The Parliament of the Commonwealth of Australia

THE NORTH WEST SHELF

A SEA OF LOST OPPORTUNITIES?

FIRST REPORT

AUSTRALIAN INDUSTRY PARTICIPATION IN THE SECOND STAGE OF THE NORTH WEST SHELF PROJECT

Report from the House of Representatives
Standing Committee on Industry Science
and Technology

November 1989

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TERMS OF REFERENCE

On 14 April 1989 the Minister for Resources, Senator the Hon. Peter Cook referred the following matter to the Committee:

To inquire into and report on the extent of Australian industry participation in the second stage of the North West Shelf Project, and in particular:

(i) the capacity of Australian industry to undertake the design and construction of the project's major elements, including union management cooperation;

(ii) the extent to which the required non-resident technology will be transferred to Australia through the project;

(iii) the scope for subsequent industry development and exports based on the technology and capacity gained through the project; and

(iv) appropriate government action to maximise the benefit to Australia of the project.

MEMBERS OF THE COMMITTEE

Chairman	Mr D.P. Beddall, MP
Deputy Chairman	Mr D.P.M. Hawker, MP
Members	Mr P.J. Baldwin, MP Mr B.T. Cunningham, MP Mr E.L. Grace, MP Mr B. Lloyd, MP Mr F.S. McArthur, MP Mr J.B. Mildren, MP Mr A.A. Morris, MP Mr G.B. Nehl, MP Dr A.C. Theophanous, MP Dr M.R.L. Wooldridge, MP
A/g Secretary	Dr D. Capp
Inquiry Staff	Mr C. Paterson Mrs J. Kiermaier

ABBREVIATIONS

LNG	Liquified Natural Gas
LPG	Liquified Petroleum Gas
HEB	Heavy Engineering Board
ETPM	Entrepose G.T.M. pour les Travaux Petroliers Maritimes
KJK	Kaiser, Japan Gasoline, Kellogg
KJR	Kellogg, Japan Gasoline, Raymond
SIPM	Shell Internationale Petroleum, Maatschappij B.V.
DPIE	Department of Primary Industries and Energy
DITAC	Department of Industry, Technology and Commerce
NIES	National Industry Extension Service
DOMGAS	Domestic Gas

FUEL CONVERSION FACTORS

100 million cubic feet of natural gas per day (MCFD) equals:

2.8 million cubic metres of gas per day

17 000 barrels of oil per day (energy equivalent)

1 billion cubic metres of gas per year

700 000 tonnes of LNG per year (energy equivalent)

800 000 tonnes of LPG per year (energy equivalent)

PREFACE

This is the third report from the House of Representatives Standing Committee on Industry, Science and Technology and its first into the resource development sector.

Both the development of Australia's natural resources and the performance of our engineering and manufacturing industry are vital issues for Australia's economic future. This inquiry into the North West Shelf Project has provided a focus for discussion of a range of important issues which arise in relation to all major resource development projects. These issues are complex and have aroused considerable public interest.

On behalf of the Committee I thank all those who have made submissions and those who appeared as witnesses at public and in-camera hearings. The Committee has received some excellent, and indeed inspirational, evidence during this inquiry. The quality and experience of some Australian managers and engineers should not be underestimated. As a result the Committee has gained valuable insights into the role played by Australian industry in the development of this country's natural resources.

I appreciate the time and contributions of other Members of the Committee to this inquiry - in particular Peter Baldwin, Ted Grace, David Hawker, Stuart McArthur and Allan Morris. This report is the product of considerable deliberation by Members and represents the unanimous view of the Committee.

I also would like to place on record my appreciation of the work of the Committee secretariat: the Project Officer for this inquiry, Christopher Paterson, the Committee Secretary, Doug Capp, and Jodie Kiermaier who has keyed our numerous drafts and amendments.

DAVID BEDDALL, MP
Chairman

November 1989

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this report are brought together in this section in the order in which they appear in the report.

The conclusions highlight matters or issues which the Committee considers to be important. The recommendations are specific suggestions for change.

Introduction

The Committee's primary concern in this inquiry is to determine the scope of potential benefits to Australian industry and the economy as a whole through greater Australian industry participation in the offshore oil and gas industry. In determining these potential benefits the Committee is mindful of the need for Australian industry to be commercially competitive. Suggested changes to government policy towards offshore oil and gas development have been made on the basis that industry must be able to compete on its own merits and that levels of Australian industry participation should not be mandated. (Paragraph 1.6)

THE NORTH WEST SHELF DEVELOPMENT

The Committee agrees with sentiments expressed by a majority of witnesses that major natural resource projects such as the North West Shelf Project which are exploiting a non-renewable national resource should contribute to the economy in more ways than simply through direct revenue, royalties and taxes. They must also contribute to developing the nation's infrastructure; to creating a wider skills base, and providing real opportunities for the expansion and development of Australian industry. Since projects of this type are also contingent on government providing approval in the form of production or export licences, government has both an opportunity and a responsibility to the Australian people to ensure that these indirect benefits, as well as the direct revenue, royalty and taxation benefits are maximised. (Paragraph 2.24)

ROLE OF GOVERNMENT

The Committee was bewildered at the apparent lack of any real concern or consideration given by the Department of Primary Industries and Energy to the broader significance of Australian industry participation in resource development projects. This also extended to an apparent lack of interest

in the wider benefits (and costs) to the Australian economy and community of resource development projects such as the North West Shelf Project. (Paragraph 3.19)

National Liaison Group

The operation of the NLG relates specifically to the North West Shelf Project and the Committee considers that Australian industry participation would be enhanced if the positive aspects of the NLG arrangement were extended to all offshore developments, and indeed all major resource projects in Australia. (Paragraph 3.27)

Nett Benefit of Resource Projects

The Committee was concerned that a project requiring large overseas borrowings, high levels of foreign expertise and equipment and a significant commitment by Government to purchase natural gas product, should have been thoroughly examined to determine and maximise the overall benefit to Australia. (Paragraph 3.29)

Recommendation 1 (page 26)

The Minister for Primary Industries and Energy and the Minister for Industry, Technology and Commerce urgently put in place arrangements which will compel consultation between their Departments to ensure that full account is taken of government industry policy and the participation of Australian industry in offshore oil and gas resource developments.

Recommendation 2 (page 27)

The Minister for Primary Industries and Energy and the Minister of Industry, Technology and Commerce in future be co-signatories to the approval of all offshore oil and gas production licences.

Recommendation 3 (page 28)

The Minister for Primary Industries and Energy request the Resources Assessment Commission to develop a set of criteria for assessing the nett benefit to Australia of offshore oil and gas development projects which can provide an appropriate basis for assessing project benefits and needs when development licences are under consideration;

These criteria be employed in the preparation of a national economic impact statement for all major (over $100m) offshore oil and gas development projects;

This impact statement should form a basis for assessing project benefits when application is made for a development licence; and

These criteria include factors such as: estimated revenues, royalties and taxes, requirements for goods and services, manpower, training, imported skills, effect on Australia's current account and foreign debt, specific areas of the project where Australian industry is currently unable to participate, and environmental impact.

As far as the North West Shelf Project is concerned, the Committee is of the opinion that any action taken by Government should not now add to project costs in any significant way. The North West Shelf Project should be allowed to proceed on the basis on which it was initiated and approved. However, lessons learnt from this project should be taken into account for future offshore developments. (Paragraph 3.41)

The Committee concludes that:

- if Australian industry is competitive in terms of cost, quality and delivery, then Government must ensure that Australian industry has fair and equal access to participate in offshore oil and gas projects; and

- if this is to be achieved, government authorities must have a thorough understanding of the oil and gas industry, of Australia's own industrial capability and capacity, and of the impact of these projects on the economy as a whole.

The Committee was impressed with the actions of State Governments in promoting Australian industry participation in the project. The Committee was far from impressed by the apparent lack of coordination between the responsible Commonwealth departments on this project. The lack of coordination between DPIE and DITAC and the narrow sectoral approach adopted by these Departments has frustrated a broader view being taken of major resource projects. (Paragraph 3.45)

AUSTRALIAN INDUSTRY PARTICIPATION IN PHASE I, II AND III

Australian Content

The Committee believes that an examination of participation in those areas of this project which are crucial to the future development and expansion of Australian industry - such as conceptual design, project management and the supply of specialised services and equipment - will prove more fruitful. While it is important that major fabrication tasks

be carried out in Australia where Australian industry is competitive, there is also a need to consider qualitative aspects of this work as well as the quantity performed in Australia. It is in the more specialised and skills intensive areas that the major potential for contributing to the development of industrial and technological capability, export growth and import replacement exists. (Paragraph 4.6)

Recommendation 4 (page 42)

A working group comprising the Department of Industry, Technology and Commerce (DITAC), the Department of Primary Industries and Energy (DPIE), and appropriate State government agencies develop an agreed national methodology for assessing, monitoring and validating Australian content in offshore oil and gas development projects;

Major oil and gas project developers be required to provide DITAC and DPIE with annual reports which include detailed information on Australian content using this methodology;

This methodology be used to identify specific areas in which Australian content is low or absent, with a view to informing Australian industry of new market opportunities for goods and services; and

The resulting data on Australian content and market opportunities be published and disseminated to appropriate industry, union and other organisations on an annual basis.

Project Management and Design

Recommendation 5 (page 49)

With respect to all contracts and tenders for offshore oil and gas developments:

- all specifications and standards be in accordance with Australian specifications and standards or where these do not exist, with internationally accepted oil and gas industry specifications and standards;
- specifications must not be drawn in such a manner as to deliberately preclude Australian suppliers;
- any amendments to specifications are to be notified to all bidders at the earliest possible time;
- any special requirements related to the sourcing of components and materials are to be fully detailed in the tender specifications; and

- contracts for studies, design implementation and support are to be based on Australian legal and professional practice.

Use of Non-Australian Personnel

The Committee is uneasy about the possibility that there has been unnecessary use of overseas personnel and that the development of Australian skills is consequently being constrained. The Committee is pleased to note that the Department of Employment, Education and Training (DEET) is now a co-signatory with the Department of Immigration, Local Government and Ethnic Affairs to all Negotiated Agreements. The Committee does not wish to see this arrangement form an unnecessary impediment to projects such as the North West Shelf and would encourage DEET to consult with the Department of Industry, Technology and Commerce to determine appropriate criteria for the timely assessment of applications and identification of areas of skills shortage in the offshore oil and gas industry. (Paragraph 5.24)

Recommendation 6 (page 53)

The Minister for Employment, Education and Training review the operation of Negotiated Agreements as they apply to professional engineering and technical staff required in the resource development industry, with a view to developing criteria for assessing the levels of skills transfer and training taking place as a result of these Agreements.

Tender Procedures and Scheduling

Recommendation 7 (page 54)

With respect to all tenders for offshore oil and gas developments, all potential suppliers selected to bid be given an equal and adequate period in which to tender; and

The period for tender be adjusted appropriately if the tender specifications are altered.

Industrial Supplies Office

The Committee believes that the ISO is in a position to positively assist Australian industry to become involved in projects such as the North West Shelf at the earliest possible stage. The ISO is not an arm of government. It recognises that Australian industry must compete in terms of cost, delivery and quality and acknowledges the need for buyers to procure their goods and services at the best commercial advantage. The ISO seeks to ensure that Australian industry is appraised of opportunities and that project managers are aware of Australian industry capability and capacity. (Paragraph 5.34)

The Committee believes that Woodside should use the services of the ISO, particularly where Woodside is of the view that particular goods and services can only be supplied from overseas. Woodside's claim that certain items cannot be obtained in Australia would be strengthened if it had used the ISO and had still come up with the same result. (Paragraph 5.36)

Recommendation 8 (page 57)

Applicants for development licences for offshore oil and gas fields agree to use the services of the Industrial Supplies Office as an integral part of their procurement process.

Scheduling

The Committee believes that the limited time allowed for prequalification and the restrictions placed on site utilisation by Woodside have served to disadvantage Australian industry. The restrictions placed on the location of fabrication sites is an example of the type of information that should be made available at the earliest possible stage in the procurement process (see Recommendation 3). (Paragraph 5.46)

Recommendation 9 (page 59)

Applicants for petroleum production licences undertake as part of the licence agreement, to ensure that project timescales do not discriminate against the participation of Australian industry.

