

Following a period between April 1984 and April 1985, which witnessed a series of major adjustments to JVP project planning the renegotiation of the SECWA contracts and the Shell/BHP takeover of Woodside Petroleum, a series of documents was issued by the JVPs and Western Australian government to account for these changes and outline policies for the future. Parker (August 1985) presents the current State government’s account of how the SECWA was eventually forced to renegotiate the terms of the original "take or pay" contracts with the JVPs. Consideration is given to the original Memorandum of Understanding (MOU) between the SECWA, Alcoa and the JVPs and the role of the key actors like the DRD under Ministers Jones and Mensaros. A profile of original SECWA demand projections for natural gas in Western Australia is presented and set against an outline of actual demand for natural gas in Western Australia during the early to mid 1980’s.
The W.A. Energy Minister's statement is useful in that it provides a useful point of reference for comparison to data relating to the SECWA issue. The information contained in the policy document is, however, subject to qualification. In view of this, all the material drawn from the document and used in Chapter 7 is checked against other published sources. The most contentious issues relating to the SECWA contracts are examined by comparing the minister's account to the public debates published in WA Hansard, covering the period when relevant issues were being discussed.

Two months prior to the issue of the August 1985 statement both the DRD and the joint venturers issued documents outlining plans and background information relating to the LNG phase of the NWS project. The Department of Resources Development "LNG Study Mission" document covers a number of areas which are touched upon in this study including State government involvement in resources development and ongoing changes in the Japanese market for LNG.

In order to provide a comparative measure of capital costs, sourcing of materials and labour, and levels of State participation in large LNG projects, data is drawn from visits to the Arun plan in Indonesia and the Binitulu LNG plant in Malaysia. Market prospects for these projects and the North West Shelf were compared with a focus on the sole customer, Japan.
Information on the structure of the Japanese LNG market (1982-1985) provided a good indicator of past, current and possible future Japanese policies on sourcing of LNG supplies and is employed in Chapters 3 and 6 of the study. The document issued by the joint venturers in May 1985, Woodside (1985) covered some similar ground to the W.A. government study but from the perspective of the NWS participants. The main areas of concern include project management and codes of practice, the Phase II schedule and market prospects for NWS LNG. The section on the scheduling of the project is of particular interest in the current work, in that it represents the first comprehensive public statement by the JVPs on project restructuring since 1984. They outline a series of revised technical and financial arrangements to stimulate cash flow in the short term and ensure the long term viability of the project. The current work covers this ground when consideration is given to how the strategic development plans for the project have altered over the years (see 6.1 and 6.2). Other important information on the political and economic background to the development of the NWS project was drawn from various publications issued by the SECWA and the joint venturers. The annual reports of the SECWA and Woodside Petroleum (operator for the NWS project) were reviewed for information on formal corporate policies in the ten year period from 1977 through to 1987. During that time, the SECWA issued a series of reports under the heading "Natural Gas in Western Australia". These were reviewed along with the contents of
three lectures on future development of the natural gas market associated infrastructure in Western Australia, issued by the past W.A. State Energy Commissioner: Kirkwood (1974, 1977, 1980). Woodside also issued a series of lecture papers dealing with various aspects of the NWS project between 1977 and 1984. These were reviewed in order to gain a perspective on the long term planning framework which the joint venturers were formally employing at various points in the development of the NWS project (see Dixon 1978, 1980; Allen 1978, 1980, 1981, 1983, 1984).

D. The Australian petroleum sector

In Section 3.4 consideration is given to examining the evolution and current structure of the Australian petroleum sector. This is important to the study as the development of the NWS project is seen to take place within a broader Australian and international context. Thus the project is linked with both a national and international petroleum network.

A number of issues which have influenced the development of previous projects within Australia, i.e. levels of foreign investment, export quotas, domestic oil and gas pricing are relevant to the discussion of the history of the NWS. Links also exist between the corporate structure of the joint venture and other projects through the sizeable stake held by leading multinationals like Shell and BP in upstream and downstream operations at various levels in the vertically integrated industry structure.
A number of publications are available which attempt to document the history of the Australian oil and gas industry, examining the development of Australia's major petroleum resources and offering commentary on the mainstream fiscal and legislative issues which have shaped the industry over the years. A text produced by Australia/NZ Bank (1983) provides a broad description of the history of the Australian petroleum sector and its development through fiscal and legislative change. Every major aspect of the industry is briefly covered including exploration and production, offshore licensing, major State and Federal legislation covering onshore and offshore, product pricing, refining, marketing and distribution networks. This publication provides a useful overview of the economic, fiscal and legislative background to the development of the Australian oil and gas industry. However, it offers no analysis or critique of government policy in this area.

Saddler (1981) attempts to do this through addressing a number of broader issues which he refers to as the "Energy question" looking at how energy policies have evolved to maintain energy supplies and regulate energy consumption by end use. He considers how energy policies have shaped the development of the Australian petroleum sector over the past 20 years and suggests alternative policy options which could have been adopted by successive State and Federal governments (Saddler 1981:p1). Saddler's critique offers a useful insight into a number of economic and political questions which are still relevant to Federal policy in areas like foreign investment.
controls, State participation and the broad set of guidelines for developing new petroleum and minerals projects.

Saddler (1981) and McKern (1976) both discuss other major petroleum projects in Australia including the Bass Straight fields, the Cooper Basin development and Barrow Island. Saddler's political commentary and McKern's largely economic perspective on these developments provide instructive examples addressing a number of broad issues relevant to the North West Shelf.

The arguments presented by Saddler and McKern have to a degree been overtaken by changes within Australia’s oil and gas industry in the past five years. With the exception of Wilkinson (1983) the absence of new texts updating these arguments has meant that all post 1983 data used in the study is drawn from reports, consultancy documents and academic papers. These papers focus on more specific issues although the depth of coverage is greater than in a standard text.

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INTRODUCTION

In Chapter 2, reference was made to a number of key institutions operating within a worldwide network which have influenced the planning of the NWS project at various points since 1973. The first two sections of this chapter, 3.1 and 3.2, identify some of the key parties operating at world level and consider the nature of the international petroleum network, which links them to major resource developments like the NWS project.

Sections 3.1 and 3.2 incorporate a discussion of the worldwide petroleum based energy situation since 1979 and the influence on Australia's fossil fuel energy sectors. The commentary uses the NWS as a reference point and attempts to place the development of this project within a broader economic and geopolitical context.

Section 3.3 is an extension of the earlier commentary on the international petroleum network with a specialised emphasis on the structure of the world market for LNG in the years up to 1985. This section, which concentrates on Japanese dominance of the LNG trade since the mid-seventies, is updated in Chapter 8.

Section 3.4 describes the Australian natural gas network as an integral part of a broader vertically integrated, international petroleum network. Section 3.4.1 concentrates on key project locations, upstream and downstream operations and associated pipeline infrastructure throughout Australia. This sub-section is supplemented by Appendix II which deals with LNG and LPG production and transportation. Section 3.4.2
covers gas exports, due to become an increasingly important contributor to Australia's economy with the advent of LNG exports to Japan set for October 1989 (Woodside, May 1985).

Section 3.5 returns the emphasis to the multinationals as key controllers of the worldwide and Australian based petroleum industry. This point is emphasised by an examination of multinational ownership in several of Australia's major petroleum projects.
3.1. The Project Within a Worldwide Network

3.1.1. Odell's concept of the international network

The concept of the international petroleum network employed in this study is drawn from the work of Odell (1983), which deals with the evolution of the international oil trade and the shifting balance of political and economic power which prevails within it. Odell's macroeconomic and geopolitical study employs the idea of a network which connects various corporate and political interests operating at a number of key locations or nodal points throughout the world. Power groups like the multinational oil companies and the major producer and importer governments are assumed to consolidate their control at selected nodes. This extends their influence over trade within the network. The political and corporate power of the multinationals is viewed as a reflection of their ability to control activities at every level within the vertically integrated petroleum industry. Producer nations and the governments of major industrialised countries contribute to the powerplay through political and economic strategies devised to consolidate their position within the network. The collective interests of these parties are assumed to be broadly represented by OPEC (Organisation of Petroleum Exporting Countries) and the OECD (Organisation for Economic Cooperation and Development) (Odell, 1983).

Odell's concept, although primarily concerned with oil production and distribution, provides a useful framework for examining the link between the political and economic policies of world level parties and the planning of the NWS project.
3.1.2. The link with the North West Shelf project

The NWS project is connected to an international petroleum network through two principal channels: (i) the multinational corporate structure of the joint venture organisation; (ii) the future trade in LNG and condensate with international buyers. High levels of foreign equity in the NWS venture indicate the level of multinational involvement in the project. At present the considerable shareholdings of Shell, BP and Cal Asiatic (Phases I and II) and the Mitsui-Mitsubishi consortium holdings (Phase II) take foreign equity in the project as a whole to over 60% (see 4.2.2). This figure is above the 50% Federal investment guideline for petroleum developments. The issue of foreign ownership of Australian based resource projects will be considered in 3.5. However, the current concern is to highlight the link between price adjustment, corporate and political powerplay (Peden, May 1985, Woodside, April 1986).

A series of corporate linkages connect the Australian based operations of the foreign joint venture participants, Shell, BP, Cal Asiatic and the MIMI partnership, with an international business infrastructure. This may span a number of vertical levels within the petroleum industry with upstream and downstream activities located at a number of points in the world. It may also span horizontally into other industries which in the case of Mitsui and Mitsubishi, include electronics and steel production. This vast network of activities is too complex to be usefully discussed in this study which relies on the fact that the existence of centralised head offices coordinating international activities is tangible evidence of the existence of such a network. As shown in Sections V, VI and VII of the conceptual map, the Shell International group's headquarters are based in the Hague (Holland), BP in London (UK), Cal Asiatic through the parent company Chevron in Los Angeles
(USA) and the MIMI partnership in Yokohama (Japan) (see 2.3.3 Section V of map).

The organisational structure of the multinational participants spans all the levels depicted in these sections, i.e. world, national, state and project. As a result, the policies adopted by the JVPs at project level will be influenced by directives from the central headquarters of the foreign based venturers.

Shell Australia provides the best illustration as a large amount of technical direction has been channeled from the Shell Internationale Petroleum Maatschapij (SIPM) offices in the Hague over the construction period for the domestic phase, and during preliminary design work on the LNG plant. During the design and construction of the domestic gas plant and other Phase I infrastructure the influence of the Hague was highlighted by some intramural difficulties which were reported to have arisen between Woodside and Shell senior management. These centred on the latter's efforts to impose standard Shell procedures and specifications.*[1] As technical advisers for Phase II the influence of SIPM within the Woodside project management framework has become more evident in recent years with large numbers of SIPM specialists and engineers working in Perth or on site at Dampier in the North West (see 5.2.3). The influence of BP and Cal Asiatic on the management of the project should not be overlooked as all the participants have voting strength on the project committee in line with their stake in the venture. However, Shell has emerged as the dominant participant, a position consolidated since 1985 through the acquisition of a 40% stake in Woodside Petroleum, the parent of the project operator Woodside Offshore Petroleum (WOP) (Woodside, April 30 1986).
Apart from the corporate linkages established between the NWS joint venture and the international petroleum network, there is also the important trade connection which will become more evident once LNG exports to Japan begin in 1989. The signing in September 1985 of the LNG contracts by the joint venturers and representatives of the eight Japanese power utilities purchasing the LNG, has established the official trade channel between exporter and importer. The Japanese have backed up their intent to purchase up to 5.8 million tonnes of LNG per annum from the joint venturers, through a commitment of $5 billion to a regasification plant, receiving terminals and other infrastructure (Australian Financial Review, August 26 1985).
3.2. Changes in the International Petroleum Network

3.2.1. Key agents of change

Over the past thirty years, major changes have occurred in the structure of the international petroleum network. These have largely reflected shifts in the balance of political and economic power between key parties operating within the network. The principal agents of change which have featured most prominently in the history of the post war international petroleum industry have been the major multinational oil companies "The Seven Sisters", the world's major oil producing nations and the Western block oil importer governments (Danielsen, 1982:p6).

Prior to World War II, the international oil trade was dominated by five American based multinationals: Exxon, Mobil, Texaco, Socal and Gulf and the long established European based giants Shell and British Petroleum (BP). These companies had established operations in nearly all the major oil producing regions of the world at that time with large scale production from the Persian Gulf and the Gulf of Mexico.

By the mid-1950's, the oligopolistic stranglehold of these companies was starting to weaken in the face of serious challenges from the major producer governments which were seeking increased returns from the exploitation of their national resource. The first serious challenge had come in 1949 when the "American Arabian Oil Company" (ARAMCO) was forced to concede a 50:50 production sharing agreement to the Saudi Arabian government. This set a precedent for other Persian Gulf producers which obtained improved contractual conditions from the oil majors throughout the fifties and sixties. During the 1970s the major middle-eastern producers extended state sovereignty through outright nationalisation of all petroleum based operations. At the same time, a
number of other producers outside the Gulf states extended state participation in domestic oil production and downstream activities. The oil majors were forced to produce oil under participation agreements which often incorporated buy-back clauses, where participation oil was sold to the companies at the wellhead with a separate quota for independently produced equity oil. Other countries retained traditional concession contracts, but with higher royalties and a higher tax levy (Zorn, 1983:p.321).

The net effect of widespread nationalisation, the creation of state oil companies and increased competition from the independent oil companies in the seventies was a significant reduction in the bargaining power and market share of the major multinationals. Zorn (1983) illustrated this phenomenon when he noted that "Between 1972 and 1980 the proportion of world crude oil (excluding North America and the Communist block) sold by State petroleum countries, increased to 33%. Over the same period the proportion of crude oil under the control of the seven transnational oil majors decreased from 89% to 43% (Zorn, 1983:p.322).

Another important counter to the power of the multinationals came with the formation of OPEC (the Organisation of Petroleum Exporting Countries) in 1960. Representatives of the five founder nations: Saudi Arabia, Iran, Iraq, Kuwait and Venezuela, had formed the organisation at a meeting in Baghdad in an effort to gain more control over the price and volume of oil being traded on the world market. The organisation grew steadily over the next decade (11 full members in 1971) but basic economic and political divisions between member nations proved to be a major obstacle to unified action (Danielsen, 1982:p.5).*[2]
Although divisions between member nations have consistently undermined OPEC's ability to gain strong control over oil pricing and production levels, in the period between October 1973 and January 1974, cartel type action was evident on the part of the Arab members.

Common unity amongst OAPEC (the Organisation of Arab Petroleum Exporting Countries) members against American intervention in the Yom-Kippur Arab-Israeli conflict resulted in a sustained embargo on oil exports to the USA and Holland. Apart from the dramatic effect this 1973 oil crisis had on prices (an increase from US$3 to US$12 bbl in three months) it was a powerful warning to the Western industrialised nations of the dangers of over dependence on oil as their principal energy source.

The Western governments responded quickly to OPEC's challenge by forming the International Energy Agency (IEA) to devise a strategy for securing the long-term energy requirements of member nations. The alternative energy programmes which were subsequently established in the USA, Japan and the major industrialised nations of Europe, were to provide an impetus for increased exploitation of non-OPEC natural gas reserves. A similar stance was adopted by the Australian Federal government who were concerned with maintaining high levels of petroleum self-sufficiency. Figures produced in 1984 indicated that this level rose from approximately 60% in the mid-seventies to over 70% in the early eighties (Esso Energy Outlook, 1984).

By the end of 1979 growing world demand for natural gas and predictions of a continuing upward trend in oil prices, provided the NWS joint venturers with a major incentive to rapidly develop the major gas discoveries they had made in the early seventies. Both the Federal and WA State governments were eager to see a two phase domestic gas/LNG export
programme get off the ground. The WA government ratified this commitment to the project by finalising the 1979 North West Gas (Woodside) Development agreement with the JVPs. In the same month as the Agreement was passed as an Act in the WA State parliament (December 1979), the Federal government cleared a major obstacle to the project by issuing LNG export permits to the joint venturers (see 4.1.3 and 4.2.4).

3.2.2. **The growth of natural gas as a primary energy source**

The formation of the IEA was an important step towards the development of an alternative energy strategy to be adopted by Japan and the Western industrialised nations. Under the umbrella of the OECD, a number of energy programmes were coordinated to reduce reliance on imported oil in the economies of the 16 member nations. The IEA developed policies to encourage energy conservation and fuel switching from oil to natural gas or coal for electricity generation and major industrial purposes. In the USA, Japan and a number of European countries, nuclear energy programmes were established or stepped up. Attempts were also made to secure oil inventories to meet the short-term energy needs of OECD nations, prior to the introduction of new alternative energy programmes. However, this policy, which would involve fuel sharing during times of crisis, was partially undermined by the attempts of certain member nations including Japan, France, the UK and the USA, to negotiate special oil deals with the OPEC producers (Odell, 1983).

The increasing trade-off between oil and natural gas, which occurred in America, Japan and a number of European nations throughout the seventies, saw a steady rise in natural gas production in the North Sea, the Gulf of Mexico and other major gas producing regions outwith the OPEC
sector. However, the major boost to natural gas production and processing for LPG and LNG followed the 1979 oil price shock. This occurred in January 1979 when a shortfall of 5 mbd of crude oil stemming from the October 1978 revolution in Iran, led to panic buying with prices reaching more than US$30 bbl on the spot market. This represents an effective doubling of the November 1978 price of around US$15 bbl. A number of leading market analysts at the time predicted a continued upward rise in oil prices throughout the eighties. A 1981 survey of analysts conducted by Stanford University's Energy Modelling Forum (EMF) took in a range of forecasts from US$42 to US$92 per barrel (1981 dollars) (Odell, 1985). Projects of this nature, which assumed steadily rising oil prices in the short to medium term, and the effects of OECD domestic energy policies, gave a number of oil importer/producers like the US and the UK and incentive to expand production of natural gas. Piped gas, LNG and LPG could be used as premium fuel alternatives displacing oil products in the industrial sector, the transport sector, and wherever commercially acceptable, could be used for power generation.

3.2.3. Changes in Western Australia and Japan

Western Australia in 1979 was a good location for a major natural gas production project from the multinational point of view. The high levels of proven gas reserves on the NWS (240,000 million m³) (1979 figure) and the relatively benevolent Federal and State, fiscal and legislative regime for petroleum development provided a strong incentive for multinationals seeking to invest in a politically stable producing region (ANZ 1982:p.38). *[4] (See 3.4.1 for update on reserves.)
By the end of 1978 the NWS participants had received a number of incentives from the Fraser Federal government and the Court government in WA to push ahead with the development of the project. Federal Treasurer Anthony's budgetary package of August 1977 provided a series of incentives to boost the progress of the project. Major construction work did not begin until early 1980, after the North West Gas (Woodside) Development Act was passed in 1979 (see 4.1.3).

Throughout the mid to late seventies, the Japanese Ministry for International Trade and Industry (MITI) had been encouraging substitution of oil by coal and natural gas in the nation's energy mix. Given the limited supply of indigenous petroleum resources in Japan, most of the nation's natural gas supply was imported as LNG or LPG. The LNG importation programme had been stepped up during the mid-seventies with an additional 9.5 million tonnes imported in 1977 under new contracts with Indonesia and Abu Dhabi (WA Govt. 1985:p.61).

In the short to medium term (5-10 years), the Japanese planned a continued growth in LNG use as a basic feedstock fuel for electricity generation and other industrial and domestic users. The use of regasified LNG for electricity generation was seen as a stop gap measure prior to the initiation of an efficient nuclear power programme. However, LNG use in other sectors was scheduled to be a longer term proposition, a factor reflected in a supply period of 20 years written into Japanese LNG contracts signed after 1976 (WA Govt., May 1985:p.61).

In the years which elapsed between 1977 and the launching of construction on the LNG export phase of the NWS project in 1985 a number of important shifts have taken place within the Japanese and world market for LNG. A considerable drop in real oil prices and the indexed value of
LNG coupled with a downward revision in MITI's demand projections for Japanese LNG requirements in the 1990s, had led to a considerable alteration to original expected returns from Phase II of the NWS project. When construction began on the first phase of the project in 1980, expectations for returns on domestic gas sales were tempered by lowered demand projections for natural gas in WA. However, the export phase of the project which was viewed to be the big money earner in 1979 became an increasingly marginal proposition in terms of anticipated returns of the JVP's investments, throughout the 1982 to 1984 period (Allen, 1984).

The strategic position of the NWS joint venturers as exporters of LNG to a shifting Japanese market underwent some significant changes in the period between 1979 and September 1985 when the sales contracts were finally signed by the Japanese buyers. These changes in the pre-September 1985 period and subsequent adjustments in JVP strategy, will be discussed in Chapter 6 of this work. In Section 3.3, an attempt is made to describe the broad economic background to these changes through discussion of (i) the major features of the world trade in LNG; (ii) price regulation in the market for natural gas citing the US as a major example; (iii) trends in the Japanese market for LNG in the period 1982-1985. Recent trends 1986-1988 are discussed in Chapter 8.
3.3. The World Trade in LNG

3.3.1. Distinctive features of the LNG trade

(i) The concentrated market

To use the term 'world' LNG market in the same sense as one would use the term world oil market, would be something of a misnomer. For although the twelve existing projects currently exporting LNG are scattered throughout the world, the market which they service is highly concentrated when comparisons are drawn with the trade in crude oil. The worldwide trade is based on 7 exporting nations and 7 importing nations (see WA DRD LNG Status Report, Nov. 1987).

At present (1988), there are many hundreds of major crude oil producers throughout the world, most of which feed crude and refined products into an international trading network. However, whilst LNG projects are operating in such diverse locations as Abu Dhabi, Malaysia, Indonesia and Alaska, a large proportion of their output goes to a single buyer - Japan. Other projects in Libya supply outlets in Europe and until the mid-1980's Algeria supplied LNG to two major power utilities in the Eastern states of the USA. The larger of the two supply contracts has recently been resumed following a 3 year suspension (1983-1987) with plans in place to ship 85 bcm (65.5 million tonnes) of LNG from Algeria to Lake Charles Louisiana over a 20 year contract period (LNG Status Report, WA Govmt DRD Nov. 1987). However, despite these alternative outlets and a growing trade in the S.E. Asian region Japanese imports still accounted for over 70% of the world LNG market in 1987 (Prospect No.4/87, WA, DRD).

The distinctive LNG market structure whereby a number of suppliers must negotiate directly with a limited number of end users is best understood when a number of other factors are taken into
consideration. These relate to the technology involved in the processing and transportation of the product, the unique nature of individual LNG supply contracts and pricing structure which influences these at a given point in time.

(ii) **Technological and contractual limitations**

As suggested above a number of important factors which influence LNG trading patterns relate to the technological specifications for each contract and the general contractual provisions governing each party.

The nature of LNG supply contracts are such that they can only be set up following a substantial financial commitment by both parties to supply the technological hardware necessary for the production, shipping, receiving and storage of LNG. The sophisticated technology and infrastructure necessary for receiving shipments of LNG from cryogenic tankers with capacities of up to 165,000 cubic metres at flow rates of 50,000 gallons per minute, severely restricts the number of end users (Drake, 1977:p.5). (Tankers for NWS project average capacity 125,000m$^3$, Petroleum in WA Jan 88.)

To date it is only some of the more developed nations which have had the ability to finance this type of undertaking; which requires them to absorb a rigidly defined 'minimum drop' over an extended period with little allowance for fluctuations in domestic demand for natural gas.

The unique nature of the infrastructure and technology employed when developing individual projects and the normal fifteen to twenty-five year commitment between importer and supplier dictate that the market for LNG will demonstrate a number of features quite distinct from those relating to the international trade in crude oil. Crude is marketed through an international network of buyers and sellers who may be oil
companies, nation states or a variety of other commercial parties. This creates a situation quite distinct from the direct relationship which exists between the LNG producer and client nation. Whilst the oil producer has the option of selling his product to a number of purchasers through the spot market or at fixed prices determined by other power brokers within the network, the LNG producer must source a market and in most cases negotiate directly with prospective buyers. Thus whilst oil supply contracts tend to operate on an open market basis, LNG contracts are characterised by "closed chain" relationships between the supplier and the customer (Arai, 1984:p.26). (See Chapter 8 for update on spot market trade.)

(iii) **Unique pricing structure**

As suggested above the relative inflexibility of LNG contracts and the associated technology are elements which can partially account for the fact that LNG has failed to displace oil as a premium fuel within a diverse market. Other reasons are tied in with the limited scope of end uses for a light product which has been restricted for usage as a base load or peak shaving feedstock for electricity generation or regasification for pipeline distribution. These factors have always been reflected in the price of this clean high energy fuel which some producers have claimed has always sold at prices which fail to reflect its true market value. Traditionally LNG prices have been discounted against oil based indices although in recent years they have made considerable gains on the price of fuel oil and basic crudes imported into Japan (see Chapter 8).
The highly specialised nature of each individual LNG supply contract is another factor which has strongly influenced price profiles for the product over the years. Whilst differences in infrastructural and shipping costs are an important consideration in determining the final CIF price, the relative needs and thereby, negotiating strength of the two parties is often a major element in the price differences which exist between individual contracts. Even when long haul shipping is taken into account some price variations between contracts have been quite pronounced. A notable example can be drawn from the November 1984 price index when the CIF price of LNG imported into Italy from Libya was estimated at $3.45 MMBTU, a $1.56 difference from the Malaysia to Japan import price of $5.01 MMBTU (see Table 2) (WA Govt. DRD, May 1985).

3.3.2. Price regulation in the LNG trade

As stated most price differences are linked to infrastructural needs, technology, shipping costs. Other major considerations are specified end use for the product and the availability of alternative energy sources which are two of the major determinants of bargaining strength for the importing nation. Whatever the exact reasons for intra contract price differences are, the price distribution illustrated in Table 2 indicates that none of the major power brokers within the world petroleum scene have been able to regulate LNG prices to the same extent as crude oil prices, over the past decade.

In the past there have been attempts by certain parties to devise a cohesive policy for the regulation of LNG prices. In the late seventies both OPEC and the US government were considering the possibility of intervention into the LNG market in order to instigate stronger price
Table 2

LNG PRICE HISTORY

<table>
<thead>
<tr>
<th></th>
<th>1972</th>
<th>1976</th>
<th>1978</th>
<th>1979</th>
<th>JAN 80</th>
<th>JAN 81</th>
<th>JUL 81</th>
<th>JAN 82</th>
<th>JUL 82</th>
<th>NOV 84</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria - UK</td>
<td>N.A</td>
<td>N.A</td>
<td>0.95</td>
<td>1.10</td>
<td>-</td>
<td>4.40</td>
<td>4.60</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>CIF prices as of 1980.</td>
</tr>
<tr>
<td>Algeria - France</td>
<td>0.36</td>
<td>1.00</td>
<td>1.20</td>
<td>1.30</td>
<td>3.05</td>
<td>3.75</td>
<td>4.28</td>
<td>5.12</td>
<td>4.77</td>
<td>3.70*</td>
<td>FCB price.</td>
</tr>
<tr>
<td>Algeria - Belgium</td>
<td>-</td>
<td>1.30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.80</td>
<td>-</td>
<td>4.77</td>
<td>3.70*</td>
<td>3.70*</td>
<td>FCB price.</td>
</tr>
<tr>
<td>Algeria - Spain</td>
<td>-</td>
<td>0.67</td>
<td>1.36</td>
<td>2.50</td>
<td>3.42</td>
<td>4.50</td>
<td>4.58</td>
<td>3.91</td>
<td>3.85</td>
<td>2.70*</td>
<td>FCB price.</td>
</tr>
<tr>
<td>Algeria - Distrisas</td>
<td>-</td>
<td>-</td>
<td>1.57</td>
<td>2.67</td>
<td>2.67</td>
<td>3.35</td>
<td>4.12</td>
<td>3.95</td>
<td>3.92</td>
<td>3.50*</td>
<td>FCB price.</td>
</tr>
<tr>
<td>Algeria - Trunkline</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.95</td>
<td>3.92</td>
<td>-</td>
<td>FCB contract.</td>
</tr>
<tr>
<td>Libya - Spain</td>
<td>0.54</td>
<td>1.21</td>
<td>1.52</td>
<td>3.20</td>
<td>3.40</td>
<td>4.35</td>
<td>-</td>
<td>-</td>
<td>3.40*</td>
<td>3.40*</td>
<td>CIF prices as of July 80.</td>
</tr>
<tr>
<td>Libya - Italy</td>
<td>-</td>
<td>0.90</td>
<td>1.10</td>
<td>1.45</td>
<td>2.80</td>
<td>-</td>
<td>-</td>
<td>3.45*</td>
<td>3.45*</td>
<td>4.85</td>
<td>CIF price.</td>
</tr>
<tr>
<td>Alaska - Japan</td>
<td>0.57</td>
<td>1.55</td>
<td>2.15</td>
<td>2.36</td>
<td>3.36</td>
<td>5.88</td>
<td>5.99</td>
<td>5.97</td>
<td>5.79</td>
<td>4.85</td>
<td>CIF price.</td>
</tr>
<tr>
<td>Brunei - Japan</td>
<td>-</td>
<td>-</td>
<td>2.15</td>
<td>2.36</td>
<td>3.14</td>
<td>5.84</td>
<td>6.38</td>
<td>5.90</td>
<td>5.73</td>
<td>4.91</td>
<td>CIF price.</td>
</tr>
<tr>
<td>Abu Dhabi - Japan</td>
<td>-</td>
<td>1.90</td>
<td>2.05</td>
<td>2.05</td>
<td>2.40</td>
<td>6.63</td>
<td>6.63</td>
<td>6.17</td>
<td>6.07</td>
<td>5.24</td>
<td>CIF price.</td>
</tr>
<tr>
<td>Indonesia 1 - Japan</td>
<td>-</td>
<td>-</td>
<td>2.80</td>
<td>3.45</td>
<td>4.69</td>
<td>5.78</td>
<td>5.07</td>
<td>6.00</td>
<td>5.49</td>
<td>4.74</td>
<td>CIF price.</td>
</tr>
<tr>
<td>Indonesia 2 - Japan</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Malaysia - Japan</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.01</td>
<td>CIF price.</td>
</tr>
</tbody>
</table>

* Estimates only

Saudi Arabian Light Crude at $29/Bbl is equivalent to ab. $5.0/MMBTU*

Reproduced Courtesy of the "DRD" May 1985.
controls. Both parties failed to impose any effective limitations on pricing for a number of reasons. In the case of OPEC it is difficult to determine the reasons for the very limited effort made to introduce an effective price regime within the LNG market. However, control of the basic resource and the distinctive trading patterns for LNG were probably the predominant factors. Taking the first example it should be noted that whilst the middle-eastern members of OPEC controlled over 60% of the world's known oil reserves at the time, the figure for natural gas reserves was 22% (AFR, November 18 1977).

The concentrated market for the product and rigid contracting structures were also key limiting factors on any party attempting to regulate prices throughout the world LNG industry. Over the years since the 1973/74 oil crisis OPEC have only enjoyed limited success in regulating prices within the international oil network (see 3.2.2). Thus, in view of the less integrated nature of LNG related activities throughout the world, it is unlikely that a body like OPEC could ever introduce effective price regulation throughout the LNG industry.

The factors cited above were also important in determining the failure of US proposals for price regulation within the LNG trade. However, internal energy policies relating to natural gas pricing were also relevant in the US case. During 1977, the Carter administration had toyed with the idea of extending tighter controls over the price for natural gas. As a potential major importer of piped gas from Mexico and LNG from Australia to supplement an existing contract with Algeria, the USA could have become an important buyer within the international LNG trade. The extension of US powers in this area may have resulted in a form of price regulation introduced by the US government. In the event,
however, inconsistencies between existing price structures domestically produced gas and imported gas were to undermine any attempts to extend price regulation beyond the US domestic market for natural gas. (AFR Nov 18 1977)

3.3.3. The US market for LNG

During the late seventies the US natural gas market was scheduled to undergo a considerable expansion with the introduction of LNG imports to supplement a possible supply shortfall on the West Coast. Several Californian power utilities undertook initial negotiations with the Indonesian government and the NWS participants who were identified as possible suppliers. The major hurdle to LNG imports was the cost when set against regulated prices for US domestic gas. Indonesian LNG was quoted at US$3.59 per thousand cubic feet (MCF), more than double the regulated domestic gas price of US$1.45 MCF. NWS LNG was estimated to cost more than the Indonesian price, with a consequent reduction in the possibility of a US contract for the joint venturers (AFR, 16 December 1977).

Despite deregulation measures for the US natural gas market taken by the Reagan administration total contracted supplies of LNG to the USA peaked at 2.83 million tonnes in 1983, with a subsequent suspension of one of the two Algerian contracts with East Coast utilities reducing the figure to 0.78 million tonnes in 1984 (WA Govt. May 1985:p.64). Since 1978 LNG supplies to West Coast utilities from Indonesia or Australia have been ruled out against the more cost effective alternative of importation of piped natural gas from Mexico and Canada.
3.3.4. **Trends within the Japanese market, 1982-85**

Since 1969, when the Japanese arranged for their initial shipments of LNG from Alaska, they have dominated the market consistently accounting for over 50% of total world trade. The rapid expansion within the Japanese economy up to 1973, fuelled a steady demand for a number of energy sources, notably oil and coal. However, it was not until after the first oil shock, with the rapid escalation in energy prices that Japan witnessed a rapid growth in demand for LNG as a basic feedstock fuel.

Throughout the 1970s a number of large metropolitan power utilities began to switch to LNG as their primary feedstock, recognising its advantages as a clean burner over high sulphur fuels like coal and oil. This lead to a situation where by 1977 Japan had established three additional contracts sourced in Brunei, Indonesia and Abu Dhabi, adding an additional 14.7 million tonnes p.a. to their existing imports of 960,000 tonnes p.a. from Alaska (Arai 1984:p.5). By 1985 the Japanese market was serviced by a total of 7 LNG projects bringing total imports to approximately 26,660 tonnes (WA Govt., DRD, May 1985).