The Committee considers that the flow of information on oil and gas projects to both government and industry is vital to both the formulation of policy by government and the development of marketing and investment strategies by industry. (Paragraph 5.47)

The Committee believes that the development plan submitted to Department of Primary Industries and Energy as part of the production licence application would provide a valuable guide to industry. (Paragraph 5.48)

Recommendation 10 (page 60)

A development plan incorporating the technical specifications, estimated timescales and overall budget for the project should be published following the granting of all petroleum production licences; and

This published plan should be comprehensive and should include all the information supplied to the Department of Primary Industries and Energy except where proprietary technology is involved.

Quality, Safety, Price and Delivery

The Committee supports the view that Australian industry has to be competitive in terms of quality, safety, price, and delivery. The international market for goods and services in the oil and gas industry is competitive and while many countries have a policy of mandatory local industry involvement, the Committee does not believe that such an approach is desirable at this time and under present circumstances. It is far more desirable that government policy ensure a *fair go* for industry and leave industry itself to deal with its commercial competitiveness. (Paragraph 5.49)

Recommendation 11 (page 62)

The Minister for Industry, Technology and Commerce continue to encourage the development and extension of quality management in the Australian engineering industry as a matter of high priority.

Recommendation 12 (page 64)

The Minister for Science, Customs and Small Business consult with the Minister for Industry, Technology and Commerce to ensure that customs duties are waived where specified materials required for fabrication work are not available in Australia; and

If local manufacturers claim to make an equivalent, they must be able to demonstrate compliance with the particular design specifications.

Unless Australian industry can manage its production process in such a way as to ensure that delivery schedules can be met, it will be difficult for them to gain contracts in offshore work where time is a critical factor. (Paragraph 5.68)

The Committee believes that Government, both Commonwealth and State, should initiate discussions with the ACTU and State Trades and Labour Councils with a view to determining an agreed set of guidelines for the negotiation of site agreements for the construction phases of major resource projects. (Paragraph 5.71)

Recommendation 13 (page 67)

The Minister for Industrial Relations consult with other relevant Ministers and the ACTU and relevant employer groups with a view to determining a basis for the negotiation of site agreements for the construction phase of all major resources projects.

Recommendation 14 (page 68)

The Department of Industry, Technology and Commerce conduct a survey of infrastructure necessary to assist Australian industry to participate in major resource projects; and

These requirements be considered in the development of Government industry policy.

Recommendation 15 (page 68)

The Minister for Transport and Communications approach State Governments and seek agreement to standardise transport regulations related to the inter-state movement of heavy loads by road.

Capability and Capacity

It is essential that the reasons for Australian industry not securing major project contracts are analysed. It is not simply a question of wages or of on-going work. There are other factors which affect both cost and capacity. These include the lack of adequate fabrication sites, the seeming inability of Australian firms to form contracting consortia, the lack of time given to prepare a bid, the lack of familiarity with Australian industry capabilities by non-Australian project management staff, the level of commitment to quality management, poor planning and scheduling by Australian firms and the threat of industrial instability. (Paragraph 6.7)

It must be understood that many of the issues that have arisen in the course of this inquiry can only be dealt with by Australian industry itself. Government can certainly assist to ensure that there are no unfair impediments to participation and also assist in identifying market opportunities and promoting the flow of information to industry. (Paragraph 6.8)

There were many comments made to the effect that Australian engineering firms have not been prepared to enter into joint ventures in order to increase their capacity and capability for undertaking specific projects. The Committee believes that this is a major hurdle that needs to be overcome. (Paragraph 6.10)

If the domination of the high technology aspects of the construction industry by US and European multinationals is to be changed, the Australian engineering industry will have to pay greater attention to its design and project management abilities. Project management and design skills in Australia need to be improved. (Paragraph 6.13)

Industrial Relations

The Committee stresses, however, that if Australian industry is to increase the amount of work gained in the offshore oil and gas industry then trade unions and management must continue the process of constructive co-operation that has evolved over recent years. (Paragraph 6.14)

Technology Transfer

Recommendation 16 (page 73)

The Department of Industry, Technology and Commerce undertake a comparative study of Australian industry participation in Phase III of the Project as compared to Phases I and II to identify those specific areas where a demonstrable increase in Australian industry and technology capability has occurred.

The conduct of market surveys by the Victorian Government is the type of assistance that the Committee believes Governments can provide to Australian industry to market itself and secure work on development projects like the North West Shelf. (Paragraph 6.25)

Recommendation 17 (page 76)

The Department of Primary Industries and Energy and the Department of Industry, Technology and Commerce jointly produce a survey of market opportunities in the offshore oil and gas industry for the supply of goods and services by Australian industry; and

This survey be updated on an annual basis.

Export Potential

The Committee concludes that the market for the supply of goods and services to the offshore oil and gas industry both in Australia and in South East Asia offers an opportunity that this country cannot afford to ignore. If Australia's dependence on commodity exports is to be broken, we must take advantage of opportunities such as those offered by the offshore oil and gas industry to further develop areas of expertise which replace imports and generate exports. (Paragraph 6.27)

CHAPTER 1

OVERVIEW

- Introduction
- Role of Government
- Implications for Industry
- First Report

Introduction

1.1 This inquiry by the House of Representatives Standing Committee on Industry, Science and Technology into Australian industry participation in the second stage of the North West Shelf Project has generated major interest from industry, unions and government. The Committee has received 37 submissions and has taken oral evidence from 44 witnesses at 12 hearings and inspections.

1.2 This interest reflects the size and global significance of the North West Shelf Project itself and of the major oil and gas potential of the Carnarvon Basin and Timor Sea. It is also indicative of the high levels of concern in the community about the opportunities offered by the development of these national resources for Australian industry, and the urgent need for government action to ensure these opportunities are not wasted.

1.3 The conduct of this inquiry was constrained by the reticence of many potential witnesses to give evidence due to their involvement in the resource development industry and their concern not to prejudice the future commercial operations of companies with which they are associated. The Committee did take in-camera evidence and also held private confidential discussions with a number of people and this provided valuable insights into the dominant role played by major project developers in the fortunes of the Australian heavy engineering industry.

1.4 The Committee received considerable assistance from Woodside Offshore Petroleum Ltd and the Joint Venture Participants of The North West Shelf Project. The Committee was aware that during the course of this inquiry there was a growing perception that this inquiry was giving undue emphasis to criticisms of Woodside and its Joint Venture Partners for not providing sufficient opportunity for Australian industry participation in this project.

1.5 This was not the case. The Committee believes that given the current obligations imposed on companies developing Australia's offshore oil and gas resources, Woodside has provided Australian industry with considerable opportunity to participate in the Project. Woodside has been very positive in its attempts to assess Australian industry capability and appraise Australian industry of market opportunities. The overall level of Australian industry participation has been equal to that of many other major resource projects in Australia and Woodside has complied with its obligations as they currently stand.

1.6 The Committee's primary concern in this inquiry is to determine the scope of potential benefits to Australian industry and the economy as a whole through greater Australian industry participation in the offshore oil and gas industry. In determining these potential benefits the Committee is mindfull of the need for Australian industry to be commercially competitive. Suggested changes to government policy towards offshore oil and gas development have been made on the basis that industry must be able to compete on its own merits and that levels of Australian industry participation should not be mandated.

Role of Government

1.7 At the beginning of this inquiry the Committee was under the impression that those Commonwealth Departments responsible

for resource development and industry policy would be able to provide a great deal of assistance in the course of the inquiry.

1.8 This did not prove to be the case. The Committee was generally disappointed with the dearth of information and lack of interest shown by the responsible Commonwealth Departments in Australian industry participation in this major resource project. The Committee also found that co-operation and consultation between the Department of Primary Industries and Energy and the Department of Industry, Technology and Commerce on this matter was minimal. In contrast State Governments generally showed a much higher awareness of the opportunities offered by such projects for the development of Australian industry.

1.9 The disturbing aspect of this seeming lack of interest is that little hard data is available to permit a detailed assessment of the opportunities available to Australian industry and the current level of participation in the development of offshore oil and gas projects.

1.10 This lack of quantitative information on industry participation is compounded by the fact that, in granting licences for exploration and development of offshore oil and gas resources, at the moment primary consideration is given to factors directly related to the production of oil and gas. No serious examination of the wider impact of these large projects on the national economy is currently undertaken.

1.11 For example, the implications of a $14b resource development project for Australia's current account, for training and manpower requirements, the supply and sourcing of materials and equipment and the need for overseas expertise are significant for the economy as a whole. In the past little or no attempt has been made by Commonwealth authorities to quantify these factors or to plan for their impact on the economy.

Implications for Industry

1.12 While the Committee believes that Australian industry must be responsible for marketing its own products and services, it believes industry is currently constrained from participating fully in major offshore oil and gas projects.

1.13 The Committee has considered several issues that both industry and government must address if the level of participation is to be increased. Among other things, it is important to identify those areas where Australian industry participation has been low so that both government industry policy and industry's own management and marketing strategies can be adjusted to take advantage of the opportunities arising in these areas.

First Report

1.14 The Committee wishes to inquire further into several issues raised in this inquiry. However, it is also aware of the keen interest shown by Australian industry, and more recently the responsible Commonwealth Departments, in the proceedings of the inquiry. For this reason the Committee has resolved to produce a first report which includes conclusions and recommendations relating to those aspects of the terms of reference considered thus far. This should serve inter alia to stimulate debate on these important issues.

1.15 The Committee will be interested to take account of any industry feedback on its first report and of course the Government's response to its conclusions and recommendations in any further report.

1.16 The Committee wishes to inquire further into the following matters:

1. The need for an assessment of the economic, social and

environmental costs and benefits of major resource projects;

2. Appropriate arrangements for reporting and monitoring by government of the development of resource projects;

3. How the past performance of licence applicants with regard to Australian content in resource developments can be taken into account in the licencing process;

4. The policies adopted by other countries regarding offshore oil and gas development;

5. The role of research and development in increasing the capabilities of Australian industry to participate in the offshore oil and gas industry and the obligations of government, industry and resource developers to promote research and development;

6. Ways to maximise Australian industry participation in the conceptual design phases of major resource projects;

7. The role (if any) of Government Business Enterprises in resource development; and

8. Any submissions or comments in response to the issues raised and recommendations made in this first report.

CHAPTER 2

THE NORTH WEST SHELF DEVELOPMENT

- Background
- Ownership and Control
- Scope of the Project
- Reserves
- Capital Works
- Production
- Conclusion

Background

2.1 Woodside Petroleum Ltd acquired exploration permits covering some 367 000 sq km of the North West Shelf in the period 1963 - 67. The initial joint venture comprised Woodside, Shell and Burmah Oil, the joint venture was later expanded to include BP and Calasiatic (now Chevron).

2.2 Drilling commenced in 1967 and the first significant discoveries were made in 1971 with Scott Reef, North Rankin, Goodwyn and Angel fields all being discovered. Having spent over $700 m in exploration and drilling, commercial development of the North Rankin field was commenced.

2.3 Woodside began to recruit an engineering team in the early 1970s for the construction of both onshore and offshore facilities. However in August 1974 the Project was deferred at the direction of the overseas Joint Venture Partners.

2.4 In 1976 BHP purchased the Burmah Oil interest and then together with Shell launched a takeover for Woodside itself, each finishing up with a combined 40 per cent shareholding in Woodside. From this point it is clear that the Project was to be dominated by BHP and Shell.

2.5 In 1977 approval was obtained from the State and Federal governments for an integrated Domestic Gas (DOMGAS) and export Liquid Natural Gas (LNG) proposal.

2.6 The Committee does not propose to examine in any detail the difficulties experienced between the Western Australian Government and the Joint Venturer Partners over the *take or pay* contracts signed by the State Energy Commission of Western Australia (SECWA). It is sufficient to say that on 30 September 1980 SECWA signed contracts for a 20 year supply of natural gas which signalled the go ahead for the DOMGAS Phase of the Project. The contracts overcommitted the State Government. SECWA was committed to take 385 million cubic feet per day (MCFD), but at that time, which was prior to the signing of LNG export contracts, SECWA could only use 250 MCFD. Faced with the prospect of running up an enormous debt of up to $7.5b[1] or defaulting on the *take or pay* contracts, which would have endangered cash flows for development of the LNG export phase, the State Government sought Commonwealth assistance.