An estimate made in 1977 by the Japanese "Ministry for International Trade and Industry", "MITI", projected that by 1990 LNG was to account for 7.7% of the total Japanese energy supply with annual imports of 44 million tonnes by that year. In 1982, three years after the second oil shock, the 1990 figure was readjusted to 11.5% of total energy supply with the lower projected total LNG requirement of 43 million tonnes p.a. reflecting an anticipated downturn in energy growth (WA Govt., DRD, May 1985:p.52).

At the time of the second MITI estimate in 1982 LNG demand in Japan was very high providing a ready market for five suppliers with strong future potential for additional projects including the NWS.
However, in common with most other industrialised nations, the economy of Japan went through a sharp downturn during the early eighties, a factor which was to strongly influence demand levels for LNG within the country. A downturn in the basic metals industry had led to a situation where the large electricity utilities were no longer requiring such large quantities of LNG to fuel industrial power usage. This heightening concern amongst the power companies was reflected in an MITI statement released in September 1983 which referred to the problems associated with both the pricing structure of LNG supplied to Japan and the inflexible nature of the traditional "take or pay" LNG contract (see 6.1.2 and 8.2). The statement reproduced in a recent document put out by the West Australian government as a result of a trade mission incorporating visits to Japan and two recently developed LNG plants in Indonesia and Malaysia, made a number of recommendations for the structuring of future trade in LNG between Australia and Japan. These included a recommendation that the existing crude oil parity pricing formula for LNG should be revised and that more flexible contractual conditions should be introduced to account for fluctuations in demand within the market sector of the major power utilities (WA Govt., May 1985:p.53).

The 1983 MITI statement was followed by a downward revision of projected LNG demand for 1990 to 36.5 million tonnes per annum, causing some consternation for the JVPs and other prospective suppliers. The Japanese by this stage had entered what was essentially a buyers market. The joint venture planners would be aware of this, recognising that the Japanese had the power to exercise a number of options which would determine the future of the NWS as a major export project. Options which still exist to date include possible commitments to the "Dome" project in
Canada, the "Sakhalin" project in the USSR, several other proposed projects and the possibility of extending contracts with existing suppliers (WA Govt., May 1985). However to date (1988) both these projects have been shelved. The Dome project was scrapped at the end of 1986 following a series of financial and legislative problems and the "Sakhalin" project has been mothballed by the Russian government in the face of limited openings in the Japanese LNG market to the year 2005 (Petroleum in WA Jan 88).
3.4. **Australian Natural Gas Network**

3.4.1. **Major gasfields**

The first natural gas discovery in Australia was made as far back as 1900 in a water bore in Roma, Queensland. Later, gas finds in the Roma/Surat basin area led to the establishment of a small pilot project in 1961, to supply natural gas to an electricity generating plant in Roma. Subsequent developments did not take place until 1969 when a pipeline was built from Roma to Brisbane supplying natural gas to the city. This was followed by a number of other pipeline projects to establish natural gas supplies to Melbourne and Adelaide (1969), Perth (1971) and Sydney (1977) (ANZ, 1982). Since that time, smaller spur line developments have taken place, except in Perth where the original West Australian Natural Gas Pty., WANG, 415 km pipeline from the Dongara field to Perth has been superseded by the State Energy Commission line running from Dampier in the North to Wagerup in the South West (SECWA, October 1983:p.43) (Natural Gas in WA Report No.5).

The first major offshore natural gas reserves to be developed in Australia were those in the Bass Straight, which during 1985 provided more than 85% of Australia's natural gas output (Woods, 1986). The development of the Marlin, Barracouta and Snapper fields established a ready supply of natural gas for the Victorian market, through a 174 km pipeline running from Longford near Sale to Dardenong (ANZ, 1982).

In South Australia a number of small fields in the Cooper Basin, jointly owned by an operating consortium led by Santos, a South Australian company, have been used to supply Adelaide since 1969. Since that time, a series of new discoveries has been developed and tapped into a piping system operated by the South Australian Pipelines Authority, supplying gas
to Adelaide, Peterborough, Angaston and Port Pirie. In 1980, the Cooper Basin consortium established contracts with the South Australian government for the development of a large liquids project drawing on the production from six oilfields and fourteen gasfields situated within the State. The $1.4 billion project was established to supply LPG, condensate and crude oil for the domestic and export markets along with ethane, which is currently being used to fuel the Port Bonningthon processing plant (Erskine 1985: p.68). (Further detail Appendix I.)

Whilst the Bass Straight and Cooper basin projects are of major importance in terms of Australia’s current natural gas and hydrocarbon liquids supplier, the single most important producer of natural gas in Australia is the NWS project.

Although the North Rankin 'A' is the only Woodside platform operating on the Rankin Trend during the year ending December 1987 it produced $3486 \times 10^6 \text{m}^3$ of gas and $859,629 \text{kl}$ of condensate. Given that gas and condensate production from Goodwyn and North Rankin 'B' should be supplementing this output in the early 21st century, the potential exists for much higher production levels from the NWS project. This assertion is supported by recent reserve estimates for North Rankin and other Woodside fields scheduled to come into production in the next decade. Working on a 90% probability North Rankin has identifiable recoverable reserves of $188.5 \times 10^9 \text{m}^3$ of gas and $20.7 \times 10^6 \text{kl}$ of condensate. Goodwyn Main has estimated recoverable reserves of gas at $70.60 \times 10^9 \text{m}^3$ and condensate at $14.30 \times 10^6 \text{kl}$. The figures for Goodwyn North are $36.50 \times 10^9 \text{m}^3$ and $18.60 \times 10^6 \text{kl}$ (Petroleum in WA January 1988).
The estimates presented above represent only a small portion of the overall hydrocarbon bearing potential of the Rankin Trend formation. Figures released in 1985 for estimated recoverable reserves within Woodside permit areas based on a total of 11 fields placed natural gas reserves at $852 \times 10^9 \text{m}^3$ (Erskine 1985:p22). At the time this accounted for 60% of Australia’s proven reserves of natural gas, making the Rankin Trend a significant gas bearing region in world terms (Woods 1986:p54).

3.4.2. Gas exports

At present the future of gas exports from Australia’s major fields remains uncertain. Price formulas for LNG and LPG, which link these products to a crude oil marker, has resulted in a considerable drop in export revenues for LPG since 1985. Federal policies on pricing and export quotas will shape the future for LPG and LNG exports whilst condensate is marketed as a light crude.

Until 1985 LPG exports from the Bass Straight to Japan were the main source of government revenue from gas exports. However, with the recent expansion in Cooper Basin, LPG production to an output of over 450,000 tonnes in 1985, there could soon be a considerable excess for export. Initial export approvals were granted to the Santos consortium in 1984 who have secured contracts with Identsu of Japan and Total International (Erskine 1985:p.68). Total export value of Australian LPG exports in 1984 was estimated at $260 million in dollars of the day (Esso: 1984: p.12). Although LNG exports from the NWS are not due to begin until 1989, a 1985 estimate held the value of the supply contracts to be US$75 billion over the initial 18 year delivery period. NWS gas production for 1985 was valued at $2 billion per annum although recent price adjustments will reduce this figure for 1986 and 1987 (Petroleum in WA Jan 1988).
Esso projections for energy exports from 1990 to the year 2000 held the value of LNG exports well above that for LPG or Uranium with LNG export values averaging out at approximately three times the value for LPG exports and twice the value of Uranium exports (Esso 1984:p.18).
3.5. **Multinational Ownership in the Australian Petroleum Industry**

3.5.1. **The industry in general**

Throughout the post war years, Australia's petroleum industry has been dominated by a number of foreign multinationals. In recent times the companies with the largest stake in Australian oil and gas production and downstream activities have been BP, Shell, Mobil, Caltex, Esso and Total. Until 1984, when it acquired the assets of Amoco Australia for $250 million, BP Australia ran second to Shell Australia in terms of percentage share of the market for petroleum products. However, since the Amoco buy-out when the company boosted its market share to over 25%, BP Australia has retained the position of market leader (Erskine, 1985).

Until 1987 when the UK government sold off part of its BP shareholding the British public were majority shareholders in BP. Private investors now hold the majority. However the British government has retained joint control of Shell with the Dutch government on a 40/60 basis. Other major multinationals operating in Australia are mainly US controlled with the exception of Total which is one-third owned by the French government through Compagnie Francaise des Petroles (CPF). The American companies, Mobil, Caltex and Esso, like Shell and BP, have interests in every level in the Australian petroleum industry from exploration through to refining and marketing. The only company with a sizeable Australian shareholding which has assets in all phases of the oil and gas industry exploration, production, processing/refining, marketing and distribution by land and sea, is Ampol. This company is no longer majority Australian owned.
Some appreciation of the extent to which foreign multinationals dominate the Australian petroleum sector can be gained through brief consideration of the ownership profile of Australia's largest oil and gas production facilities. Supplementary information relating to the refining industry will be presented to offer a more composite picture of the powerful influence of foreign multinationals within the Australian petroleum sector as a whole.

3.5.2. Ownership profile in four major petroleum producing projects

(i) Barrow Island

Barrow Island serves to illustrate how the foreign multinationals established their pattern of dominance in Australia from the earliest days of commercial oil and gas production. The operator for the onshore fields "West Australian Petroleum Exploration Pty" (WAPET), was established in the early fifties as an exploration company assisted by Federal government funding through the 1957 Petroleum Search Subsidy Act (ANZ 1982:p.17). The Barrow Island fields discovered in 1964 have proven to be a consistent revenue earner and in 1985 still supplied 7% of Australia's total crude oil requirements.

In addition to this WAPET controls sizeable commercial gas discoveries both onshore (Barrow Island) at Biggada, Barrow Deep and Perentie and offshore at Gorgon, N. Gorgon, Central Gorgon, W. Tyral Rocks and Spar (see Petroleum in WA Jan 1988:p22). The ownership profile of WAPET breaks down as follows: Caltex Petroleum 80% and Ampol Petroleum 20% interest. The Barrow Island joint venture comprises California Asiatic Oil Co., Texaco Overseas Petroleum Co., Shell Development Australia each two sevenths interest and Ampol Exploration Ltd. one-seventh.
The familiar names of Caltex and Shell represent a major stake in one of many petroleum related interests in Australia. A majority of Caltex interests are concentrated in downstream operations. Shell also has considerable interests at this level. Shell's high profile interest in the NWS project represents the company's largest single stake in a major Australian based production project. The project is however highly integrated and encompasses the whole spectrum of operations from exploration and production, through to shipping. In keeping with this structure all the NWS venturers, have an interest in both upstream and downstream activities. Apart from Shell, one other Barrow Island participant has a major stake in the NWS project. California Asiatic Oil Company, a subsidiary of Chevron (which has partial control of Caltex) holds a 16.67% interest in the project as a whole. Unlike the NWS project, the Barrow Island venturers must go to an external party to undertake crude oil processing which is carried out at the BP refinery in Kwinana, 20 Km south of Perth (ANZ 1982).

(ii) The Bass Straight

The development of the Bass Straight fields provides an example of how a single multinational obtained a large stake in what has emerged as Australia's largest oil producing region. The Esso/BHP partnership was formed after an ex-Esso geologist was hired by BHP to assess the petroleum prospectivity of the Gippsland basin. Following favourable survey results BHP decided to bring in an operating partner with technical knowledge and experience of petroleum exploration and development in difficult offshore conditions. A contract was established with Esso, whereby the American major would finance all exploration until a find was made and then BHP could exercise an option on a 50/50 partnership sharing all development costs or a straight 12.5% royalty.
For a number of commercial reasons, not least the high prospectivity of the Gippsland Basin and other reasons relating to foreign investment guidelines the 50% formula was adopted.

With hindsight, it is easy to criticise the Federal and Victorian governments for allowing 50% of this prolific petroleum producing area to fall under foreign control. However, whilst BHP and the government agencies concerned were clearly outnegotiated the situation should be viewed in the context of the mid-sixties. At that time it was still commonplace for governments to engage the services of an oil company as an operating partner, to provide expertise in offshore exploration and development. Australia's offshore industry was embryonic at the time and the lack of expertise, technology and existing infrastructure in this field would have made independent exploration and development of the Bass Straight area a slow and difficult task.

The debate over State control in the petroleum industry has continued into the eighties with industry representatives like the Australian Petroleum Explorers Association (APEA) and the Australian Institute of Petroleum (AIP) standing in opposition to the Federal ALP's attempts to extend direct government control in this area (see Saddler, 1981:p.172-190) (APEA, March 1985:p.9).

(iii) The Cooper basin

The Cooper Basin provides the only current example of a major oil and gas bearing region in which there is a significant government interest. The consortium which established the $1.4 billion liquids scheme which will draw on the resources of 20 gas fields and six oil fields, includes the South Australian Oil and Gas corporation in which the South Australian government has a controlling interest. An original
agreement signed in 1976 pertaining only to gasfields in the basin gave the operator Santos a 46% stake, SAOG 18%. Delhi Oil was the only other partner with a large shareholding, although there were several other smaller participants. In 1979 the South Australian government legislated to protect Australian equity in the project through the introduction of a ruling which effectively prevented the takeover of the Australian operator Santos (Saddler, 1981:p.101). Since that time, Santos has remained the biggest shareholder, followed now by Delhi and the Woodside subsidiary Vamgas. SAOG is the fourth biggest shareholder, but does not hold more than 12% of any one block currently being explored or developed (Erskine 1985:p.69).

(iv) North West Shelf

Whilst the North West Shelf serves only a domestic market for natural gas at present, the project is well integrated into the international petroleum network through corporate channels. This is evident from the ownership profile of the project with international majors like Shell, BP and Chevron through Cal Asiatic holding sizeable stakes in both the domestic and LNG phase (see Table 1 in Introduction).

Following the Shell/BHP takeover of Woodside Petroleum in April 1985 Shell increased its stake in Phase 1 from 8 1/3% to approximately 28% and Phase II equity from 16 2/3% to approximately 24%. These changes in the equity balance give Shell over 25% share in the joint venture. Although this did not significantly affect foreign equity, the permitted foreign shareholding is 75%, 25% higher than existing Federal guidelines for minerals and petroleum projects which specify 50% Australian equity with 50% Australian voting strength on the board of directors (see 4.2.1 Fraser's concessions to the JVPs).
The strength of the major multinationals within the North West Shelf venture has been a long standing issue in State and Federal debate relating to corporate policy and the national interest. Major concerns include returns to the nation through taxation, employment and technology transfer and the extent to which the State and Federal government can regulate the activities of foreign multinationals to ensure that they are not acting against the national interest (Peden AMWU, May 1985). A number of arguments have been raised for the creation of an Australian State oil company to monitor the activities of all the operators at every level in the Australian petroleum industry and extend the public stake in the industry through participation in oil and gas production, processing, product marketing and distribution (see Saddler 1981). The creation of an "Australian Hydrocarbons Corporation" to carry out these functions was an important part of the ALP Federal government election platform in 1979. However, there has been little movement in this direction since the re-election of the Hawke government in 1984.
ENDNOTES

*[1] Sourced from Stage I interviews.


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CHAPTER 4
THE POLITICAL AND LEGISLATIVE BACKGROUND
TO THE NORTH WEST SHELF PROJECT

INTRODUCTION

In the previous chapter an attempt was made to place the NWS project within a worldwide economic and geopolitical context. This chapter serves to bring the focus down from World level to National and State level (see Chapter 2, Section I of the conceptual map).

The broad aim of the chapter is to examine how the policies of the Federal and WA governments have influenced the development of the NWS since 1972.

Section 4.1 outlines some important pieces of Federal and State legislation which composed the legislative framework which influenced JVP policy and strategic planning between 1972 and 1980. This influence was both direct (i.e. Procedures set out in the 1979 NWS Development Agreement (Act) and indirect by bringing about structural change within the Australian petroleum industry.

Section 4.2 considers some broader aspects of Federal government policy which affected the NWS project in the early planning years to 1980. These include taxation provisions, foreign investment guidelines, farm in/farm out rulings and export controls. In the final section of Chapter 4.3, these government policies will be placed in a broader historical context through consideration of a list of significant events identified by interview respondents prior to identifying the three critical events analysed in Chapters 6 and 7 (see 2.1).

Broad historically significant events identified by Stage 1 respondents will be used as points of departure for an examination of the
Federal-State relationship on matters relating to the North West Shelf development between 1972 and 1980. This period was of crucial importance for the joint venturers as the time to clear away all the major political obstacles to the launch of a 2 stage natural gas/LNG export project.
4.1. **The Legislative Framework**

4.1.1. **Key legislation of the Whitlam era**

During the period between the election of the Whitlam government in 1972 and its fall in December 1975 a series of new legislative provisions was introduced to extend Federal control in the petroleum and minerals sector. Legislation which was introduced under three of these Acts was to influence the Federal-State debate on the North West Shelf and the petroleum sector in general, throughout Whitlam's period in office. These Acts were (i) *The Seas and Submerged Lands Act 1973*, (ii) *The Pipeline Authority Act 1973* and (iii) *The Petroleum and Minerals Authority Act 1974*.

(i) **The Seas and Submerged Lands Act.** This Act was introduced by the Whitlam government in 1973 as an attempt to extend Federal sovereignty over offshore minerals and petroleum resources. The terms of the Act laid down that the Commonwealth be given power over both the territorial sea (from the low water mark to the three mile limit) and the continental shelf. Prior to the passing of the 1973 Act a series of attempts had been made by the Federal government to demarcate the limits of State and Federal jurisdiction over offshore areas adjacent to State boundaries.

From 1953 when the Commonwealth government proclaimed rights over the resources of the continental shelf through to 1967, the issue of Commonwealth-State responsibility for the offshore was left open. In 1967 a compromise agreement was drawn up between the States and the Federal government and encompassed into the *Petroleum (Submerged Lands) Act 1967*. This intergovernmental agreement empowered State ministers to grant offshore exploration permits and production licences under State and Federal Acts (Layer, 1985). The States effectively administered the joint
Federal-State legislation and collected all rents and fees. A 10% royalty on oil and gas production was split on a 40/60 basis between the Federal government and the State adjacent to the producing area. In many respects the terms of this Act gave the State governments a large amount of control over offshore resource exploration and development with the Federal government taking a back seat. An important rider to the Act helped to secure the State's position by specifying that in the event of a High Court decision giving the Commonwealth power over the offshore, the 1967 agreement would not be overturned (see Layer, 1985). However, despite this apparently favourable outcome for the States the Federal government retained an important power of veto on State applications for permission to issue offshore titles. Joint Federal-State approval was necessary for granting offshore exploration or production permits. This arrangement allowed the Federal government to exercise its regulatory powers in the areas of foreign affairs, customs, defence and navigation (ANZ 1982:p.20).

Although the 1973 Act did not expressly contradict the terms of the 1967 agreement, it clearly represented an attempt by the Commonwealth to exert legal power in areas for which the States had previously been responsible. The State governments came to view the new legislation as an infringement on their rights and challenged the Act in the High Court (Layer, 1985). Harman (1984) states that the litigation which lasted through to January 1976 was one of the uncertain elements which delayed negotiations on the North West Shelf project (Harman 1984:p196). Whilst it is difficult to gauge any direct affect that the Seas and Submerged Lands case may have had on the plans of the NWS joint venturers at the time, it clearly contributed to the prevailing climate of uncertainty which affected petroleum related enterprises between 1972 and 1976.
Throughout its term in office the Whitlam government had introduced a series of Acts to impose controls on foreign investment and resource exports as components in a broader scheme to consolidate Federal power in the Australian minerals and energy sectors. Whitlam’s energy minister Rex Connor had established the basis for a national energy plan which would facilitate extensive centralist control over Australia’s energy resources. The plan was to be advanced through a revised legislative framework for minerals and energy, but was never clearly articulated throughout Connor’s period of office. Two key pieces of legislation were introduced by Connor to support his plan: the Pipeline Authority Act 1973 and the Petroleum and Minerals Authority Act 1974.

The introduction of the Pipeline Authority Act had particular significance for the North West Shelf joint venturers as it provided an instrument through which Connor would try to advance his proposal for a national gas pipeline grid. The proposed grid would link gas production points at various locations across Australia which would be controlled by the Federal Pipelines Authority. The Authority was given widespread powers which went beyond the construction and operation of pipelines. The Federal Act included provisions to allow the Authority to buy and sell petroleum, regulate natural gas prices and supplies and retain domestically produced petroleum, condensate and gas for use in the Australian transport sector (Brotherton 1982:p.126). Connor’s proposal was that oil and gas should be purchased at the wellhead, distributed and sold through the national grid. Further powers would be extended to control the development of refineries and gas processing facilities linked to major points of production.
The powers vested in the new Federal body and Connor's natural grid proposal were seen to present a severe threat to the interests of the North West Shelf joint venturers and other foreign multinationals within the Australian petroleum sector. Industry representatives attacked the proposal which would remove the right of private companies to pursue free market pricing and production policies for their products. The joint venturers were particularly concerned that Connor's legislation might remove the possibility of the major gas export programme which they viewed as essential to ensure adequate returns from the North West Shelf development (see 4.3.1.).

The other policy measure introduced by the Whitlam government which was perceived to pose a threat to the interests of the States and the major oil companies, was the creation of the Petroleum and Minerals Authority or PMA. The PMA was established to explore for, produce and market petroleum and minerals, it was also assigned the task of increasing Australian equity in the resources sector. This broad initiative was supported by statutory powers which were the major source of concern for the State governments and the oil companies. The PMA's statutory powers were contested by the major oil companies on the basis that no other competitor had the power to regulate the industry. The States also objected to a number of sections in the PMA Act which infringed on powers previously held by the State governments. Although the states had been unanimous in their challenge to the Seas and Submerged Lands Act, only the non-labour states supported court action over the PMA Act. In the event this limitation was overcome and the legal challenge over the PMA was successful with the Act invalidated on a technicality. However, this verdict was not repeated in the case of the Seas and Submerged Lands Act,
which was upheld by a court decision in January 1976, giving the Federal government effective sovereignty over the offshore (Harman 1984:p.203).

4.1.2. **Legislative change in the petroleum sector since Whitlam**

The entry of the Fraser government in December 1975, heralded the end of the Federal campaign to assert control in the Minerals and Energy sector. Of the two new statutory bodies created by the previous government to extend control in these areas only the Pipeline Authority was retained. This body is still operating in 1988 although its powers fall well short of those designated under the 1973 Act and largely relate to the operation and maintenance of the Moomba to Sydney gas pipeline.

However the upholding of the "Seas and Submerged Lands Act", presented a problem for the Fraser government with its policy of "New Federalism". This emphasised increased cooperation and sharing of responsibilities between the Federal and State governments in an attempt to move away from the centralist policies of the Whitlam era (Haward 1988).

As part of an initiative to resolve the issue of Federal/State control over offshore areas adjacent to State boundaries, Fraser's energy minister Lynch, established an **Offshore Constitutional Settlement Package (O.C.S.)** (Layer 1985).

The package which was agreed at the Premier's conference in June 1979 was promoted as an important achievement in the cause of cooperative Federalism, with a notable devolution of power to the States with regard to control over territorial waters. According to Haward (1988), the major legislative and administrative structure of the O.C.S. covered seven main areas, three of which were directly relevant to the Petroleum and Minerals sector. These were:
(i) A legislative package which aimed at extending the legislative power of the States with regard to the adjacent territorial sea, vesting the title of the seabed in the designated waters to the State and amending the Seas and Submerged Lands Act 1967 (see below).

(ii) An Offshore Petroleum Package which established that operations outside the 3 mile territorial baseline would continue to be regulated by the Commonwealth, with day to day administration to continue (as with the 1967 agreement), to be undertaken by the States.

(iii) A new package for offshore mining of minerals other than petroleum. Under the proposed regime a number of new legislative provisions were to be introduced including Commonwealth and State legislation embodying a common mining code.

Haward, (1988) comments that despite the apparent devolution of power to the States, facilitated by the new package, the Federal government still retained an important brokerage power in certain areas and could enforce this when necessary. He cites the example of new fisheries provisions, although the comment is relevant to a number of areas relating to Petroleum exploration and development, where the Federal government has retained the balance of power. This point appears to be borne out by the actions of the Hawke Labor government, who despite overt opposition to O.C.S. and the inception of several reviews of the package, have still retained its major provisions with regard to State/Federal sovereignty over the offshore (1988).
The second part of the Fraser government's initiative to extend a policy of cooperative Federalism in the petroleum sector, relates to a series of changes made to the Petroleum (Submerged Lands) Act 1967, embodied in the Petroleum (Submerged Lands) Amendment Act 1980.

Under the terms of the new Act the Federal government was given the power to regulate all petroleum related activity outside the three mile territorial sea. The States were given control over all waters adjacent to their boundaries which fell within that limit. In keeping with the terms of the 1967 agreement all revenues were split 40:60 between the State and Federal governments. In addition a new joint authority was created to deal with a number of important matters relating to the issue and renewal of exploration permits and production licences (ANZ 1982). In the event of a disagreement within the joint authority, the view of the Federal minister prevailed. The only State granted the right to contest this was Western Australia where the Federal minister was required to show cause in relation to the national interest if his view was challenged by State authorities (Layer 1985).

Since the introduction of this Act in 1980 and subsequent amendments in 1981, the existing Federal ALP government has made a few attempts to extend Federal powers in the petroleum and minerals sectors. However, despite recent debates over assertion of Federal power under the Seas and Submerged Lands legislation of 1973, the only major changes in Federal policy in the petroleum sector since 1982 have been the introduction of the RRT, Resource Rent Tax and adjustments to oil pricing and export quotas (Erskine 1985).
None of these measures introduced by the Hawke government has had a strong visible impact on the development of the North West Shelf which is now largely the concern of the WA State government through the Department of Resources Development (DRD). This department, under energy minister Parker, is responsible for the day to day regulation of the JVPs activities in keeping with the terms of the development agreement established in 1979.

4.1.3. The North West gas development (Woodside) agreement

The Act referred to as The North West Gas Development (Woodside) Agreement Act 1979, is the mechanism for laying out the framework of terms and conditions which the joint venturers and the State authorities must observe in relation to onshore development. The offshore relationship is handled by the Department of Mines under the terms of the Seas and Submerged Lands Act (Petroleum) (Harman 1984). The Woodside Act was one in a chain of subsequent special development agreements established between the WA government and private minerals developers during the 60s and 70s. In the mid 1960s the WA State government had come to realise that WA's legislative structure was not entirely geared to effectively regulate the development of mining projects. The company-government agreement system was established as an "enabling" instrument for the contracting parties, and avoided extensive modification to existing legislation. The agreement Act was seen to help in project planning and financing by clearly laying out the rights and responsibilities of each party in key areas including provision of infrastructure, environmental management, royalty provisions and use of local labour materials and industry (WA Govt. May 1985). Harman (1984) reports that the major
distinction between the Woodside Act and previous development agreements was the emphasis on the State's responsibility to provide infrastructure to support the project. This resulted in the WA government providing $45 million (1979) for infrastructure in Karratha in addition to funding for the SECWA pipeline and a serviced site at Jervoise Bay (Harman 1984, p.218).

4.1.4. Criticisms of the Act

Harman (1984) states that the 1979 Woodside agreement received bipartisan endorsement in parliament and was passed without excessive debate. However, the ALP did attempt to delay the passage of the bill on matters relating to prospective returns to the nation (Harman 1984:p220). This major issue has been raised in relation to the North West Shelf at several points in the project's development. The major questions to be addressed related to use of local services, goods and manufacturing capacity, the amount of new jobs the project will create over its lifetime and financial returns to the State and Commonwealth governments. The latter is dealt with in a recent report commissioned by the joint venturers which deals with direct financial returns from Phase I and Phase II and a "social rate of return" for the project as a whole based on scenarios using different discount rates (Brown and Copeland 1985). An earlier study by Bambrick (1977), contained estimates of financial returns to the State and Federal governments and examined the multiplier effect on employment in Western Australia arising from the development of the North West Shelf. The figures in the Bambrick study have been rendered obsolete by considerable changes in the project structure and worldwide economic conditions since 1977. The Brown and Copeland report has also received
some criticism centering on the source of the figures on which the consultants based their calculations (see Field Editorial, Oil and Gas Australia, March 85).

The major ongoing debate on the North West Shelf relates to the level of local content in the project. Peden (1985) cites the position of the AMWSU Amalgamated Metal Workers and Shipwrights Union by referring to Section 12 of the Woodside agreement dealing with "Use of local professional services labour and materials" (WA Govt. Act No.104, 1979). He states that Section 12 has been subject to flexible interpretation by the joint venturers and the State "Department of Resources Development" (DRD). As a result of this the AMWSU have run a campaign to boost local content since work began on the Domestic gas phase in 1980. Union representatives from both the TLC and AMWSU when interviewed for this study maintained that Australian companies have not been given sufficient opportunity to act as suppliers of finished goods and basic materials for use in both the domestic and LNG phase. Peden is particularly critical of provisions made for Phase II where Shell Development Australia Pty through SIPM a major foreign multinational, has been given responsibility for engineering procurement, construction and operation of the onshore plant under the Construction Services and Operations Services agreements established with the DRD (Peden May 1985). On the question of adequate opportunity for local industry to participate in the project Peden states that Australian industry cannot hope to compete on a free market basis against suppliers in low-wage Asian countries or countries heavily protected by tariff barriers. In order to help redress the balance in favour of local industry in WA, the unions are pushing for the establishment of an Industrial Supplies Office (ISO) which will
independently monitor the sourcing of materials and finished products for use in the North West Shelf project and attempt to encourage the joint venturers to gear procurement policies towards greater local content. The DRD currently is opposed to this move as it encroaches on their own statutory responsibilities under the terms of the 1979 Act. However, they have endorsed a programme established by the Confederation of Western Australian Industry (CWAI) to supply local industry with up to date information on the procurement requirements of SIPM and the major contractor KJR (CWAI 1986).

4.1.5. The DRD and the joint venturers

Under the terms of the 1979 Agreement Act the WA Department of Resources Development (DRD) has been appointed as the major coordinating body for the project, taking responsibility for putting together a cohesive project package to be agreed with the joint venturers. The DRD acts as the main liaison body with all the other State and Federal departments who must be contacted in relation to various aspects of the project, i.e. the DRD will deal with the Department of Mines over leasing and licencing, the State and Federal treasuries on financial matters and the Department of Immigration and Ethnic Affairs on matters relating to use of expatriate labour.

This single package 'one stop shop' approach is favoured by the DRD as a means of facilitating the smooth operation of the project through the elimination of a lot of bureaucratic delay. Harman (1984) notes that the single window approach to company-government relations appears to have been fairly efficient throughout the development of Phase I. However, it has been subject to the criticism of excessive secrecy removing the actions of both major parties from public scrutiny (Harman 1984:p.220).
The DRD's handling of the North West Shelf agreement has been subjected to direct attack by the unions who claim that the department has sat back and allowed the joint venturers to dictate their terms. Two major criticisms for Phase II relate to the large number of expatriate staff employed in key positions within the joint venture project organisation and the acceptance by the DRD of the joint venturer's arrangement to locate the WOP design offices for the LNG phase in Yokohama, Japan. The latter decision was defended by the joint venturers on the grounds of technical necessity and the existing infrastructure and expertise available in Yokohama (see Woodside May 1985:p.6).

4.1.6. Environmental legislation

Since the early seventies increased public awareness of the potential ecological problems which could result from large scale resource developments prompted State governments to draft legislation for the protection of the environment in the vicinity of these projects. At Federal level the Environmental Protection (Impact of Proposals) Act was introduced in 1974, requiring the submission of Environmental Impact Statements (EIS) covering any planned projects which could (i) have a significant impact on the environment, (ii) draw on Federal government funds or were subject to the constitutional power of the government (ANZ 1982:p.22). Each State also drafted EIS legislation to ensure that environmental considerations are always reviewed prior to the endorsement of any development proposals.

The North West Shelf development agreement makes provision for environmental protection by requiring the submission of environmental impact statements by the independent Environmental Protection Authority.
Prior to the issue of this report two major parties involved in the Domestic phase of the project, the SECWA and Alcoa, were both required to submit Environmental Impact in Statements and Environmental Review and Management Programmes to the EPA and the State government. When the EPA, SECWA and Alcoa reports were finally tabled in 1979 no major objection to the project was raised. The only major criticism put forward was that little consideration had been given to the impact of the project on Dampier and Karratha. In view of the increased pressure on local community facilities a report was commissioned by the Shire of Roebourne outlining future requirements in the area. This resulted in the joint venturers contributing $25 million for the upgrading of facilities in the Karratha area (Harman 1984).
4.2. Fiscal Policy and the North West Shelf, 1972-1985

4.2.1. Tax concessions for the North West Shelf

The companies participating in the North West Shelf venture are taxed under the broad range of provisions laid down by the Federal government for the petroleum and minerals sectors (ANZ 1982:pp.18-20). Western Australian State taxation provisions and royalty levels are set out in the terms of the 1979 development agreement (WA Govt. ACT No.104, 1979). However, whilst the JVPs must operate within this broad taxation framework they have managed to negotiate a series of concessions and special provisions which they maintained were essential to the commercial viability of the project. It is these provisions which have had a major influence on the joint venturers' decision to commit large amounts of capital to the project and the series of development policies they have pursued since the late seventies. Prior to 1977 the future of the North West Shelf project still hung in the balance in anticipation of the outcome of ongoing negotiations which were taking place between the joint venturers, the West Australian government and several Federal bodies. The talks were taking place in a climate of uncertainty which was in part a legacy of the Whitlam era.

Throughout 1976 Charles Court, the WA State premier of the time, and the joint venturers had negotiated with the newly elected Liberal Federal government for the concessions they felt were essential for launching the project. Court pressed for a change in Loan Council guidelines to allow him to source sufficient funds to support the WA government’s infrastructural commitment to the project (see 4.2.3.). At the same time the joint venturers stressed that the future economics of
the project would be largely determined by the Federal tax regime and in particular provisions relating to investment allowance and write off periods for capital expenditure (Harman 1984). By August 1977 the Commonwealth provisions for the North West Shelf were in place in the shape of eighteen letters which constituted a formal agreement between the Federal government and the joint venturers. Harman (1984) states that this new taxation package introduced by the Liberals provided incentives to the joint venturers in three major areas:

(i) The existing 20% investment allowance for new capital expenditure was extended for two years to a cut-off date of June 30th 1986. This addition to deductions available under existing write-off provisions in the petroleum sector, applied to the whole industry. However, it was of specific importance to the future of the North West Shelf in that it served to boost the cash flow of the participants throughout the construction stages of the project.