2.7 The contracts were re-negotiated in 1985, when the Commonwealth's prime considerations were to ensure that contracts were honoured and that financing for the next phase was not threatened.[2] In order to ensure that re-negotiation took place, the Commonwealth agreed to forego royalties on the Domestic Gas Phase valued at $117.1m (1985 dollars)[3] over the life of the project in favour of the State government. This represented approximately half of the Commonwealth's royalty entitlement on DOMGAS.

2.8 In 1981 a memorandum of intent was signed with eight Japanese energy utilities for the supply of LNG. In 1985 Mitsui and Mitsubishi formed a joint company, Japan Australia LNG (MIMI)

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1. Sydney Morning Herald, August 24 1985
2. Australian Financial Review, March 12 1985
3. Transcript of Evidence, p.10

Pty Ltd and took a one sixth share in the LNG export phase. The Japanese utilities followed by signing contracts for a 19 year supply of LNG.

The project is divided into three phases:

Phase I - referred to as the domestic gas phase, included the construction of the North Rankin 'A' platform, the domestic gas plant and related infrastructure.

Phase II - referred to as the LNG phase, included the construction of the first two LNG Trains in the LNG Plant and related infrastructure.

Phase III - a continuation of the LNG Phase which includes the construction of the Goodwyn Platform, LNG plant modifications and the third LNG Train.

2.9 In addition to the above, seven LNG carriers are being constructed for progressive delivery between 1989 and 1993, and a further production platform is planned for construction after 2000.

Ownership and Control

2.10 The ownership and control regime is complex as it differs for various aspects of the Project. The Joint Venture Partners in the Project are -

Woodside Petroleum Ltd (Operator)
BHP Petroleum (North West Shelf) Pty Ltd
Shell Development (Australia) Pty Ltd
BP Developments Australia Ltd
California Asiatic Oil Company (subsidiary of Chevron Corp.)
Japan Australia LNG (MIMI) Pty Ltd

The interests of the Joint Venture Partners are as follows:

DOMGAS - *Woodside 50%, BP 16.6%, Chevron 16.6%, Shell 8.3% and BHP 8.3%

LNG Export - *Woodside 16.6%, BP 16.6%, Chevron 16.6%, Shell 16.6%, BHP 16.6% and MIMI 16.6%

SHIPPING - Woodside 11.9%, BP 11.9%, Chevron 11.9%, Shell 11.9%, BHP 11.9% and **MIMI 40.4%

*Shell and BHP each own 40% of Woodside which effectively increases each of their interests to 28.3% in DOMGAS, to 23.3% in LNG Export and to 16.7% in Shipping.

**The interest in shipping attributed to MIMI includes the direct ownership of two vessels by a consortium of Japanese interests and a one sixth share in the remaining five vessels by MIMI.

2.11 The upshot of this ownership regime is that Australian interests control only 38.3 per cent of the DOMGAS Phase, 26.7 per cent of the LNG Phase and 19.1 per cent of Shipping. The potential for repatriation of profits from this project are therefore significant.

2.12 The Joint Venture operates under a Project Agreement which is administered by a Project Committee on which all the partners have a representative. The Project Committee controls the North West Shelf development through the determination of policy as well as playing a significant role in the tender process. All contracts valued at $2m or more require the approval of the Project Committee. Woodside's role as operator is to be responsible for the construction and operation of the Project on behalf of the Joint Venture Partners and under the guidance of the Project Committee.[4]

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4. Transcript of Evidence, p.595

Scope of the Project

2.13 This is a large scale project by world standards both in terms of engineering and design expertise.[5] North Rankin is the largest capacity offshore gas extraction facility in the world.[6] The level of investment is also unprecedented in Australian resource development at $13.6b (including the LNG Shipping fleet). This level of investment is also significant in world terms. The cost of the North West Shelf Project including LNG Trains and DOMGAS plant, for example, is comparable with the cost of developing the vast Troll offshore gas field in the North Sea which is estimated to cost $US 3.69b[7] in 1988 dollars. The Troll development does not include onshore LNG facilities of the type associated with North Rankin and Goodwyn.

Reserves

2.14 Current recoverable reserves as published by Woodside[8] are as follows:

Table 1

Field	Gas Billions cu.m.	Condensate Millions cu.m.
North Rankin	192	23.2
Goodwyn Main	71	14.3
Goodwyn North	37	18.6
North Rankin West	2	0.2
Tidepole	13	1.6
Angel	15	4.4
Rankin	6	0.7
Brecknock	92	5.2
Scott Reef	173	12.6
Wilcox	7	2.4
TOTAL	**608**	**83.2**

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5. Transcript of Evidence, p.435
6. Transcript of Evidence, p.436
7. The Economist Intelligence Unit 'Before the Oil Runs Out: Prospects for the North Sea's Offshore Industry', p.4
8. 'F.A.C.T.S. About Australia's North West Shelf Gas Project', Woodside Offshore Petroleum Pty Ltd, 1988, p.46

2.15 The North West Shelf Project is based on the North Rankin and Goodwyn fields, which have total reserves of 300 million cu.m. of gas and 50 million cu.m. of condensate. This is indicative of the great potential of the Carnarvon Basin and Timor Sea. Other producing fields in this area include Barrow Island, Harriet and Jabiru. Prospects currently being developed include Challis, Saladin, South Pepper and Talisman.

2.16 Woodside and its Joint Venture Partners have further major prospects with the recent Wanea oil discovery and the potentially enormous gas/condensate reserves at Scott Reef/North Scott Reef/Brecknock. The Scott Reef reservoir may extend for up to 30 km making it potentially larger than North Rankin and Goodwyn.[9] The fact that new technology will be required to develop this latter field due to water depth, is indicative of the opportunities available to those companies which pursue research and development in the offshore oil and gas industry. Based on past performance, a continued dependence on overseas engineering and design expertise is likely unless Australian industry is more active in developing the technology necessary to exploit Australian oil and gas resources and in acquiring the necessary design project management skills.

2.17 The location of the gas/condensate fields comprising the North West Shelf Project are indicated on the following map.

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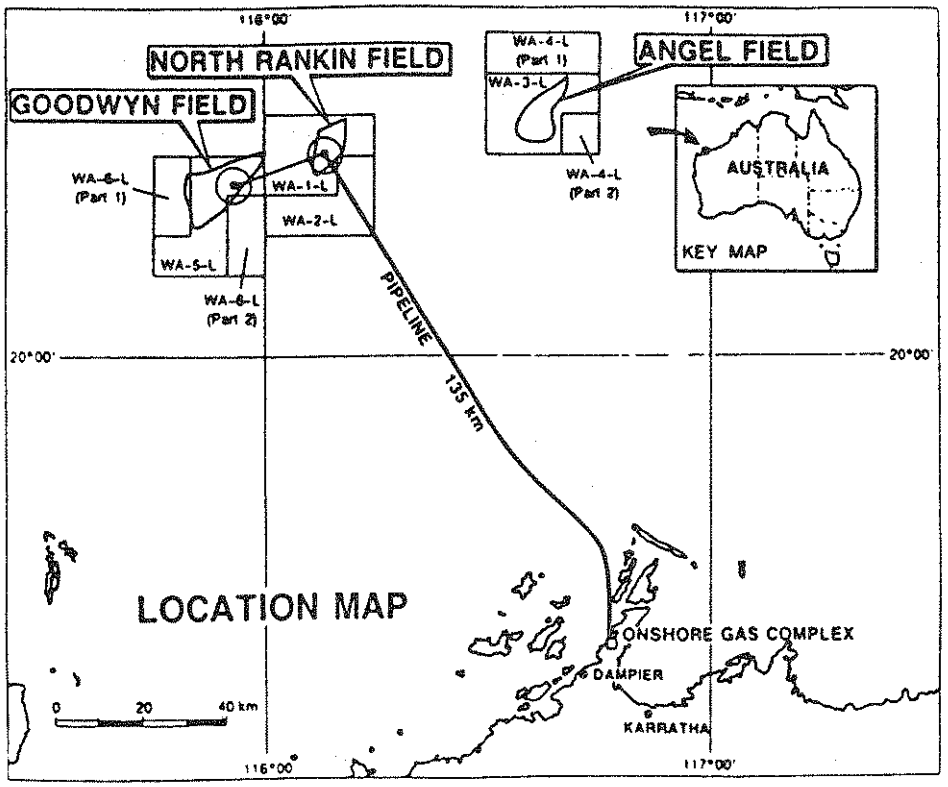
9. Register of Australian Mining, 1989/90, p.329



Capital Works

2.18 The construction of the North Rankin platform and associated onshore facilities was a formidable task. The Burrup Peninsula where the onshore facilities are located is inhospitable, the water depth at the North Rankin site was 125m and the area is prone to cyclone activity.

2.19 The Goodwyn Platform substructure will weigh 17 000 tons, the topsides will weigh 15 000 tons and will stand in 131 metres of water. Due to design improvements it weighs less than North Rankin but by way of comparison, Goodwyn is four times the weight

and more than twice the height of Esso's Bream 'A' platform in Bass Strait. Add to that the fact that it has to withstand 215km/hour winds and 23 metre waves and it becomes obvious that these structures are at the forefront of offshore design and construction technology.

2.20 The onshore plant currently comprises a domestic gas plant for supplying natural gas to Perth and the Pilbara, two LNG Trains (the third Train will be built in Phase III) for the production of LNG for export, LNG and condensate storage facilities, a loading jetty almost 1km long and state of the art process control facilities. The onshore facilities are connected to North Rankin by a submarine pipeline 134km in length.

Production

2.21 This Project is a base load energy operation, which put simply, means that it is supplying the day to day energy requirements of power utilities in both Western Australia and Japan. In 1987-88 the North West Shelf supplied 40 per cent of Western Australia's primary energy needs[10] and is expected to be supplying over 16 per cent of Japan's LNG imports by 1995.

2.22 The domestic gas contracts provide for the supply of up to 10.9 million c.m. of natural gas per day for a twenty year period (equivalent to 2.7 million tons LNG per annum). The LNG export phase provides for the supply of 5.84 million tons of LNG per annum to Japanese power utilities. This level will not be reached until 1995 and will continue until 2009. This is expected to provide up to $1.5b a year in export revenue. In addition to gas sales, condensate is also produced and is expected to earn a further $700m per annum in export revenues,[11] with production peaking at around 80 000 bbls/day in the mid 1990s.[12]

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10. Department of Primary Industries and Energy, Submission, p.3
11. Department of Primary Industires and Energy. Submission p.5
12. 'F.A.C.T.S. About Australia's North West Shelf Gas Project', Woodside Offshore Petroluem Pty Ltd, 1988, p.34

2.23 The revenues generated by this single project are very large indeed and the LNG exported from the North West Shelf will be a major export earner for Australia. The cost of developing the project is also extraordinarily high at over $13b and it is therefore necessary to examine the nett return Australia is receiving from this project.

Conclusion

2.24 The Committee agrees with sentiments expressed by a majority of witnesses that major natural resource projects such as the North West Shelf Project which are exploiting a non-renewable national resource should contribute to the economy in more ways than simply through direct revenue, royalties and taxes. They must also contribute to developing the nation's infrastructure; to creating a wider skills base, and providing real opportunities for the expansion and development of Australian industry. Since projects of this type are also contingent on government providing approval in the form of production or export licences, Government has both an opportunity and a responsibility to the Australian people to ensure that these indirect benefits, as well as the direct revenue, royalty and taxation benefits are maximised.

CHAPTER 3

ROLE OF GOVERNMENT

- Responsibilities of the Commonwealth Government
- Offshore Petroleum Titles
- Coordination between Commonwealth Government Authorities
- National Liaison Group
- Nett Benefit of Resource Projects
- Viability, Risks and Regulation
- Conclusion

Responsibilities of the Commonwealth Government

3.1 Government policy formulation in relation to oil and gas resources has always been a complex task. The oil and gas industry is characterised by capital intensity, high profit potential, vertical integration and joint ventures. Effective government policy formulation therefore requires a thorough knowledge and understanding of the operation of not only the oil and gas industry itself but also those construction and service industries which support it.

3.2 The Department of Primary Industries and Energy (DPIE) has primary responsibility for offshore petroleum exploration and development. DPIE's broad objectives are 'to foster efficient and competitive petroleum and natural gas industries, to optimise their contribution to the performance of the Australian economy and well-being of Australians, and to ensure an equitable return to the Australian community from exploitation of its petroleum resources'.[13]

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13. Transcript of Evidence, p.16

3.3 The national energy policy paper, Energy 2000, outlined the Commonwealth's responsibilities in energy policy as:

- taxation arrangements;
- export policy;
- trade policy;
- industry policy;
- wages policy;
- labour retraining and adjustment schemes;
- foreign investment guidelines;
- energy research and development;
- payments to the states; and
- environmental matters.[14]

3.4 Within the three mile limit, State governments play a major role in relation to the issue of leases, power generation, collection of royalties, infrastructure provision, labour and safety regulations and environmental considerations.

3.5 While the Committee has been primarily concerned with the North West Shelf Project which is based on a resource which clearly falls within the Commonwealth's jurisdiction, many of the issues raised regarding industry participation apply to all major resource projects, onshore and offshore.

3.6 Offshore petroleum exploration and production outside the three nautical mile limit is administered under the *Petroleum (Submerged Lands) Act 1967*. Joint Authorities with State and Territory Governments are established to decide questions of title including grant, renewal and transfer of exploration and production rights. The final responsibility for decisions taken under the Joint Authority provision lie with the Commonwealth Minister.

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14. Energy 2000, pp.1.14 - 1.15

Offshore Petroleum Titles

3.7 Three forms of title are issued:-

a) Exploration Permits - can be of two types, work program or cash bidding. In both cases titles are issued for six years with options for five year renewals. At each renewal fifty per cent of the permit area must be relinquished.

b) Retention Licences - after discovering petroleum, the permit holder must notify the relevant authorities of details of the discovery. If it is considered by the explorer to be non-commercial, but with the prospect of becoming commercial within fifteen years, an application can be made for a retention licence.

c) Production Licences - if the discovery is considered commercial then application can be made for a production licence. In applying for a production licence the applicant must provide details of proposed work and expenditure. The licences are issued for a period of twenty one years.

3.8 Currently the primary criteria for issue of exploration permits is to maximise the assessment of petroleum potential in the permit area. There are secondary criteria which only come into effect if no applicant can be identified as superior when assessed against the primary criteria. Secondary criteria include the intent to source goods and services in Australia, the willingness of foreign companies to transfer skills and technology to Australians and the intention to undertake research and development in Australia.

3.9 The Committee believes that these factors should be given a greater weighting and taken into consideration in the issuing of all exploration licences. This would encourage commitment from

potential resource developers to maximise the benefits accruing to Australian industry from the development of any resources that are discovered.

The Committee concludes that:

- **an appropriate means of achieving a commitment from potential oil and gas developers to Australian industry participation would be for applicants for exploration permits to give a written undertaking to this effect as part of the licencing process;**

- **this commitment should be similar to the current Memorandum of Understanding between the United Kingdom Department of Energy and the United Kingdom Offshore Operators Association Limited; and**

- **Recommendations Nos 5,7,8 and 9 should form part of such an undertaking.** (a copy of the Memorandum of Understanding is included at Appendix 2)

3.10 The details of work and expenditure provided by potential producers takes the form of a **development plan.** This includes detailed information on all technical aspects such as design, equipment, timing and an overall estimate of cost is also provided.

3.11 The development plan has to be assessed and approved prior to the granting of a production licence. As the offshore production areas are jointly administered, development plans are assessed by both the Commonwealth and State governments. The development plans are not public documents but remain confidential to Government and the applicant. The assessment involves examination of technical aspects of the proposal and environmental considerations. There is no requirement to provide any assessment of other aspects such as possible Australian content, sources and cost of capital, manpower requirements, training requirements and immigration.

3.12 In practice however, unless the permitee fails to meet the work conditions of the exploration permit there is an automatic right to a production licence.

3.13 Reporting requirements also exist but these relate principally to the need for certification of particular aspects of the development by international accreditation agencies in areas such as technical integrity and safety. Reporting and consultation on Australian content are required by State governments in some instances. This is generally the case on major projects in Western Australia.

3.14 In addition to the responsibility for issue of exploration and development licences, the Commonwealth has authority over the issue of export licences. This power extends over the entire resource sector not just offshore oil and gas developments.

Coordination between Commonwealth Government Authorities

3.15 As noted earlier DPIE have primary responsibility for offshore petroleum exploration and development. Since this inquiry is concerned with Australian industry involvement in the North West Shelf Project, the Committee has placed priority on examining the record of Commonwealth Departments in promoting and encouraging Australian industry participation on this project. The results of this examination were discouraging to say the least.

3.16 DPIE's main concern, as represented in its written submission and also oral evidence given to the Committee, is clearly with the energy implications of the Project in terms of its energy production and revenue potential. However, in its submission DPIE did refer to the high level of overall Australian content, upgrading of skills, technology transfer and broader benefits such as increased employment resulting from this Project.

3.17 DPIE did acknowledge its responsibility to ensure that the contribution of petroleum resource projects to the Australian economy and well being of Australians is optimised. The Department's role in the establishment and operation of the National Liaison Group (see paragraph 3.23) does provide some acknowledgement by DPIE of the need to ensure that Australian industry is given a full and fair opportunity to compete in tenders for the project.

3.18 However, there appears to have been no recognition by the Department of the role that major resource development projects such as the North West Shelf Project can play in the stimulation of new industry and technological capabilities in Australia. Practical support for such a role would of course need to be of a more pro-active and strategic nature, extending well beyond the consultative function of the National Liaison Group.

3.19 **The Committee was in fact bewildered at the apparent lack of any real concern or consideration given by DOPIE to the broader significance of Australian industry participation in resource development projects.** This also extended to an apparent lack of interest in the wider benefits (and costs) to the Australian economy and community of resource development projects such as the North West Shelf Project.

3.20 When questioned as to whether the Department had a view on what the optimum level of Australian industry participation might be, the response by DPIE was that targets would only serve to jeopardise the project.[15] There appeared to be little comprehension by the Department that government agencies might be pro-active in assessing a project and identifying opportunities that could be addressed by Australian industry. When asked about the capacity of Australian industry to fabricate the Goodwyn jacket, the response was 'we do not really have a view about the capacity of Australian industry to provide that. I think DITAC (Department of Industry, Technology and Commerce) is probably the more appropriate organisation to answer that question for you'.[16]

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15. Transcript of Evidence, p.19
16. Transcript of Evidence, p.21

3.21 DPIE informed the Committee that industry advice to them was that Australia would find it difficult to fabricate major components of the Project competitively. Who provided this advice to DPIE? The Joint Venturers apparently, not Australian industry.[17] The DPIE representatives then clarified matters by suggesting that 'it is not within our responsibilities in the Commonwealth Government to undertake surveys of industry and I think DITAC will do that'.[18]

3.22 In response to the question about the level of consultation between the two Departments on this project, the representative of DITAC stated 'to my knowledge there was no great interaction between the Department of Industry, Technology and Commerce and the Department of Primary Industries and Energy'.[19] However the DITAC representative did add that 'there would be significant advantages for the community if future energy projects were handled on the basis of consultation between all relevant authorities, not only within the Commonwealth but between Commonwealth and State where there was a State interest'.[20]

National Liaison Group

3.23 The National Liaison Group (NLG) was established at the initiative of the Commonwealth after renegotiation of the domestic gas agreement in 1985. The NLG is jointly chaired by the Commonwealth Minister for Resources and the Western Australian Minister for Resources Development.

3.24 The NLG is a forum for the Joint Venture Partners, Woodside, the unions, industry and the Commonwealth and State Governments to raise issues of concern and disseminate

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17. Transcript of Evidence, p.21
18. Transcript of Evidence, p.21
19. Transcript of Evidence, p.529
20. Ibid

information on the project to Australian industry. The NLG has no authority over the management of the project but its role as a forum for frank, and if needs be, confidential discussion of issues related to Australian participation is generally regarded as having been successful and having served to increase the level of Australian content.

3.25 It is interesting to note that where sensitive issues relating to tenders have arisen, these have been referred to a confidential Sensitive Contracts Group which consists of the Resource Ministers and the Project Operator. However it would seem that there are strong arguments why DITAC should be consulted on such matters as these often relate to Australian industry capability. While DITAC is represented on the NLG Working Party, it is under current arrangements excluded from discussion of sensitive issues related to Australian industry participation.

3.26 The NLG provides an example of how the simple step of ensuring that industry has early and comprehensive access to tender information and a means of discussing issues of concern to industry and the project operator has served to increase Australian content.

3.27 **The operation of the NLG relates specifically to the North West Shelf Project and the Committee considers that Australian industry participation would be enhanced if the positive aspects of the NLG arrangement were extended to all offshore developments, and indeed all major resource projects in Australia.**

Nett Benefit of Resource Projects

3.28 The lack of coordination between the relevant Commonwealth authorities became more evident when the Committee raised the question of assessing the broader impact of resource projects.

3.29 The Committee was concerned that a project requiring large overseas borrowings, high levels of foreign expertise and equipment and a significant commitment by Government to purchase natural gas product, should have been thoroughly examined to determine and maximise the overall benefit to Australia.

3.30 After all with over $6b expended to date and rising to over $8b within a year or two, and with the majority of borrowings occurring overseas, the effects of servicing this foreign debt will be significant. The combined effect of debt servicing (the exact level is not known but it is probably more than half of capital expenditure to date, i.e. $3b) and imports of goods and services ($2.4b by completion of Phase III, not including the $1.6b cost of LNG tankers) must have substantial implications for Australia's current account.

3.31 Neither DPIE nor DITAC seemed particularly concerned about this question. How much does DPIE know about debt servicing costs for example and their effect on the current account? Apparently not much when the Committee initially raised the matter at a public hearing. However as a result of the Committee's questioning the Department wrote to the Joint Venturers and asked them. The answer was that funding was a combination of equity, borrowings and cash generated from operations.

3.32 The Committee thought it might be more productive to directly put the question to the Joint Venturers. The response was that as funding comes from corporate cash pools it is not possible to calculate a precise figure for the level of borrowings.[21] Nobody is able or prepared to put a figure on the level of debt and the cost of servicing that debt. The Committee finds it hard to believe that such a figure cannot be provided, given the Joint Venturers lengthy and detailed assessment of the

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21. Response from Project Co-ordination Group to Questionnaire dated 13 October 1989, p.14

Project's viability and their assertion that it is (or was) a marginal project when the decision was made to proceed with Goodwyn.[22]

3.33 When DPIE was pressed by the Committee on the question of liaison between DPIE and DITAC to ensure that Government industry policy considerations were factored into Government decisions concerning the development of major resource projects, the response from DPIE was 'Government at this stage has not put forward a view, if you like, across all portfolios, on this matter'.[23]

3.34 This lack of consideration given to the potential benefits to Australian industry and the economic benefits to Australia of identifying and actively promoting opportunities for Australian industry participation in major resource development projects (except through the NLG which is restricted to the North West Shelf Project) is of major concern to the Committee.

RECOMMENDATION 1

The Committee recommends that:

. the Minister for Primary Industries and Energy and the Minister for Industry, Technology and Commerce urgently put in place arrangements which will compel consultation between their Departments to ensure that full account is taken of Government industry policy and the participation of Australian industry in offshore oil and gas resource developments.