(ii) A second incentive which may have been an attempt to help Woodside service its project debt, was set out relative to the onshore infrastructure for Phase II. Federal treasurer Anthony ruled that the LNG plant was not to be considered as manufacturing infrastructure. This in turn meant that JVP capital invested in the construction stages, an estimated $2.5 billion (1985), could be partially written off under the accelerated depreciation allowances available to petroleum companies under income tax law.
(iii) A tax rebate of 30c in the dollar was offered on subscriptions to shares in offshore exploration and development projects. This provision favoured large exploration companies, but also provided some additional security for public shareholders in Woodside Petroleum who were important for upholding levels of Australian equity in the project (Harman 1984:p.208).

In the 1977 budget Anthony had introduced a $3 bbl levy on crude oil production. Condensate produced on the North West Shelf was to be exempted from this levy. This has proven to be a major concession as the estimated condensate reserve of North Rankin 'A' and to a greater extent Goodwyn have increased considerably since 1977. Condensate stripped from the North Rankin 'A' gas flow provides a useful source of early profit from exports or conversion to motor spirit for the domestic market (Harman 1984:p.187).

Finally the ever present threat of a Resource Rent Tax (RRT) which the JVPs had feared throughout the seventies was at least temporarily removed by Anthony's statement that the North West Shelf would be explicitly exempted from the tax. The current ALP Federal government upheld Anthony's promise when the RRT was finally introduced in 1984. Under the new provision both the Bass Straight and North West Shelf were exempted from RRT which would only apply to "greenfield" offshore areas (not developed by July 1984) (Erskine 1985:p.76).

4.2.2. Foreign investment policy and the FIRB

During the Whitlam era a number of measures were taken to control the level of foreign ownership in the Australian Minerals and
Petroleum sectors. Whitlam's energy minister Rex Connor pursued his nationalistic line by ruling for a minimum of 50% Australian equity for new resource projects and 100% Australian equity in the energy sector. The latter guideline proved to be unrealistic in relation to petroleum projects and was eventually applied only to Uranium developments. Another important limitation on foreign investment imposed by Connor was a variable deposit requirement (VDR) that 25% of foreign funds had to be deposited with the reserve bank (Layer 1985). These measures presented serious stumbling blocks for early negotiations on the North West Shelf and as Layer points out, induced considerable hostility in Western Australia following the suspension of negotiators on the ALWEST aluminium smelter (Layer 1985).

In 1975 the Whitlam government introduced the Foreign Takeovers Act which was an amended version of the Companies (Foreign Takeovers) Acts of 1972-74 (ANZ 1982:p.25). Under the provisions of the 1975 Act the Federal treasurer was empowered to examine takeover proposals in any area of Australian business and consider whether the takeover would result in loss of Australian control to foreign interests (i.e. foreign investors would determine the policy of the business). If the treasurer deemed this to be the case he may then prohibit the takeover as being against the national interest.

When the Liberals entered office in December 1975 they made some changes to the 1975 Act guidelines. The major change was the creation of the Foreign Investment Review Board, FIRB. This new statutory body was made responsible for screening foreign investment proposals and assessing them on a case by case basis. Three major requirements for FIRB approval are: (i) That Australians have had adequate opportunity to participate in
the venture, (ii) That proposals involve economic benefits to Australia in particular to offset losses of Australian ownership and control and (iii) Australian equity participation guidelines for certain sectors are observed (Layer 1985).

The Federal government was at pains to point out that those were not rigid rules but essentially guidelines which allow each case to be assessed on its merits. The Fraser government's interpretation of these guidelines has since been criticised by some commentators as leading to decisions which were contrary to the national interest (see Chambers 1978).

The national interest issue relating to the North West Shelf was still being debated into the early eighties. However, Fraser's 1976 decision on foreign equity levels for the project could be seen at best to be a very flexible interpretation of the 1975 guidelines. Foreign equity levels in the North West Shelf had changed over the years from an estimated 75-82% prior to the Burmah buy-out in 1976 to approximately 52% when BHP's newly acquired shares boosted Australian equity to 48%. Since the entry of MIMI at the end of 1984 and the Shell/BHP takeover of Woodside in 1985, exact figures relating to foreign equity in the project as a whole have been difficult to obtain. Estimates from available data set foreign equity in Phase I at approximately 53% and 73% for Phase II - giving a project total of 63% foreign ownership (Commonwealth Record, June 1985:p.920). (These figures may be below true foreign equity levels as they fail to reflect nominee shareholdings in BHP and Woodside.)

The key event relating to foreign investment for the joint venturers had been Anthony's announcement in July 1976 that a 25% Australian equity guideline would be accepted for the North West Shelf
despite the prevailing 50% guideline for petroleum developments. Anthony had retreated from his original stance following a period of intense lobbying from Charles Court and representatives of the joint venturers. Court had vehemently sought to remove all major obstacles to the development of the project and the major JVP participants. Shell, BP and Cal Asiatic had pursued the argument that a reduction in their existing equity in the North West Shelf project would undermine their position as integrated oil companies, as opposed to exploration companies or merchant bankers (Harman 1984:p.208). Whilst Anthony's decision may have been viewed at the time as a sell out by certain factions of the Federal opposition, with hindsight it proved to be crucial for the development of the North West Shelf. The Fraser government through compromising their own guidelines had effectively cleared away all of the final major obstacles which had obstructed purposeful negotiations on the North West Shelf since 1973.

4.2.3. Other fiscal controls

Two broad areas of Federal policy which had some bearing on the planning of the North West Shelf project between 1972 and 1975 related to farm in, farm out arrangements and export controls. Farm in arrangements had originally been introduced to facilitate more intensive exploration of large tenement areas which had been leased to small numbers of exploration companies. As most of the known petroleum bearing regions were under tenement by the early 1970s, new explorers were faced with the option of buying shares in companies holding existing leases or arranging a farm in agreement.
In March 1973 the Whitlam government banned farm in, farm out agreements between companies where "There was a significant degree of foreign interest in areas covered by the agreements" or "the agreement transferred control from one overseas interest to another" (ANZ 1982: p.25).

This new ruling was introduced following a move by Rex Connor to defer consent on a proposed farm in agreement between Woodside-Burmah and Mt. Isa Mines Ltd. (MIM).

In 1974 Woodside-Burmah had been due to relinquish half of its original exploration leases to the State government. In view of this statutory requirement the company had been anxious to step up exploration in the vast 144,000 square mile permit area prior to the expiry of half of its leases. Farm in arrangements to assist with this goal had already been established with Shell, Amax and BHP. This did not help Woodside-Burmah's position when the company's request was presented to the Federal energy minister. Connor opposed the MIM arrangement on two main fronts: (i) he resented panic farm in arrangements by a company which he felt had received a massive permit area which it could never hope to adequately explore; (ii) he wished to uphold his principles on foreign investment by preventing MIM 52.56% American owned (American Smelting and Refining Co.) from gaining access to a promising Australian offshore permit area.

Connor's decision was never reversed despite the apparent contradiction that a farm in between MIM and Woodside-Burmah, which was 75% foreign owned, would have reduced the level of foreign holdings in the North West Shelf (Harman 1984). The farm in system was subsequently restored by the new Liberal NCP coalition government in 1976 although was
never as widely used as in the early seventies due to the increasing number of tenements becoming available under the compulsory relinquishment terms applied by the States to all exploration leases.

4.2.4. Export controls

The ongoing threat of export controls was always a thorn in the flesh of the joint venturers in the late seventies. However, this problem was largely eliminated in December 1979 when the Fraser government gave the joint venturers permission to export 53% of estimated recoverable gas reserves in the existing North West Shelf fields. These approvals covered a 20 year period from the first export of LNG to Japan over the operating life of the project.

In 1973 the Whitlam government had introduced export price controls in the minerals sector to force producers to agree a base price which would be presented to all purchasers. An alternative solution was limiting exports to prevent overproduction, and by virtue of this hold prices at a level which would ensure good revenue levels for the Federal government. However, this policy was consistently undermined by differences between mineral producers in different States (Layer 1985). As a result, no coordinated across the board export policy was extended to the petroleum sector, although Layer (1985) notes that the conservationist lobby in the post 1973 oil crisis period made this an ongoing possibility. The joint venturers were always aware of any threat to the export component of the project which they maintained was essential to ensure adequate returns on their considerable investments. Their
consistent lobbying paid off with the 1979 export approvals ensuring that they would not be committed to Charles Court's original idea of a project solely to meet the domestic gas requirements of Western Australia.
4.3. Significant Events, 1972-1980

This section will consider some of the key influences in the history of the NWS project during the period 1972-1980. The material presented will be based on both available published historical accounts and interviews conducted for the programme outlined in Chapter 2.

In 4.3.1. detail is drawn from the accounts of Stage 1 interview respondents (2.2.2.) on their personal perceptions of these important political events. Section 4.3.2. describes the process of negotiation which led to the final signing of the Phase 1 Domestic Gas Contract. The focus is on a series of historically significant events which collectively provide a broad background for the critical events which are examined in detail in Chapters 6 and 7.

The major concern in Chapter 4 is with the legislative framework and political factors which shaped the development of the NWS project. Later chapters focus largely on economic factors and the institutional context within which JVP policy and strategy evolved between 1982 and 1986.

4.3.1. Whitlam, Fraser and the North West Shelf

The effect which public policy measures introduced by the Whitlam and Fraser government had on the development of the North West Shelf project is covered in considerable detail by Harman 1984:pp.192-222. The key legislative and fiscal changes made by these governments which had a definable influence on the planning strategy of the joint venturers are outlined in section two of this chapter.
In the course of the thirty-five interviews conducted to support the study the election of the Whitlam and Frazer governments and the Court government in WA, were identified as significant events in the history of the North West Shelf project. A number of perspectives were offered on the impact which the policies introduced by these governments had on the development of the project. A majority of these accounts corroborated the view expressed by Harman 1984 in her account of the political background to the NWS project. The broad conclusions that can be drawn from published sources and interview material are as follows:

(i) The political and fiscal regime under Whitlam served to hold up negotiations on a tripartite development strategy for the North West Shelf which was acceptable to the Federal government, the WA government and the joint venturers.

(ii) By contrast the Frazer government through the introduction of generous tax concessions and financial incentives for the joint venturers eagerly encouraged the rapid development of the project.

(iii) The WA government under Sir Charles Court adopted a similar line although they took issue with both the joint venturers and the Fraser government on a number of matters relating to the end use and pricing of North West Shelf gas. These broad assertions will be explained in more detail in this subsection and subsection 4.3.2 which focuses on the role which Sir Charles Court's Liberal NCP coalition government played in launching the North West Shelf project.
The Whitlam era was described by many of the interview respondents as a time of great uncertainty for investors and major operations in the Australian resource sector. Connor’s pipeline concept and his stated intention in October 1973 to take over North West Shelf gas were cited as a major source of concern for both Australian and multinational companies operating in the Australian petroleum sector at the time. In addition it was agreed that the Pipeline Authority Act and the Petroleum and Minerals Authority (PMA) Act were viewed throughout the Australian petroleum industry as a threat to private enterprise in the resources sector. A common point made by a number of Liberal party speakers and petroleum industry representatives was that the Federal government was competing with private companies whilst tightly regulating their corporate activities. Whitlam’s policies on foreign investment were seen by these parties to create a hostile and uncertain investment climate, a fact reflected as a drop off in the high levels of foreign capital inflow which had come into Australia in the five years up to 1972 (APEA May 1985:p.10).

The reduction in expenditure on Australian based petroleum exploration programmes and development in the period between 1972 and 1976 may also have been a reflection of Whitlam’s foreign investment policies (ANZ 1982:p.15). The strong nationalist philosophy upheld by Whitlam and the centralist policies supported by Rex Connor and other leading figures like Lennox Hewitt of the Bureau of Mineral Resources (BMR) was seen by the petroleum industry lobby to represent a threat to the interests of the North West Shelf joint venturers. Connor’s policies for the petroleum sector were also challenged by the WA government under Court, which joined with the other States in a legal battle against the Seas and Submerged
Lands Act. However, despite the problems which Connor’s legislation may appear to have created for multinational interests in the Australian petroleum sector it is easy to overstate the importance of these measures.

The multinational participants in the North West Shelf joint venture - like all multinationals in the petroleum industry were vastly experienced in dealing with governments which laid down a more stringent set of tax rules and foreign investment guidelines than those established under the Whitlam government. The joint venturers were clearly opposed to Connor's plans for a national energy grid and proposals to extend Federal regulation in the petroleum industry. However a number of interview respondents suggested that the delay in negotiations over a development strategy for the North West Shelf in the mid seventies may have been more a product of what the venturers did not know than the direct effect of new legislation. Fears expressed in the industry relating to nationalisation of oil company assets and Connor's failure to clearly articulate his proposals for future change in the resources sector were major factors identified as responsible for creating the tense political climate in 1974. This did not favour ongoing negotiations with several of the world's largest multinational oil companies on a detailed plan for the development of Australia's largest natural gas resource.*2

4.3.2. Negotiations in Canberra, 1973-1980

From the outset of negotiations in 1973 the NWS joint venturers had made it clear in their company reports to Canberra and through representation by Sir Charles Court, that they were unwilling to commit to a large scale feasibility study unless they obtained certain assurances from Canberra. Foremost on the list was permission to create an export
based project, although even at this stage the JVPs were probably aware that the Canberra and Perth governments would not agree to a project which did not service the domestic market in WA or Australia wide.

Rex Connor continued to push his national pipeline proposal right up to his dismissal over the Loans affair in June 1975, whilst Sir Charles Court stood firm in his determination to keep North West Shelf gas for the WA market (Harman 1984:p.236). In the event it was not until November 1977 that the five project participants were finally persuaded to commit $50m for a large scale feasibility study for the North West Shelf.*3 The same month witnessed the signing of a Memorandum of Understanding (MOU) between Alcoa, the SECWA and the joint venturers. The terms of the MOU amounted to a conditional agreement whereby the SECWA proposed to purchase a total of 250 MMCFD of North West Shelf gas for onselling in the south west of the state (Parker, August 1985).

Whilst these developments did not guarantee that the NWS participants would in fact proceed with the project, they made it clear that Frazer's fiscal regime and conditions for project development were more acceptable than those created by the previous Federal administration. The Frazer government had exposed its eagerness to see the North West Shelf project underway as far back as July 1976 with Anthony's announcement on foreign equity restructure for the project (see 4.2.2.). This measure was significant in that it brought the joint venturers back to the negotiating table. However, the major catalyst for action from the participants came in August 1977 with the announcement of Commonwealth conditions for the development of the North West Shelf (see 4.2.1 and 4.2.4.).
The Frazer government's 1977 package provided a positive incentive to the joint venturers to proceed. The Federal administration cleared away many of the major legislative and political hurdles created for foreign investors in the petroleum industry and created the FIRB as the statutory body to assess proposed foreign investment in Australian resource projects on a case by case basis. This policy and other measures relating more directly to the North West Shelf have been criticised as examples of Frazer's attempts to attract foreign capital at the expense of the national interest (Layer 1985, Saddler 1979).

Both the Whitlam and Frazer governments played an important role in influencing JVP planning through legislation and fiscal measures to control or support the multinational interests which came to exert so much power within the joint venture structure. However, this assertion largely ignores the central role of the WA government under Sir Charles Court which conducted widespread negotiations with the joint venturers in the period between April 1974 and September 1980 when the sales contracts for the Domestic phase were finalised.

4.3.3. The Court government and the North West Shelf project

The election of Sir Charles Court as State premier in Western Australia in October 1974 was an event which proved to have a considerable bearing on the future development of the North West Shelf project. Court's predecessor, Tonkin, had endorsed the development of the regions gas resources as a source of cheap fuel to support new industrial developments in the North and South west of the State. However, it was Court who consistently promoted the development of the West Australian resource for West Australians and maintained this firm stance against Whitlam's centralist policies.
Sir Charles Court had vehemently opposed Connor’s pipeline plan which he saw as draining a West Australian resource to fuel Eastern States markets. Like Tonkin, Court originally planned to support a number of major industrial developments using cheap North West Shelf gas (see 4.3.4.). He was to clash with both the joint venturers and the Federal government over the pricing and distribution of the gas at several points in the future.

Court’s plan for a wholly domestic project providing gas to the West Australian market was challenged by the joint venturers who lobbied for a purely export based project. Connor’s pipeline plan was opposed by Court and the joint venturers on the basis that it undermined their own aspirations for North West Shelf gas. However, by the time the Whitlam government was dismissed in November 1975 it was becoming apparent that these original proposals put forward by Court and Conner were not going to come to fruition in the foreseeable future. By the end of 1977, Court was forced to relinquish his plan for a project serving only Western Australia in the face of Federal approval for the JVPs to export 53% of existing North West Shelf reserves.

Despite this apparent setback Court’s determined efforts to launch a major resource project supplying natural gas to Western Australia received a major boost with the signing of the Memorandum of Understanding (MOU) between the SECWA and the joint venturers in November 1977. The establishment of the MOU between the two parties and the major client Alcoa has been identified as a crucial event in the history of the North West Shelf project. Although it did not represent a final contract the MOU was an important statement of intent by SECWA to buy 250 MMCFD of gas from the joint venturers. Alcoa were included in a back to back agreement in which they would take up over half the total contracted volume of gas.
The signing of the 1977 MOU was significant in that it moved the joint venturers towards the signing of the final sales contract for the domestic phase of the project. However, in the interim period of three years which lay between the establishment of the MOU and the final signing in September 1980, Charles Court had to continue a series of negotiations with the JVPs to establish contractual conditions acceptable to both seller and purchaser.

Prior to the establishment of the MOU, Court was forced to retreat from his original stance on cheap gas. The joint venturers had consistently opposed the idea that the North West Shelf would be a source of low cost fuel for new developments in the Pilbara and the south west of the State. International gas prices were based on an oil index which remained high throughout the late seventies and the joint venturers were unwilling to significantly undercut prices for the Western Australian market. Although proposed prices for North West Shelf gas were never made publicly available. Harman (1984) reports that Court had accepted the fact that the joint venturers would not supply Western Australia with low cost fuel by the middle of 1977 (Harman 1984:p.210).

With hindsight it is easy to criticise Court's premature retreat from his original position on gas pricing. The sheer volume of gas discovered on the North West Shelf and the subsequent glut which emerged in the West Australian and international markets revealed that the joint venturers' longer term bargaining position was not as strong as it appeared to be in 1977. The failure to obtain cheap fuel also served to further undermine the viability of new industrial development in the Pilbara and the south west of the State.
Following the signing of the MOU, the joint venturers maintained their long standing argument that the West Australian government should be responsible for the construction of the Dampier to Wagerup pipeline. Court had accepted this position as far back as 1976 when he had first approached the Loans Council with a request that they should relax constraints on the borrowing limit imposed on Western Australia. He finally achieved this goal in 1978 when the council gave approval for the SECWA to borrow $416m from foreign financiers (Harman 1984:p.212). In 1979, Court obtained permission for further spending on a serviced industrial site at Jervoise Bay near Perth ($6.85m) and new infrastructure in Karratha ($45m) (Harman 1984:p.218).

By 1980 Court was drawing close to his objective of seeing the initial stage of the North West Shelf project launched. The SECWA had sufficient funding to begin work on the pipeline and the joint venturers were largely satisfied with the results of their feasibility study. In September 1980, the contracts were signed and the major project financiers had the bankable document required to provide the security needed for the project financing arrangement. From that point onwards, work on the offshore infrastructure domestic gas plan and SECWA pipeline progressed steadily with the first commercial supplies of North West Shelf gas reaching Perth in August 1984.

Charles Court and leading figures in his government have received a fair measure of criticism over their handling of negotiations with the joint venturers in the four year period between 1976 and the signing of the "take or pay" contracts in 1980. The most common criticism of Court was that he was too sympathetic to the arguments presented to him by hard bargaining multinationals. A number of the interview respondents
expressed the idea that he was politically outmanoeuvred by astute negotiations on the issue of prices and the financing of the SECWA pipeline. It was postured that Court was blinded by his own vision for the North West and his powerful belief in a developmentalist ideology. These ideas have never been supported by carefully collated historical evidence and must be weighted against Court’s major political achievement in bringing a megaproject off the drawing board and into the development stage.

4.3.4. The Pilbara study

When considering Court’s aspirations for major resource and industrial development in WA it is useful to consider the original plan for bringing industry to the Pilbara region. Consideration of this plan places Court’s thinking within its true historical context and goes some way to explaining the location of current new developments in the State’s South West.

The original Pilbara concept was developed by the Tonkin government as an attempt to establish processing facilities for the region’s major natural resources, notably salt, magnesimn and iron ore. The North West Shelf project which was in its embryonic planning stages when the concept was developed, was to provide a source of cheap gas for the basic fuel and feedstock requirements of the industries to be established. The 1972 document proposed that a Pilbara industrial complex should be created to support a variety of processing activities. Possible developments included an aluminium smelter, a giant steel plant, a uranium enrichment plant and iron ore pellitising facilities. Also included for integration into the industrial complex were petrochemical processing
facilities for the production of fertilizers, caustic soda for alumina treatment and a number of other chemical products (see WA Govt. (DDD) 1972).

The overall scheme of the 1972 proposal depended on the idea that demographic decentralisation should be encouraged to build up a stable workforce in the Pilbara through the creation of a new town with a population of 130,000. The town and industrial complex would be supported by various services including a 4400 megawatt power station.

Whilst the Court government took up the cause of industrial development for the Pilbara after entering office in April 1974, Court himself did not wholly endorse the Tonkin government's plan. Court favoured the development of a giant steel mill with supporting infrastructure and considered the possibility of a petrochemical industry in the Pilbara drawing fuel and feedstock from low cost supplies of North West Shelf gas.

Following the issue of a 600 page report entitled "The Pilbara Study" in October 1974, the Court government was offered some insight into the commercial viability of the broad plan set out by their ALP predecessors. The report considered the prospects for a total of 40 distinct industries from various technical and economic viewpoints. Analysis of efficiency and projected returns at different output levels meant that a total of 70 plants were considered. Various assumptions were also tested relating to a small, medium and large scale development.

Findings from the report pointed to the production of petrochemicals and general chemicals including caustic soda and ethylene dichloride as the most profitable option. Aluminium smelting and uranium enrichment were excluded as non profitable at existing price levels whilst
steel production was considered a marginal proposition (Spooner 1974:pp.8-9).

The report partially supported Court's plans for steel and petrochemical developments in the Pilbara although it did not cover the proposed expansion of bauxite and alumina processing in the south west of the state. The long standing aluminium smelter debate was also raised during the latter part of Court's term in office, with the emerging possibility of sales to the Korean market which was projected to grow into the eighties. The Korean company Kukje ICC expressed a measure of interest in the smelter proposal and associated power generating facilities following the award of a contract from the SECWA to construct a major section of the Dampier Wagerup pipeline. There is no firm evidence that the company had contracted to undertake the work on the aluminium smelter on receipt of the SECWA pipeline contract in 1980. However, the collapse of the company in 1984 raised a number of questions relating to the terms of the original agreement established with the SECWA.

Towards the end of Court's term in office it became increasingly apparent that his proposals for the Pilbara were not going to be developed in the short term. The key idea underlying his plan - the availability of cheap gas had proven unacceptable to the joint venturers who had viewed the Domestic phase of the project as little more than a political compromise (Harman 1984). In the event, WA domestic consumers pay more for their gas per unit than consumers in the Eastern States (SECWA 1985). Contract rates for NWS gas are not publicly available, although it is known that Alcoa were seeking an improved deal with the SECWA during the renegotiation of the terms of the take or pay contracts in March 1985 (Parker (DRD) August 1985).*5
The downturn in worldwide demand for steel and aluminium during the late seventies served to undermine Court's plans for developments in these areas. The existing iron ore processing industry in the Pilbara was encountering problems as a result of prices being undercut by other major producers, notably Brazil. This trend took its toll in 1979 with the mothballing of the Hammersley Iron, pelletising facility at Dampier and subsequent closure of the Cliffs-Robe River plant at Cape Lambert.

At the end of 1979 the joint venturers posted a vote of no confidence for future developments in the Pilbara by passing responsibility for 70 MMCFD of North West Shelf gas, originally to be marketed directly to Pilbara customers, back to the SECWA. The decision of Mr. Mensaros to accept this responsibility has subsequently been the subject of considerable political debate (see Parker (DRD) August 1985) (also 6.4).
1. and 2 in 4.3.1. based on transcripts of Stage I interviews conducted October 1985 to May 1986. Tapes available from Murdoch University School of Social Inquiry subject to authorisation by interviewee.

3. Prior to December 1984 there were five rather than 6 joint venture participants in the NWS project.

4. Stage I Interview Transcripts.

5. Stage I Interview Transcripts.
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CHAPTER 5

THE INSTITUTIONAL NETWORK IN DETAIL

INTRODUCTION

This chapter describes the institutional network and the conceptual map in detail. The map is developed into its final stages (Sections VI and VII) and the visual and conceptual information shown in these sections is tied in with the detail shown in I-V. This is an important exercise for a number of reasons:

(i) It serves to clarify the conceptual framework which has been used to guide the development of the thesis in Chapters 3 and 4.

(ii) This is a prerequisite to undertaking an analysis of the critical events covered in Chapters 6 and 7.

(iii) A clearly developed Conceptual Map of the NWS joint venturer's decision making environment will provide the basis for a model applicable to Corporate Policy making within large scale resource based multinational joint ventures.

This chapter through presentation and description of the major components of Sections VI and VIII and their relationship to I-V effectively sets out the institutional context within which the critical events identified in the interview programme, occurred. Additional detail on the institutional network is furnished in Appendix II which employs a colour coding system to highlight the status and corporate connections between various public and private sector bodies. Each of these is assumed to have exerted some influence on JVP policy in the periods 1976-1985 and 1985-1987.
5.1. The JVP Decision Making Environment  

5.1.1. The JVP decision making environment: internal and external  
Sections VI and VII have been constructed from information sourced in 35 interviews conducted with a broad cross-section of respondents (see Chapter 2). The visual information displayed in the two Sections VII and VII shows aspects of the external environment and corporate structure of the joint venture organisation. Earlier Sections I to V show some of the internal structures and processes within this organisation and the interface that exists between organisations operating at Project level and the external environment.

Diagrams VI and VIII are important in that they were evolved from earlier Sections I to V but contain considerably more detail drawn from Stage II interviews and secondary sources. These do not in themselves constitute the full conceptual map of the joint venture participants' (JVP) decision making environment. The map is comprised of eight sections I, II, IIa-VII and two transparencies which overlay additional information on VI and VII (see Appendix III). Each diagram or section is connected to the others by virtue of a network of overlapping institutional relationships.

The basic objective behind the creation of the plan was that it should help to facilitate a better understanding of the highly complex decision making environment with which the JVPs must operate. It aims to present a simplified picture of the major corporate and commercial relationships which existed between selected organisations within the JVP decision making environment over specified periods of time. The construct, comprised of diagrams I to VII fulfils these objectives in that it presents a simplified picture of (a) internal project management
systems; (b) the corporate structure of the joint venture organisation and (c) the relationship of organisations within this structure to the external institutional environment.

Certain generalisable features can be drawn from the map or incorporated into the model presented in Chapter 8. It is intended that the model should throw some light on two major areas of concern:

(i) The analysis of corporate policy within resource based multinational joint ventures.

(ii) To highlight the interface between the public policy domain of host governments and that of multinational interests developing a major national resource.

In diagrams I and V lines are drawn between organisations to indicate if an important corporate or commercial relationship exists between them. Sections VI and VII are more detailed but show no connections. In order to overcome the limitations on the information presented on individual schematic diagrams a method was devised to superimpose additional visual information onto diagrams VI and VII through the use of colour coded transparencies. Each transparency used in conjunction with VI and VII serves to:

(i) Illustrate the relative importance of each organisation shown in terms of its influence on the JVP's planning process.

(ii) Highlight and identify different types of linkages that exist between various organisations within and outwith the joint venture project organisation corporate structure (see Appendix III).
DIAGRAM VI

KEY ORGANISATIONS IN THE JUP PLANNING EQUATION
(PHASE 1, 1980 - 1985)

Principal Designers

SIPM
(The Hague)

WOP

KJR

Lead Banking Group

Morgan
Guaranty
(New York)

WORLD LEVEL

Federal
Treasury

"DME"
Dept of
Minerals & Energy

"FIRE"

"CAI"
Confeder'n
of Aust'ln
Industry

TLC
National

ACTU
National

NATIONAL LEVEL

W.A. State
Treasury

"DRD"
Dept of
Resources
Development

SECWA

"CHA"n
Confeder'n
of W.A.
Industry

TLC

ACTU

STATE LEVEL

Dept of
Mines

"DID"
Dept of
Industry
Development

ALCOA

"NLC"
National
Laison
Group

EXTERNAL ENVIRONMENT

OPERATOR

SHELL

Woodside

EHP

PRINCIPAL JOINT VENTURERS

CALTEX

BP

EQUITY JOINT VENTURERS

Fluor/
Maunsell

Domestic Gas Plant
and Associated Infrastructure

MAIN CONTRACTORS - SECWA Pipeline

SAIGEN/ICC Joint Venture

XJR

PROJECT LEVEL
KEY ORGANISATIONS IN THE JVP PLANNING EQUATION
(Phase 2, 1985 - Onward)

**KEY END USER**
- "MITI" Japanese Min for Inter'l Trade & Industry
- Japanese Power Utilities
- Japan Gas & Shell (Yokohama)
- "SIPM" Design LNG Cooling System

**PRINCIPAL DESIGNERS**

**LEAD BANKING GROUP**
- Chase Manhattan (New York)

**WORLD LEVEL**
- Federal Treasury
- "DME" Dept of Minerals & Energy
- "FIRE" "CAL" Confeder'n of Aust'ln Industry
- "CWI" Confeder'n of W.A. Industry

**NATIONAL LEVEL**
- W.A. State Treasury
- "DID" Dept of Industry Development
- "SECHA" "CWA" Confeder'n of W.A. Industry
- "NLG" National Liaison Group

**STATE LEVEL**
- Dept of Mines
- Dept of Industry Development

**EXTERNAL ENVIRONMENT**

**PRINCIPAL JOINT VENTURERS**
- SHELL
- Woodside
- BHP

**EQUITY JOINT VENTURERS**
- CALIX
- "MIMI" Misui-Mitsubishi
- BP

**MAIN CONTRACTOR**
- "XJR" Kellog-Raymond/Japan Gas
5.2. **Key Organisations in the JVP Decision Making Environment**

5.2.1. **Project level**

The organisations depicted at this level fall within the corporate structure of the joint venture organisation and are viewed as internal operatives. For Phase I the joint venture participants were Shell (Australia) Pty Ltd., BP Developments Australia Ltd., BHP Petroleum Pty Ltd., the California Asiatic Oil Co. (Subsidiary of Chevron) and Woodside Petroleum Ltd. Shell (Australia), BP (Australia) and Cal-Asiatic are all subsidiaries of major foreign based oil companies (Diagram VI). Each Australian based subsidiary has significant holdings at each level in the vertically integrated structure of the Australian petroleum industry. BHP is an Australian based company with major operating subsidiaries in steel production, coal mining minerals and petroleum development. The company also has a portfolio of foreign interests, largely in the minerals sector (see 3.4.3).

Prior to April 1985 Woodside Petroleum was a small independent Australian exploration and development company acting as operator for the North West Shelf project. Since the April 1985 takeover, BHP and Shell have increased their joint equity in this company from 43% to 80% making Woodside a Shell/BHP subsidiary and nominal operator for the project (see 6.2).

Comparison of diagrams VI and VII indicates the entry of the Mitsui/Mitsubishi MIMI partnership as a sixth participant for Phase II. The strategic significance of this change within the JVP corporate structure relative to Japanese commitment and investment prospects for Phase II is discussed in 6.2. Other organisations depicted at project level for the Domestic phase are KJR, Fluor/Maunsell and the Saipem/ICC
joint venture. KJR is a consortium comprised of three major engineering service companies: Kellog Overseas Corporation, JGC Corporation (Japanese Gasoline) and Raymond Engineers, the Australian based partner. The consortium was appointed main contractor for the Domestic phase and was made responsible for selecting subcontractors, procurement of materials and coordinating work on all onshore infrastructure with the exception of the SECWA pipeline. The Kellog company had an established track record working on petroleum and petrochemical projects throughout the world. JGC and Kellog both had previous experience working on LNG projects, a factor influencing their selection as contractors for both phases.

During the Domestic phase JGC acted as a virtual sleeping partner but has subsequently assumed a key role in the detailed design work on the LNG plant and associated facilities. Fluor/Maunsell was appointed by the WA State government as the major engineering consultant for work on the Dampier Wagerup pipeline. This company conducted all the early surveying and civil work and were responsible for coordinating construction on three separate stretches of pipeline.

Saipem Australia Pty Ltd. were initially awarded the contract for the Northern leg of the pipeline but subsequently formed a joint venture with the Korean company Kukje/ICC to undertake work on all three legs. At the time when the joint venture was formed (1982), ICC were undertaking a $3m feasibility study for a power station and aluminium smelter in WA, a factor which is assumed to have influenced the selection of this company for work on the SECWA project (Brotherton 1984:p.148).
5.2.2. **State level**

The major government departments shown at State level in diagram VI are the State Treasury, the Department of Resources Development, the Department of Mines and the Department of Industrial Development. Prior to and throughout the construction stages for the Domestic phase, all these departments worked closely with each other assuming responsibility for the administration of public policy relating to the North West Shelf project. In the early days when initial exploration and development work was being undertaken by the joint venturers the Department of Mines was important as the body responsible for the issue of exploration and production permits, monitoring the development of leased areas and administering the royalty agreements established with the operating companies. The Department of Industrial Development (DID) was made responsible for surveying local industry to assess the potential for input into the NWS project and promoting the growth of the small manufacturing sector in WA.

The significance of Mines and DID for the ongoing development of the NWS project is now very limited. The Department of Mines is consulted by the joint venturers over royalty payments and any change to the original leasing agreements governing the North West Shelf. Although these issues are important, Mines have little say in the day to day management of the project. Since the early eighties, the responsibilities held by the DID relative to the North West Shelf have been gradually reduced. Following the introduction of the 1979 Agreement Act the Department of Resources development has become the central coordinating body for public policy on the North West Shelf. The one stop shop approach used by this department gives the DRD responsibility for putting together an integrated project development package in compliance with the
terms of the 1979 Act (4.1.3). The DRD's responsibilities under the Act included monitoring of local input into the project, a responsibility previously charged to DID.

State Treasury liaise with DRD on all matters relating to public subsidies and financing of infrastructure related to the project. Mines and Treasury are also linked through the royalty payment and collection system which operates for resource projects in WA. In a recent example of "Cooperative Federalism" Layer (1985) noted how the State and Federal treasuries worked to produce a royalty concession package for the North West Shelf project, in return for revision of the 1980 sales contracts on more favourable terms for the SECWA (see 7.1.2).

The SECWA is the sole distributor of North West Shelf gas in the state and is formally designated as an independent body responsible for its own internal financing and policy making. In effect, the SECWA is a State instrumentality guided by the energy policies of the ruling WA administration. This has become more apparent in recent years as the debt crisis has forced the organisation to become more dependent on public sector funding (see 7.1.2). In diagram VI the SECWA is shown to be contractually linked with the bauxite/alumina processing operations of Alcoa. This link was formally established in a back to back agreement for the sale of gas to Alcoa as a third party customer in 1985. Prior to this Alcoa made no final commitment to their gas take in the eight years since the establishment of the MOU with the SECWA and the joint venturers. Alcoa currently contract over 50% of NWS gas being piped to the SW of the State. This makes the company the SECWA's major customer drawing down large volumes of gas to service alumina refineries at Kwinana, Pinjarra and Wagerup.
Two totally independent bodies depicted at State level in diagram VI are the Trades and Labour Council, TLC and the Confederation of West Australian Industry. As the major representative of organised labour in WA, the TLC has responsibility for advising 87 affiliated unions on a wide range of matters. Working within a policy framework set by the national council the ACTU, the TLC has had extensive involvement in advising unions on policy matters relating to work on the NWS project. Both the ACTU and TLC have taken a strong stance on the issue of local content in the project and have consistently agitated for the JVPs to employ more local labour, materials and manufacturing capacity.*1

The CWAI is the major representative of local employers in the State with members drawn from the small business and larger industrial sectors. The CWAI's role is primarily to promote the interests of local traders and manufacturers. However, the body has worked in liaison with DRD to issue a number of reports and undertake survey work on key issues relating to the NWS project. The CWAI's more significant involvement in recent years has been to act as an information forum for local suppliers of manufactured goods, materials and capital equipment which could be employed in the second phase of the project. A scheme was developed in 1985 to inform local suppliers of the procurement needs of the main joint venture contractors and facilitates interphase between potential vendors and KJR or SIPM procurement staff. The scheme partially fulfils the role of the Industrial Supplies Office which the TLC has sought to have introduced in WA (see Peden 1985 and 4.1.5).

The most recently established body shown in diagrams V, VI and VII is the National Liaison Group (NLG). Shown at State level the group is jointly chaired by the Federal minister for minerals and energy and the
State minister for resources and energy. Established in 1985 the group has representatives from the joint venturers, the ACTU, TLC and West Australian employers. Its main function has been defined as "Ensuring close liaison and regular exchanges on progress with local sourcing for the LNG phase of the project (Commonwealth Govt. June 1985:p.905; Commonwealth Record 10-16 June 1985).

5.2.3. National level

The two key government departments shown at Federal level are Treasury and the Department of Minerals and Energy (DME). The Federal Treasury has a range of duties relating to the resource sector of the national economy. Major responsibilities include budgeting and allocation of revenues and royalties collected from the developers of resource projects. The investment controls and taxation framework which govern these developments is meant to ensure equitable returns to the companies and the nation. The issue of profits accrued by multinational companies in the petroleum and minerals sectors and actual returns to the nation from large resource projects has always been a contentious one and the source of ongoing debate in Australian parliamentary circles (Saddler 1979).

For a brief period in 1976 the Federal Treasury and the FIRB worked together to devise a taxation and investment framework for the North West Shelf. The FIRB was ultimately responsible for ensuring that the project proposal fell within pre-established foreign equity guidelines established to limit the participation of offshore capital in Australian resource projects. However, in the months that followed Anthony's 25% minimum Australian content ruling (see 4.2.2), the influence of the FIRB
on the project's development waned significantly. Today FIRB policy has little direct influence on the NWS project as evidenced by the Federal government's approval of the Shell/BHP Woodside buy over in April 1985 (see 6.2) and the endorsement of increased Japanese participation under a one-sixth sharing scheme for Phase II (see 1.1).

The Department of Minerals and Energy (DME) is the central Federal body which liaises with the State governments on a number of issues affecting resource developments within their boundaries. Multinational companies with mineral or petroleum interests in the States must liaise with both the relevant State body and the DME prior to establishing any new resource projects. Once the construction work is underway, the major responsibility for the coordination of policy relating to the project lies with the State. However, the DME and other Federal bodies like the FIRB and the Bureau of Mineral Resources (BMR), will continue to monitor the project to ensure that any changes in the original development proposal are consistent with the national interest.

Two major independent bodies operating at Federal level, diagram VI and VII, are the Australian Council of Trade Unions, ACTU and the Confederation of Australian Industry (CAI). The CAI represents a wide range of employer interests at national level. Its major function is to inform governments of changes within the commercial, industrial and small business sector, highlighting the needs of employers. The ACTU as the peak council of trade unions in Australia, has established a number of broad policy guidelines to be followed by affiliated bodies whose members are working in the resource sector. The national body has established a broad set of policy guidelines on the North West Shelf and ACTU policy is implemented at State level through the TLC. The ACTU has been involved
with the North West Shelf project since the earliest development proposals were drafted in the early seventies. More recently, this organisation has used the National Liaison Group as a medium for direct negotiations with the joint venturers on a range of issues relating to Australian content and employment created by the LNG phase.

5.2.4. World level

The three major organisations depicted at world level, Section VI, which are linked directly to the corporate structure of the project are Shell Internationale Petroleum Maatschappij (SIPM), Woodside Offshore Petroleum (WOP) a subsidiary of Woodside Petroleum and the KJR, Kellog, Raymond, Japan Gasoline consortium.

Section VI, depicts the international operations of Shell which are coordinated from the Hague in Holland (see 3.1.2.). SIPM played the important official role of technical adviser to the joint venturers during the design and construction stages of Phase I. Throughout the later construction stages of the Domestic gas plant, 1983-85, Shell began to assert its role as the most powerful joint venture participant with increasing numbers of SIPM international staff being drafted to Perth to gear up for Phase II (6.2). The worldwide structure and organisation of the Shell international operations has meant that Shell (Australia) has been guided by SIPM policies since work began on the domestic phase of the North West Shelf project. This has become more apparent in recent years with SIPM engineers supplying cryogenic expertise and coordinating all the major construction work on the LNG plant (see 6.2 and Figure 6).
WOP and KJR are shown at world level in VI as a joint operation. This indicates the close functional relationship between WOP and KJR staff working in the WOP design offices. During the earlier design stages of the Domestic phase, KJR carried out preliminary design work at international offices in Japan and the USA. WOP functioned mainly at project level with a large percentage of the design and administrative staff based in Perth or Melbourne. However, as operator for the project WOP was given ultimate responsibility for overseeing design work carried out by KJR. Prior to preliminary design work starting on the LNG plant and other Phase II infrastructure, WOP had only small scale representation in Japan. By May 1985 the total number of WOP staff working out of the Yokohama design office stood at 18, SIPM 19, with two local subcontracting engineers. This complement of 39 represented only a minor proportion of the total number of design staff working on the job with the KJR representation of 269 bringing this total to 308 (WA Govt. DRD May 1985:p.94).

The Morgan Guaranty banking group is the other major body shown at world level in Section VI. Morgan Guaranty served as lead banker for a syndicate of 62 Australian and overseas banks which raised the US$1.4 billion loan required by Woodside Petroleum to finance their commitment to the Domestic phase of the project.
5.3. Changes in the Institutional Environment of the NWS Project, Phase I-Phase II

5.3.1. Outline

The discussion in 5.2.1 offered a brief coverage of the role played by a number of major governmental and independent institutions in relation to the development of the Domestic phase of the North West Shelf project. In some cases this role was not sustained over the entire period from 1976 to 1985. This period witnessed the completion of the final feasibility study for the project and development of Phase I to the commissioning stage in August 1984.

In this study it will not be possible to trace minor shifts in the importance of a number of organisations for the planning of the NWS project over an extended period of nine years. Comparison of detail shown on VI and VII shows some of these changes which took place in the institutional network between Phase I and Phase II. Additional detail on these status changes and inter organisational connections is presented in the transparencies which supplement VI and VII (see Appendix III). In diagram VII a reduction in the importance of an organisation in relation to the JVP planning for the project is indicated by a broken line drawn over the box border. Organisations which had no significant involvement with the Domestic phase but are directly linked with the LNG phase are also indicated in Section VII. The major changes which took place in the institutional network when work began on Phase II are as follows.

5.3.2. Changes at Project level

A sixth participant, Mitsui/Mitsubishi (MIMI), has entered the joint venture corporate structure under a scheme devised by the
participants to (i) divest Woodside Petroleum's interest in Phase II; (ii) extend Japanese involvement in Phase II by introducing a Japanese consortium at the operations end of the project (Woodside Annual Report 1984:p.7). The only other notable change at project level as seen on diagram VII is the absence of Fluor/Maunsell and the other contractors who had completed work on the main SECWA trunkline from Dampier to Wagerup by early 1986. Laterals were added throughout 1986 and others at later stages to service any new developments in the North and South West of the State. KJR are the main contractor for the LNG phase of the project with Japanese Gasoline supplying 225 out of the total of 308 KJR staff working at the Yokohama design centre (WA Govt. DRD May 1979:p.94).

5.3.3. Changes at State level

A number of changes are shown to have occurred at State level during the period when construction work for Phase I was close to completion, and the major resources of the joint venture organisation were being channeled into the LNG phase. By the time this transition began at the end of 1983 both the Department of Mines and the Department of Industrial Development had a very minor role to play in the planning of the project (see diagram VII, + 5.2.1). The SECWA had also lost the central importance which it had held for project planning during the Domestic phase. The contractual agreement between the JVPs and the SECWA had provided the launching pad for the project. These contracts had provided the JVPs with the sales revenue to support the capital raising required to launch Phase II. The SECWA is now an important source of
capital for the joint venturers but beyond this financial connection does not have a major role to play in the development of the LNG phase of the project.

5.3.4. Changes at National level

The only major status change at national level shown on VII is the reduction in importance of FIRB. The Department of Minerals and Energy (DME) has assumed a backseat role in Phase II allowing the State level DRD to coordinate public involvement in the project. No change is indicated from the Domestic phase as DME have maintained this position since 1979 when the Development Agreement Act was passed (see 5.2.1).

5.3.5. Changes at World level

Comparison of diagrams VI and VII will reveal a number of significant changes in the institutional structure at world level. For the duration of the LNG phase, the joint venturers are dealing with international clients rather than a West Australian based organisation. The eight Japanese power utilities which may be contracting up to 5.8 million tonnes of North West Shelf LNG per annum by the mid-1990s are as follows: Kyushu Electric Power Company, Chugoku Electric Power Company, Kansai Electric Power Company, Chubu Electric Power Company, Tokyo Electric Power Company, Tokyo Gas Company, Osaka Gas Company and Toho Gas Company (Woodside May 1985:p.20). The import programme established by these bodies through the contracts with the joint venturers has been subject to regulation and guidance by MITI, the Japanese Ministry for International Trade and Industry. MITI is an extremely influential government agency which is responsible for producing reports and
recommendations for structuring the indigenous industrial base and improving foreign trade links. Changes in MITI's projections for total LNG demand in the Japanese market of the 1990s have been an important influence on JVP decisions to restructure certain aspects of the NWS project since the early 1980s (see 3.3.4).

The major parties involved with design work for the second stage of the North West Shelf project are WOP, KJR and SIPM. Japanese Gasoline (Japan Gas), and Shell are shown together as the parties undertaking a major part of the detailed design work on the LNG plant and associated infrastructure. The Shell staff working at Yokohama are both Shell Australia personnel and SIPM secondees. SIPM has been shown separately to highlight its role as cryogenic specialist and designer of the new 'Y' concept gas turbine air cooling system to be installed in the LNG plant (see Woodside May 1985).

The final significant change at world level shown in Section VII is the replacement of Morgan Guaranty by Chase Manhattan as lead project financier. At the end of 1984 Morgan Guaranty withdrew as lead banker for commercial reasons which were not clearly articulated in press reports or joint venture literature at the time. Chase Manhattan took over responsibility for raising project finance for Phase II leading a syndicate of 13 banking groups, most of whom had been involved in the Domestic phase loan agreement. The second stage of the rollover loan to finance Woodside's commitments to the LNG phase amounted to US$1.6 billion. The loan documents were signed in May 1986, less than one month after Shell and BHP had mounted a successful takeover bid for Woodside petroleum (see 6.2).
International financiers and investors have always had a key role to play in the development of the North West Shelf project. Collectively, these bodies can raise large amounts of capital which would be difficult to source within Australia. Chase Manhattan and Morgan Guaranty are large American based multinational financial organisations with sufficient resources to underwrite loans in the US$1.5 billion bracket on the strength of anticipated long term returns from the production stages of the project (see 6.3).
Information sourced from TLC and AMWSU representatives during Stage 1 interviews.
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CHAPTER 6
AN ANALYSIS OF CRITICAL EVENTS: 1-2

INTRODUCTION

In this chapter a short series of critical events identified and commented on by Stage I and II interview respondents will be subject to in-depth examination. The commentary and analysis will focus initially on a string of three key events, notably the successive postponements of the commencement date for LNG deliveries from the North West Shelf to Japan. In the text these are referred to as event string number one. (This is viewed as a single processual event for analytical purposes.)

The second critical event singled out for examination is the successful Shell/BHP takeover of Woodside Petroleum launched in April 1985. The third and final event which was selected for analysis, the renegotiation of the sales agreement established between the JVPs and the SECWA, is covered in Chapter 7.

Each critical event designated for analysis is the outcome of a bargaining process taking place between a number of key parties both within and outwith the corporate structure of the joint venture i.e. for event No.1 the key parties are the JVPs and the Japanese, No.2 is viewed as the result of intramural contestation between Shell, BHP, Woodside and the other NWS joint venture participants, No.3 negotiations between the JVPs, the SECWA and other W.A. government agencies.

The broad objective of analysing specified critical events is to afford an improved understanding of how changes in JVP policy were affected by the interplay of political and economic forces active within the project organisation and its external environment.
Through an examination of the LNG postponements an attempt is made in Section 6.1 to (i) establish clear historical links between the three important JVP planning changes and the policy rationale which underlay them; (ii) consider any possible strategic advantage to be gained by the Japanese and/or the JVPs at the time of each delay.

In Section 6.2 the coverage of the Shell/BHP takeover considers the rationale which underlay this action. Section 6.2.1 provides the general background to the takeover. In 6.2.2 two major questions are raised: (i) why the takeover took place; (ii) when the takeover was planned. In the following sections 6.2.3 and 6.2.4, these questions are addressed through an examination of the relationship between Shell, BHP and Woodside since 1976 and consideration of the loan agreement which was used to finance Woodside's participation in both phases of the NWS project.
6.1. *Critical Event String No.1: Delays in the LNG Delivery Dates to Japan*

6.1.1. **Background to the delays**

In December 1979 the Federal government issued licences to the joint venturers, permitting them to export up to 6 million tonnes of LNG per annum over a twenty year contract period (Woodside May 1985). At the time the proposal put forward by the JVP to the Department of Minerals and Energy (DME), had outlined a scheme to develop an integrated Domestic gas and LNG export project. However, by the end of 1981 the joint venturers had decided to change this plan in order to reduce the massive financial burden which would have been carried by each participant in the early years of this project.

Rapid wage and price inflation in Australia throughout 1981 had greatly increased the overall cost of the project, adding to the massive front end loading of capital which was required for the integrated scheme (Allen 1984). Throughout the early part of 1982 the joint venturers returned to the drawing board in an attempt to devise a viable project plan, which would minimise risks and ensure satisfactory financial returns for each participant. By the middle of that year they had settled on a scheme for developing the project in two distinct phases.

Work on the Domestic gas plant had begun in 1981. However, under the new scheme, the LNG plant was not scheduled for completion until 1987, three years after the Domestic phase was due to come onstream. The introduction of this new plan led to the postponement in the original scheduled delivery date for LNG to Japan, which was set at April 1986. The decision to institute this delay was the first in a string of three interrelated events which represented a marked change in the original development schedule for the NWS project.
6.1.2. The postponements of March 1982 and July 1983

In March 1982 the JVPs made the first of three decisions to change the proposed date for the first shipment of LNG to Japan and reschedule work on the LNG plant. There were a number of key economic, political and technical factors underlying this decision, some of which were not explained in the formal statements issued to the press when the first delay was announced. At the time when the 1982 and 1983 postponements were announced, the principal explanation offered by the JVPs was that the Japanese were reassessing their future demand for LNG in response to reduced energy consumption in the industrial sector. There is no question that the Japanese needed time to revise their pre 1979 projections for LNG demand in the 1990s. Energy demand in the Japanese economy had fallen by 3% per annum, from the end of 1978 to the end of 1981 and there was little indication of a significant improvement in 1982 or 1983. Up to 77% of LNG previously imported by the Japanese had been used for power generation. However, in the face of a significant decline in the production of basic metals and the impact of conservation measures, electricity consumption in the Japanese industrial sector was considerably reduced in the period from 1979 to 1982 (DRD May 1985:p.52.)*[1]

(i) Alternative explanations

The simple economic explanation for the 1982 postponement (April 1986 to April 1987) and 1983 postponement (April 1987 to April 1988) tends to ignore the broader strategic considerations which may have influenced the policies of both the Japanese and JVPs at the time.
Throughout 1982 and 1983 the JVPs were engaged in negotiations with both the Japanese and the West Australian government. The WA government were exerting considerable pressure to gain favourable pricing conditions for third party consumers in WA. They had begun to express some concern over a possible shortfall in demand for the gas which had been purchased through sales agreements established with the JVPs in September 1980 (see Chapter 7). At the same time the Japanese were negotiating with the JVPs on a number of key issues relating to the final contractual agreement to be established for export of LNG to a number of metropolitan power utilities in Japan.

When the original Memorandum of Intent (MOI) was co-signed by the JVPs and the Japanese in June 1981, there had been preliminary agreement on quantities of NWS LNG to be imported - 4 million tonnes per annum (mtpa) for 1986 rising to 6 mtpa in the early 1990s. In keeping with the format for previous LNG contracts established between the Japanese buyers and foreign exporters, there was to be a "take or pay" provision obliging the importer to pay for up to 100% of the original contracted quantity, regardless of annual fluctuations in demand.

Throughout 1982 the Japanese negotiated with the JVPs to seek a more flexible take or pay structure than those established in the past. The other major focus of the negotiations was the discussion of a suitable formula for indexing the price of imported LNG to competing energy sources. As early as January 1981 it was reported that representatives of BHP, BP, and Shell had arrived in Japan to discuss LNG pricing, the extension in the start-up period requested by the Japanese, and an easing of take or pay conditions from the 100% drawdown set in the past (Tex Report Jan 21 1982).
These issues were at the centre of JVP/Japanese negotiations from 1981 to 1984. The Japanese worked towards an extension of the original two and a half year period which was to elapse prior to peak LNG delivery levels of 6 mtpa being reached. They also sought to establish a take or pay system which would allow for fluctuations in LNG demand and the price of competing fuels. These were points of contention where the bargaining outcome could favour one or other of the parties.

The price formula for NWS LNG was the issue which the JVPs were most eager to settle. However, the Japanese adopted a position which left this open to negotiation, allowing them time to assess their strategic options. When the MOI was established in 1981 between the JVP and 8 Japanese power utilities, a provision was made to apply the average price of LNG being imported into Japan to shipments of Australian LNG. This was accepted by both the JVP and the Japanese at the time but problems arose in relation to the escalation clause which applied after the average base price was established. The JVPs had sought to employ a similar formula to that applied in existing Japanese LNG contracts with Brunei and the USA. However rather than settling for this formula based on indexation to a mixed barrel of 20 crude oil varieties, the Japanese left the pricing issue open to further discussion (Tex Report 8th February 1982).**[2]

(ii) Comment

The outcome of negotiations on the major issues discussed above would have an important impact on the potential long term returns to the JVPs from the NWS LNG export programme. Alterations to the take or pay provisions or an extension of the start up period could have serious adverse effects on long term financial returns and crucial early cash flow for the JVPs. The pricing issue was more complex with each party trying
to assess the optimum strategy to adopt at a time when there was considerable uncertainty concerning future movements in the price of oil and other competing energy sources.

The Japanese had tentatively agreed to the two and a half year start-up period proposed in the 1981 MOI. However a year later with the announcement of the second postponement, little progress had been made on LNG pricing or take or pay provisions (Tex Report 4th June 1982). In September 1982, three months after the JVPs had announced that they planned to delay work on Phase II, the Japanese Ministry for International Trade and Industry (MITI) issued figures indicating a downward revision of estimated Japanese LNG requirements for the 1990s. The revised figure of 36.5 mtpa for 1990 represented a drop of 3.5 mtpa on the 1982 projection of 40 mtpa for the same year (WA Govt, DRD May 1985:p.53).

By the end of 1983 it would be clear to the joint venturers that the Japanese were in a strong bargaining position as the production capacity of existing LNG projects began to outstrip demand. In 1983 20.6 million tonnes of LNG was supplied to Japan. No significant increase was forecast for 1984 and by 1985 the seven existing projects supplying LNG to Japan were estimated to have a total production capacity in excess of 28 mtpa. In addition to this, in 1984 there were six LNG projects being studied or planned which on completion could supply additional capacity of over 22 mtpa. In the same year the LNG projects being operated or planned to supply Japan's future needs, were estimated to have a productive capacity of 47-48 mtpa in 1990 with forecast demand for 1990 standing at 36.5 million tonnes (DRD May 1985:pp.57-60).*[3]
By early 1984 the Japanese had established a clearer picture of their future energy requirements than had been the case in 1982 and 1983. They now had a basis for developing an energy plan for imported fuels and derived strength in negotiations with the JVPs from the apparent shift towards a buyers market for LNG in the 1990s. Indicators that pointed to this in 1984 were: (i) advanced design and preliminary construction work was underway on the Canadian Petro-Canada project and initial infrastructure for the NWS LNG plant, with both developments scheduled to come onstream in 1990, providing a peak load of 8.740 mtpa to Japanese customers; *[4] (ii) four projects based in the USSR, Thailand, Qatar and Alaska were scheduled for development, supplying the Japanese market with up to 12,500 tonnes of LNG by 1990 (DRD May 1985:p.61); (iii) no spot market existed for LNG, forcing major suppliers to obtain a direct one to one contract with a buyer or mothball their project. Japanese dominance of the world LNG market (74% of world trade in 1980) dictated that the majority of new suppliers must deal with them or try to source a contract from smaller importers in Europe or the USA (see 8.2 for current situation).

The long term energy outlook devised by MITI in 1982 made it apparent that the Japanese government wished to continue with a diversified energy mix in the 1990s. Official figures released in November 1983 revealed that the Japanese planned an extension of natural gas use, largely through importation of LNG in the eighties. In the longer term up to 1995 no further expansion was planned with the emphasis placed on greater use of nuclear power. The figure for the market share of natural gas in the Japanese energy mix for 1990 was set at 12%, an increase of 5% on the 1982 figure. Use of nuclear power was projected to
increase by 3.9% over the same period, and was to grow by a further 3.2% by 1995 (DRD May 1985:p.56).

The ability of the Japanese to adjust their energy mix to displace LNG with competing base load fuels was limited by existing long term take or pay arrangements with major exporters. However in 1984 the Japanese were still in a position to negotiate adjustments to standard take or pay provisions which the JVPs wished to apply to NWS LNG. They continued to pursue this goal until one month prior to the signing of the NWS sales contracts in July 1985 and were able to obtain a series of concessions relating to the provisions laid out in the 1981 MOI. Two major changes were made in 1985. In early June a new take or pay arrangement was introduced which allowed the Japanese to vary their annual uptake of LNG to account for fluctuations in energy demand in the industrial sector (AFR 7th June 1985). A few weeks prior to this concession the Japanese had successfully extended the proposed start up period for the LNG export programme from 2 1/2 to 4 years.

6.1.3. The third postponement (October 1984)

When the "Sales and Purchase Agreement" (SPA) was finalised with the Japanese in July 1985, it made provision for the agreed four year start up period running from October 1989 until the end of 1993 when peak delivery of 6 million tonnes was to be introduced. This revised shipping schedule was the result of a third postponement of the commencement date for LNG deliveries to Japan, from April 1988 to October 1989.

(i) Rationale for the third delay:

The decision to push back the programme for the third time made by the JVPs in October 1984, was prompted by a number of major concerns.
(a) A package of major technical changes was being planned to reduce the construction costs of the LNG plant and boost cash flow levels over the pre-operational years of Phase II.

(b) The structure of the joint venture was being changed to accommodate a new participant for Phase II.

(c) The project financiers and major investors were expressing doubts about the financial stability of Woodside and the State Energy Commission of Western Australia.

(d) The price of oil and LNG was declining with a consequent reduction in the levels of return from the project which had been anticipated by the JVPs in the early eighties.

The first set of major changes which followed the introduction of the two phase plan in 1982, were planned throughout the following year. Three major technical changes to be introduced for Phase II, firstly a shift from the 'W' concept water cooled steam turbine system for driving refrigerant compressors in the LNG plant, to a new air cooled gas turbine named the SPM 'Y' concept. A second modification introduced with the new $60 million design package, was to eliminate earlier plans to produce LPG from the plant on the Burrup Peninsula (Woodside March 1985). This process is now being undertaken by Wesfarmers who are in the final stages of constructing an LPG plant at Kwinana in the South West of the state, using North West Shelf gas as feedstock (Oct 88). The total saving to the JVPs from the new design package was estimated in 1985 to be approximately $1 billion (Woodside May 1985).

A further measure introduced to boost early cash flow levels prior to Phase II being brought onstream, was the introduction of condensate stripping equipment at the North Rankin 'A' wellhead. Sales of
condensate as a light crude for domestic and export markets are viewed as an important source of income for the JVPs prior to receiving revenues from LNG sales in the 1990s (West Australian, January 7th 1987).

At the end of 1984 a decision was made to divest Woodside Petroleum's 50% interest in Phase II selling a 16 2/3% stake in the project to MIMI and an 8 1/3% holding to Shell and BHP. The total capital raising of $320 million from the transaction was seen to benefit Woodside and ensure that the company could support its commitments to the project under the one-sixth sharing scheme which gave each participant an equal stake in Phase II (Woodside March 1985). This arrangement was formally maintained following the Shell/BHP takeover of April 1985, although Woodside Petroleum remains as a nominal operator and an effective subsidiary of these two other major participant companies (see 6.2).

(ii) **Comment**

The large scale changes which affected the joint venture organisation and project planning in 1984 have been identified as the major reasons behind the postponement decision in October of that year.**[5]** The Japanese had by that time arrived at an import plan for LNG in the eighties and early nineties and sought to finalise the take or pay conditions for the final contracts. Whilst the take or pay and pricing issues may have provided the Japanese with reasons for further delays, the JVPs had a number of clear cut reasons for pushing work on the LNG plant back by one year. They were still involved in ongoing negotiations with the SECWA over the conditions set out in the Domestic sales contracts. At the same time they were attempting to preserve the take or pay conditions, start up period and pricing provisions which had been set out in 1981 when the Japanese initialled the MOI to purchase a
set quantity of NWS LNG. Oil and LNG prices had been declining since 1982 presenting the JVPs with the possibility of reduced long term returns from LNG sales at the end of the decade (DRD May 1985:p.57). As a result of these pressures the JVPs clearly required time to adjust their profit estimates to reflect the impact of contractual amendments for Phase I and II and a possible long term decline in oil indexed LNG prices stretching into the 1990s.

The factors listed above all contributed to a prevailing climate of uncertainty which affected the NWS project in October 1984. Substantial foreign investment in the project and the finalisation of Woodside Petroleum's $1.6 billion project loan, were prerequisites to the launch of the LNG export phase. In the event the project loan was not extended until after Woodside had been co-opted into the Shell/BHP corporate structure. However, once the loan was granted in May 1985 the eight Japanese power companies followed through with the final commitment by signing the LNG sales and purchase agreements (SPAs) two months later in July.
6.2. Critical Event No.2: The Shell/BHP Takeover of Woodside Petroleum

6.2.1. Details of the takeover

In April 1985 Shell and BHP mounted a successful takeover bid to buy out a substantial share of Woodside Petroleum's existing holdings in the North West Shelf project. Prior to the takeover at the beginning of 1985 the two companies held a joint shareholding of 43% Woodside stock. By the middle of April the 50% threshold had been crossed with the joint Shell/BHP holding in excess of 250 million Woodside shares. At the beginning of that month the two major NWS project participants had put forward a joint offer of $459.2 million at $1.60 a share. Both companies had indicated at the time that they were willing to buy as far into Woodside as the public shareholding would allow (West Australian Editorial 19th April 1985). The buy in continued throughout 1985 with 80% of Woodside equity under Shell/BHP control by the end of the year. Figures issued in April 1986 reveal that the joint shareholding had risen to 80.06%, almost double the pre-takeover equity level (Woodside 30th April 1986) (see Table 1 Introduction).

6.2.2. Questions surrounding the takeover

At the time of the takeover Shell and BHP issued statements justifying their action on the grounds that Woodside was a weak financial link in the joint venture and the co-optation measure was necessary to secure investment confidence for the export phase of the project. There is a certain amount of superficial historical evidence to support the idea that Woodside had struggled to support their financial commitments to the project since the launch of construction work on the Domestic phase at the
end of 1980. The decision taken by the JVPs early in 1984 to divest 2/3rds of Woodside's 50% stake in Phase II could be taken as an indication of the company's fragile financial base at the time. Such an idea appears to be borne out by Morgan Guaranty's vote of no confidence in Woodside when they withdrew as chief project financiers at the end of that year (see 6.1.3 and 6.2.4).

These events lend some credence to the Shell/BHP argument for the takeover. However, it is not possible to reach any firm conclusion on the matter in the absence of direct information relating to the financial and other contractual obligations which Woodside held relative to major creditors between 1980 and early 1985.

Through consideration of a number of policy initiatives undertaken by the JVPs since 1976 and the reaction of external investors, it should be possible to view the Shell/BHP action from a broad strategic standpoint. The Shell/BHP position was sharply opposed throughout the takeover period by a group of senior Woodside executives who maintained that their company could continue to function independently and was capable of financing its commitments to the second stage of the North West Shelf project. They demonstrated their opposition to the takeover in a letter issued to Woodside shareholders in April 1985 stating that the Shell/BHP offer of $1.60 a share was an undervaluation of Woodside stock and that selling would be contrary to their own and the company's interests.

At the shareholders meeting of 1st May 1985, Chairman D.W. Rogers upheld the executives' argument reiterating that the independent directors believed that "The shares are worth substantially more than the Shell and BHP offer" (Woodside 1st May 1985). This statement was issued
more than a week after Shell and BHP had received FIRB approval for the takeover and had announced that they intended to appoint two new directors to the Woodside board. This gave the two companies majority voting rights in line with their existing 51.9% holding in Woodside Petroleum.

Although Shell and BHP held effective control over Woodside by the end of April, the Chairman, in his address to shareholders (1st May 1985) expressed a measure of defiance to the Shell/BHP buy in. The statement published in the Australian press on May 4th contained clauses which challenged the rationale behind the Shell/BHP action and questioned the circumstances under which the takeover had received FIRB approval. Woodside shareholders were advised that prior to making any decision on whether to sell existing public stock they should wait for the report on the adequacy of the Shell/BHP offer to be drafted by Morgan Grenfell who were appointed to review the matter (Woodside Address to Shareholders 1st May 1985).

Whether the rearguard action on the part of the Woodside directors was based on sentiment for the fiercely independent Australian exploration company or a sound business strategy is a difficult question to address without knowledge of boardroom proceedings over the past five years. However using material drawn from interview respondents with some inside knowledge relating to the joint venture organisation and secondary information it may be possible to offer some insight into the following: (i) The corporate and financial rationale which underlay the Shell/BHP decision to initiate the Woodside takeover in April 1985; (ii) Whether this move was part of a broader corporate strategy planned several years in advance? These questions will be addressed in the next two subsections. In 6.2.3 background material will be presented on the
corporate relationship which existed between Shell, BHP and Woodside since the entry of BHP into the joint venture in 1976. In 6.2.4 the discussion centres on how the structure of the rollover project financing agreement established with a large international banking syndicate may have had some bearing on a Shell/BHP takeover strategy.

6.2.3. The corporate relationship Shell, BHP, Woodside 1976-85

The cross section of interview respondents asked to comment on the Shell/BHP takeover of Woodside Petroleum in April 1985, provided a range of perspectives on this critical event. In a number of cases the general viewpoints presented concurred and when related to recorded events in the history of the North West Shelf project offered some insight into the corporate relationship which has existed between Shell, BHP and Woodside since 1976. The relationship evolved from August 1976, when BHP bought the Burmah Oil stake in the Woodside-Burmah company (Harman, 1984: p.236). Prior to this change the multinational participants Shell, Cal-Asiatic BP and Burmah had recognised the political necessity of maintaining Woodside as a significant Australian participant in the project. The Whitlam era had served as a clear warning to the foreign multinationals of the risks involved when dealing with a Federal government seeking to impose strict limitations on foreign investment and multinational activity in Australian resource projects.