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22. Transcript of Evidence, p.432
23. Transcript of Evidence, p.23

RECOMMENDATION 2

The Committee also recommends that:

- **the Minister for Primary Industries and Energy and the Minister of Industry, Technology and Commerce in future be co-signatories to the approval of all offshore oil and gas production licences.**

3.35 The Committee recognises the importance of the North West Shelf Project in terms of the revenues it will generate. These are of the order of $41b over the next 20 years. Estimated royalty and company tax payments are in excess of $10b.[24] Additional revenues and benefits will also be generated through customs duty, taxes derived though employment associated with the project, multiplier effects on the economy as a whole and the reduction in petroleum fuel import requirements. The cost saving of this import replacement has been estimated at $8.6b by the Joint Venture Partners.[25]

3.36 The Committee is of the opinion that other factors should also be taken into account in developing a strategy for industry involvement and assessing the overall impact on the economy of this project. These include the anticipated requirements for goods and services, manpower, training, immigration, funding arrangements, estimated revenues, the likely effect on Australia's current account and foreign debt, and the identification of areas of the project in which Australian industry is currently unable to participate.

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24. Response from Project Co-ordination Group, dated 5 September 1989, p.3
25. Response from Project Co-ordination Group, dated 13 October 1989, p.14

RECOMMENDATION 3

The Committee recommends that:

- the Minister for Primary Industries and Energy request the Resources Assessment Commission to develop a set of criteria for assessing the nett benefit to Australia of offshore oil and gas development projects which can provide an appropriate basis for assessing project benefits and needs when development licences are under consideration;

- these criteria be employed in the preparation of a national economic impact statement for all major (over $100m) offshore oil and gas development projects;

- this impact statement should form a basis for assessing project benefits when application is made for a development licence; and

- these criteria include factors such as: estimated revenues, royalties and taxes, requirements for goods and services, manpower, training, imported skills, effect on Australia's current account and foreign debt, specific areas of the project where Australian industry is currently unable to participate, and environmental impact.

Viability, Risk and Regulation

3.37 The commercial viability of the North West Shelf Project and the inherent risks in any offshore natural gas production project are put forward as reasons for avoiding any form of Government interference such as introducing local content guidelines for major resource projects.

3.38 Much has been made of the marginal nature of the Project and in particular of the decision to proceed with Goodwyn.[26] Mr Charles Allen, Woodside's Managing Director, was reported in the Australian Financial Review as having said that at current oil prices the overall return on capital on the North West Shelf Project is insufficient to justify the investment. At present the return is not going to be more than 7 per cent, while international oil companies are looking for an overall return on capital of 10 to 12 per cent.[27] The Joint Venturers also advised that such a return comprises 15 - 20 per cent for offshore capital, 10 - 15 per cent for onshore capital and 5 - 7 per cent for shipping after account is taken of the effects of inflation.[2]

3.39 Mr Tapper pointed out that project investments are evaluated over the longer term, 'we have to take a twenty-year view'.[29] Royal Dutch Shell Group Chairman, Lodewijk van Wachem certainly takes a twenty-year view. Mr van Wachem agrees the current return is modest but notes that the project has a very long lifespan for a handsome lifetime return.[30]

3.40 The Committee is not proposing to undertake a study of the real returns on offshore oil and gas and developments. Protestations of low rates of return have to be balanced against a discount rate of up to 20 per cent commonly used in the oil industry[31] and comments like those of Mr van Wachem. However, it would be useful if the revenues and economics of field development in Australia were studied more closely in order to shed some light on the question of viability. Such studies have been carried out by the Norwegian and British Governments[32] in order to ensure that Government has a thorough understanding of the industry and a sound basis for policy development.

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26. Transcript of Evidence, pp.431-432
27. Australian Financial Review 19 September 1989
28. Response from Project Co-ordination Group to Questionnaire dated 13 October 1989, p.9
29. Transcript of Evidence, p.431
30. Business Review Weekly, 8 September 1989, p.91
31. The Oil Industry and Government Strategy in the North Sea, Oystein Noreng, Croom Helm, London, 1980, p.97
32. Ibid pp.80-89

3.41 As far as the North West Shelf Project is concerned the Committee is of the opinion that any action taken by Government should not now add to project costs in any significant way. The North West Shelf Project should be allowed to proceed on the basis on which it was initiated and approved. However, lessons learnt from this project should be taken into account for future offshore developments.

3.42 The principal risks to any offshore project are delays in construction and production. In the case of the North West Shelf the construction period for the offshore platforms is constrained by the cyclone season. With the present timetable, late delivery of key items such as the jacket or piles could delay the project by twelve months, incurring considerable cost penalties.[33] It has been suggested that the short construction time mitigates against Australian industry participation. Indeed it has been suggested that this strategy has been adopted to preclude Australian participation. The Committee has found no evidence to support this view, but is of the opinion that the short construction time is more likely to be a result of the weather constraints and the desire for a rapid return on capital due to the high rate of internal discount applied to capital by the Joint Venture Partners.

3.43 Given the current scheduling and the weather constraint, delay in delivery is a risk that must be seriously evaluated by Woodside and the Project Committee. Uppermost in any such consideration are industrial relations. There was a significant level of industrial disruption during module construction for North Rankin A and on the LNG Trains.[34] The Committee believes that fear of industrial disruption is a major factor in Woodside's thinking, particularly in relation to fabrication of the jacket and piles for the Goodwyn platform.[35]

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33. Transcript of Evidence, p. 68
34. Transcript of Evidence, pp.416-417
35. Transcript of Evidence, pp.417-418

3.44 The other major risk for the project is quality control. Specifications for the supply and installation of all equipment are detailed and comprehensive. This relates to the inherent dangers in offshore gas production and also the fact that this is a base load energy project. This means that both the natural gas and the liquified natural gas form part of the daily energy requirements in Western Australia and Japan. Any delay or break in production will therefore have serious ramifications. Production reliability has to be exceptionally high and if Australian industry is to compete it must be capable of meeting the high standards of quality management that are required on this project.

Conclusion

The Committee concludes that:

- if Australian industry is competitive in terms of cost, quality and delivery then Government must ensure that Australian industry has fair and equal access to participate in offshore oil and gas projects; and

- if this is to be achieved, Government authorities must have a thorough understanding of the oil and gas industry, of Australia's own industrial capability and capacity, and of the impact of these projects on the economy as a whole.

3.45 The Committee was impressed with the actions of State governments in promoting Australian industry participation in the project. The Committee was far from impressed by the apparent lack of co-ordination between the responsible Commonwealth departments on this project. The lack of co-ordination between DPIE and DITAC and the narrow sectoral approach adopted by these Departments has frustrated a broader view being taken of major resource projects.

CHAPTER 4

AUSTRALIAN INDUSTRY PARTICIPATION IN PHASES I, II and III

- Australian Content
- Offshore Facilities
- Onshore Facilities

Australian Content

4.1 Australian content is assessed under terms agreed between Woodside as the operator and the Western Australian Government.

4.2 Overall Australian industry participation on the Project for Phases I and II was 74 per cent according to figures released by Woodside. It is obvious that this figure needs to be analysed further if a clear indication of the nature of Australian industry participation is to be gained. For example the development of the North West Shelf natural gas resource necessitated very considerable infrastructure development. $322m was spent on development in Karratha, the service town for the Project. Similarly extensive construction work was carried out in Phases I and II which could only have been carried out by Australian industry and work which greatly boosted the overall level of Australian content.

4.3 Based on the figures provided by the Project Co-ordination Group, at the completion of Phase III, approximately $8687m will have been expended with an Australian content of 72 per cent. The cost of LNG Tanker construction has not been included in this. If the $1600m cost of the LNG Tankers with 1 per cent Australian content is included, then total Australian content falls to 61 per cent.

4.4 This serves to illustrate that using overall figures may have good public relations value for both government and industry but does not permit identification of the specific categories of work in which Australian industry is, or more importantly, is not gaining work.

4.5 The measurement of Australian industry participation through monitoring only aggregate expenditure and percentages of Australian content, may serve to mask the specific areas of opportunity for greater Australian content and for major projects of this type to incubate new areas of industrial and business activity.

4.6 The Committee believes that an examination of participation in those areas of this project which are crucial to the future development and expansion of Australian industry, such as conceptual design, project management and the supply of specialised services and equipment, will prove more fruitful. While it is important that major fabrication tasks be carried out in Australia where Australian industry is competitive, there is also a need to consider qualitative aspects of this work as well as the quantity performed in Australia. It is in the more specialised and skills intensive areas that the major potential for contributing to the development of industrial and technological capability, export growth and import replacement exists.

4.7 The breakdown of Australian content on the North West Shelf Project as at 31 July 1989[36] is shown in Table 2.

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36. Written response to Secretariat from North West Shelf Project Group, 5 September 1989, Attachment 1

Table 2

	Total $ x 10^6	Australia $ x 10^6	Overseas $ x 10^6
Phase I			
NRA	1080	700 = 65%	380 = 35%
Domgas Plant	271	208 = 77%	63 = 23%
Foundations	205	145 = 71%	59 = 29%
Gas Recycling	40	21 = 53%	19 = 47%
Other including infrastructure	325	316 = 97%	9 = 3%
TOTAL	1921	1390 = 72%	530 = 28%
Phase II			
LNG Trains 1 and 2	2883	2098 = 73%	785 = 27%
Phase III			
*Goodwyn	337	219 = 65%	118 = 35%
*LNG Train 3	124	28 = 23%	96 = 77%
Operations	1010	850 = 84%	160 = 16%
Total to date	6275	4585 = 73%	1690 = 27%

*Estimated at 65% and 73% respectively when completed.

4.8 The maximum possible Australian participation in the whole project has been put at 82 per cent by Woodside's Executive General Manager, Peter Tapper.[37] The Heavy Engineering Board (HEB Report suggests a possible range of Australian content for Goodwyn of between 48 per cent and 83 per cent.[38] The HEB figure excludes Woodside management costs which are included in the figures prepared by Woodside. If Woodside's own project

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37. Transcript of Evidence, p.408
38. Wholohan Grill and Partners 1988, 'A Report to the Heavy Engineering Board - The Goodwyn Development: Maximising the Opportunities' p.35

management costs are excluded from Woodside's North Rankin figures (which include pipeline costs), Australian content in design, procurement, fabrication, installation and hookup falls from 65 per cent to 59 per cent.

4.9 The HEB level of 83 per cent is predicated on Australian industry winning the following packages:

- jacket design;
- jacket fabrication;
- pile and conductor fabrication;
- module design;
- module fabrication;
- 45 per cent of topsides equipment orders;
- pipeline design manufacture and coating; and
- 85 per cent of onshore plant modifications.

Offshore Facilities

4.10 The initial **jacket design** for Goodwyn is again being undertaken overseas in a joint venture between the U.S. firm Earl and Wright and the Perth firm Hardcastle and Richards. Woodside have advised that 67 per cent of this work will be undertaken in Australia. This is a substantial improvement over North Rankin where 100 per cent of design was undertaken overseas. **Jacket fabrication** will also take place overseas as the only Australian prequalified company, Transfield, has withdrawn from tendering.

4.11 In a letter to the Secretariat from the Executive General Manager of Woodside Offshore Petroleum Ltd, Mr Tapper advised that Transfield's withdrawal would not affect the 65 per cent Australian content forecast by Woodside. He went on to advise that Woodside's Manager Goodwyn 'A', Mr Tony Brown, had indicated as much in his evidence to the Committee on 1 August 1989 when he (Mr Brown) offered the opinion that it would be very difficult for Australian industry to be competitive in jacket fabrication.

4.12 The Committee is very disappointed to learn that the only prequalified tenderer for the jacket with an Australian presence, Transfield - Bos has chosen to withdraw from tendering. It will clearly now be not only 'very difficult', but impossible for Australian industry to compete in jacket fabrication. Mr Brown's opinion has proven to be well informed and furthermore, Mr Brown also offered the opinion that the piles would also be fabricated overseas.[39] The conductors for North Rankin were fabricated in Australia and it is reasonable to expect that the same will occur for Goodwyn.

4.13 **Module design** is being undertaken in Perth by Davy McKee/McDermott, two subsidiaries of multinational offshore contractors. This work will be given a nominated Australian content of 80 per cent by Woodside. This is a slight improvement over the 75 per cent level achieved on North Rankin.

4.14 **Module fabrication** for North Rankin was largely undertaken in Australia (86 per cent) and given the extensive track record of Australian industry it is reasonable to expect that all module fabrication for Goodwyn could be undertaken in Australia. The Committee understands that the only reason for the North Rankin drilling module being fabricated overseas was due to a perceived lack of capacity (not capability) in Australia at that time. It is worth noting that management personnel in Woodside at that time (principally Australian engineers who had worked in Bass Straight) had a substantial knowledge of Australian industry and a commitment to using local suppliers.