Existing legislation and latterly the formation of the FIRB ensured the maintenance of specified levels of Australian content in all major resource projects. Maintaining Woodside's role as a key participant, operator and mouthpiece for the participants was a prerequisite for the political survival of the joint venture.
The Woodside corporate structure provided an essential interface with relevant government departments in Canberra and Perth. At the time Woodside presented the image of a vital entrepreneurial company which built on previous exploration success by leading a multinational joint venture towards the establishment of a major Australian resource project. The major stake which Woodside held in the venture was sufficient to keep Australian equity in the project at a level which became politically acceptable to the Federal administration, following the dismissal of the nationalistic Whitlam government in November 1975.

This combination of factors ensured Woodside's indispensability to the venturers in the early years. However the first major shift in this position occurred when BHP joined the venture in August 1976 boosting Australian equity from an estimated 18 to 25% to an officially accepted level of 48% (Harman 1984:p.192). BHP was a large Australian corporation with home based and foreign interests in a diverse number of areas, including iron ore, coal mining, steel making and petroleum exploration and development. The company, often referred to as "The Big Australian", held corporate interests which were in many cases more aligned to those of the multinational joint venturers than those of Woodside, an exploration company with all its major assets based in Australia. *[6]

There is evidence to suggest that during the mid to late seventies BHP had considerable corporate aspirations which it hoped to fulfil through participation in the North West Shelf venture. A certain amount of intramural wrangling took place in the early construction stages of the Domestic gas plant, with BHP attempting to secure a role as a key participant and major subcontractor for the project. Whilst BHP sought to secure contracts for civil and infrastructural work on Phase I,
Shell pushed for universal acceptance of Shell Internationale Petroleum (SIPM) standards and specifications on all jobs.**[7]** This type of action may have antagonised Woodside and KJR management and can be viewed as an early indication of the dominant role which Shell, and to a lesser extent, BHP, were to assume within the joint venture.

Shell's influence within the joint venture has become increasingly evident throughout the eighties. By 1981 with the LNG export licences issued by the Federal government and the Domestic gas sales contracts secured, there was an air of confidence regarding the future of the NWS project. The projections for LNG demand in the Japanese market in the 1990s were encouraging and the shortfall in domestic gas demand was not yet evident (DRD May 1985). However, by the end of the year some concern had been expressed over a recent downward revision of SECWA sales projections for the 1985-1990 period. A SECWA brief issued to Mr. Jones, the State energy minister in September 1981 had pointed to a considerable reduction on the 1977 projections and had recommended that the terms of the 1980 sales agreement be revised to ensure the financial solvency of the commission (see 7.2).

The JVPs were concerned about possible disruptions to the project resulting from attempts to delay the issue of the SECWA pipeline contracts until the SECWA's position could be reviewed. Throughout the early part of 1982 the JVPs sent two senior executives, significantly from Shell and BHP to negotiate with State government and SECWA officials over the financing and construction of the Dampier to Wagerup pipeline. It is reported that the State energy minister and senior SECWA executives expressed severe doubts relating to the SECWA ability to finance the project throughout the negotiating period from April to June 1982.
However the political power of Shell and BHP became evident as they persuaded the State government to issue the first construction contract in June to Saipem Pty. This was achieved through conducting negotiations behind closed doors, avoiding a public forum which may have resulted in a political battle over the terms of the 1980 sales contracts. The venturers were well aware of the risk to Woodside and the project as a whole if the original contracts were altered at that point. The $1.4 billion financial deal which Woodside had established with Morgan Guaranty rested on estimated payout from the original contracts which were run from 1985-2005. Any major revision of these could have resulted in the loan being withdrawn (W.A. Hansard Assembly 28th August 1985:p.506).**[8]

By the end of 1982 Shell had begun to further extend its influence in the project through the introduction of Shell Internationale Petroleum (SIPM) standards and procedures during the design and construction stages for Phase I. This rationalisation process could be stepped up for Phase II when SIPM were designated to undertake the pivotal role of technical adviser for the construction of the LNG plant and associated facilities (Woodside May 1985).

Shell’s position as the most influential participant within the joint venture was effectively secured prior to the 1985 takeover, with SIPM engineers and senior management occupying key technical and administrative roles within the project. Prior to April 1985 Shell’s influence within the Woodside corporate structure was made apparent by the large number of secondees in key administrative and specialist roles within the company. After the takeover Woodside became the nominal operator under the Shell /BHP umbrella (see Figure 6 JVP Senior Management Structure January 1985).
The fact that Shell’s influence within the North West Shelf joint venture has always appeared disproportionate to its original equity may be a reflection of a broader Shell corporate strategy. As a long established multinational trading company with diverse interests, Shell Internationale Petroleum Maatschapij has evolved a number of successful negotiating strategies over the years. In the past Shell often bought a limited stake in major resource developments typically producing oil or natural gas and proceeded to extend their influence within the project organisation if the long term returns looked promising. This type of policy facilitates multisourcing providing security of supply and diversification of interests. Shell appear to have adopted this type of strategy in relation to the North West Shelf project, with an original equity holding in the joint venture of 19%. Whilst it would be pure speculation to suggest that Shell planned the Woodside takeover from as far back as 1980, the measure may have featured as part of a broad corporate strategy as early as 1982/83.

By the end of 1981 a number of the key political issues relating to the commercial future of the North West Shelf project had been overcome. The major negotiations with the Federal government over export approvals and the tax provisions for the project had been concluded. The State development agreement had been drawn up and ratified in parliament and the SEGW had signed the Domestic sales contracts guaranteeing the JVPs the cash flow required to support Phase I. Oil prices were high at the time with Saudi light crude fetching up to US$36 (spot trading) and the Japanese market for LNG was projected to undergo an expansion into the eighties (WA Govt May 1985).
These favourable conditions changed throughout 1983 and 1984 with a consequent reduction in the incentive for any participant to take an increased stake in the joint venture in 1985. By the time the takeover bid was announced in early April oil prices were down to US$28 from over US$30 at the end of 1984 (Woodside April 1986). The projected demand for LNG in Japan for the 1990s had been downgraded from 1982 estimates and the status of the project had been set at "marginal" in the official view of the JVPs (WA Govt May 1985).

(i) Comment

The prevailing conditions at the time of the takeover seemed to belie any purely economic rationale behind the Shell/BHP action. In view of these indicators it seems likely that the two major participants initiated the takeover in April as an attempt to bolster the confidence of project financiers and foreign investors whose support was essential for the launch of the LNG phase. Thus it is reasonable to assume that the timing of the takeover reflected legitimate concerns on the part of the JVP that Woodside's apparent financial weakness may be a threat to the success of Phase II. However, the question of the broader rationale which underlay the Shell/BHP decision is a more complex matter. It is difficult to provide direct evidence to support the existence of a broad Shell/BHP corporate strategy which had incorporated a takeover plan years in advance of the actual event. However, detail drawn from Stage II interviews supports the following assertions: (i) The Shell company had planned to extend its influence within the joint venture organisation throughout the eighties through a rationalisation programme based on SIPM policies and procedures; (ii) BHP had by 1977 emerged as a powerful instrument for lobbying in Canberra, usurping Woodside's role as the central Australian
company in the project; (iii) Shell and BHP saw the need to stabilise the investment climate for the LNG phase and acted accordingly. There is little evidence from the interviews to support the existence of a long term corporate conspiracy between Shell and BHP to squeeze Woodside out of the joint venture. However there are stronger grounds to support the idea that both BHP and Shell had been pushing to extend their influence within the project several years prior to the takeover. A majority of the respondents who were questioned on the Shell/BHP takeover supported the idea that the measure was primarily an attempt to bail Woodside out of financial problems.*[9]

6.2.4. The significance of the project loan agreement

The structure of the rollover loan agreement established with the project financier offers some insight into the Shell/BHP decision to buy over Woodside. In this subsection an attempt will be made to consider how the Shell/BHP action was influenced by the way in which the original loan was structured and a series of financial measures adopted by the joint venturers in the year leading up to the takeover. The new financial package for Phase II (see 6.1.3.) and the loan agreement will be briefly outlined in order to highlight any possible links to a broader Shell/BHP strategy.

The history of the Woodside loan agreement goes back to January 1981 when the company secured a US$1.4 billion loan from a syndicate of 62 Australian and overseas banks. This loan was of great importance to the future of the North West Shelf project in that it ensured that Woodside could continue with its sizeable commitment to the domestic phase. The loan rested on the security of the SECWA contracts, which had been signed
in September 1980 and had effectively launched the North West Shelf project.

A major financial link between Shell, BHP and Woodside which may have had some direct bearing on the decision to initiate the takeover, was established under the terms of the original loan agreement. The project financing agreement for the Phase I loan was based on anticipated returns from the project and not the traditional balance sheet approach based on company cash flows and assets. Only under this type of arrangement could Woodside have hoped to secure such a sizeable loan in view of the company's limited assets. However, in anticipation of the considerable risks involved the financiers wrote in a clause which bound Shell and BHP to underwrite any cost overrun by supplying Woodside with A$300 million in additional capital. Woodside supported this agreement by issuing equity in 1981 in an effort to raise $175 million from shareholders (Harman 1984:p.227).

From the end of 1981 through to 1985 the project underwent a series of structural changes made in response to the rising costs and lowered projected returns from both phases. The principal measures taken by the joint venturers to deal with the situation were as follows: (i) 1983 Shell and BHP cancelled an earlier arrangement with Woodside whereby they would purchase 50% of the latter's LNG quota on a freight on board (FOB) basis. The original agreement would have saved Woodside a considerable amount on shipping costs and its cancellation would have a detrimental effect on the company's cash flow once deliveries of LNG to Japan commenced; (ii) 1984 the JVPs introduce a new technical package to reduce condensate production from North Rankin 'A' (see 5.5); (iii) November 1984 MIMI is formally introduced as a new participant in Phase
II; Woodside's equity in this phase is divested from 50% to 16 2/3%. The divestment of shares to Shell, BHP and MIMI raises $320 million for Woodside and reduces the company's financial commitment to the LNG phase from $4,250 million to $1,416 million (Harman 1984) (Woodside 1st May 1985).

(i) **Comment**

The policy changes introduced by the joint venturers in 1984 were designed to attain three interrelated objectives: (i) To stabilise the financial position of Woodside Petroleum; (ii) increase Japanese involvement in the project; (iii) create an improved investment climate for the launch of the LNG phase.

These new policy measures were successful to the extent that Woodside was extended the second part of the rollover loan in May 1985 and the LNG phase was launched two months later. However it is important to draw a clear distinction between the achievement of joint venture corporate goals and those of Woodside Petroleum as an independent company. Woodside received the financial guarantees required to support their participation only weeks after the Shell/BHP buy in. By the time the loan was approved Woodside had become a nominee operator for the project and was effectively a subsidiary of Shell and BHP.

The timing of the takeover and the bankers' decision to sign the agreement suggests that both the JVPs and the project financier had foreclosed on the possibility that Woodside could continue as a financially independent participant for the second phase of the project. Morgan Guaranty had indicated their concern about the financial stability of Woodside and the SECWA by withdrawing as lead bankers at the end of 1984. They were replaced by Chase Manhattan which led a changed syndicate.
of 59 banks which were to raise the US$1.6 billion loan for the LNG phase. At the time however, the investment climate for Phase II was uncertain. No sales contract had been signed with the Japanese and there was still the ongoing issue of the SECWA contracts to be settled. In the absence of a bankable document (Sales contract) Chase Manhattan were unwilling to advance financial support to a company which the other participants viewed as a weak financial link in the joint venture.

The timing of the events which preceded the Shell/BHP takeover suggest that Chase-Manhattan were made aware of the forthcoming shake-up within the joint venture a number of weeks prior to the initial bid for Woodside stock. It is likely that this would have served as confirmation of an earlier decision on the part of the financiers to withhold the loan until a number of outstanding details relating to sales contracts for both phases were settled.

When Woodside was finally absorbed into the corporate structure of two giant multi-asseted companies, the bankers were given a clear assurance that the joint venture organisation was financially stable. In strategic terms the takeover was probably viewed by the bankers a little more than a rationalisation of the joint venture financial structure. Shell and BHP completed the scheme with two additional measures to strengthen the financial base of the joint venture organisation by raising the cash flow of the Woodside company. This was facilitated by voting for a $208.3 million stock issue in June 1985 followed by a double issue in January 1986 to raise $840 million (West Australian Editorial January 30th 1986).
ENDNOTES - CHAPTER 6

* [1] Production of aluminum at process which consumes large quantities of electricity dropped by 70% from 1979 to 1982.

[2] Based on commentary from State II interviews and published sources indicated in text.

[3] The figures for LNG Demand (Japan) in 1990 were provided by "The Agency of Natural Resource and Energy (ACE). This is an energy advisory body which supplies survey data to MITI and other Japanese government ministries.

[4] The Petro-Canada project was finally shelved at the end of 1986 (ref: Canadian Consulate, Perth). (Details in WA Jan 1988, WA Govmt.)

[5] Information sourced from Stage II interviews.

[6] BHP has considerable foreign holdings and investments in coal, steel, copper, iron ore and other minerals. This broad portfolio of important offshore interests will result in certain policies more closely associated with a multinational company than an organisation like Woodside Petroleum which is ostensibly Australian based.

[7] Information sourced from Stage II interviews.

[8] Information sourced from Stage II interviews.

[9] " " " " " 
CHAPTER 7

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CHAPTER 7

CRITICAL EVENT NO.3
"THE RENEGOTIATION OF THE SECWA CONTRACTS"

INTRODUCTION

In September 1980 the State Energy Commission of Western Australia entered into a contractual agreement with the NWS participants for the supply of a fixed volume of gas (10.9 million m$^3$ per day) in accordance with set pricing criteria. This contract effectively underwrote the launch of the Domestic gas phase of the NWS project. Less than 5 years later in April 1985 the terms of the original contract had been overturned in favour of a new deal negotiated with the JVP by representatives of the WA government.

The above was seen to be of major significance in terms of the future financial stability of one of WA’s key public bodies and the strategic position of the JVP relative to their domestic market for NWS gas.

In the following chapter the ‘event’ to be examined is seen to unfold over the 4½ years between September 1980 and April 1985. However, in view of the importance of historical context in this case, the chronological coverage dates back to November 1977 (see 7.2.1.).

Chapter 7 is effectively an exercise in policy analysis looking at the essential interplay between public and corporate policy. JVP policies are the central referent although a large amount of space is devoted to the policy of the WA government and their respective energy ministers over the period in question. The role of ministers Mensaros and Jones is covered retrospectively drawing on a statement voicing the views
of the current minister (Oct 88), David Parker, on the SECWA contracts issue. This is in turn balanced by commentary drawn from a number of sources including media coverage and Stage II interviews. The importance of the Alcoa company as a major customer for piped NWS gas is also considered.

It is anticipated that the analysis of this key event in the history of the NWS project will afford a clearer understanding of (i) why the renegotiation was necessary (ii) its impact on the corporate integrity of the SECWA and energy use projections for piped natural gas in WA (iii) whether further contractual adjustments will be necessary as mooted in recent press reports (ref. West Australian, April 6th 1988).

November 1977  The SECWA with the concurrence of WA State Energy Minister Mensaros, enter into a MOU with the JVPs for the purchase of 250 MMCFD of natural gas for sales in the South West of the State.

November 1978  The SECWA take on option contained in the MOU to purchase a further 50 MMCFD of gas from the JVPs.

1979  The SECWA:

(i) Sign a take or pay contract with Griffin coal to purchase 3 MTPA (3 million tonnes per annum) the total annual output at the Collie open cut mine, over a 20 year period.

(ii) Assume responsibility for marketing 70 MMCFD of gas which the JVPs had previously planned to sell to end users in the Pilbara. The move raised SECWAs total gas take from the original figure of 250 MMCFD outlined in the 1977 MOU to 370 MMCFD (10.9 million m$^3$ per day).

December  The SECWA:

September 1980  The SECWA under the direction of State Energy Minister Jones and Commissioner Kirkwood, sign contracts to consolidate arrangements for the purchase of 370 MMCFD from the JVPs.
September 1981 The SECWA issue a brief for Mr. Jones setting out their perception of the prevailing gas demand situation prior to the impending award of the Dampier-Wagerup pipeline contract. The report outlined a projected shortfall in gas sales for 1985 ranging from 100 to 120 MMCFD for Southern gas and 36 MMCFD for Pilbara gas (WA Hansard Aug 28th 1985).

June 1982 Saipem Pty. are awarded the SECWA pipeline contract (Northern leg).

September 1982 Kukje/ICC Construction of Korea are brought into a joint venture with Saipem which will carry out work on all three stretches of the 1,500 kilometres pipeline (Newman/Brotherton, 1982:p.148).

May 1984 Lack of new industrial development in WA and a general reduction in domestic energy demand growth, leads to a downward revision of earlier projections for natural gas use in the State. SECWA and the State government foresee the ensuing debt crisis and form the Gas Strategy Committee to address the problem (Parker 1985).

November 1984 The SECWA sign a $1 billion contract with Western Collieries to take 26 million tonnes of coal (approximately half total production) over a 20 year period (Western Mail, August 31 1985).
December 1984  Morgan Guaranty the lead financiers for the NWS project, express doubts about the SECWA's ability to meet its financial obligations to the JVPs under the existing contractual terms. The group decline to serve as project financiers for Phase II.

The SECWA try to renegotiate the terms of the 1979 Griffin contract to reduce take or pay obligations to 2.2 MTPA. Griffin take court action resulting in litigation from November 1984 to February 1985.

December 1984-

March 1985  Following the recommendations of the Gas Strategy Committee the State government enter into negotiations with the JVPs to initiate changes in the terms of the 1980 sales agreement.

March 1985  Announcement that agreement has been reached between the State government and the JVPs over alterations to the existing gas sales contracts. The new package is agreed in the light of State and Federal provision to forfeit a total of $315 million in royalties over 20 years to support the SECWA's financial obligations to the JVPs.*[1] (Parker 1985)
Historical Background to the SECWA Contracts Debate

Key events August 1977-March 1985

The Federal budget of August 1977 heralded the end of a long period of stagnation for the NWS development. Treasurer Anthony's special provisions for the export phase and the retreat to a 25% Australian content threshold had given the joint venturers a major incentive to push ahead with the project (see 4.2.1). With most of the major obstacles to project development, cleared at Federal level, the stage was set for more detailed negotiations between the WA government and the JVPs.

Throughout 1977 a number of meetings were convened between the JVPs and representatives of various WA government bodies with the aim of (i) devising a detailed development package for the domestic phase, and (ii) reaching agreement on the pricing and quantity of gas to be sold to the SECWA. The drafting of the MOU between the parties in November 1977 represented the culmination of preliminary talks and paved the way for more detailed negotiations. These were to lead to the signing of the domestic phase sales contracts in September 1980.

A series of events linked to the SECWA contracts issue, which took place prior to September 1980, subsequently became the subject of a series of parliamentary debates in August 1985 (see 7.3.4 and 7.4.4). In a statement issued on 23 August 1985 by WA Energy Minister Parker, these events are presented and interpreted in hindsight from the perspective of the Burke government. In his statement Mr. Parker maintains that the SECWA gas glut and debt profile are the legacy of a series of poor policy decisions made by two Liberal/NCP energy ministers. These were Mr. A. Mensaros, WA Energy Minister for the coalition government from 1977 to 1979 and his successor Mr. P. Jones who held the energy portfolio until the election of the Burke government in February 1983.
Four major events are singled out for scrutiny in Mr. Parker's published statement which attempts to illustrate how poor judgement and political motives led the respective ministers to enter into agreements with the JVPs which were contrary to the interests of the state of Western Australia. The original agreement outlined in the MOU whereby the SECWA would contract a total of 250 MMCFD of gas from the JVPs is sanctioned in the document as a reasonable business arrangement between the two parties. Parker states that if the total volume of gas contracted from the JVPs had remained at that level, the current debt problem would be comparatively small. This is borne out in respect of 1985 gas sales estimates for 1985/86 which were set at 140 MMCFD for third party sales in the South West of the State and approximately 40 MMCFD for use in power stations, (Parker, August 1985) a total figure of 180 MMCFD.

Mr. Parker suggests that if the volumes set out in the 1977 MOU had remained unchanged, the quantity of gas going into inventory in 1985 could have been about half the amount which remained unsold under the terms of the 1980 sales agreements. This agreement was operative until the terms of the domestic gas sales contracts were revised in March 1985.

A major provision of the original sales agreement was that the SECWA must draw down 351 MMCFD of NWS gas or 95% of the total contracted volume.

Over the three year period between the establishment of the 1977 MOU and the signing of the domestic gas sales contracts in September 1980, the volume of gas contracted by the SECWA rose from 250 MMCFD to 370 MMCFD. This increase was brought about by SECWA exercising two contractual options, one in 1978 and another in 1979. The first option to take an additional 50 MMCFD was encompassed in the 1977 MOU. The SECWA
and the Energy Minister took this decision at a time when oil prices were rising and worldwide demand for natural gas was increasing steadily (see 3.2.2.).

In Western Australia SECWA's pre-1981 projections for natural gas demand in the industrial sector and as a power station feedstock pointed to a steady upward trend throughout the 1980s (see Table 3).

The 1978 decision was open to a small measure of criticism in the Parker document (see 7.4.2). However the 1979 decision to increase the total take from 300 to 370 MMCFD and the subsequent ratification of this in the 1980 sales agreement, are singled out as examples of political ineptitude on the part of the Court government. The principal blame is laid on Mr. Jones who signed the 1980 sales contracts and is assumed to have been aware that (i) market indicators were already pointing to a shortfall against original natural gas demand projections for WA in the 1980s, and (ii) Alcoa had not yet finalised their total gas uptake or signed a back to back contract with the SECWA (Parker, August 1985) (see 7.2.2).

Exactly one year after Mr. Jones signed the sales contracts the SECWA issued a ministerial brief (September 1981) advising that (i) if market prospects were good there would still be an unsold surplus of 100 to 120 MMCFD in 1985 for Southern gas and 36 MMCFD for Pilbara gas; (ii) the coal competitive price for Southern gas was too high to attract new industrial users; (iii) the projected financial position of the SECWA was such that consideration should be given to delaying the project; (iv) the SECWA may be unable to raise finance for the Dampier-Wagerup pipeline; (v) an independent energy consultant had advised the SECWA that the price provisions set down in the sales contracts should be renegotiated and had advised on how this exercise may be carried out (Parker, August 1985).
TABLE (3)

1976/77 NORTH WEST SHELF GAS MARKET ASSESSMENT

(MMCFD)

<table>
<thead>
<tr>
<th>Year</th>
<th>1980</th>
<th>1985</th>
<th>1987</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>South West</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcoa</td>
<td>-</td>
<td>142.3</td>
<td>192.3</td>
<td>241.6</td>
</tr>
<tr>
<td>Worsley</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>power gen.</td>
<td>-</td>
<td>30.0</td>
<td>30.0</td>
<td>30.0</td>
</tr>
<tr>
<td>reticulation</td>
<td>-</td>
<td>32.0</td>
<td>51.4</td>
<td>64.1</td>
</tr>
<tr>
<td>WMC (Western Mining Co.)</td>
<td></td>
<td></td>
<td>13.0</td>
<td>14.0 - 15.0</td>
</tr>
<tr>
<td>Midland Brick</td>
<td>-</td>
<td>8.7</td>
<td>9.3</td>
<td>10.3</td>
</tr>
<tr>
<td>Swan Cement</td>
<td>-</td>
<td>4.3</td>
<td>230.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Pilbara</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>power</td>
<td>-</td>
<td>70.0</td>
<td>70.0</td>
<td>70.0</td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total NWS Gas Demand</td>
<td>-</td>
<td>300.3</td>
<td>371.3</td>
<td>435.3</td>
</tr>
<tr>
<td>Total Non Transport Fuel Demand</td>
<td>884</td>
<td>1214</td>
<td>1310</td>
<td>1529</td>
</tr>
</tbody>
</table>

Despite the warnings outlined in the 1981 ministerial brief neither the Liberal/NCP coalition government nor their Labor successors had taken any firm steps towards the renegotiation of the domestic gas sales agreements until late in 1984.

In the extensive three year time period between the issue of the ministerial brief and the start of the renegotiation procedures with the JVPs, the WA Liberal/NCP and latterly Labor governments had pushed ahead with work on the domestic phase of the NWS project. In June 1982 the contract for the Northern leg of the SECWA pipeline was issued to the Australian subsidiary of the Italian Saipem engineering company. The Korean company Kukje/ICC were later brought in on a joint venture partnership with Saipem, to cover construction work on the entire 1,500 kilometres of the pipeline (Harman, 1984:p.230). All the other major contracts for work on the Dampier gas phase were issued that year with the domestic gas plant and onshore pipeline commissioning dates set in mid-1984.

Comment

As was discussed above, in the period leading up to the WA State election of February 1983 the coalition government had taken no significant measures on the SECWA gas issue. The new Labor government took no firm action on the matter until May 1984 when it appointed a Gas Strategy Committee to make recommendations for future policy relating to NWS gas. On the advice of the committee negotiations were initiated with the joint venturers at the end of 1984 and were concluded over three months later with the establishment of the new sales agreement in March 1985. The three months between December 1984 and March 1985 had been crucial for the State government which had to negotiate a deal with the
JVPs and the Federal government would ensure that the SECWA would not face a financial collapse in the future. The pressure on the government to reach a fast resolution to the SECWA’s problems was heightened by concurrent negotiations with Alcoa, the key third party buyer and Griffin coal who had initiated legal proceedings against the energy commission for breach of contract (see 7.2.2 and 7.2.3).

7.2.2. The role of Alcoa as a major third party client

The optimistic gas use projections for Western Australia issued by the SECWA in 1977 had been predicated on the idea that Alcoa as the major third party client would be drawing down at least 150 MMCFD by 1985. The first signs that Alcoa would require no more than this minimum quantity were evident by November 1978. At this point the company had not exercised an option set out in the 1977 MOU to contract an additional 40 MMCFD of NWS gas within one year.

More significantly however, when the domestic gas contracts were signed in September 1980 Alcoa had still not committed to any back to back agreement with the SECWA. Harman reports that in 1982, Alcoa expressed their intention to purchase a total of 5.25 million cubic metres of gas a day from the SECWA, or nearly half of planned NWS production for the Pilbara, Metropolitan and South-Western markets in 1985 (Harman, 1984:p.219). However, a formal agreement on the price and quantity of the gas to be purchased from the SECWA was not reached until 1983 (see 7.3.2).

Alcoa is the SECWA’s biggest customer, currently (Oct 88) using over half the amount of NWS gas consigned for sales to the South West.
According to official sources at Alcoa the company's uptake of NWS gas has never increased beyond the original quantity of 4.4 million m$^3$ per day (approximately 150 MMCFD) put in place in a 20 year contract signed with the SECWA in 1983.**[2]

Despite a sharp upturn in Western world prices and demand for both aluminium metal and alumina in 1987 and 1988, no additional NWS gas is reported to have been contracted to supply the additional electrical power required by Alcoa's three refineries in the South West of WA. All three refineries (Pinjarra, Kwinana, Wagerup) were working at full capacity throughout 1988 and drew high wattage output from on-site gas fuelled power stations (see Appendix IV).

Throughout the five years since the signing of their $5 billion (1983 dollars) contract with the SECWA in 1983, Alcoa have claimed that at no point have they been able to employ the total gas consignment of 150 MMCFD. This point was likely to have been tabled during the 1985 SECWA contract renegotiations and coupled with successive years of low alumina output and profit returns in 1983 and 1984, may have gained some pricing concessions from the JVP (see 7.3.4). It is only in the past two years (1987 and 1988) that the Alcoa drawdown of NWS gas is reported to have come close to the original contracted volume avoiding the high inventory costs of the previous three financial years.

7.2.3. **An important trade off: gas v coal**

The problems facing the SECWA in relation to the domestic gas market were compounded by the uneasy trade off which had to be made between coal and natural gas as a power station fuel. Back in 1979, the SECWA had signed a take or pay contract with Griffin coal to take the
total production from the Collie open-cut pit, some 3 million tonnes per annum (MTPA) over a 20 year period.

In November 1984 the SECWA increased its commitment to coal producers in the State by signing a $1 billion contract with Western Collieries to take 26 million tonnes or half of the company's output over a 20 year period. This commitment was made at a time when the SECWA were aware of a growing gas and coal glut in Western Australia. Gas demand for 1984 had been well below the figures set out in 1977 and there was no significant export market for Collie coal to ease the pressure on domestic demand. In view of this situation and the fact that only a limited amount of coal was allocated for power generation, the SECWA attempted to reduce the take or pay quota agreed with Griffin in 1979. This led to a period of litigation with the Griffin Coal Co. filing for breach of contract. An out of court resolution was reached in March 1985 whereby Griffin received compensation for reducing the SECWA take or pay commitment from 3 MTPA to 2.2 MTPA (Western Mail, August 31 1985) (see 8.1 for update).

The SECWA currently contracts a total of 2.9 MTPA from WA's two major coal producers. However, this figure still exceeds current and anticipated market demand forcing the State government to sanction the stockpiling up to 3 million tonnes of Collie coal by 1988. The cost of the gas for coal trade off as a power station fuel has been estimated to cost the State government $5 million (1985 dollars) after 5 years of stockpiling. The decision was justified on the grounds that jobs would be preserved in the town of Collie and the extended use of NWS gas as a power station fuel would save $40 (1985 dollars) in inventory costs over the life of the contract (Western Mail, August 31 1985).
7.3. The Anatomy of the SECWA Debt Problem

7.3.1. The revised agreements

In March 1985 an agreement established between the JVPs, the SECWA and Alcoa laid out a set of revised terms and conditions which the WA government claimed would considerably reduce the debt which had been accrued by the energy commission, under the original 1980 take or pay arrangements (Parker, 1985). This seems to be the case when the minister's statement is examined, with SECWA appearing as the main beneficiary from the new arrangements. However, further consideration needs to be given to the concessions which the State and Federal government had to make in order to reach agreement with the JVPs and Alcoa on gas pricing and supplies.

According to the Parker document the new deal in purely capital terms required the State and Federal governments to forego a total of $315 million in royalties over the 20 year life of the new contract. The State government made royalty concessions worth $145 million in dollars of the day (1985) which would amount to an estimated $638 million at the end of the contract in 2005. In addition to the State contributed $100 million (1985 dollar terms) equivalent to an estimated $460 million in 2005 from a 3% levy on gas operations. The Commonwealth government contributed the balance of $70 million (1985 dollar terms) estimated to total $302 million in 2005 (Parker, August 1985).*[3] These concessions formed a large proportion of the overall cost to the State and Federal authorities stabilising the financial future of the SECWA.

Throughout the negotiations of January-March 1985, the WA government had sought swift action to resolve the SECWA debt problem and other areas of dispute with the JVPs. An important concern was to
safeguard investment in the LNG phase of the NWS project. The WA (Burke) government's action was also an attempt to preserve future levels of foreign investment in the State which may have been threatened by uncertainty over the long term financial stability of the SECWA.

7.3.2. Alcoa's involvement in the 1985 negotiations

In view of Alcoa's position as the major third party client for NWS gas, the company was represented in the negotiations which led to the revision of the domestic gas sales contracts in March 1985. Throughout the negotiations, which commenced at the end of 1984, the Alcoa management were in a strong bargaining position for two major reasons. Firstly, the company was the principal customer for SECWA gas sales to the South West of the State, accounting for over half the total West Australian markets for natural gas in 1984 (Parker, August 1985). Secondly, the launch of the domestic phase of the NWS project had hinged on the assumption that Alcoa would be using over 140 MMCFD of NWS gas by 1985 (see Table 3). As a result of these crucial factors any decision on Alcoa's part to reduce gas use in their three major alumina refineries in the State could further increase the SECWA's debt problems. They also had the additional advantage of not having signed any final purchase agreement for additional gas with the SECWA prior to March 1985.

The strong bargaining hand which Alcoa held in early 1985 suggests that they may have been able to gain considerable financial concessions from the State government under the terms of the 1985 sales and purchase agreements. This point is not discussed in Parker's statement which concentrates on revised terms which were presented as concessions made by Alcoa to the SECWA. These were (i) the establishment
of a price moratorium for the first five years of gas sales until July 1
1990; (ii) an adjustment of coal competitive gas prices; (iii) the
introduction of a fixed oil coal competitive gas price ratio.

Comment

It is not possible to make any accurate assessment of the
financial benefit derived by the SECWA in the absence of key points of
information covered by the confidentiality clauses of the domestic gas
contracts. The relevant areas on which information is not publicly
available are (i) the exact details of the gas pricing formula and the
final charge rates to the SECWA and third party customers; (ii) general
details on the final agreement signed between Alcoa and the SECWA.

When asked to comment on the position of Alcoa in the 1985
negotiations a number of Stage II interview respondents suggested that:
(i) the aluminum giant would push the SECWA to improve the gas pricing
deal which they had been offered prior to that time (ii) Alcoa may have
gained price concessions from the SECWA on their bulk gas purchases for
use in their three South Western refineries as a result of the 1985
revision of the original domestic sales contract. However, no conclusive
evidence to this effect has been made publicly available to date (Oct
88).**[4] What has been documented is that Alcoa did gain a major
financial concession from the SECWA in 1986 when the pricing formula for
oil competitive gas was changed from a system using a $28 benchmark to one
which more closely reflects changes in international oil prices. Although
the change was not introduced solely for Alcoa's benefit, the company,
which reported an 86% drop in profit against half yearly earnings in 1985,
had continued to negotiate with the SECWA after March 1985 (The
Australian, 19/20 July 1986).
It is possible that during ongoing negotiations Alcoa pressurised the SECWA into making a major financial concession to them which had not been agreed in March 1985. The drop in aluminum prices over the period between March 1985 and the end of that year, combined with the slump in oil prices, would have added considerable weight to Alcoa's case for the removal of a $28 benchmark for indexation of gas prices. As the end user of over 95% of oil indexed gas sold to the South Western market, Alcoa stood to gain substantially under the new pricing arrangement. Estimates of total savings for the company from the introduction of the revised pricing formula were set at approximately $71 million per annum in August 1986 (Western Mail, 30/31 August 1986). (Since 1986 there has been a considerable upturn in the price and worldwide demand for aluminium with important flow on effects for the WA bauxite/alumina processing industries (see Appendix IV).