4.15 The Committee is however concerned by the position adopted by current management in Woodside on Australian industry participation. For example, the Manager Goodywn 'A' Project, Mr Brown, has stated that the Goodwyn modules will require a different approach to the Rankin modules. The Goodwyn modules are in the order of 3000 tons whereas the Rankin modules were around

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39. Transcript of Evidence, p.420

800 tons. Mr Brown commented that overseas experience would be necessary to build the larger modules; 'I have seen two very experienced module fabricators go bankrupt jumping from small modules to large ones'.[40] This comment was related to the fact that Australia's most experienced module builder, Eglo Engineering Ltd, was not prequalified by Woodside partly due to the fact that it did not propose to joint venture with an overseas partner with experience with large modules.

4.16 The Committee is disappointed that probably the only Australian engineering company capable of competing successfully for module work without an overseas based joint venture partner, Eglo Engineering, has not prequalified for the Goodwyn modules. The Committee would be even more disappointed if any module work were to go overseas.

4.17 **Topsides equipment** is an area of high technology and Australian industry fared poorly on North Rankin. According to the HEB Report[41] Australian content on topsides procurement was 35 per cent. This is supported by Woodside who gave a figure of 40 per cent[42] for materials and equipment, and in fact Woodside nominated topside equipment as an area where Australian industry could not supply.[43] The achievement of 45 per cent of topsides would not appear to have much support in Woodside although Mr Brown is expecting that there will be an increase in procurement over that of North Rankin.[44] **Pipeline design, manufacture and coating** is not as significant for Goodwyn as it was for North Rankin. The pipeline for North Rankin to the Burrup Peninsula is 134km long, whereas Goodwyn will have a pipeline which connects to North Rankin and is only 22km in length.

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40. Transcript of Evidence, p.427
41. Wholohan Grill and Partners 1988 'A Report to the Heavy Engineering Board - The Goodwyn Development: Maximising the Opportunities', p.23 Expands, p.3
42. Woodside Submission, GWA 23
43. Woodside Submission, p.3-4
44. Transcript of Evidence, p.420

4.18 Australian content for the North Rankin pipeline was in the order of 60 per cent. All design work was carried out overseas; pipeline design by R.J. Brown and Associates in Singapore and the associated Slugcatcher[45] by Eagleton Engineering Co. in Houston. Manufacture of pipe was carried out in Japan by a consortium of Japanese steel mills.

4.19 Australian content was restricted to coating and fabrication work such as installation of anodes and buckle arrestors. It is interesting to note that coating and fabrication work has a nominated 100 per cent Australian content.[46] However the contract was awarded to a joint venture between an Australian firm Steel Mains and Morrison Knudsen who are a U.S. firm. This is a further indication of the apparent unreliability of Australian content figures.

4.20 Installation of the pipeline also rated highly as far as Australian content was concerned at 71 per cent. This was to be expected as there was a very high labour component. The equipment for laying the pipeline and the expertise came from the overseas partner Entrepose G.T.M. pour les Travaux Petroliers Maritimes. In this joint venture the Australian partner, Clough & Sons Pty Ltd, supplied the local project management and engineering services. The offshore crew was Australian and this contributed significantly to the level of Australian content.

4.21 As far as Goodwyn is concerned, pipeline design will again be carried out by an overseas based company J.P. Kenny. However 85 per cent of the work will be carried out in Perth, a significant improvement over North Rankin. The situation regarding manufacture of the piping is yet to be determined and while the reduced quantity required is within Australian capability and capacity, price will probably be the determining factor.

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45. K.R. Gammie 1988 Report for the Department of Resources Development Western Australia. 'The Goodwyn Development Local Content Study', p.5-12
46. Woodside Submission, GWA 23

4.22 Onshore plant modifications are required to handle the additional levels of condensate that will be derived from Goodwyn. These modifications entail condensate stabilisers, condensate tanks, a flash stabilization unit and fuel system modifications. This work is valued at $300m and is treated as part of the Phase III onshore work together with LNG Train III.[47] The anticipated Australian content for the Goodwyn related facilities is 79 per cent,[48] significantly less than the 85 per cent maximum outlined in the HEB report.

Onshore Facilities

4.23 There has been little detailed study of Australian content in the LNG export facilities. Most interest has centred on the offshore platform and pipeline.

4.24 Woodside have given a figure of 72 per cent Australian content for Trains I and II and a projected figure of 73 per cent for Train III and the Goodwyn related facilities.[49]

4.25 The main contractor is Kaiser Japan Gasoline Kellogg (KJK), a consortium of international engineering contractors, which is responsible for design, engineering, procurement and construction.

4.26 Australian content in design and project management is estimated to increase from 58 per cent in Phase II to 72 per cent in Phase III. This increase is principally due to the fact that Train III is a duplicate of I and II which were designed in Yokohama. This design work will not be necessary for Train 3. Design work for Goodwyn related facilities will be carried out by KJK in Perth.

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47. Woodside Submission, LNG 4.
48. Woodside Submission, LNG 6
49. Woodside Submission, LNG 7

4.27 The Committee notes that while 100 engineering and technical staff will be required to undertake the design work,[50] Kaiser have made application for a Negotiated Agreement with the Department of Immigration, Local Government and Ethnic Affairs for 33 overseas engineers. This arrangement is discussed in some detail in Chapter 5 (para 5.14) of this Report but it does raise questions about both the definition of Australian content and the level of skills transfer that occurs when design work is performed in Australia.

4.28 **Construction and pre-fabrication** had the highest levels of Australian content at 93 per cent for Phase II and projected 99 per cent for Phase III. Given that 99 per cent Australian content is predicted for LNG Train III, it is reasonable to conclude that the mechanical erection will be handled by an Australian contractor without the need for importation of foreign expertise. There are at least two contractors capable of this; Electric Power Transmission Pty Ltd which worked in a joint venture on Train 1, and Eglo Engineering which worked alone on Train II. Eglo's work performance was particularly heartening as not only was the work performed without an overseas-based joint venture partner, but the project was completed ahead of time and under budget. Eglo were congratulated by Woodside for the high standard of their work and a very good safety record.

4.29 The Australian content of equipment and materials which was 47 per cent on Phase II is only expected to rise to 50 per cent for the Phase III onshore work. Woodside stated that of materials to a value of $250m[51] materials must be imported including; gas turbine compressors and generators, cryogenic heat exchangers, 9 per cent nickel columns, vessels and heat exchangers, electric motor driven compressors, seamless carbon steel pipes and fittings and, stainless steel pipe and fittings.

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50. Woodside Submission LNG 9
51. Woodside Submission, LNG 18.

4.30 The Committee has not attempted to examine all facets of Australian industry participation in the Project in detail, since this has already been more than adequately dealt with in the Gammie Report[52], the Wholohan and Grill Report[53] and the BHP Steel Report.[54] Each of these reports should be required reading for officers of Government Departments and Agencies involved in the offshore oil and gas industry.

4.31 The Committee believes that a sound and consistent methodology needs to be developed to provide a basis for defining and monitoring Australian content in resource development projects. The ambiguities and inconsistenties surrounding many of the aggregate figures which have been quoted for Australian content indicate the need for an agreed methodology of this type.

4.32 This methodology would need to provide disaggregated information on Australian content in specific and separate sub-categories such as materials, equipment, project management, engineering design, fabrication, installation, maintenance, and operational costs for each sub-component of the project (e.g. piles, jacket, modules, topside equipment, conductors, pipelines, LNG Train). This information should be sufficently detailed and disaggregated to permit the identification of Australian content in specific items such as equipment and materials, and specific functions such as conceptual design.

RECOMMENDATION 4

The Committee recommends that:

- **a working group comprising the Department of Industry, Technology and Commerce (DITAC), the Department of Primary**

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52. K.R. Gammie 1988 Report for Department of Resources Development Western Australia. 'The Goodwyn Development Local Content Study'
53. Wholohan Grill and Partners 1988, Report to the Heavy Engineering Board 'The Goodwyn Development: Maximising the Opportunities'
54. BHP Steel International Group 'The Goodwyn Jacket'.

Industries and Energy (DPIE), and appropriate State government agencies develop an agreed national methodology for assessing, monitoring and validating Australian content in offshore oil and gas development projects;

- major oil and gas project developers be required to provide DITAC and DPIE with annual reports which include detailed information on Australian content using this methodology;

- this methodology be used to identify specific areas in which Australian content is low or absent, with a view to informing Australian industry of new market opportunities for goods and services; and

- the resulting data on Australian content and market opportunities be published and disseminated to appropriate industry, union and other organisations on an annual basis.

CHAPTER 5

FACTORS AFFECTING AUSTRALIAN INDUSTRY PARTICIPATION

- Project Management and Design
- Use of Non-Australian Personnel
- Tender Procedures and Scheduling
- Quality, Safety, Price and Delivery
- Industrial Relations
- Infrastructure and Transport

5.1 What is apparent from evidence taken by the Committee is that there are two different attitudes to the question of Australian industry participation.

5.2 The first, that of Australian industry places emphasis on the barriers to participation. It is characterised by the following statement:

> *The fundamental issue is to ensure that Australian designers, project management and engineering industries have a full, fair and equal opportunity to participate in major projects so that they will be able to become internationally competitive.*[55]

5.3 The impediments to participation raised by industry generally fit into the following categories:

- dependence on overseas designers and project managers;

- use of specifications and standards not familiar to Australian industry;

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55. Transcript of Evidence, p.165

- lack of information with regard to timing and scope of proposed resource developments; and

- insufficient time and information being given to Australian industry to enable the preparation of a comprehensive and considered bid.

5.4 The other view, put by Woodside and the Joint Venture Partners, emphasises the factors which restrict Australian industry competitiveness such as:

- quality management;
- delays in delivery;
- price;
- safety;
- industrial relations;
- shortage of skilled engineers;
- lack of infrastructure; and
- lack of capability in many specialised equipment and materials categories.

5.5 There were also several other more generally accepted factors raised including import duties, lack of research and development, the apparent inability of Australian industry to form consortia, transport costs and the high cost of working capital for small engineering enterprises.

Project Management and Design

5.6 Project management and design have been identified by representatives of industry and professional organisations as the key to increasing Australian industry participation, as it is in these areas that specifications, standards, scheduling and tender procedures are determined.

5.7 In Phase III of the North West Shelf Project, project management takes place at a number of levels; through the Project Committee, Woodside as the operator and also through

sub-contractors with major construction tasks. The two principal management positions are the Manager LNG Project and Manager Goodwyn Project, both occupants are on secondment from Shell International. These are key decision making positions responsible for all aspects of construction and commissioning in Phase III.[56]

5.8 The role of Shell in providing staff on secondment and assignment to the Project is a contentious issue. On the one hand it is argued that it is a means of excluding Australian participation and limiting the transfer of technology and skills. On the other hand it is seen as a means of accessing the latest technology and design concepts through acquiring the services of skilled personnel that are simply not available in Australia.

5.9 The point made frequently during hearings was that foreign staff in project management positions, whether they are working for foreign companies or Australian companies, do not have a comprehensive knowledge of Australian industry capabilities and capacity. As a consequence it was suggested that they tend to use suppliers of equipment and services with whom they are familiar. In the case of the North West Shelf, such companies tend to be those well established in the international oil and gas industry.

5.10 This attitude is reinforced by having design and detailed engineering work carried out overseas. Once again the specifications and standards are often not familiar to Australian industry and may in fact require the use of equipment not produced in Australia. An example given in evidence related to design work carried out by Shell. The particular product was insulation and the specifications were based on Shell chemicals which precluded Australian suppliers from bidding.[57] This matter was taken up in the National Liaison Group and after discussion the specifications were re-written to allow Australian industry the opportunity to participate.