In his statement, Parker (1985) makes little mention of the financial trade off which took place with the JVPs and Alcoa prior to agreement being reached on revised terms for the domestic gas sales contracts. The exact cost cannot be measured due to limitations on publicly available information. However, to assume that the debit to the State stopped at $245 million in royalties and tax foregone, would be to underestimate the negotiating power of two powerful multinational concerns.

7.3.3. Stated benefits to WA from the revised agreement

The Parker document itemises several major benefits which will accrue to the WA economy under the revised contractual arrangements for NWS domestic gas sales. The changes and associated benefits are stated as:
(i) a reduction in the coal competitive gas price applied by the JVPs.

Stated Benefit - Increased marketability of the gas and the reduced (relative to 1980 agreement) cost of Southern gas sold to the SECWA by the JVPs.

(ii) "Incremental Gas", introduced as a new category of Southern gas to reduce the cost of greenfield projects in WA.

Stated Benefit - Up to 37 MMCFD of gas will be available to new industries which would not have been purchased under the old pricing arrangements.

(iii) The threshold for minimum drawdown from the gas inventory for the sixth to the twentieth year of the contract was reduced from 100% to 95%.

Stated Benefit - Reduces the cost of the gas inventory which contributes a large proportion of the SECWA debt over the life of the contract.

All of the above should produce some direct benefits for the SECWA and the state of Western Australia. However, the major questions which remain unanswered in Parker's statement are (i) can these benefits be quantified in terms of economic rates of return; (ii) if this is the case, do they offset the costs of the concessions made by the State and Federal government to the JVPs? There is little data available from government or independent sources which can be used to answer these questions. However, it is possible that the issue of the capital cost to the Federal and State governments of establishing the deal with the JVPs, was overridden by the political necessity of ensuring that Phase II of the project went ahead.
7.3.4. The potential impact of new industrial development on the SECWA debt profile

The future commercial viability of the domestic phase gas contracts for both the SECWA and the JVPs is predicated on the introduction of new industrial developments in WA to soak up the gas surplus. Figures 7.1-7.5, which are drawn from the Energy Minister's published statement, illustrate how the WA government viewed the impact of new industrial developments on the gas surplus in the State (March 85).

Starting from the basic assumption of no new developments under the revised contract arrangements (Figure 6.1), the estimated SECWA debt at the end of the contract is placed at $2 billion. Figure 7.2 illustrates the difference that would result from the introduction of an Ammonia/Urea plant. This type of development was designated in the 1974 Pilbara plan as a commercially viable operation using significant quantities of NWS gas as a basic feedstock. The economic advantages of the plant were based on the fact that it would use resources readily available in WA, and would be less reliant on international markets than other proposed developments such as an aluminum smelter (Spooner 1974).

Assuming that an Ammonia/Urea development on a sizeable scale was established in WA over two to three years (1985-1988), the State government estimated that the SECWA debt could be reduced to $500 million by 2005 (see Figure 7.2). Figure 7.3 illustrates the potential impact of establishing both a medium sized LPG plant (100-150 thousand tonnes per annum) and a large Ammonia/Urea (1,500 tonnes ammonia 1,300 urea on the SECWA debt which is estimated to be zero by 2005. The biggest single impact on the debt profile would arise if an aluminum smelter was
FIGURE 7.1

SEC DEBT PROFILE FOR NWS GAS OPERATIONS
Sales Forecast Without Major Developments

Fig's in AUS$ Billion

Year Ending June 30

Pipeline Debt  Revised Arrangement  Original Contract

Data Source: DRD Aug 1985

FIGURE 7.2

SEC DEBT PROFILE FOR NWS GAS OPERATIONS
Sales Forecast With Ammonia Urea Plant

Fig's in AUS$ Billion

Year Ending June 30

Pipeline Debt  Revised Arrangement  Original Contract

Data Source: DRD Aug 1985
FIGURE 7.3
SEC DEBT PROFILE FOR NWS GAS OPERATIONS
Sales Forecast With
Ammonia Urea Plant & LPG Plant

Fig's in AUS$ Billion

Year Ending June 30

- Pipeline Debt
- Revised Arrangement
- Original Contract

Data Source: DRD Aug 1985

FIGURE 7.4
SEC DEBT PROFILE FOR NWS GAS OPERATIONS
Sales Forecast With
Aluminium Smeiter

Fig's in AUS$ Billion

Year Ending June 30

- Pipeline Debt
- Revised Arrangement
- Original Contract

Data Source: DRD Aug 1985
FIGURE 7.5
SEC DEBT PROFILE FOR NWS GAS OPERATIONS
Sales Forecast With
Ammonia Urea Plant & LPG Plant & Smelter

Fig's in AUS$ Billion

Year Ending June 30

- Pipeline Debt
- Revised Arrangement
- Original Contract

Data Source: DRD Aug 1985
established and in operation by the early 1990s. In this instance (Figure 7.4) it is indicated that in a single development scenario the smelter would reduce the SECWA debt in 2005 from the base figure of $2 billion to $250 million (Parker, 1985) (see 8.1).

Figure 7.5 illustrates the potential combined impact of a smelter, LPG plant and Ammonia/Urea plant on the debt profile. These three developments are assumed to wipe out the unsold gas component of the SECWA debt by 2002 leaving only capital repayments on the Dampier to Wagerup pipeline which end in 2005 (Parker, 1985). At present (Oct 88) only the LPG development is underway. An agreement was finalised between Wesfarmers-Kleenheat Gas Pty Ltd and the WA State government in December 1986 and construction work is now well underway at Kwinana in the South West of the State. Following start up scheduled for the end of 1988, the medium sized plant will produce 150,000 tonnes of LPG and 25,000 tonnes of condensate per annum. It was reported at the time when the Wesfarmers/WA government deal was announced that the plant will draw off 25 MMCFD of NWS gas when full production is reached in late 1988 (Wesfarmers News 17, December 1986). (This project is now operational, Oct 88.)

The status of the Ammonia/Urea development proposed for the south-west of WA is as yet unclear. In October 1986 the WA government issued a report describing proposed new developments in the State (Prospect WA 3/86). An ammonia/urea plant backed by C.S.B.P. (a Wesfarmers subsidiary) and Norsk Hydro of Norway, designed to produce 1,300 tonnes of urea per annum was reported to be in the final feasibility stages. However, to date (Oct 88) despite E.P.A. clearance the project has not been given the final go ahead (see 8.1).
On reaching the proposed production levels in the early nineties, it is reported that the project could become the second largest consumer of NWS gas behind Alcoa. Total drawdown for the plant was estimated at 50 MMCFD or just under one-seventh of the total volume contracted by SECWA (Wesfarmers News 14th January 1987).

Another major development which could have a significant impact on the NWS gas surplus is the proposed petrochemical complex to be developed at Kwinana by Petrochemical Industries Ltd, a company in which the WA government recently purchased a 43.5% stake (West Australian 10th October 1988). The projects E.R.M.P., Environmental Review and Management Programme, was released early in the year although no fixed decision has been made by the investors. This is in part due to the current political controversy surrounding the financing of the deal and the WA government's endorsement of the scheme (see 8.1).

At the present time, the WA government have announced no definite plans for the development of an Aluminium smelter in the South West of WA. However, the French company Aluminium Pechiney is currently undertaking a feasibility study on behalf of a consortium headed by Kemerton Aluminium. The consortium is investigating the commercial feasibility of constructing a smelter at Kemerton based on two aluminium potlines each with a capacity of 185,000 tonnes a year (West Australian August 1st 1988).

Proposals of this type have been raised and shelved on several occasions throughout the seventies and as recently as 1985, the economic viability of such a development has yet to be demonstrated.
As early as 1974 the Pilbara report listed a proposed aluminium smelter as a poor economic prospect for that region with little indication of better prospects elsewhere in the State (Spooner 1974). Although the world market for aluminium has picked up since a price slump in 1985 which witnessed plant closures in Europe, the immediate viability of a smelter development in WA is still open to question (see The Australian 19/12/86 and Alcoa Annual Report 1987).

When assessing the potential impact of these and other new developments on the SECWA debt profile, it is necessary to proceed with caution. The estimates made by the State government in 1985 for the impact of the LPG Ammonia Urea and Smelter projects listed above contained certain assumptions about the timing and scale of these developments i.e. assuming that the LPG plant and Ammonia/Urea plant progressed as predicted and reached the designated production levels, the SECWA gas glut was to be cut by approximately 75 MMCFD by the mid-1990s. However, since 1985 the position of the WA energy ministry has changed in relation to the publicly acknowledged gas surplus and ongoing debt payments.

The official WA government line promoted in recent press releases and the document "Energy Policy Options for WA", is that the State is now approaching an energy balance situation with both coal and gas inventories paid off and due to be cleared by 1994 (The West Australian 12/11/88). This policy statement is clearly predicated on the assumption that one of the major gas and user projects proposed for development in the SW of the State will get the green light in 1989. At present the Petrochemical Industries Ltd P.I.C.L. petrochemical plant appears to be poised to join Alcoa and Wesfarmers recently commissioned
(Oct 88) LPG plant as one of the big three NWS gas users in the State. The future of the Wesfarmers/Norsk Hydro Ammonia/urea plant projects seems less certain in the light of recent press releases (see 8.1).
7.4. Why Did the Debt Problem Arise?

7.4.1. Three key decisions in context

The issue of who or what was responsible for the massive financial problems facing the SECWA in the 1980s has been the subject of extensive parliamentary debate and media focus. The current Energy Minister Mr. Parker, pinpoints the actions of Mr. Mensaros in November 1978 and December 1979, and Mr. Jones in September 1980, as the main causes of the problem.

With hindsight, it is easy to point to the decisions taken by the relevant ministers at these times and singling these out as the sole causes of the ongoing gas glut problem in WA. However, this does little justice to the complexity of the issue and ignores the political and economic context within which these decisions were taken.

In 1978 when Mr. Mensaros committed the SECWA to increase their gas take from 250 MMCFD to 300 MMCFD, the WA government's projections for natural gas demand in the state pointed to steady growth into the eighties. Prior to the signing of the 1977 MOU, the SECWA had prepared a market assessment based on demand in the South West of the State and the Pilbara. The South Western market comprised five major industrial customers, power stations and large scale reticulation systems as principal end users. The figure set for this market was 230.3 MMCFD by 1985. Projections for gas consumption in the Pilbara in 1985 stood at 70 MMCFD, bringing total projected demand for NWS gas to 300 MMCFD (see Table 3).

These figures had not been altered by November 1979 when the decision was taken by the minister that the SECWA should assume responsibility for marketing an additional 70 MMCFD, which the joint
venturers had originally sought to sell independently in the Pilbara market.

Despite indications of contraction in the Pilbara's industrial base the SECWA continued to work from the 1977 projections laid out in the MOU. The second oil shock of early 1979 had sent crude oil prices spiralling from approximately US$15/bbl in November 1978 to a level between US$28-US$32/bbl throughout 1979 (Mcaslin, 1984). This rapid rise in oil prices had given a major boost to alternative energy programmes and increased gas prices, which in WA were projected to rise to 60% of the cost of imported oil (WA Hansard Assembly, August 28 1985). Set against this background of rising prices and demand for natural gas on a worldwide scale it is easy to see why the WA government at the time were willing to continue working on the optimistic scenarios being presented to them by the SECWA energy forecasters. The fact that this was, with hindsight, a serious mistake on the part of the coalition government's Energy Ministry, will be raised when discussing Parker's attack on the actions of Mr. Mensaros and Mr. Jones (see 7.5.2 and 7.5.4).

By the time Mr. Jones came to sign the domestic gas sales contracts in September 1980 there were clear indications that the 1977 projections were over-optimistic. Oil prices remained high at around US$30/bbl maintaining the worldwide trend towards increased gas consumption. However, in WA the closure of the Hamersley Iron Pelletising plant at Dampier and the imminent closure of the Cliffs Robe Pelletising plan at Cape Lambert would severely undermine future gas sales to the Pilbara market. The DRD estimated that the total loss of potential gas sales to this market incurred by these closures amounted to 45 MMCFD (Parker, August 1985). In his statement (Parker 1985) claims that both
Mr. Mensaros and Mr. Jones were aware of the likely effect of a major industrial closure in the Pilbara when their respective decisions were taken, and uses this as the basis for his attack on the two ministers.

7.4.2. Parker's attack on Jones and Mensaros

In the published document outlining the State Energy Minister's statement of August 25, 1985, he sets out his major criticisms of the actions of his Liberal predecessors in relation to the SECWA gas glut.

The decision of November 1978 to commit the SECWA to an additional 50 MMCFD is viewed by Parker as erroneous but understandable in the light of the optimistic gas demand projections which were used to guide State energy policy at the time. His only major criticism of Mr. Mensaros's 1978 decision is that it was taken in the knowledge that Alcoa had not exercised an option to take an extra 40 MMCFD of NWS gas within the one-year time frame set out in the 1977 MOU.

Mr. Mensaros's actions of November 1979 are criticised on the basis that the decision was taken in full knowledge of the Hamersley closure and the fact that the JVPs had been unable to obtain the prices they had sought for gas in the Pilbara market. The main target of Parker's attack was the action taken by Mr. Jones in September 1980 to convert the decisions of his predecessor into a firm contractual commitment. The contracts were signed by the State government in the knowledge that the Cape Lambert pelletising plant was to close only a year after the announcement of the closure of the Hamersley Pelletising plant at Dampier. Parker claimed that by September 1980 existing market demand indicators for natural gas in WA had shown that previous projections for the 1980s were over-optimistic. However, despite the loss of over half
the original Pilbara gas market and other contra-indications for projected
gas sales to the South West, the WA government ratified the 1978 and 1979
measures by signing a contract with the JVPs. The main motive for such an
action according to Parker, was political points scoring for the imminent
Federal election. It is certainly true that at the time the Fraser
Liberal/NCP coalition had strong reasons to ensure the project which they
had backed with major fiscal incentives would not run into difficulty
prior to the election. It is therefore possible that by August 1980, Mr.
Jones was under pressure from the Liberals in Canberra to put in place
contractual arrangements which would signal the launch of the domestic gas
phase of the NWS project. The timing of such an action could be crucial
to the outcome of a Federal election for a government seeking investment
led recovery and the promotion of a resources boom.

7.4.3. Mensaros' defence in parliament

In the parliamentary debate which followed the issue of Mr.
Parker's statement of August 23, 1985, both Mr. Mensaros and Mr. Jones
sought to defend their actions relating to the SECWA gas issue. The basis
for Mr. Mensaros's defence of the 1978 decision was as follows.

(i) Working from the 1977/78 SECWA market forecast for gas sales to
the WA market in 1985 (see Table 3), Mr. Mensaros claimed that
in 1978 an additional 50 MMCFD was considered necessary to:

(a) allow for a planned expansion in the State's industrial
    base;

(b) keep delivery costs to the metropolitan area low.
(ii) At the time when the additional commitment was made (November 1978) it was assumed that Alcoa were to exercise an option contained in the 1977 MOU to increase their gas take from 150 MMCFD to 190 MMCFD.

(iii) The measure was in part a reflection of the State government's concern that the Federal government withhold export licences for the LNG phase if the uptake of gas for the domestic market fell below a certain threshold (WA Hansard Assembly, August 28 1985).

Turning to the 1979 decision to commit the SECWA to an additional 70 MMCFD, which had been originally targeted by the JVPs for sales to the Pilbara market, Mr. Mensaros pointed to a number of broad economic indicators which favoured expanded use of natural gas as a premium fuel. In 1979 the price of natural gas, according to WA government sources was projected to remain at approximately 60% of the indexed price of imported oil, in the short term. This price differential, and the large volumes of gas available from the NWS reservoirs, were viewed as a major incentive to new industries to use gas as a fuel or feedstock.

On the more specific issue of the Hamersley Pelletising plant and the effect of its imminent closure on the Pilbara gas market, Mr. Mensaros claims that a senior executive from the company advised him that the plant could be reopened pending the establishment of discounted gas price with the SECWA (WA Hansard Assembly, August 28 1985).

Comment

In order to throw some light on the validity of former ministers defence against the criticisms of his actions lodged by the current government, it will be useful to comment on each point raised.
The first point reflects the developmentalist ideology which the Court government was promoting in WA throughout the seventies. The broad policy line of the State government on industrial expansion based on NWS gas and the upward trend in the cost of imported oil, provided Mr. Mensaros with a strong incentive to commit the SECWA to an additional gas take in 1978. However, the second point related to the ongoing assumption that Alcoa would increase its uptake from the SECWA is harder to defend in the light of Parker's evidence. The company had been set a one year time limit on the extra 40 MMCFD option when the MOU was formulated in November 1977. Alcoa had made no attempt to exercise this option or finalise a sales contract with the SECWA by November 1978.

The final point raised by Mr. Mensaros relative to the 1978 decision is inconsistent with historical evidence raised in this study. Whilst the Federal government may have previously used the threat of withholding export permits to ensure the inclusion of a sizeable domestic component in the NWS project by November 1978, the Fraser government had introduced a series of measures to hasten the launch of the NWS project. The budgetary concessions for the NWS and a series of other fiscal incentives were provided by the Federal government, which, by the end of 1978, had clearly accepted the JVPs' position that a sizeable export component was essential to the commercial viability of the NWS project (see 4.2).

Despite broad macroeconomic indicators pointing to a worldwide growth in the use of natural gas, as an alternative to oil based fuel and chemical feedstock, the indications from the WA market at the end of 1979 were not so positive. The main problem lay in the Pilbara where prospects for increased natural gas consumption were not good (see 4.3).
Mr. Mensaros had raised the idea that the availability of cheap gas could lead to the reopening of the Hamersley Iron Pelletiser at Dampier. However, as far back as July 1977, Sir Charles Court had conceded that NWS gas would not be available at low prices (Harman, 1984:p.210). Throughout 1978 and 1979, it had become evident that the JVPs were not going to supply low cost gas to the SECWA on the basis of an argument that operating costs for the distribution network would be low, offsetting the high cost of extraction at the wellhead (Harman, 1984:p.210).

In November 1979 Mr. Mensaros was aware that NWS gas prices were not low enough to support Court's original ideas for the development of the Pilbara. No new large scale industry had been introduced to the region since the early seventies and the Pilbara concept was shelved.

In view of the above it is unlikely that Mr. Mensaros could support his argument relating to the Hamersley closure in practical terms. The confidentiality clauses relating to the pricing of NWS gas preclude any objective assessment of Mr. Mensaros's claim. However, the current financial problems facing the SECWA relating to the sales and purchase agreement for NWS gas suggest that this body is in no position to supply low cost gas to third party consumers. At present the SECWA's charge rate for NW gas is dictated by a formula set out in the terms of the 1985 revised sales contracts. However, given a shift in the WA economy and political climate the possibility of future renegotiations of the 1985 agreement (price schedules and gas volumes) could not be precluded.**[5]
7.4.4. **Jones' defence in parliament**

In his response to Mr. Parker's statement on the SECWA contracts, Jones chose to directly challenge only one of the major criticisms lodged against him. He refuted the idea that he ignored advice contained in the SECWA brief of September 1981, pointing to the need for a delay in the project until the SECWA's financial security was assured. Jones claimed that in a series of letters written to the State Energy Commissioner, Mr. Kirkwood, he had outlined the necessity of approaching the JVPs to challenge the original terms of the sales agreements. He also stated that the letters advised that no borrowing should be authorised for construction of the Dampier-Wagerup pipeline until it was established that the project was financially viable. Finally, Mr. Jones stressed that the JVPs had been advised of his position in April 1982 and that he continued to advocate delaying the project until the issue of the first pipeline construction contract to Saipem Pty. three months later (WA Hansard Assembly Aug 1985).

Rather than countering Mr. Parker's criticisms relating to electioneering for the Federal government and the State of the WA market for natural gas in September 1980, Mr. Jones chose to avoid discussion of the signing of the SECWA contracts and the rationale which underlay this action. His position on the revision of the contracts and the need to delay the domestic phase of the NWS project is difficult to determine with clarity. However, his failure to directly justify the decision which committed the SECWA to what proved to be an untenable contract, lends weight to Mr. Parker's indictment of the former minister's actions.

In keeping with Mr. Mensaros's argument Mr. Jones could claim that he was acting on the basis of the SECWA's sales forecasts for the
eighties. This argument has some justification in the economic context of 1978 and 1979 when it was assumed domestic demand and pricing of natural gas would reflect worldwide trends. However, by September 1980 with the impending loss of more than half of the projected gas sales to the Pilbara, the sales projections of 1976/77 must have appeared to be extremely optimistic.

Brotherton (1982) claims that the forecasts issued by the SECWA had been unrealistic even in the context of the mid seventies. He states that due to weaknesses in the SECWA's forecasting techniques and the values implicit in their methodology, the figures which they issued for WA gas demand between 1977 and 1982 were distorted. A major institutional problem is assumed by Brotherton to lie in the fact that until 1987 the SECWA, through the Energy Advisory Committee (EAC), was the government's sole official advisor on energy demand forecasting. This he claims, has resulted in a series of optimistic demand forecasts from the late seventies, which were in part a reflection of the developmentalist aspirations of the Court government.

7.4.5. Concluding comments on the SECWA contracts debate

The debate over the renegotiation of the SECWA contracts serves to illustrate the political complexities which can arise when government and multinationals engage in negotiations over the development of a large scale resource project. With hindsight it is easy to be judgemental about the actions of politicians charged with responsibility for the national interest. Thus, decisions which now appear to have been misguided, are best viewed within the broader economic and political context of the time.
Policy decisions reflect a wide range of pressures on the decision maker emanating from a number of sources. The decisions made by Mr. Mensaros in 1978 and 1979, Mr. Jones in 1980, would reflect pressure from within their own party, the opposition and external bodies such as the SECWA and the joint venture organisation.

The three key points to be considered when placing the actions of Mr. Jones and Mr. Mensaros within their historical context are (i) the Court government's zeal for the introduction of new industrial infrastructure and development of WA's resource base; (ii) the negotiating power of the joint venturers; (iii) the absence of any coherent action on the part of SECWA officials and MPs who supported the recommendations of the SECWA ministerial brief of September 1981.

Point (i): The developmentalist ethos adopted by the Court government since its election in 1974 had ensured broad support for the NWS project from the initial planning stages in the mid-seventies. The enthusiasm which the WA Premier held for the project led him to lend support to the joint venturers on a number of occasions when they lobbied the Federal government for key concessions for both the domestic and LNG phases (see 4.3). As early as 1977 Court had acceded to pressure from the joint venturers who had insisted that the project could only be commercially viable if a significant export component was included (Harman, 1984).

In view of Court's position on new industrial development and the strong support he enjoyed from within his own party in the late seventies, it is likely that many decisions made regarding the NWS project were carried by a strong political momentum which was established during this period. The decisions of Mr. Mensaros and Mr. Jones must in part reflect the strong desire within the coalition State government of the time to exploit the massive resource wealth of the NWS.
Point (ii) The WA government's policies relating to the NWS project have often been the product of a bargaining process in which the joint venturers held the upper hand. A clear example of the superior negotiating strength of the joint venturers following the signing of the 1979 Development Agreement Act occurred in the six months prior to the issue of the Dampier-Wagerup pipeline contract in June 1982.

Following the issue of the SECWA ministerial brief in September 1981, a number of SECWA officials and coalition MPs had raised the possibility of delaying the issue of the pipeline contract until the SECWA financial position could be reassessed. Prior to the signing of the 1979 NWS development agreement, the JVPs had ensured that the SECWA had assumed responsibility for financing the $946 million project (1983 dollars DRD, October 1983).

By the beginning of 1982 the JVPs were anxious to eliminate the risk of protracted delays in construction work for the domestic phase at a time when questions were being raised about its commercial viability. Any open political debate over the SECWA's financial stability could have resulted in a postponement or major setback for work on the domestic gas phase. Shell and BHP, the experienced negotiators for the JVPs, were well aware of this when they acted to safeguard the interests of the venturers by convening meetings with the SECWA and senior State government ministers behind closed doors.

By June 1982, the JVPs had persuaded the Energy Minister Jones to issue the initial pipeline construction contract to Saipem Pty. with the subsequent amendment in September which gave the Saipem-ICC joint venture responsibility for constructing the entire trunkline from Dampier to Wagerup.
Point (iii) Despite his claims that he had fundamentally opposed the issue of the SECWA pipeline contract in June 1982, Jones bears ultimate responsibility for allowing the Commissioner Kirkwood, to ratify the action. During the NWS parliamentary debate of August 1985 Mr. Kirkwood was accused of steamrolling the deal by entering into secret negotiations with the JVPs without direct referral to the minister or senior SECWA officials.

In conclusion it can be stated that no clear evidence emerges from the NWS debate to contradict the position that, if Mr. Jones suspected a political conspiracy against those who wished to see the SECWA contracts revised in 1982, he did little to expose it. No further action in this direction was taken until the end of 1984 when the ruling ALP government acting on the advice of the Gas Strategy Committee approached the JVPs to negotiate an amendment to the 1980 sales agreements.
ENDNOTES

[1] According to press reports the Commonwealth Grants Commission may assess the $315 m in forfeited State and Federal royalties as part of WA's concession for 1988/89. This in itself could force a further renegotiation of the SECWA contracts established in March 1985 (West Australian April 6 1988)

**[2] Sourced from discussion with Alcoa contracts department, Booragoon WA, 9/2/89.


[4] [5] Selected material from Stage II interviews conducted March to Oct 88.
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CHAPTER EIGHT

THE STRATEGIC OUTLOOK FOR THE NWS PROJECT


In Chapter 7 an attempt was made to place the 1985 renegotiations of the SECWA, North West Shelf natural gas contracts into a broad political and historical perspective. The parliamentary debate which continued for several months after the new deal was finalised in March 1985 and the WA government's proposals to deal with the ongoing gas surplus were examined in some detail.

The major source employed in Chapter 7 was a policy document released in August 1985 by the WA energy minister, David Parker, entitled 'The Implications of the North West Shelf Gas Sales Agreement'. The paper considered the effects of the SECWA gas glut by examining the actions of previous ministers and senior energy officials from the perspective of the Burke government. It also set out a series of policy directives aimed at reducing the gas inventories and associated debts accumulated by the SECWA since 1980. Part of this strategy was to maximise the use of NWS gas in industry and power generation, extend the reticulation network and aggressively market natural gas as a clean burning fuel for domestic use.

In the period between August 1985 and October 1988 there has been a considerable increase in demand for NWS gas, partially as a result of policies put in place by the Parker energy ministry in 1985. WA government initiatives to increase gas usage implemented since 1985 include:
(a) Continued stockpiling of coal and increased use of NWS gas as a fuel for power stations.

(b) An extension of the SECWA gas pipeline network facilitating increased domestic and light industrial use in the Perth metropolitan area and larger country centres.

(c) The introduction of new industrial developments in the South West. To date the most notable new gas user is the Wesfarmers LPG extraction plant which uses up to 25 terajoules (TJ) of NWS gas per day, and ranks as the State's second largest gas user behind Alcoa (DRD Aug. 1988: Major Potential Projects pre-2005).

Since the Parker policy document was issued in August 1985 there has been a considerable shift in the WA government's position on the SECWA gas glut. In a recent statement issued by energy minister Parker he emphasised that "The SECWA is now in a state of energy balance. It has stopped stockpiling coal and is looking for additional energy supplies, especially from the Perth basin." (West Australian 30/12/88).

The State energy minister's confident assertion has some basis in the light of the increased uptake of gas since 1985 from both domestic and industrial users. In September 1988 it was reported that consumption of NWS gas had risen from 275 to 375 (TJ) per day over the preceding year. This increase undoubtedly made a major impact on the gas surplus bringing total daily consumption of NWS gas within 40 TJ of the total 414 (TJ) per day contracted by the SECWA (West Australian 5/9/88). (DRD, Prospect WA 4/87).

However, closing the final gap on the inventory and achieving an energy balance in WA is clearly predicated on two main assumptions. (1) Another major industrial development using significant quantities of gas
will be given the go ahead in 1989, (ii) A successful formula can be implemented to reduce coal stockpiles and the gas inventory to economically desirable levels.

The first issue merits some separate discussion in view of recent changes in the arena of industrial development in WA and will be discussed in 8.1.3. The second concern can be highlighted through reference to recent policy statements issued by Mr. Parker which clearly aim to change public and industry perceptions of the State's energy surplus. In a recent statement Mr. Parker claimed that the government expected to clear its coal and gas inventories, which have now been paid for, by 1994, two years earlier than the 1987 forecast. The government planned to achieve this goal by reconverting gas fuelled power stations back to coal, which over the five years from 1989 to 1994 would reduce the 2.7 million tonne stockpile at Collie back to a buffer level of 600,000 tonnes. It was reported that this policy was being implemented as industrial demand for NWS gas pushed the SECWA close to its daily purchase commitment set out in the revised (1985) contracts (West Australian 12/11/88).

A month after the November policy statement the government reinforced industry confidence in the new gas supply equilibrium by announcing that it was deregulating the State's energy market by allowing independent explorers to sell commercial gas finds to the SECWA or directly to private sector concerns. Whilst this measure appeared to be a clear endorsement of the idea that the State's expanding industrial base would require additional gas suppliers into the 1990s, it may have been primarily introduced as a bargaining instrument for the SECWA. This motive becomes more apparent when the decision is placed in the wider
context of negotiations with the NWS joint venturers over the years (see 8.1.2).

8.1.2. Domestic Market Deregulation and the NWS Gas Price

Since September 1980 when the original contracts were finalised between the JVP and the SECWA the price of the gas has been a major political issue. The shroud of secrecy surrounding the price of industrial gas supplied by the SECWA has been subject to considerable criticism by academics, parliamentarians and other commentators over the years (see Brotherton 1982, Harman, 1984) (Australian financial Review Editorials Sept/Nov 1980).

WA Domestic gas tariffs continue to be amongst the highest in Australia and unofficial sources suggested that the price paid by industrial users has always been considered too high. As early as 1983 Alcoa had indicated that they were not entirely satisfied with the price they were paying for NWS gas in view of the scale of the contracted drawdown over a 20 year contractual period (approximately 150 MMCFD).**1 The 1985 renegotiations centred on the fact that the SECWA could not on-sell the original contracted quantity of 370 MMCFD but the price would also be an important issue. This is clear in the concessions made relative to the original take or pay conditions (see 7.3).

Part of the 1985 agreement was that a five year moratorium should be placed on price adjustments for NWS gas. The fact that this moratorium expires in March 1990 holds particular relevance to the WA government's energy market deregulation policy. Over the past four years the gas price levels set by the JVP may have served to handicap the SECWA's efforts to market the gas to domestic and industrial users. The
fixed price of the gas would have become more of a problem as oil indexed prices for gas sold in other markets slumped in 1986 with only a slow recovery over the subsequent two years.

On one level the deregulation of the WA gas market would appear to have provided the SECWA with a strong negotiating hand for the contractual changes which would seem to be inevitable in 1990. They can justly claim that the WAPET pipeline which connects the Perth basin to the metropolitan area could be extended to tap into onshore commercial gasfields in the region. This could supply a relatively cheap source of gas to the domestic and light industrial consumers in Perth and surrounding suburbs. However, the NWS JVP are fully aware that they can offer long term security of supply using pre-existing infrastructure. The threat of losing a small portion of the WA market is unlikely to force any major price concessions from the traditionally marginal Domestic phase of the project. The major current concern of the joint venturers is to ensure a smooth start-up for the LNG phase and concentrate on expanding export markets for LNG and condensate into the late 1990s. The JVP strategy for the WA domestic market in the 1990s is likely to be maintenance of a holding position to ensure steady financial returns from Phase I whilst concentrating on the expansion of Phase II.

Whilst the NWS joint venturers cannot ignore the threat of new competitors coming onto the WA market in the mid-1990s, there are a number of signs that the WA government is fully committed to NWS gas as the major energy source to power new industrial developments until the end of the century. Apart from existing contractual commitments a clear indicator of the government's position came in recent reportage of plans to upgrade the 1600 km Dampier to Bunbury pipeline*. Whilst the pipeline is owned and
operated by the SECWA the NWS venturers are likely to remain the major suppliers until the end of the century for contractual and technical reasons. The pervasive influence of the joint venture participant companies in the arena of Federal and WA State politics is another major factor which will serve to consolidate the JVP position in the event of any serious challenge to key sectors of the domestic market.

When last reported (Sept. 88) plans for upgrading the SECWA pipeline were at a very early stage and were based firmly on the assumption that at least one major new gas end user project will be operational by the mid-1990s. At the present time this looks possible with the favoured development being the P.I.C.L. Petrochemical plant to be sited at Kwinana in WA's south-western industrial belt (The West Australian 5/9/88).

8.1.3. **Future development in WA 1988-1995**

In May 1987 the WA government's Department of Resources Development issued a listing of major potential industrial developments in the State pre-2005.*3 Of the twenty-six potential mineral and petroleum related projects listed nine were identified as requiring natural gas as fuel or feedstock. Other proposed projects like the aluminium smelter indicated a high power requirement which may be supplied by private power stations fuelled by natural gas.