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56. Transcript of Evidence, p.433
57. Transcript of Evidence, p.177

5.11 While the North West Gas Development (Woodside) Agreement Act 1979-85 covers the need for specifications to be drawn in such a way that Western Australian suppliers are given a reasonable opportunity to quote,[58] the Committee understands that this has not always been the case. The Woodside project managers on Phases I and II, who were mostly Australian with Bass Strait experience, had a number of tussles with Shell International over specifications. Woodside consequently despatched engineers to the Hague in order to *Australianise* Shell specifications.

5.12 The use of standards and specifications not familiar to Australian industry by project managers and designers can be due to their familiarity and orientation towards particular equipment. For example, specifications for the bellows used on the offshore pipeline were written in such a way that the only suitable piece of equipment was a Japanese product.[59] The specifications were written by the LNG prime contractor KJR (now KJK) in Yokohama where much of LNG detailed design work was carried out.

5.13 The Committee accepts the fact that Australian specifications and design standards do not cover all requirements. However, this does not excuse the inadvertent or advertent use of *in-house* specifications and standards which may preclude the use of Australian goods and services. Where Australian codes and standards are not suitable then internationally accepted standards such as those of the American Petroleum Institute should be used. Australian industry should be familiar with internationally accepted specifications. Hu-Metal,[6] a Melbourne company with a patented process for cold-rolling steel plate into tubular sections, fabricates to comply with American Petroleum Institute standards, and has done so for the past 10 years.

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58. Transcript of Evidence, p.446
59. Transcript of Evidence, p.167
60. Transcript of Evidence, p.150

RECOMMENDATION 5

The Committee recommends that:

with respect to all contracts and tenders for offshore oil and gas developments:

- all specifications and standards be in accordance with Australian specifications and standards or where these do not exist, with internationally accepted oil and gas industry specifications and standards;

- specifications must not be drawn in such a manner as to deliberately preclude Australian suppliers;

- any amendments to specifications are to be notified to all bidders at the earliest possible time;

- any special requirements related to the sourcing of components and materials are to be fully detailed in the tender specifications; and

- contracts for studies, design implementation and support are to be based on Australian legal and professional practice.

Use of Non-Australian Personnel

5.14 Of the $185m project management cost on North Rankin, the nominated Australian content was 95 per cent. This was an extremely creditable performance, and was certainly assisted by the high proportion of Australian engineers in key positions at that time. The engineering team drew heavily on Australian engineering expertise from Bass Strait and overseas. The engineering team under the then General Manager of Woodside Petroleum Development (WPD) Ross Harrison was predominantly Australian. WPD was responsible for all construction except the

LNG plant and virtually all key positions were filled by Australians. Even though a number were BHP secondees, they were a product of the Australian engineering industry.

5.15 Following the withdrawal of BHP secondees to assist in developing the Jabiru field, many key positions were subsequently filled by Shell staff. Of the fourteen senior management staff in Woodside Offshore Petroleum at the present time, seven come from either Shell International or Shell Australia. They are responsible for both the Goodwyn and the LNG Train aspects of the Project.

5.16 Project management on the LNG Trains is different to that for Goodwyn. The main contractor for the LNG Train is KJK (a consortium comprising Kaiser, Japan Gasoline and Kellogg). KJK is responsible for design, engineering, procurement and construction under Woodside's direction. Management (including design) for Trains 1 and 2 achieved an Australian content of 58 per cent and this is expected to rise to 72 per cent with all of the design work and procurement to be based in Perth. Even though the KJK consortium has an Australian interest through the involvement of Elders Resources NZFP Ltd with ICF Kaiser Engineers, the fact remains that Kaiser has applied for a Negotiated Agreement for 31 overseas personnel of which 26 will be engineers. The total requirement for design and engineering is for 100 engineers and technical staff.[61]

5.17 Similarly for the design contract awarded to Davy McKee/McDermott, all design work is to be carried out in Perth. However there is an existing Negotiated Agreement for 30 overseas engineers and Davy McKee has applied for a further agreement for 28 additional overseas engineers.

5.18 The Committee has been unable to gather information on the number of personnel brought in for periods of less than one year under the Skills Transfer Scheme. Nor has it been able to examine

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61. Woodside Submission, LNG 9

the use of recruitment agencies by Woodside and the major contractors. Recruitment agency personnel are not technically employees of Woodside and are therefore not counted as foreign staff.

5.19 The point at issue here is not the level of Australian content attributed to those aspects of the Project, but the reason for the continued importation of significant numbers of engineers. The Institute of Engineers Australia has estimated that only 30 per cent of all engineering work on this project has been carried out by Australian engineers.[62]

5.20 The Committee is aware of the shortage of engineering skills as cited by Woodside in its submission[63] and agrees that access to overseas expertise is essential if projects such as this are to succeed.

5.21 **The Committee is concerned that the use of overseas personnel not be abused,** especially given the tendency of international oil companies to vertically integrate their operations. Woodside has three service agreements with Shell International Petroleum Maatschappij V.B. (SIPM); an Exploration and Production Agreement, a Construction Services Agreement and an Operating Service Agreement.[64] These agreements reserve key positions to be filled by SIPM nominees for two to three years. Under the Operating Services Agreement five positions are filled by overseas personnel and ten to fifteen by Australian Shell personnel. The reason for reserving these key positions is that Shell wishes to protect its technology from competitors, although Woodside engineers have complete access to that technology.[65] The agreements with Shell were determined by the Project Committee, not Woodside.

5.22 *While the Committee is concerned at the high level of* dependence on overseas engineering expertise in this project, no

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62. Transcript of Evidence, p.369
63. Woodside Submission, p.4
64. Letter from R. Caplan, 5 September 1989
65. Transcript of Evidence, p.422

evidence was found to support the view held by the Association of Professional Engineers that a number (up to forty) of senior Woodside technical personnel were removed in order to make way for Shell personnel.[66] This point was addressed by Mr Tapper who acknowledged that there were 23 retrenchments when operations moved from Perth to Karratha. Many of these occurred because personnel did not want to move. Mr Tapper maintains that no Shell personnel came into the Project at that time.[67]

5.23 The Committee concurs with Dr White's view[68] that Shell are simply operating in their own best interest, given the lack of Government guidelines or direction to do otherwise. Indeed to its great credit Shell has brought to this project a technology and expertise which has enabled the project to be developed very successfully.

5.24 However the Committee is uneasy about the possibility that there has been unnecessary use of overseas personnel and that the development of Australian skills is consequently being constrained. The Committee is pleased to note that the Department of Employment, Education and Training (DEET) is now a co-signatory with the Department of Immigration, Local Government and Ethnic Affairs to all Negotiated Agreements. The Committee does not wish to see this arrangement form an unnecessary impediment to projects such as the North West Shelf and would encourage DEET to consult with the Department of Industry, Technology and Commerce to determine appropriate criteria for the timely assessment of applications and identification of areas of skills shortage in the offshore oil and gas industry.

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66. Transcript of Evidence, p.322
67. Transcript of Evidence, p.425
68. Transcript of Evidence, p.201

RECOMMENDATION 6

The Committee recommends that:

- **the Minister for Employment, Education and Training review the operation of Negotiated Agreements as they apply to professional engineering and technical staff required in the resource development industry, with a view to developing criteria for assessing the levels of skills transfer and training taking place as a result of these Agreements.**

Tender Procedures and Scheduling

5.25 The tender process has been cited in evidence as a means of precluding local industry participation. The matter of specifications and standards has already been discussed, but there are a number of other aspects which need to be examined.

5.26 Time constraints such as scheduling for fabrication and the timing for tenders were commonly cited as a problem. W.E. Smith Engineering gave an example of bidding difficulties where an inquiry was issued with a short bid return date requiring specific, complex technical information not normally associated with heat exchangers.[69] The bid involved four options. W.E. Smith bid four and offered a fifth option, which was adopted. This option was then re-bid but W.E. Smith did not have the time or resources to meet the time limits imposed on (their) re-bid option.

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69. Transcript of Evidence, p.119 and p.128

5.27 Neither the Committee nor W.E. Smith suggest that this was done with a view to eliminating any particular bidder, but it does serve as an example of the difficulties small engineering companies have in bidding for technically detailed work. The Committee has received some evidence that short tendering periods are used in contracting in order to limit participation in a tender.[70] This practice is undesirable. As far as the North West Shelf is concerned such problems should be able to be resolved through the NLG.[71] but this may not be the case with future oil and gas developments.

RECOMMENDATION 7

The Committee recommends that:

- **with respect to all tenders for offshore oil and gas developments, all potential suppliers selected to bid be given an equal and adequate period in which to tender; and**

- **the period for tender be adjusted appropriately if the tender specifications are altered.**

5.28 The ability of individual firms to comply with the time limits allowed for in tendering does rely on individual firms being aware of the tender requirements at the earliest possible date. To this end Woodside has instituted a comprehensive process of surveying industry to determine capacity and capability. In addition to this the NLG encouraged Woodside to undertake briefing sessions to ensure that forward advice was given to Australian industry.[72]

5.29 Woodside have used the services of the Confederation of Western Australian Industry (CWAI) to disseminate information and advice to all tenderers for the North West Shelf Project.[73] This

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70. Transcript of Evidence, p.285
71. Transcript of Evidence, p.31
72. Transcript of Evidence, p.31
73. Transcript of Evidence, p.387

service is aimed primarily at small contractors unable to bid on large contracts but who may wish to act as sub-contractors or sub-suppliers.

5.30 The CWAI's intention in providing this service is to provide advice on timing and packages that are available, to indicate when Woodside or KJK should be approached and to provide a database for registration of interest in particular forms of work.

5.31 The Committee applauds this type of initiative and Woodside's support of the CWAI. However, given the desirability of ensuring a comprehensive flow of information to industry, the Committee is concerned that Woodside had not extended cooperation to the Industrial Supplies Office (ISO).

5.32 The ISO is an organisation established through the State and Federal Government with the objectives of:

- enhancing the willingness of major purchasers to procure their goods and services from Australian industry;
- improving the competitive position of Australian firms by promoting familiarity with the product needs of major purchasers;
- ensuring that Australian industry be given a full and fair opportunity to compete; and
- create job opportunities for Australians by expanding local manufacturing capability and capacity.[74]

5.33 While it is funded by Government, the ISO is organised and managed by industry, and services and are provided on a free and confidential basis. The ISO has a comprehensive data base on

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74. Transcript of Evidence, p.558

Australian industry capability and capacity and has a staff of professionals with experience in design, project definition, procurement and contract management over a range of industries.

5.34 The Committee believes that the ISO is in a position to positively assist Australian industry to become involved in projects such as the North West Shelf at the earliest possible stage. The ISO is not an arm of government. It recognises that Australian industry must compete in terms of cost, delivery and quality and acknowledges the need for buyers to procure their goods and services at the best commercial advantage. The ISO seeks to ensure that Australian industry is appraised of opportunities and that project managers are aware of Australian industry capability and capacity.

5.35 Why then did Woodside reject the ISO's offer to provide their services to this project?[75] The services of the ISO have been used for the Olympic Dam Project at Roxby Downs, for the Submarine Project and will be used on the Frigate Project.[76] Woodside's comments regarding the ISO were 'they had nothing additional to offer us that we, in Woodside, did not have or the CWAI was not already doing for us ..... we just did not require whatever the ISO could have done for us'.[77] The CWAI was providing an information service. However ISO is able to seek manufacturers who can supply a service against a specific inquiry, and it does this on a national basis.

5.36 The Committee believes that Woodside should use the services of the ISO, particularly where Woodside is of the view that particular goods and services can only be supplied from overseas. Woodside's claim that certain items cannot be obtained in Australia would be strengthened if it had used the ISO and had still come up with the same result.

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75. Transcript of Evidence, p.362
76. Transcript of Evidence, p.659
77. Transcript of Evidence, p.437

RECOMMENDATION 8

The Committee recommends that:

- **applicants for development licences for offshore oil and gas fields agree to use the services of the Industrial Supplies Office as an integral part of their procurement process.**

5.37 The Committee believes that the use of the ISO will assist in the dissemination of information to Australian industry and the Committee also encourages the use of industry organisations such as the CWAI to ensure that information dissemination is as comprehensive as possible.