According to the status listing for each development there are only two new major gas end user projects which have a realistic chance of being operational by the mid-1990s, although two minor developments are also in the pipeline. The former are the Wesfarmers/Norsk Hydro Ammonia Urea plant and the PICL Petrochemical project with daily gas usages
indicated at 60 TJ and 30 TJ respectively. In terms of current gas usage this compares to Alcoa as the SECWA's biggest NWS gas customer who are contracted to draw down 167.7 TJ per day (150 MMCFD) and the Wesfarmer's LPG plant which uses some 25 TJ per day.\textsuperscript{4}

At the time of writing (Jan. 1989) the petrochemical project seems close to gaining final government approval despite the ongoing political controversy relating to funding and the location of the project (West Australian 10/1/89). Environmental concerns have been highlighted by opposition members and independent parties on several occasions since the project emerged as a major political issue in 1988 (see West Australian 2/8/88, 22/12/88, 2/1/89). However, E.P.A. clearance is likely to be given by mid-1989.

A number of factions within the WA government will be eager to see the 1.2 billion project go ahead to support the planning initiative set out for new industrial developments in the State for the next five years. Another key factor is the $175m, 43.75% stake which the Dowding government holds in the project with the balance held by the Bond Corporation. Both these parties will wish to ensure a return on their considerable investments.\textsuperscript{5} (See West Australian 10/10/88).

According to recent media reportage and industry sources, the proposed $450 million ammonia/urea development is not likely to go ahead in 1989. The main reason for the postponement cited by Wesfarmers is the gas price set by the SECWA (West Australian 10/11/88). Given the scale of gas use required by the plant when operational (60 TJ per day), the unit cost of the gas supplied is undoubtedly a key influence on the viability of the project.
As on previous occasions, negotiations over the price of gas offered to a major industrial end user have been strongly influenced by political factors. This is illustrated by recent events whereby the development of the Wesfarmers/Norsk Hydro project has been partially traded off against the development of the PICL petrochemical plant.

In 1985 when the Ammonia/Urea project was first tabled, the WA government was eager to support any proposed development which could help soak up the gas surplus. As a result, Wesfarmers may have been in a good position to negotiate some form of concession on the industrial gas price. However, throughout 1986 and 1987 any advanced planning on the project was delayed by Wesfarmers on the grounds that the export price for fertilisers was not high enough to merit an immediate start on plant construction. In the process of these delays they lost a significant Asian market window which was filled by the construction of new fertiliser plants in India and China.

As things stood in July 1988 when the project underwent its last review, the WA government were no longer willing to support the Wesfarmers project with gas price concessions. The PICL project had become a top political and economic priority. The massive gas inventories which had existed in 1985 had been considerably reduced by the SECWA initiatives of 1986-1988 and the petrochemical plant when operational would account for the annual uncontracted quantity of NWS gas which would remain by 1992 (West Australian 5/9/88 and 10/11/88).

Wesfarmers had effectively lost part of their export market and the strong bargaining platform which they had held in 1985. Political priorities are likely to continue to dominate the future of the Wesfarmers project in the near future. However, if the aluminium smelter proposal
remains stagnant for another year, the WA government may re-adjust its energy mix cutting back further on the use of NWS gas for power generation. This may release significant quantities of gas for industrial purposes with the possibility of minor price concessions for major end users like the Wesfarmers/Norsk Hydro project. Although there remains little doubt about the availability of large quantities of additional gas if required, the price offered by the JVP will remain as a limiting factor unless alternative sources are supplied from the Perth basin. Switching power stations back to coal and fuel oil also remains a major policy issue in view of the increased output of sulphur and other dangerous Greenhouse gases into the atmosphere.
8.2. **NWS Outlook: LNG Exports 1989-2005**

8.2.1. **Introduction**

In an LNG status report released by the WA government (Nov. 87), three major target markets were identified as the most prospective for LNG sales from Australian projects in the period 1995 to 2005.*6 These were Japan, Korea and Taiwan. The report acknowledged existing contracts including NWS LNG sales to Japan (due to commence Oct. 1989), but took future market openings as its major focus (DRD: Nov. 1987). The following sections will draw on material sourced from this document in order to:

(i) Update the arguments presented in 3.3 and 6.1 which deal with export markets for NWS gas, LNG market structure and price indices.

(ii) Place the NWS LNG export programme within a broader strategic framework.

In order to provide a basic assessment of the strategic position of the NWS project as a major LNG exporter post 1989, it is important to consider five basic areas. In broad terms they can be set out as:

(i) Existing markets (LNG importing nations).

(ii) Existing contracts (LNG suppliers - Importer nations.

(iii) Projected future market expansion.

(iv) Planned expansion of supply capacity (new and upgraded LNG projects).

(v) Changes in LNG market structure and price indices.

These areas are explored briefly in the following section.
8.2.2. The Asia-Pacific market for LNG

The West Australian government have identified three major target nations which may facilitate an expansion in the Asia-Pacific LNG market over the next decade - Japan, Korea and Taiwan.

A. Japan

According to current estimates supplied by the Japanese Institute of Energy Economics (IEE) by the end of 1989 Japan will be importing a total of 35.37 MTPA of LNG from seven different projects based in five countries (see Table 4). (US contract terminates 1989.)

This appears to be an indication of the Japanese government's continued commitment to large scale importation of LNG as a premium fuel source and an ongoing strategy of supply diversification.

A number of estimates of future LNG demand have been produced by internal agencies within Japan since 1986. A measure of disagreement is evident between different bodies on final figures, i.e. Year 2000 LNG use, Japanese Ministry for International Trade and Industry, (MITI) figure - 38 million tonnes, Petroleum Association of Japan (PAJ) figure - 35.1 million tonnes (DRD: Nov. 1987). However, at time of writing (Nov. 88) the most current and comprehensive figures available were those supplied by the Japan Institute of Energy Economics (IEE). These are based on a real crude oil price of US$25 or US$30/barrel with the linkage between the LNG and crude set at 80%, 90% and 100%. The lower demand for LNG is predicted to occur when oil is priced at US$30/barrel with 100% link to the LNG price. Highest demand is assumed to result when oil is US$25/barrel with an 80% indexation factor.

Table 5 below shows the range of possible outcomes at five yearly intervals from 1995 to 2010.
## TABLE 4

**LNG SUPPLY CONTRACTS TO JAPAN**

<table>
<thead>
<tr>
<th></th>
<th>First Delivery</th>
<th>Actual Termination Date</th>
<th>Contracted Quantity (million tonnes/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>In Operation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA (Alaska)</td>
<td>Nov. 1969</td>
<td>1989</td>
<td>0.96</td>
</tr>
<tr>
<td>Brunei</td>
<td>Dec. 1972</td>
<td>1993</td>
<td>5.14</td>
</tr>
<tr>
<td>Abu Dhabi</td>
<td>May 1977</td>
<td>1996</td>
<td>2.06</td>
</tr>
<tr>
<td>Indonesia (I)</td>
<td>Aug. 1977</td>
<td>1999</td>
<td>7.50</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Feb. 1983</td>
<td>2003</td>
<td>6.00</td>
</tr>
<tr>
<td>Indonesia (III)</td>
<td>Jan. 1984</td>
<td>2003</td>
<td>3.30</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia (Incremental)</td>
<td>1987</td>
<td>1997</td>
<td>0.67</td>
</tr>
<tr>
<td>Indonesia (New Chubu Contract)</td>
<td>Oct. 1987</td>
<td>Dec. 1990</td>
<td>0.70(1)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Committed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>1989</td>
<td>2008</td>
<td>5.84(2)</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
<td></td>
<td>35.37(3)</td>
</tr>
</tbody>
</table>

(1) 1989 and 1990 import volume.
(2) Full production volume not attained until 1994.
(3) Total assumes contracts expiring before 1994 are extended.
Taking the extremities, i.e. 36.2 million tonnes (MT) (100% indexation to a $30 bbl oil price) and 38.1 million tonnes (MT) (80% indexation at $25 bbl) possible supply deficiencies or maximum market windows can be indicated for the Japanese energy economy at five year intervals.

Figure 8.1 was produced using this method to show minimum and maximum contracted amounts and potential market windows. The largest market windows available from IEE projections were: 1.9 MT in the year 1995, 5.3 MT in 2000, 6.7 MT in 2005 and 8.2 MT in 2010.

Drawing on an average of MITI and IEE figures the range of potential supply deficiencies read as follows: 1995 - 0.6 to 2.7 million tonnes, 2000 - 2.6 to 9.8 million tonnes, 2005 - 6.0 to 12.7 million tonnes, 2010 - 7.7 to 15.9 million tonnes.

The minimum market windows shown in Figure 8.1 are likely to be the most reliable indicator of supply shortfalls up to the year 2000 in view of uncertainty affecting future oil prices and industrial power demand within Japan. During the period between 1988 and 2000 the scope for new projects to supply Japan will depend critically on the extent to which existing projects have surplus capacity or can be extended by the addition of further trains. Estimates cited by the West Australian government suggest that the Malaysian and Indonesian LNG plants have surplus capacity in excess of 2 MTPA and the North West Shelf (Woodside) project could have a surplus capacity of up to 0.5 million tonnes per year (Prospect WA 4/87).

Whilst this LNG production capacity could easily account for the supply shortfall indicated for 1995, the situation from the year 2000 to 2010 is quite different. The IEE figures illustrated in Figure 7 show the
### TABLE 5

**LNG DEMAND/OIL PRICE INDEX-2010**

<table>
<thead>
<tr>
<th>Crude Oil Price</th>
<th>$30</th>
<th>$25</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG Price Link to Crude %</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>LNG Demand (million tonnes)</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>1995</td>
<td>36.2</td>
<td>36.3</td>
</tr>
<tr>
<td>2000</td>
<td>39.9</td>
<td>40.9</td>
</tr>
<tr>
<td>2005</td>
<td>41.4</td>
<td>42.6</td>
</tr>
<tr>
<td>2010</td>
<td>43.1</td>
<td>44.6</td>
</tr>
</tbody>
</table>

### Figure 8.1

**ESTIMATED LNG USAGE JAPAN 1995–2010**

Million Tonnes Per/Annum (MTPA)

![Bar chart showing estimated LNG usage in Japan from 1995 to 2010](chart.png)

- Minimum Estimates
- Market Windows

Source: IEE Forecast Tax Report Feb 1987
emergence of large market windows for the years 2000, 2005 and 2010. These levels may also be increased by approximately 1.4 MTPA if the Chubu and Indonesian incremental contracts are not renewed in 1990 and 1997 respectively (see Table 4) (Source DRD LNG Status Report, Nov. 87).

B. South Korea

Under an existing contract established with Indonesia in 1986 South Korea imports 2 MTPA of LNG. The importing agency, the Korean Gas Corporation (KGC), built the Pyongtaek terminal 100 km south west of Seoul, a gas pipeline to Inchon power plant plus two loop networks to Seoul between April 1983 and December 1986. KGC has cited expansion plans to widen the country’s gas distribution network. These include:

1. Extension of the Pyongtaek terminal with the construction of additional regasification facilities to allow an additional LNG supply of 1 MTPA for the northern region.

2. Construction of a second LNG receiving terminal in Pusan (capacity 2 MTPA) to supply the southern part of Korea.


At present KGC may select the extension of the Pyongtaek terminal in association with a north-south pipeline in preference to the construction of a second terminal at Pusan. These options continue to be reviewed pending further detail from the Daelin feasibility study for LNG use in Korea.

Table 6 shows the breakdown of existing and projected LNG use in Korea to 2001. Estimates supplied by the Korean Institute of Energy Resources (K.I.E.R.) suggest that no additional LNG demand over and above the 2 MTPA supplied from the Arun plant in Indonesia will exist. However
### TABLE 6

**LNG Demand in South Korea**  
(million tonnes/year)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential &amp;</td>
<td>0.13</td>
<td>0.51</td>
<td>1.42</td>
<td>2.16</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td>0.10</td>
<td>0.13</td>
<td>0.27</td>
<td>0.41</td>
</tr>
<tr>
<td>Power generation</td>
<td>1.56</td>
<td>1.36</td>
<td>3.31</td>
<td>2.43</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>


---

**ESTIMATED GAS SUPPLY & DEMAND**

**South Korean LNG Market 1987–2001**

![LNG Contract Volume (MTPA)](chart)

- Minimum Estimates
- Market Windows

Source: Demand Estimates KEIR 1987
by 1996 the situation has changed dramatically with a potential market window of 3 MTPA opening up (Figure 8.2). These figures will be subject to review. However, it is possible that the lack of change in projected demand indicated for the period represents a conservative estimate for that period.

South Korea has been identified by the WA government as the best opportunity for Australian LNG projects up to the year 2000. It is known that the Koreans are seeking to diversify their sources of supply and therefore Malaysia and Australia are seen as likely suppliers (DRO: Nov. 1988).

C. Taiwan

Current natural gas production in Taiwan by the Chinese Petroleum Corporation (CPC) is approximately 1 billion m³ per annum. Proven indigenous reserves of gas are limited and domestic production is expected to decline over the next decade.

In order to compensate for this Taiwan has negotiated a 20 year contract with Indonesia to supply 1.5 MTPA of LNG (1.95 bcm of natural gas) from 1990.

An LNG receiving terminal (capacity 1.5 MTPA) is currently under construction on the west coast of Kaohsiung Hsun in the southern part of Taiwan and will be operational by 1990. Plans have been made for a smaller second stage development with a capacity of 0.5 million tonnes per annum but no construction date has been finalised.

Demand and contracted supply is thus currently in balance until 1995 from which time demand will gradually increase to give a 0.5 bcm deficiency by the year 2000 (see Figure 8.3).
Figure 8.3

ESTIMATED GAS SUPPLY & DEMAND
Taiwan LNG Market 1986–2004

LNG Contract Volume (BCM)

<table>
<thead>
<tr>
<th>Year</th>
<th>1986</th>
<th>1990</th>
<th>1995</th>
<th>2000</th>
<th>2004*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Chinese Petroleum Corp. (CPC)
*Estimate Based on Scenario, (LNG Status Report, DRD, Dec 87).
It is anticipated that after the year 2000 the potential for steadily increasing natural gas demand in Taiwan is considerable given the country's rapid development. In addition unless further domestic gas supplies are discovered a further 0.5 bcm (0.38 million tonnes of LNG) will be required by 2003, giving a total uncontracted quantity of 1 bcm (0.77 million tonnes of LNG). With the increasing (but as yet unquantified) demand for gas in Taiwan post 2000 plus the uncontracted deficiency of 1 bcm by 2003 a much larger contract could be put in place by the CPC with a graduated build up met by existing suppliers leaving considerable scope for new entrants into the Taiwanese LNG market prior to 2005.

D. Other Potential LNG Markets

The NWS LNG development plans are unlikely to exclude the possibility of new markets arising in the Asia-Pacific region in the post 2000 period. At the present time the joint venturers are aware of a possible shortfall in gas supplies in India, Singapore and the Philippines during the 1990's. To date the governments of these respective nations have not issued any formal policies outlining projected demand and supply for natural gas in the post 1990 period.

8.2.3. NWS LNG strategic possibilities

At the start of this section, five basic areas were set out for examination as a means to assess the strategic position of the NWS project as a major exporter to the Asia-Pacific LNG market 1989-2005. Subsection 8.1.1 covered the initial three areas identified but did not deal with potential new supplies (post 1995) and relevant changes in the structure of the Asia-Pacific LNG market (post 1985).
In this subsection there will be a brief discussion of the above and the significance which they hold relative to the future planning of LNG exports from the NWS project.

A. Potential New Supplies 1995-2005

According to available estimates of LNG demand by major end users in the Asia-Pacific region there will be limited scope for new supply outlets prior to 1995 (see 8.2.2). By the end of 1989 there should be five major suppliers to the region, all of whom will have the capability for increased production into the 1990s.

This LNG production capacity is located in the USA, Malaysia, Brunei, Abu Dhabi, Indonesia and Australia (see DRD, LNG Status Report, No. 1987: p.24).

Projected market windows in Japan, Korea and Taiwan (pre-1995) could conceivably be met by incremental supplies from the NWS or any other major project operating in the region. Current excess capacity in existing production plants is sufficient to meet any further demand anticipated by available estimates (see WA Government LNG Status Report, No. 1987).

The post 1995 period is predicted by major governmental and independent sources to show a steady increase in LNG demand in the Asia-Pacific region. Petroleum Intelligence weekly recently released an estimate indicating that Pacific basin demand for LNG would increase by more than 20 MTPA over the next decade, with the more rapid increase in the post 1995 period. Total LNG demand for the region is estimated to reach 51-55 MTPA by the year 2000 (PIW Jan. 1989).
The PIW estimates for LNG demand in the pre-2000 period are slightly more optimistic than those tabled in the WA government's 1987 LNG Status Report. The figures presented in the WA government report suggest that LNG demand in the Asia-Pacific region can be met by existing projects up until the year 2000. Thereafter there may be scope for developing one and possibly two more major projects (WA DRD, Nov. 1987).

Amongst those identified on a shortlist of possible new projects were the Sakhalin project (USSR), the Gorgon project and the Bonapart Gulf project (both in Australia). Sakhalin was identified as a good possibility in view of the fact that preliminary planning was well underway on the giant Soviet-Japanese initiative, prior to its deferral in 1986.

Of the two Australian projects mentioned, the Bonaparte Gulf development proposed by the French group Elf-Aquitaine appears to be the most favoured with potential importer governments. A number of development plans for the Petrel and Tern fields have been tabled with proposals for a natural gas pipeline network running south from Darwin and/or a small scale LNG export project to be operational post 2000.

The Australian Financial Review reports that during recent negotiations between the Australian Federal energy minister and the Japanese government, considerable support was raised for the development of smaller scale LNG projects outside of Indonesia, the major producer from Asia-Pacific region (AFR Jan. 31/1989). This position was supportive to both the Gorgon and Bonaparte Gulf proposals which include provision for scaling up production incrementally to 2.5 MTPA in the case of the Bonaparte Gulf development and 4 MTPA for the Gorgon proposal. Both these projects will be considerably smaller than the NWS development which will
have a production capacity in excess of 6.0 MTPA when the third LNG train is completed in 1993 (see DRD LNG Status Report Nov. 87), (NWS Report, Jan. 1989).

B. Changes in Market Structure and Pricing

Since 1985 a number of changes have emerged in the world LNG trade which will be significant in terms of the future trade between Australian based LNG projects, the Japanese and other prospective buyers.

The first important change came in 1986 when plummeting oil prices made a nonsense of the LNG pricing provisions which had been built into a number of recently signed contracts. The scale of the discrepancy between 1986 LNG prices can be appreciated by the following comparison:


By early 1987 new price provisions had been negotiated between the Japanese and their major suppliers, most notably Indonesia. Oil/LNG indices were adjusted to ensure that LNG prices reflected the new lower equilibrium for oil prices. Indonesia initiated the new system by selling LNG to Japan at a C.I.F. price of US$3.10 MMBTU indexed against Indonesian Minas crude at US$17.46 bbl (Feb. 1987). A few months later the Korean contract was finalised at a C.I.F. price of US$3.40 (DRD, LNG Report, Nov. 1987).

The Indonesian pricing initiative has been complemented in recent years by two other precedents in the establishment of a more open international trade in LNG. The first of these measures was the introduction of spot market sales of LNG in 1986 and the second, the removal of take or pay provisions from a contract established with the Chubu power company in 1987 (DRD: LNG Report, Nov. 1987).
Indonesia, and more recently Algeria, has enjoyed some success in trading excess LNG capacity on the spot market. To date volumes have been low and prices below the market average but there may be scope for expansion.

The removal of take or pay provisions from some existing or future LNG contracts could have an important influence on the structure of the LNG trade. The Indonesian precedent could be reinforced by the Japanese, initially in future contracts and other importers may follow suit. In general terms such measures will allow more flexibility in annual LNG consumption by importer nations but will mean less financial security for exporters. This additional risk factor may handicap project developers seeking large amounts of capital to underwrite new LNG projects.

C. **NWS LNG: Future Planning 1989-2005**

From the discussion presented in A and B above it is clear that the future of liquified natural gas sales from the North West Shelf project will depend largely on the demand profiles emerging in the Japanese, South Korean and Taiwanese markets over the next 15 years.

From a strategic point of view the NWS joint venturers will retain the Japanese market as the main priority for incremental sales of LNG up to late 1990s, with the possibility of larger scale contracts being assigned thereafter.

Output from the first platform, North Rankin 'A' is currently estimated by the JVP to be adequate to meet existing contractual commitments and incremental sales to the Japanese market until the late 1990s. The third LNG train for the NWS project is due for completion in 1993 to meet peak demand levels of 5.8 MTPA outlined in the existing contracts (Woodside: NWS Report, Dec. 88).
The development of the Goodwyn field originally scheduled to come onstream in 1993 is currently under review (Dec. 88) in the light of low oil prices and higher than anticipated recoverable natural gas resources from North Rankin (see 3.4.1). In the last Offshore Development Plan tabled by the JVP in the mid 1980s, Goodwyn was scheduled to commence production in October 1993 with platform fabrication underway by March 1989 (Woodside, May 1985:pp.8-9).

Natural gas production from Goodwyn was to supplement output from North Rankin with the high condensate yield from the newly developed field sold directly to refineries for production of petroleum spirit.

It is now likely that the JVP will postpone the development of Goodwyn for up to two years in order to assess a series of strategic possibilities. These relate to oil pricing scenarios, future output levels from North Rankin 'A' the scale of any new LNG contracts with buyers in the Asia-Pacific market and the possibility of exploiting the new condensate rich discovery at Echol (see NWS Report Dec. 1988).

All of the above require detailed consideration which is beyond the scope of this thesis. However at this point (Dec. 1988) it is likely that Goodwyn will be in production by 1998 unless oil indexed LNG prices do not rise in real terms against current average contract prices (see 8.2.2(B) above).

Given the size of potential market windows in the Japanese, Taiwanese and South Korean LNG markets post 2000, the NWS JVP may be able to secure additional contracts to supply one or more of these importer nations. In the event of additional LNG supplies being contracted from the NWS, production from a second and possibly a third platform would be necessary.*8
The NWS joint venturers should be in a good position to negotiate small scale incremental contracts with the Japanese and Koreans in the mid to late 1990s. However, as outlined in 8.2.1 they will face competition from a number of suppliers including Malaysian and Indonesian projects which could have a combined surplus capacity of 2 MTPA, during this period (Prospect WA, DRD, Dec. 87).

Current commentators suggest that the increase in LNG demand in the Japanese market post 2000, will be sufficient to warrant the development of at least one and possibly two new LNG supply projects. Changes in the Korean and Taiwanese markets are likely to determine the possibility of a second or third project being developed (AFR Jan. 31/1989) (Prospect WA, DRD, Dec. 1987).

In the event of two new LNG supply projects coming onstream prior to 2005, contract quantities would have to be arranged with prospective buyers prior to initial construction work being undertaken. Given this scenario the NWS JVP would be forced to compete directly with new potential suppliers for any additional supply contracts to be awarded post-1996. It is therefore likely that the JVP will initiate negotiations in the mid 1990s with both LNG importers and potential future suppliers over the contractual breakdown for LNG exports to the Asia-Pacific market commencing in the 2000-2010 period.

The NWS project has clear strategic importance for the planners of all new potential LNG projects to supply the Asia-Pacific region, with Japan, Korea and Taiwan as the major target markets. It is of particular significance to the proposed Australian projects due to the network of overlapping political and economic interests which exist between participating parties in each project. This extends to both Federal and
State government interests and in the case of both the NWS and Gorgon LNG projects, direct participation by major multinational subsidiaries Shell Development (Australia) Pty and Cal-Asiatic (see DRD, LNG Status Report, Nov. 1987, also 3.1 and 3.2 "The International Petroleum Network").
8.3 An Overview of the Model

8.3.1 Recapitulation

Prior to presenting the model and major conclusions in the final section of the thesis, it will be useful to reiterate the principal study goals set out in Chapter 1. These were as follows: (i) To facilitate an increased understanding of a number of key policy decisions taken by the JVP between September 1980 and July 1985. (ii) Production of an original and comprehensive commentary on the history of the North West Shelf project 1973 to 1986. (iii) To develop a conceptual schema representing the decision making environment of the NWS joint venturers and extend this into a model with applications for the study of corporate policy and strategy within multinational resource based joint venture projects.

The first objective listed above has, in effect, been fulfilled through the application of key theoretical concepts and the critical event methodology to the policy issues examined in Chapters 6 and 7 (see Chapter 1 for definitions). An historical commentary on the planning of the NWS project, viewed in a broad political and economic context has also been produced. This was developed from a combination of background material (Introduction and Appendices) and through exploration of a series of interrelated themes embodied in Chapters 3, 4, 6, 7 and 8.

The third major objective highlighted above has been met with regard to the conceptual schema developed throughout the preceding chapters; the model of "Policy Making Environment" for resource based joint venture projects drawn from this schema is presented in this section as a preamble to describing the model in 8.3.2.
(i) The model represents a visual extension of the broad conceptual schema described in Chapter 1. This schema and the conceptual map have been employed throughout the study for the analysis of corporate policies introduced by the NWS joint venturers during critical periods in the planning and development of the project.

(ii) The model is in part a response to the call amongst policy writers for a more multidisciplinary approach to policy analysis. This follows (Hogwood and Gunn, 1984) who advocate the development of a more integrative framework for the study of corporate and public policy (Hogwood and Gunn, 1984:p63). Allison (1971) presents an argument which lends broad support to this idea, with the contention that policy makers will inevitably view a specific event or series of events from a variety of perspectives.

In his seminal study of US and Soviet governments' reaction to the Cuban Missile Crisis, Allison illustrated how a critical event unfolding over an identifiable time period (13 days in October 1962) can elicit a variety of strategic options. Allison's schema required each of these options to be identified as a prerequisite to understanding the policy decisions taken by each party. In summary he stated that policy analysts must carefully view key events using a variety of "conceptual lenses" (Allison, 1971:p5).

(iii) Although the model has applications for the analysis of corporate policy and strategy relating to 'Multinational Resource Based Joint Venturers', it is essentially descriptive in nature (see 8.3.2 for definition).
The major components of the model are consistent with the Hogwood and Gunn (1984) typology for a descriptive model. These authors cite the need for this type of construct in the field of policy studies and comment that "The more complex the phenomena to be represented the greater will be the tendency towards selectivity simplification and generalisation in the making of models. Provided that simplification does not involve gross distortion such models can assist description, explanation and understanding" (Hogwood and Gunn, 1984:p43).

(iv) The model highlights the relationship between three key concepts defined in Chapter 1, i.e. strategy, policy and environment.

An understanding of the relationship between the three concepts listed above is of considerable importance for the student of corporate policy. This point is raised by several business policy writers including Summer (1980), Palia and Hitt (1982) and Johnson and Scholes (1984), all of whom set out detailed definitions of policy, strategy and environmental typologies prior to embarking on the main part of their theoretical arguments. However, the major contribution made to this study by the business policy and strategy writers relates to their broad based examination of the relationship between large organisations and their external environments (see Palia and Hitt p:1-59 for a review of relevant literature).

Other studies in the field of Organisational ecology conducted by Benson (1975), Trist (1977) and Stringer (1980, 1982) have contributed to the conceptual framework of the thesis through their examination of the important interface between the organisation and its environment and the structure of interorganisational networks (see 1.4.2). All these elements are encompassed within the model presented below.
8.3.2 The model

The model illustrated in Figure 9 is a hierarchical arrangement of general features found within the policy making environment of 'Multinational Resource Based Joint Ventures'. This term is defined for the purposes of the study as "Any large scale petroleum or minerals exploration and development project, with significant levels of foreign equity and control within its joint venture corporate structure".

In this case the term 'resource' has been delimited, referring only to minerals and petroleum projects. This has been necessary to ensure that the model is not so general as to be of little practical use for the analysis of multinational corporate policy.

In effect the model is applicable for the study of policy and strategy relating to large scale multinational joint venture organisations, operating within the vertically integrated structure of the international petroleum and minerals industries. The high level of vertical integration within these industries is paralleled by the oligopolistic control exercised by the major multinationals over large sectors of the worldwide market for principal mineral, metal and petroleum products. (In the Australian case these would include coal, processed iron ore, alumina, processed mineral sands, gold, diamonds, LNG, LPG and crude oil.)

The model accommodates the major features listed above and highlights the existence of inter-organisational networks within the international petroleum and minerals industries. Direct and indirect linkages between various governmental and independent bodies operating at the World, National, State/local, Project and Systems levels are indicated.
FIGURE 9

POLICY MAKING ENVIRONMENT
Multinational Resource Based Joint Ventures

Key Institutions within the Interorganizational Network

WORLD LEVEL

GOVERNMENT DEPT'S AND AGENCIES

NATIONAL LEVEL

GOVERNMENT BANKS AND FINANCIAL INSTITUTIONS

NATIONAL COMPETITORS

UNIONS

NATIONWIDE SUPPLIERS

INDEPENDENT LOBBY GROUPS

WORLD COMPETITION & REGULATION

INTERNATIONAL FINANCERS

MULTINATIONAL COMPETITORS

FOREIGN GOVERNMENTS AGENCIES/CARTELS

INTERNATIONAL SUPPLIERS

MATERIAL/CAPITAL EQUIPMENT

NATIONAL INSTITUTIONS

INSTITUTIONS

INTERORGANIZATIONAL NETWORK

WORLD LEVEL

NATIONAL LEVEL

STATE/LOCAL LEVEL

EXTERNAL ENVIRONMENT

STATERC/LOCAL INFRASTRUCTURE

CENTRAL PROJECT ORGANIZATION

PROJECT MANAGEMENT & SYSTEM PLANNERS

POLICY/Legal NEGOTIATORS

STRATEGIC Apex (Planning)

POLICY OUTPUTS

INPUTS FROM CORPORATE & GOVERNMENT NETWORK

PROJECT SYSTEMS (OPERATIONAL CORE)

JOINT VENTURE PARTICIPANTS

X.CORP.

Y.Z.CORP.

GOVERNMENT CORP.*

TECHNICAL SERVICE COMPANIES

SYSTEMS LEVEL

UNFOLDING CORPORATE STRATEGIES

(CONSTRUCTION PERIOD 2-5 yrs)

OPERATIONAL PERIOD

TIME SCALE
In keeping with the schema employed in the conceptual map, solid lines connecting box borders represent direct links between organisations whilst broken lines represent 'indirect' or less clearly defined connections (see Chapter 5 and Appendix 3).

The most important direct connection indicated between organisations operating at World level and subsidiaries operating at Project level is shown down the left hand side of Figure 9. This link between the multinational joint venture headquarters and the participant organisations shown within the joint venture corporate structure is common to most large scale petroleum and minerals developments. The terms 'X corp', 'Y/Z corp' and 'Govmt corp' have been used to denote a possible combination of participants (see 1.1.3 and 3.1.2).

In many countries the 'host government' may take out a direct stake in the project in an effort to maximise control over the development and exploitation of a national resource. In certain nations where sovereignty over minerals and petroleum resources is a primary policy objective, the government may demand high levels of direct participation in new resource developments. This is often facilitated through the vehicle of a State petroleum or mining company entering into a joint venture agreement with incoming multinationals. In general, levels of direct government participation in major multinational resource based joint ventures are kept below 50%. This serves to ensure that the multinational developers retain an acceptable equity balance and overall control of the project organisation (see 3.2, 3.5 and 4.2.2).

Host governments have a number of instruments at their disposal to ensure that they do not lose control over the development of major petroleum and minerals discoveries. In many cases these include an
extensive legal and policy framework pertaining to exploitation of national resources and the siting and construction of new projects (see Figure 9). Rules governing levels of foreign equity in new projects, royalties or the structure of participation agreements often form a key part of the resource policy framework set out by host governments (see 3.2 and 4.1).

International legislation and agreements governing petroleum and minerals developments have become increasingly important over the past 20 years. This is reflected in the powers held by host governments to negotiate detailed development plans with the multinationals which ensure minimum thresholds of economic return to the nation, local industry participation, technology transfer and adequate environmental protection (see Zorn, 1983) (also 4.1.3 and 4.1.6).

A key component of the development plans for any large scale resource project is the source and structure of project finance agreements. In the case of the North West Shelf development project capital was provided through two part rollover loan sourced from an international banking consortium. The project loan was based upon anticipated returns from the NWS development, as opposed to a traditional balance sheet assessment of company assets and cash flows (see 6.2.4). In general terms the scale and structure of capital funding required for large scale multinational resource projects necessitates the involvement of international financiers with the strong asset backing necessary to cover any acceptable risk. Figure 9 shows this group of institutions operating at world level, with direct connections to national banks and financial institutions. There is also a less direct linkage with multinational competitors of the joint venture participants, foreign
governments and international suppliers. These links may be direct through commercial contracts or more tenuous in nature; however any detailed description of the form they take is beyond the scope of this study.

As is the case with the conceptual map (Sections VI and VII), the second rank of organisations in the network included key government departments, banks and financial institutions and relevant unions. A direct connection is indicated between the government agencies and the national banks who in the case of the larger clearing institutions will be a major source of capital, guilds and bonds for government projects.

A series of more indirect links is indicated between the national banks and financial institutions, national competitors for the joint venture participant, the unions and national suppliers of materials and capital equipment. Multinational competitors are assumed in a majority of cases to have a direct link with national competitors in view of the oligopolistic and vertically integrated structure of the international petroleum and minerals industries. Independent lobby groups are shown to have a possible connection to the other organisations listed above as they may draw funding or political support from any of these bodies.

The independent lobby has grown in importance in many democratic countries over the last decade with the influence of various lobby groups evident in the outcome of important policy issues. Key areas affected include environmental protection, local industry participation and the siting of new developments. Stringer (1980:p5) covers the role of political lobbies and interest groups within his broad conception of a 'Project Multi-organisation'(P.M.O.). This represents a set or network of
organisations, notably the client, contractors, industry bodies, political lobbies interest groups and other external agencies which can directly influence the development of a major construction project (see 1.4.2).

The State and local level of the model broadly reflects Stringer's schema in terms of the network of connections indicated with Project and Systems level operations and a number of key bodies operating at national level. No detail has been provided in the boxes in respect of the wide variation in State/local infrastructure in different areas. (The conceptual map provides a case illustration of Western Australian State level infrastructure pertaining to the NWS project.)

The area below the line marked 'External environment' comprises the project and systems levels of the joint venture organisation. Drawing on Mintzberg (1979), the corporate model shows a 'Strategic Apex' where the major project planning functions are located. Immediately below this is the central project organisation which coordinates the development of the project in accordance with the broad planning framework established at the Strategic Apex.

In many cases there will be no clear hierarchical division between the functions located at these levels which are controlled by senior executives. The strategic planning function will normally be located in the upper echelons of the joint venture project organisation. However, high level strategy will also be directly influenced by the world level, central operations, of the various multinational joint venture participants and the operational strategies implemented by the project managers. World level influences on corporate planning and strategy are discussed in 5.2, 5.3 and 6.2.3 with regard to the North West Shelf project.
The concept of 'operational strategies' is drawn from Quinn (1980), who argues that high level strategy is built in increments from a series of lower level operational strategies which are used to coordinate internal organisational functions and programmes.

Drawing on Quinn (1980) and Palia and Hitt (1982) it can be argued that in the case of multinational joint venture project organisations strategic planning is influenced and adjusted according to i) Directives from the World level, central operations of the multinational joint venture participants, ii) Direct feedback from project managers and systems planners responsible for coordinating project development on a day to day basis, iii) A variety of pressures from governmental and independent organisations operating in the external environment of the project organisation.

In order to plan effectively and ensure efficient operation and coordination of systems level or technical functions the joint venture project organisation requires a number of support units. These are indicated in the model as Policy/Legal negotiators, public relations and research and development and seen as 'boundary spanning' units. According to Thompson (1967:p70) 'boundary spanning' functions are those parts of the organisation which form an interface with the external environment either by monitoring or trying to implement change.

In the model the research and development function draws in information from the external environment and uses it to improve the quality of 'Project systems' and advance planning objectives (see 2.3.3).

The public relations function is normally designed to project a specific image of the project and the participant-companies into a potentially hostile environment. Policy and legal negotiators attempt to
manipulate the environment by negotiating with government departments, competitors, suppliers, unions and other independent bodies on a variety of legal, fiscal and planning issues. In essence the schema presented in the model follows the ideas of business policy writers, notably Johnston and Scholes (1984:p58) who state that "The organisation is not passive in its interaction with the environment, it influences and is influenced by the environment" and organisational theorists like Mintzberg (1979) who, in consideration of the work of Thompson (1967) cites that "Organisations also seek to dominate their environments by fixing prices, creating cartels and integrating themselves vertically (becoming their own suppliers and customers) (Mintzberg (1979:p22)). Mintzberg's comment is given particular poignancy when considered in the context of the international petroleum and minerals sector.

The final section of the model which requires brief comment is the chronology or time scale shown at the bottom of the page. It indicates two important features which relate to the strategic planning of large scale petroleum and minerals development projects. Firstly it mentions a construction period of two to five years (the latter extreme being the most representative for large scale multinational projects). The operational period cannot be stated in view of the vast variation in reserves, extraction and processing rates and market demand found between different resource projects. Following Quinn (1980) it can be argued that operational or functional strategies will influence and be influenced by a number of technical contingencies relating to materials, construction schedules, operations and ongoing maintenance. The relative success or failure of these lower level incremental plans can then be used to inform higher level longer term strategic planning.
However, in accordance with the mainstream business policy writers, notably Hofer and Schendel (1978) and Palia and Hitt (1982) the influence of external organisations on joint venture policy and strategy remains the major feature highlighted in the model.
8.4. Conclusions and Recommendations for Further Research

The recapitulation and model presented in the previous sections have, in effect, covered the final stages in the theoretical development of this thesis. A series of themes have been explored in the preceding chapters and encompassed within a broad conceptual framework. However, the remit for these final pages must include both theoretical and thematic concerns in consideration of three main points:

(i) "How important was the thesis as an historical commentary and case study of major planning and policy decisions relating to the North West Shelf Natural Gas project?"

(ii) "In what ways could the methodology, conceptual framework and model employed in the thesis contribute to future studies of corporate policy with major multinational resource projects?"

(iii) "What lessons and topics for future research have emerged from the thesis?"

These points are covered in four subsections starting with 8.4.1 which considers the significance of the thesis as a major case study examining corporate policy associated government policy and the development of a large scale multinational petroleum project.

8.4.1. The significance of the thesis as a NWS case study

In broad terms this study is of some importance for three principal reasons outlined below:

(i) The North West Shelf project presented a unique opportunity to study the relationship between two host governments (Federal and State) and a multinational joint venture consortium seeking to develop a fully integrated petroleum exploration production, processing and marketing/distribution project.
Similar types of study have been conducted in the past by a number of writers in the fields of Business Policy, notably by Doz (1982) and Summer (1980), Economics Gray (1976) and Political Science Doern and Toner (1985) and Patton (1973). However, only Patton's thesis on government-business relations in the Canadian petroleum industry touched on several of the key issues raised in the North West Shelf study. His work also employed a similar methodology which was able to account for the highly political nature of studies examining multinational corporate policy in the resources sector (see 1.4).

Patton's study touched upon an area which has to a certain extent been ignored by economists and political scientists - the interface between public and corporate (private sector) policy. This area, which was a focal point in the current study, is of particular importance in relation to large scale resource developments. The North West Shelf project was a case in point where the Australian government in the pre-1980 period and more notably the West Australian government in the period 1977 to 1985, employed a number of statutory instruments and agencies to regulate, co-ordinate and oversee the development of the project (see Chapter 4).

The second point supporting a 'raison d'être' for the study, related to the political considerations outlined above.

(ii) The sheer scale of capital investment required and high levels of multinational representation within the corporate structure of the North West Shelf project organisation, ensured that from the outset the development of the project would have widespread political and economic repercussions within Australia and Western Australia
The political and economic impact of the North West Shelf project within Western Australia and Australia presented itself as a prime topic for study. However, in view of the two conventional cost/benefit type economic analyses already conducted in this area (Bambrick 1977; Brown and Copeland 1985) the major focal point of the current study turned to the political sphere. Economic factors were however widely incorporated into an analytical framework which placed joint venture and governmental policy decisions within a wider political and economic context.

(iii) The study provides the first comprehensive historical account of the planning and development of the North West Shelf project 1973 to 1986 and also employed a unique conceptual framework to examine key influences on JVP policy over specific 'critical' periods between September 1980 and July 1985.

The historical account presented in the thesis ran from the Introduction through Chapters one, four, six, seven and eight. This descriptive component of the thesis was structured within an holistic analytical framework which was in turn used to examine relevant public policy and JVP corporate policy within a broad political and economic context over a set period of time (see Chapter 1 + 8.3 (Allison 1971) an analysis of unfolding events).

8.4.2. The thesis: theoretical and methodological contributions

Although the three points outlined above support the idea that the study has both topical and original content in general terms, it is important to reiterate the contribution to theory and methodology outlined in Chapter 1. In view of the multidisciplinary nature of the work it is difficult to identify original theoretical input to a particular
discipline (i.e. economics, political science etc.). In this case it is more straightforward to state that (i) "The methodology, theoretical framework and conceptual schema developed in this study have helped to bridge the conceptual gap between several groups of writers whose work is concerned with complex organisations and the study of corporate policy and strategy (see 1.3 and 1.4).

The conceptual schema which supported the model presented in 8.2 was based on development of a number of ideas previously employed by a range of writers from several disciplines. These include Mintzberg (1979) and Thompson (1967) organisation theory, Johnston and Scholes (1984) and Palia and Hitt et al (1982) business policy/strategy studies and economists with a political economy slant notably Odell (1981) and Patton (1973).

(It should be noted that only the construct presented in 8.2 is referred to as 'The Model'. The series of preceding diagrams (I-VII) are viewed as a sectioned plan supported by a broad conceptual schema. When applied for analytical purposes this was referred to as the 'Conceptual Map').

The Methodology employed in the thesis showed originality in the sense that it was predicated on a rejection of some of the more popular approaches for the study of organisational structure and process commonly taught to management students in Australia and the U.S.A. A prime contention of the thesis stems from purely pragmatic considerations, i.e. that 'Any large scale multinational joint venture project operating within the petroleum or minerals industry will be controlled by an inherently political organisation operating in a highly politicised environment. This factor should be acknowledged by any independent researcher wishing to study key corporate policies or organisational processes.

Many conventional organisational analyses examining corporate processes and policy, start with the assumption that questionnaires or codifiable interview questions can be used to generate a certain quantity and quality of information. This information is then collated and analysed to present profiles of organisational structure and processes, some of which may be directly associated with company policy and strategy. In keeping with the point highlighted above it can be argued that: "Whilst empirical approaches based on statistical measures of validity have clear application in certain areas of organisational studies, they cannot normally be applied when examining corporate policy and processes within complex, highly political multinational organisations." This thesis seeks to advance the case for the use of a less rigid exploratory approach based on gradual refinement of information when studying complex organisations operating within a highly politicised environment.

8.4.3. Applications for the model and conceptual schema

In support of the argument that both the multidisciplinary theoretical framework and methodology employed in this study have wider application in the areas outlined above, it is necessary to consider the potential contribution of the model and supporting conceptual schema to future 'policy' and to a lesser degree 'organisational' studies.

In summary the main applications for the major concepts and model developed in the thesis were as follows:

(i) The basic visual and conceptual framework presented in the model provides a starting point for future multidisciplinary studies of business or public policy

The unique contribution of this model to the disciplines outlined above is that it integrates ideas and approaches from the fields
of organisational theory, public policy and business policy/strategy into one conceptual framework. This is supported by the visual detail which outlines the network of connections which link the principal organisation to a series of other governmental and independent organisations in its external environment. Structural detail from the 'Project Organisations' internal environment is also shown. As such the model serves to bridge the gap between conventional organisational theorists and the business policy writers (see Chapter 1).

(ii) The model provides an holistic, hierarchically arranged reference map for policy makers and corporate strategists

The original conceptual map provided a useful means to study the major external organisational influences on JVP policy over a given period of time. The model represented an extension of the generalisable features of the conceptual map which had application for the study of other multinational resource based joint venture projects.

Through application of the basic visual framework of the model and key concepts developed in this study, corporate and government planners should be able to build a picture of key organisational influences on the policies of a given joint venture project organisation over specific periods of time. It should also be possible to employ the basic steps used to build the NWS study Conceptual Map, to construct an inter-organisational network for other multinational minerals or petroleum projects.

The model and supporting schema can therefore be used as a planning aid and a starting point for the construction of strategic scenarios. The planner could use the model and conceptual schema to identify and highlight the key organisations within the 'network' of the
specified 'joint venture project organisation'. These independent and
governmental organisations could then be designated as 'known variables',
whose influence on the strategies of the joint venture project operatives
could be gauged within a given scenario. This combination of economic and
political influences could then be incorporated into a series of broader
scenarios examining macroeconomic outcomes in key international and
domestic market sectors. These applications are necessarily general in
nature and would require adaption to suit specific case studies and
further development to go beyond basic first generation scenarios into
more detailed second generation scenarios. First generation scenarios
normally take the form of a simple framework encompassing a series of
variables and possible outcomes. This type of scenario is normally broad
and unspecific in nature and designed as a stimulus for management
thought. Over time as certain possibilities become 'highly probable' or
'highly unlikely' these can be developed by planners into more
sophisticated second generation scenarios. The latter have been employed
throughout the seventies and eighties by 'Shell U.K.' and 'S.I.P.M.' as
key tools for planning projects and operations at every level within the
massive 'Shell International' corporate network (see Wack 1985).

8.4.4. Thesis lessons and recommendations for future research

In this brief concluding section it is useful to draw upon the
'critical events' highlighted in Chapters 6 and 7 to illustrate some key
points or lessons which have emerged from the study.

The first 'event' or string of events examined were the three
delays of the proposed start up date for LNG exports from the NWS project
to Japan. In many respects these delays were simply a reflection of the
technical, project planning, costing and scheduling problems which
commonly afflict large scale engineering projects. However, when viewed in the context of high level corporate strategy and the bargaining process which was being undertaken with the Japanese government and power utilities, these delays were illustrative of the key role of the international network in shaping project planning and development at ground level.

In the case of the 1982 and 1983 postponement, macroeconomic factors relating to the World and Asia-Pacific markets for oil and LNG, were crucial in influencing the decision on the part of the Japanese and ultimately the JVPs to push back the scheduled start up date for the LNG programme.

International market forces affecting oil and LNG prices and demand were also significant in initiating the final postponement in 1984. However intramural politics based on the corporate relationship between Shell BHP and Woodside Petroleum proved to be the major factor influencing this decision to delay the commencement for exports from April 1988 to October 1989. Internal politics within the NWS joint venture and ongoing negotiations with the Japanese and WA governments over the Domestic gas and LNG export contracts continued to shape JVP policy until April 1985. At the end of this month Shell and BHP had successfully bought out Woodside Petroleum's stake in the NWS joint venture by gaining a controlling interest in the company and its subsidiary Woodside Offshore Petroleum, the operator for the NWS project. One month prior to this the original SECWA/JVP Sales and Purchase Agreement had undergone considerable revision following three months of negotiations between the JVPs, the WA government and the SECWA (see Chapters 6 and 7).
The events listed above are all illustrative of a central lesson derived from this study notably: "Corporate policy relating to a multinational joint venture project organisation should be viewed from a broad political and economic perspective."

Following this it can be stated that:

"Corporate policy and strategy at project level will normally be subject to political and economic pressures emanating from within an interorganisational network of which multinational petroleum projects will form an integral part" (see 8.3.1. the Model).

This point is often ignored in traditional economic models of project planning which appear to work on the implicit assumption that policy is devised and implemented in a political vacuum.

Another key point which has emerged from this study is that "Any host government drawing upon offshore capital and multinational participation to develop a national resource, must take every reasonable measure to ensure maximum returns to the nation offset against profit incentives for joint venture participants." This responsibility extends to ensuring that the political power of the incoming joint venture participants does not supercede that of the host government and domestic participants.

There have been a number of instances throughout the history of the North West Shelf project where the joint venture participants have used various means ranging from superior negotiation skills to covert political action in order to defeat the Federal or WA governments on key policy issues. Notable examples include: (i) The climb down by the Fraser government on foreign equity participation in Australian resource
projects; (ii) The associated tax concessions for the NWS venturers; (iii) Closed door negotiations on the Dampier-Wagerup pipeline contracts and the Domestic gas Sales and Purchase agreements; (iv) The invisibility of the F.I.R.B. and WA government during the period when the Woodside board were attempting to fight off the Shell/BHP takeover (ref. Chapters 4, 6, 7).

The Shell/BHP takeover of Woodside Petroleum serves as an example of the dominant role which an incoming multinational can assume within the management structure of a major project if measures are not taken to protect domestic participants. In effect "Contractual and legal measures should be established at the outset of a joint venture project to ensure that dominant foreign based multinationals cannot undermine the position of domestic participants."

In conclusion it is worthy of note that if the two Australian Federal governments in office during the period 1975 to 1985 had learnt any valuable lessons from the development of the Bass Straight petroleum reserves (50% participation by U.S. oil giant Exxon) there was only limited evidence of this in their dealings with the North West Shelf joint venturers. At State level the WA government are now postured to reap the benefits of both stages of what has ultimately been a successful project, in spite of past political failings and the SECWA debt, which remains as the economic Albatross in the State budget to this day.

Recommendations for Future Research

Three basic themes have emerged from this thesis which could be usefully explored through future research encompassing the fields of 'Business policy', 'Public policy' and 'Organisational theory'.

(i) The thesis demonstrated the need to advance the development of multidisciplinary approaches to the study of corporate policy
relating to multinational resource projects. Future research should place particular emphasis on the key interface between public and corporate policy.

(ii) Further research is required in the field of Business policy and Strategy examining host government/multinational relationships. Particular emphasis should be placed on the nature of the multinational joint venture, an organisational form which has become increasingly widespread in major resource projects throughout the world.

(iii) Significant amounts of research are required in the broad area of public policy and legal frameworks governing joint-venture resource project development and the powers of incoming multinationals.
ENDNOTES

*1 Source Alcoa contracts dept., Booragoon, WA 9/2/89.

*2 Previously the Dampier to Wagerup pipeline. Extended to Bunbury in 1986.

*3 Available for issue to government and industry sources only. Copy held Murdoch University.

*4 One Terajoule equals a million, million joules (source West Australian 8/9/88).

*5 Peter Dowding replaced Brian Burke as WA State Premier in 1987.

*6 At present there are two further LNG projects under consideration in Australia. The Bonaparte Gulf project and the Gorgon development.

*7 Indonesia's annual contracted exports to the Asia-Pacific market was raised from 18.3 MTPA (1986) to 18.9 MTPA in 1987 by the new Chubu contract.

*8 The subsea completion well, North Rankin 'B' was scheduled as the third production facility in the 1985 Project Planning Schedule: see Woodside May 1985.
APPENDIX I

THE PHYSICAL AND FINANCIAL PROFILE OF THE PROJECT

A. PHYSICAL COMPONENTS OF THE PROJECT

The major physical components for both phases of the NWS project Phase I (Domestic) supplying natural gas to the W.A. market and Phase II (LNG) exporting liquified natural gas to Japan, can be described as follows:

(i) The North Rank 'A' drilling and production platform.

(ii) Two proposed additional platforms, Goodwyn and North Rankin 'B' currently scheduled for commissioning in 1991 and the year 2000.

(iii) A 1016 mm (40") submarine pipeline connecting North Rankin 'A' and eventually Goodwyn and North Rankin 'B' to the gas processing plant at Withnell Bay on the Burrup Peninsula.

(iv) A gas treatment plant comprising two domestic gas trains currently in operation, three condensate stabilisation trains currently under construction and three LNG trains, the first of which is scheduled for completion in 1989, a second in 1991, with a third due to start up in 1993 (Woodside, May 1985, updated February 1987).

(v) The 1500 km Dampier-Wagerup natural gas pipeline constructed by the State Energy Commission of Western Australia.

With all the major work on the Domestic phase completed (May 1987) the outstanding work on the LNG export phase to be finished prior to peak deliveries of LNG to Japan scheduled for 1995 amounts to:

(i) Ongoing construction of the LNG plant.

(ii) Creation of port facilities for the seven LNG tankers servicing the project.
(iii) Additional work camps and housing.

(iv) Construction of the Goodwyn platform with detailed design for North Rankin 'B' initiated.

(v) Building seven LNG tankers. The Woodside Shipping Group has now selected the contractors to build 5 out of a total of 7 125,000 m³ capacity ships (see Section B).

The North Rankin 'A' drilling and production platform will supply all the gas for both phases of the project until Goodwyn is commissioned in 1993. Tests on the Goodwyn field have revealed a higher condensate yield from the gas produced at North Rankin 'A', a factor which encouraged the joint venturers to develop Goodwyn some 30 km to the South West of North Rankin 'A' prior to a second platform in the North Rankin field. Condensate currently being produced from North Rankin 'A' gas is readily saleable for production of motor spirit in the domestic market and provides an important boost to the joint venturers cash flow in the pre-production stages of the LNG export phase.

Gas produced from the North Rankin 'A' field was first supplied to the South West of Western Australia in August 1984 when the 1500 km Dampier-Wagerup pipeline was commissioned. Since that time the SECWA have constructed a series of laterals supplying domestic and commercial users in Perth and the South West (see SECWA 1986). Although provision was made in the original pipeline budget for the extension of additional laterals to industrial users in the Pilbara region, current indicators suggest that the Pilbara market will continue to represent only a small proportion of total demand for NWS gas in the late eighties (see 3.3.3).

The LNG processing plant is scheduled to be brought into operation in mid 1989 prior to the first deliveries of LNG to Japan in October of
that year. Deliveries at that stage should amount to some 4 mpta rising to a peak level of 6 mpta in 1993 (Woodside, May 1985).

Estimated recoverable reserves for the larger Woodside fields on the North West Shelf can be summarised as follows:

**TABLE 7**

**ESTIMATED RECOVERABLE HYDROCARBON RESERVES:**

**NWS (WOODSIDE PERMITS)**

<table>
<thead>
<tr>
<th>90% probability of discovery</th>
<th>Oil (10^6KL)</th>
<th>Gas (10^9m^3)</th>
<th>Condensate (10^6KL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Rankin (currently in production)</td>
<td>-</td>
<td>188.5</td>
<td>20.7</td>
</tr>
<tr>
<td>Goodwyn Main</td>
<td>1.00</td>
<td>70.60</td>
<td>14.30</td>
</tr>
<tr>
<td>Goodwyn North</td>
<td>-</td>
<td>36.50</td>
<td>18.60</td>
</tr>
<tr>
<td>Goodwyn South (Currently undeveloped. Goodwyn platform scheduled to commence production 1993.)</td>
<td>1.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Woodside May 1985)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angel (May be developed post 2000.)</td>
<td>14.90</td>
<td>4.40</td>
<td></td>
</tr>
</tbody>
</table>


**B. CAPITAL INVESTMENT AND LABOUR INPUT**

In May 1985 the "DRD" issued an estimate of total construction costs for the NWS project including LNG shipping. The figure was set at $11 billion (in May 1985 dollars) split $2,100 for the Domestic phase to $8,900 million for the LNG export phase (DRD May 1985). These figures represented a considerable escalation on figures issued by Woodside in 1980 which stood at $5,000 million (1980 dollars) rising to a final cost

In view of the sharp decline in the value of the Australian dollar in 1986, which was not anticipated by the 1985 estimates and the possibility of other cost overruns it is likely that the total cost of the project will rise above the 1985 figure. This possibility is increased by the fact that no firm estimates are currently available regarding the final cost of constructing the seven LNG carriers. An August 1985 estimate issued to the West Australian media placed the figure at $2 billion. Current estimates range from $1.6-2 billion (WA Dept. of Mines, Petroleum in WA January 1988.) Five shipbuilding contracts have currently been awarded to a Mitsui/Mitsubishi/Kawasaki consortium by the Woodside shipping group. Another two contracts are likely to follow taking Japanese commitment to shipping, port handling and LNG storage facilities to $5 billion (see DRP Prospect, December 1987), (Dept. of Mines, Petroleum in WA January 1988.)

The financing of the other major component of the project, the Dampier-Wagerup pipeline is being undertaken by the State Energy Commission of Western Australia. In 1983 total construction costs for the main pipeline and planned laterals was set at $926 million in 1983 dollars (WA Govt. October 1983). This has since blown out to $1.1 billion (West Australian Sept. 5th 1988).

Figures produced by the DRD in May 1985 provided a broad profile of estimated employment levels for the NWS project over the construction period for the Domestic gas phase. In January 1981 the number of people directly employed on the project stood at 1,500 climbing to a peak of 5,100 in mid 1982. This fell to approximately 2,600 employees as
construction work on the domestic gas plant neared completion in mid 1984. Projections for total direct labour input for Phase II plant and infrastructure construction suggest that a new peak workforce level of 4,500 will be reached at the end of 1988. The level of direct employment on the project is anticipated to remain in excess of 3,000 workers throughout the seven year construction phase from 1986 to 1993. (These figures do not include spin off work in fabrication shops and lower level subcontract and service jobs.) (DRD May 1985). (DRD Prospect December 1987).
private company, Associated Pipelines Ltd., owns the pipeline which transports gas drawn from a number of small fields in the Roma area. Supplies from this area may be augmented in the future by South Australian fields in the Cooper Basin or gas fields in the Denison trough which adjoins the Roma/Surat Basin producing area (Erskine 1985:p.81).

The Perth metropolitan market and a number of major end users in the South West of Western Australia are supplied from the Dampier processing plant owned by the NWS joint venturers, through the 1.500 km SECWA pipeline. Spur lines have been completed to Bunbury, Kwinana and Pinjarra (SECWA, 1984, Annual Report).

The simplified picture presented above does not account for the processing and distribution of natural gas products like LPG and LNG. Although the processing of these products in Australia takes place as part of the same integrated operation, which produces treated gas for piping to end users, the distribution and marketing of LPG and LNG follows distinctly different patterns from piped natural gas.

(i) The integrated operation referred to usually involves the processing of raw gas to remove heavier fractions like ethane and propane for the production of LPG or alcohol fuels. Gas direct from the wellhead may also yield significant quantities of condensate which is extracted and sold as a light crude oil. Once sizeable proportions of propane, ethane and other gases have been removed from the gas mix, the gas can be treated and piped to the distributor. If an LNG system is incorporated into the plant the Methane levels are adjusted to between 90 and 95% and the gas is liquified through cooling to -162°C (Woodside, May 1985) (Drake and Reid, 1977).
Distribution and marketing of LPG takes place through similar channels to those for oil products. LPG is produced in both gas processing plants and oil refineries (as a by-product of oil); thus several major multinationals, notably Mobil, Shell and Esso are involved with the distribution and sales of LPG to the Australian domestic market. Other major distributors who supply retail outlets throughout the country include CIG, Boral and Wesfarmers.

Exports of LPG are currently underway from the Bass Straight and the Cooper Basin to the Japanese market (Erskine, 1985:p62-66).

The high capital commitment involved by both buyer and seller, and the unique nature of LNG markets and associated technology, distinguishes the distribution pattern for the product from LPG and oil products. At the present moment no LNG is exported from Australia or consumed in commercial quantities in the domestic gas market. However, when exports begin (scheduled October 1989) from the NWS, the distribution network will run from Dampier to receiving terminals servicing utilities in Tokyo, Nagoya, Osaka, Hiroshima and Kyushu (Woodside, May 1985:p20).
SECTION A  THE CODING SYSTEM FOR THE INSTITUTIONAL MAP

The coding system set out below was designed to present information on the corporate structure and external environment of the joint venture organisation which could not be shown in the schematic diagrams which comprise the conceptual schema. The system provides information on two separate areas: (i) Linkages: Brown, Red and Blue lines are used to distinguish between the various corporate and commercial linkages which connect the key organisations within the JVP decision making environment; (ii) Nodes (organisations or institutions): Black and Purple lines are used to distinguish between different organisations or institutions in the network. The border of each box depicting an organisation is coded to indicate how strong its influence was on JVP planning during the 1977/85 (Domestic Phase) and 1985/87 (LNG phase).

1. LINKAGES

Integral Linkage

(Brown): Private sector or independent organisations which are connected through a parent company subsidiary relationship or are directly linked through joint venture participation in the NWS project.

Primary Linkage

(Red): Government agencies and independent organisations which have a large number of overlapping primary responsibilities relating to the planning, coordination and/or regulation of various key areas of the NWS project.
Secondary Linkage
(Blue):  

i) State and Federal agencies and independent bodies which must liaise and cooperate on a number of legislative and commercial issues relating to the NWS project.

ii) Independent bodies and State instrumentalities who share overlapping interests by virtue of a direct contractual relationship with the JVPs.

Tertiary Linkage
(Broken Blue): Organisations which individually may have exerted a significant influence on the policies of the joint venturers but are connected by corporate or commercial relationships which have only minor relevance to the planning and development of the North West Shelf project.

2. NODES

The colour of each border indicates the relative status of each organisation within the JVP decision making environment over a specified period of time. Changes in colour reflect a change in this status. A broken line denotes a reduction in an organisation's status or influence over JVP policy. The status ascribed to each organisation is based on the perceptions of the State I and II interview respondents.

Primary Importance
(Black): An organisation of central importance to the planning and development of the NWS project over the specified period of time.
Secondary Importance
(Purple): An organisation which can exert a direct influence over the JVP planning process:

i) Government agencies which must be consulted throughout the planning and ongoing development of the project. These have the power to veto or ratify proposals relating to finance, exports, environmental issues, planning and other major commercial or legal concerns.

ii) Private sector or independent bodies which can exert a significant influence over the planning of the project and whose cooperation must be sought when operationalising these plans.

Tertiary Importance
(Broken Purple Line)

i) Government agencies or independent bodies which are perceived by the respondents to exert a weak or indirect influence over JVP planning of the NWS project.

ii) In the transparency for Section VII, the broken line may also denote agencies or independent bodies which exerted a significant influence over JVP planning for Phase I but have little influence on plans for Phase II.

* Note: Acetates enclosed separately.
SECTION B  COLOUR CODING FOR VI AND VII

In Section A the design and general application of the colour coding system was explained in some detail. The aim of this subsection is to offer some examples of how the colour coded transparencies can be used to supplement the existing information on key organisations and linkages shown in VI and VII. The principal examples cited will be at project level as an exhaustive description of colour coding applied at other levels would retrace material presented in Section A.

Domestic phase project - world levels

Taking the example of Woodside and its relationship to other organisations within the internal structure of the project, we have Shell, BHP, Caltex and BP outlined in black. This denotes each of these organisations as being of central importance within the JVP decision making environment during the planning detailed design and construction stages of the Domestic phase. KJR, the major contractor for this phase, is also outlined in black. Fluor/Maunsell and the Saipem ICC joint venture are outlined in purple to show that whilst they are of considerable importance to the project as a whole, their activities are more the concern of the State government than the joint venturers. They are, however, perceived to be of secondary importance in terms of their influence on JVP decision making.

Woodside has an integral link to all the other participants in the project - through the corporate structure of the joint venture organisation. This type of connection is shown as a brown connecting line. BHP and Shell have the closest links due to the 43% shareholding in the company which they held prior to April 1985.
KJR are not shown to have an integral connection to the joint venture structure but have a primary linkage shown by a red line. The red line is assigned to show that KJR has overlapping responsibilities with Woodside relating to the planning and development of the North West Shelf project. Fluor/Maunsell and Saipem ICC have a secondary linkage blue line to Woodside and KJR, and are designated as organisations which must cooperate when carrying out development work on specific modules of the North West Shelf project. They have a primary, red line linkage to DRD and SECWA who are the bodies which appointed Fluor/Maunsell as government consultant and main contractor on the Dampier to Wagerup pipeline project.

**LNG phase project-world level**

The major change between the corporate relationship shown to exist at project level for Phase I and Phase II is the entry of MIMI as a participant in the joint venture. KJR remains as the major subcontractor with Japanese Gasoline shifting from its role of sleeping partner for the Domestic phase to the chief contractor working on the design of the LNG plant and associated infrastructure (see 5.3).

In transparency No.2 an integral connection, brown line, runs between Japan Gas at project level and the design operations at Yokohama, world level. A broken blue line, indicating a tertiary connection is indicated between Japan Gas, MITI and the Japanese power utilities (see 5.3.3). This indicates that whilst they are all organisations which have individually influenced JVP policies at specified points in time, the commercial and corporate links between them do not hold great significance for the planning of the North West Shelf.
Using the colour coding system described in Section 'A' the transparencies show a visual representation of the institutional relationship described in 5.2. The changes in the status or organisations and inter-organisational linkages shown when comparing Sections VI and VII, and the corresponding transparencies (Domestic phase 1976/85) (LNG phase 1985/86) are described in 5.2.2.
FIGURE 10

KEY ORGANISATIONS IN THE JVP DECISION MAKING ENVIRONMENT

10.1 - PHASE 1: 1976/85
10.2 - PHASE 2: 1985/87
N.W.S. PHASE 1
1976/85.

Principal Designers
Lead Banking Group

SIPM
(The Hague.)

WOP
KJR

Morgan
Guaranty
(New York.)

World Level

Federal Treasury
Dept of Minerals + Energy

"DME"

"FIRE"

"CAI"
Confeder'n
of Aust' In
Industry.

"ACTU"
National

"SECGWA"

"CWAI"
Confed'n
of W.A
Industry.

"TLC"

A
National Level

W.A. State
Treasury
Dept of Resources
Development

"DDP"

"ALCOA"

" Dept of
Mines"

"DID"
Dept of
Ind Dev

"WNC"
National
Liaison
Group

External Environment

Prinicipal
Jt Venturers

"Shell"

"Woodside"

"BP"

Business Level

Equity
Jt Venturers

"Caltex"

Fluor/Maunsell

Main
Contractors

SECWA
Pipeline

"Saipem/ ICC
Jt Venture."

KJR

Domestic Gas Plant
and associated infrastructure
The aluminium industry experienced a solid recovery in 1987, with world demand for primary metal setting a new record. Prices for both aluminium and alumina were higher than in 1986 - significantly so for metal.

Alcoa of Australia Limited responded to the improved market conditions by increasing production and shipments to the highest levels since the company's formation. Sales revenue increased by 38% to $1,378 million, and net profit after tax was a record $150 million.

The welcome improvement in the company's financial results came after five years of poor profitability. The main reasons for the improvement were better prices and higher production.

Western World demand for primary aluminium in 1987 reached a record level of over 13 million tonnes. The strength of demand exceeded expectations, forcing inventories down and driving prices (in US dollars) to the highest levels for several years. The average metal price in 1987 measured in Australian dollars was the highest in the company's history.

The smelting industry responded to higher prices by increasing output and by the end of the year Western World smelters' average operating rate had risen to 95%. Total metal production for the year was 12.6 million tonnes, up 5% on 1986.

The increase in smelter production caused demand for alumina to strengthen, and refinery operating rates rose to 86%, the highest level for six years. Prices rose, although the rate of increase was much less than that of metal prices.
The alumina market, which has suffered from a severe overhang of excess capacity since 1982, has gradually regained a more stable equilibrium, as inefficient plants have been shut down and demand has improved. In 1988, demand should increase strongly in line with metal production, and should be able to absorb the output from the only new major refinery coming on stream (in India) relatively comfortably.
ALUMINIUM PRICE vs INVENTORIES
Quarterly 1978 – 1987

Source: ALCOA Annual Report 1987
APPENDIX V

Organogram for the Ministry of Economic Development and Trade (October 1988).

* Note: The Department of Resources Development, DRD is now subsumed within this ministry.

Source: (WA Govmt 1988)
Notes on Bibliography

Notes on format

There will be two alphabetical listings under the broad headings of (A) TEXTS/THESSES/RESEARCH PAPERS and (B) NON-ACADEMIC DOCUMENTATION, the latter consisting of lecture and consultancy papers, company and government reports and general public relations brochures issued by the North West Shelf Joint Venturers.

All publications will be listed under author or editor which in certain cases will be cited as a governmental or corporate body (i.e. WA Government, Woodside Petroleum, Australian Government, State Energy Commission of W.A.). Dates of publications are indicated to correspond with references listed in the text. Where a number of titles are listed against a corporate or governmental heading they will be presented in chronological order.
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