5.38 The scheduling of the various aspects of the construction phase was also a point of concern to many witnesses. It has been suggested that the decision to proceed with Goodwyn was made as late as possible in order to disadvantage Australian industry.[78]

5.39 In May 1988 the Project Committee advised Woodside how it wanted the Goodwyn development to proceed.[79] The decision to proceed was not made until April 1989, but the October 1993 production date was not postponed. This allowed only five months for Australian firms to attempt to pre-qualify for major fabrication contracts such as the jacket.

5.40 There has been much debate over the jacket. The Joint Venture Partners advised the Committee that potential suppliers were consulted about the timetable and that the 27 month fabrication period for the jacket was adequate.[80] Many representatives of industry, some with an intimate knowledge of the project, have advised the Committee that 27 months is too

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78. Transcript of Evidence, p.68
79. Transcript of Evidence, p.607
80. Transcript of Evidence, p.609

short and that at least 30 months should have been allowed. This would have necessitated an earlier decision to proceed, or a delay until the end of the 1992/93 cyclone season. Woodside maintained that 27 months was generous and that in the North Sea a jacket the size of Goodwyn would normally be fabricated in 8.5 months.[81]

5.41 This seems a remarkable difference in time, especially when the Project Coordination Group advised the Committee that North Sea fabrication would take 18.3 months on average.[82] Someone has got their wires crossed.

5.42 There are further difficulties related to the jacket. After annnouncing the go-ahead for Goodwyn, Woodside announced that they would not allow any part of the platform to be towed across the Great Australian Bight. The reason for this decision was that in 1982 the flare tower for North Rankin broke its tow while being transported across the Bight and was in danger of being lost. The tow was re-established and successfully completed.

5.43 The near loss of the flare tower has been attributed to the use of an inappropriate tow line on the advice of the overseas insurers and the decision by Hereema's (the installers) North Sea towmaster to hug the coast rather than stand out to sea off Cape Leeuwin. Regardless of the reasons, Woodside are not prepared to take the risk and the Committee is not in a position to dispute that decision.

5.44 What the Committee considers unfortunate is that the banning of tows across the Bight was not made known much earlier. This decision may effectively preclude the use of South Australian and Victorian fabricators which have a much greater capacity and capability than any in Western Australia. The only contender left in the east would have been Newcastle. The

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81. Transcript of Evidence, p.418
82. Response from Project Co-ordination Group to Questionnaire, dated 13 October 1989, p.8

Committee finds Mr Brown's assertion that Adelaide is as competitive going via Cape York as it is via the Bight[83] to be somewhat tendentious given his assertion that it would add $800 000 to the jacket cost by either route. Since his own view is that Australia would not be competitive in jacket construction anyway, an $800 000 premium for an Adelaide construction site is sure to render Adelaide uncompetitive.

5.45 The decision about the towing route made the 27 month construction period even more critical as the only suitable sites in Western Australia required substantial upgrading to enable construction and load-out. Furthermore, Woodsides' stipulation that the jacket and modules could not be fabricated on the same site had made the situation even more confused. The development of pre-fabrication sites for the offshore oil gas industry is discussed later in this chapter.

5.46 The Committee believes that the limited time allowed for prequalification and the restrictions placed on site utilisation by Woodside have served to disadvantage Australian industry. The restrictions placed on the location of fabrication sites is an example of the type of information that should be made available at the earliest possible stage in the procurement process (see Recommendation 3). The Committee acknowledges that timescales are difficult to evaluate and that it would be costly and time consuming to introduce a vetting mechanism to ensure that they are appropriate. The Committee believes it is appropriate for oil and gas project developers to undertake, that scheduling will not discriminate against Australian industry in this manner.

RECOMMENDATION 9

The Committee recommends that:

- **applicants for petroleum production licences undertake as part of the licence agreement, to ensure that project**

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83. Transcript of Evidence, p.415

timescales do not discriminate against the participation of Australian industry.

5.47 As noted earlier, the Committee considers that the flow of information on oil and gas projects to both government and industry is vital to both the formulation of policy by government and the development of marketing and investment strategies by industry. The Committee has made a number of recommendations about how the information gathering and assessment activities of government authorities and the timeliness of the information flows to industry could be enhanced if details of the scope of a project were known prior to commencement of the procurement process.

5.48 The Committee believes that the development plan submitted to DPIE as part of the production licence application would provide a valuable guide to industry.

RECOMMENDATION 10

Committee recommends that:

- a development plan incorporating the technical specifications, estimated timescales and overall budget for the project should be published following the granting of all petroleum production licences; and

- this published plan should be comprehensive and should include all the information supplied to the Department of Primary Industries and Energy except where proprietary technology is involved.

Quality, Safety, Price and Delivery

5.49 The Committee supports the view that Australian industry has to be competitive in terms of quality, safety, price, and delivery. The international market for goods and services in the oil and gas industry is competitive and while many countries have a policy of mandatory local industry involvement, the Committee does not believe that such an approach is desirable at this time and under present circumstances.

5.50 It is far more desirable that government policy ensure a *fair go* for industry and leave industry itself to deal with its commercial competitiveness.

Quality

5.51 Woodside have stressed the need for the maintenance of strict quality control, especially on a project like the North West Shelf where reliability is essential for reasons discussed earlier but also due to the fact that there is the potential for a major accident resulting from poor workmanship.

5.52 The reports prepared by the Heavy Engineering Board and Department of Resources Development in Western Australia on the Goodwyn component of the North West Shelf Project both identify shortcomings in the area of quality control. This situation was also acknowledged by DITAC whose representative commented: 'if you are looking for the perception of the Department I think we would have to say that Australian industry has learnt a lot and has come a long way in the last three or four years. I think its capabilities to produce goods to quality and on price and on time are much better then they were then (North Rankin), but they are not perfect'.[84]

5.53 The Western Australian Government representative stated that the implementation of accredited quality management systems is the key to increasing Australian industry participation. The

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84. Transcript of Evidence, p.552

WA Government is actively promoting quality by utilising the services available through the National Industry Extension Service (NIES).[85]

5.54 The Commonwealth Government views industry as having primary responsibility for improving quality management but is supporting that process through NIES which is representative of government, unions, industry and several bodies interested in quality and standards. NIES is funded by Commonwealth and State governments.

5.55 A recent survey by the Australian Bureau of Statistics is not very encouraging. It was reported that only 15 per cent of surveyed manufacturing firms practiced Total Quality Control techniques.[86]

RECOMMENDATION 11

The Committee recommends that:

- **the Minister for Industry, Technology and Commerce continue to encourage the development and extension of quality management in the Australian engineering industry as a matter of high priority.**

Safety

5.56 Safety practices in the construction program is a matter of priority to both Woodside and unions. The safety record on the Project has been excellent by world standards.[87] The Amalgamated Metal Workers Union cites union vigilance as the primary reason for the excellent safety record. However, the Committee is also impressed with Woodside's approach to the safety issue. It is heartening to see what can be achieved when unions and management adopt a cooperative approach.

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85. Transcript of Evidence, p.456
86. Australian Financial Review, 9 November 1989, p.1
87. Transcript of Evidence, p.175

Price

5.57 The Committee agrees that Australian industry must be price competitive and does not accept that policies giving preference to Australian industry which disregard cost competitiveness, would be in the long term interests of Australian engineering.

5.58 The Committee has received evidence from people in the engineering business that the cost of engineering in Australia (including engineering design, project management, process engineering) is amongst the cheapest and most cost effective in the world.[88]

5.59 This point was also raised by Hu-Metal[89] and W.E. Smith,[90] which claimed Australian manufacturing costs are also very competitive. Although the product may be competitive, if you add freight costs you may be priced out of the market.

5.60 The cost of manufacturing is also affected by import duties placed on materials required for fabrication. One example given by W.E. Smith was duplex stainless steel. This product is required in the fabrication of pressure vessels for the offshore industry. It is specified because of its weight advantage, an important consideration in offshore equipment. The manufacturer has to use this material. Australian firms claim to make an equivalent which is solid stainless steel plate. This product is not acceptable because of its weight penalty. However Customs will not grant an exemption under the Commercial Tariff Concession System. This would add 5 per cent to the cost of producing pressure vessels and heat exchangers in Australia.[91]

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88. Transcript of Evidence, pp.276-283
89. Transcript of Evidence, p.156
90. Transcript of Evidence, p.124
91. Transcript of Evidence, p.118

5.61 It seems ridiculous that where a product is specified and there is no acceptable Australian equivalent that a tariff exemption cannot be obtained. Even if some of the material is imported, why impose a cost penalty which may result in the loss of an entire order?

RECOMMENDATION 12

The Committee recommends that:

- the Minister for Science, Customs and Small Business consult with the Minister for Industry, Technology and Commerce to ensure that customs duties are waived where specified materials required for fabrication work are not available in Australia; and

- if local manufacturers claim to make an equivalent, they must be able to demonstrate compliance with the particular design specifications.

5.62 The potential for industrial unrest also adds a cost to tenders submitted by Australian contractors. Mr John Halfpenny informed the Committee that prices are marked up by up to 20 per cent in the expectation of industrial unrest.[92] This view was supported by Woodside which claimed that: 'the ability of local contractors to put in a sharp bid would be greatly enhanced if they can have some degree of certainty about the industrial relations scene'.[93] Industrial relations also impacts on delivery times for goods.

Delivery

5.63 Woodside place considerable emphasis in the tender pre-qualification process on a firm's ability to deliver a product in accordance with contract provisions. It is up to the

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92. Transcript of Evidence, p.182
93. Transcript of Evidence, p.419

contractors to ensure that sub-contractors can meet their delivery commitments.

5.64 Woodside has conceded that a contributing factor to the delays in construction on LNG Trains 1 and 2 were late changes in design and specifications, but other factors such as late steel delivery to manufacturers, industrial disruption and poor management by contractors were also contributing factors.

5.65 It must be said that even with delivery problems, Trains 1 and 2 were finished ahead of schedule and budget.[94] While credit for this must go in the first instance to Woodside and the project managers, the fact that sub-contractors such as Eglo Engineering earned maximum bonuses for early completion indicates that performance is not as bad as some would have us believe.

5.66 The delivery of steel by BHP was a contributing factor in delivery problems, although a number of small engineering firms have advised the Committee that BHP's attitude has improved over recent years and its commitment to quality and delivery is now taken very seriously.[95] The Committee has also been informed that while BHP could manufacture the steel as specified by Woodside, delivery is a continuing problem.

5.67 The Joint Venture Partners pointed out that late delivery was not confined to the North West Shelf Project and provided the Committee with a breakdown of delivery times for BHP's Jabiru Project.[96] On Jabiru Phase 3, 25 per cent of items supplied by Australian industry were late and 10 per cent were late by 30 days or more. Although the contracts for Jabiru were smaller than for the North West Shelf Project, and Australian specifications and engineering were employed, one quarter of deliveries were late.

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94. Transcript of Evidence, p.408
95. Transcript of Evidence, p.156
96. Transcript of Evidence, p.596

5.68 Unless Australian industry can manage its production process in such a way as to ensure that delivery schedules can be met, it will be difficult for them to gain contracts in offshore work where time is a critical factor.

Industrial Relations

5.69 Industrial relations is a major concern to Woodside given its commitment to a tight construction timetable and the heavy financial penalties that will result from delays.[97] The delays incurred in Phases I and II were significant with a five week strike on the LNG Trains[98] and an average of half a day per week over a two year period lost on module construction.[99] While unions and management have worked to minimuse industrial disruption[100] there have been difficulties in negotiating a site agreement with an agreed dispute settling mechanism.

5.70 The Committee understands that while the Amalgamated Metal Workers Union, Woodside and the Trades and Labour Council of Western Australia have agreed to procedures, a number of small unions have not.[101] While negotiations are continuing, the Committee is concerned that it is essential that an agreement acceptable to unions and Woodside be reached for Phase III, covering both the Goodwyn platform and the onshore facilities.

5.71 The Committee believes that Government, both Commonwealth and State, should initiate discussions with the ACTU and State Trades and Labour Councils with a view to determining an agreed set of guidelines for the negotiation of site agreements for the construction phases of major resource projects.

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97. Transcript of Evidence, p.417
98. Transcript of Evidence, p.433
99. Transcript of Evidence, p.417 and p.457
100. Transcript of Evidence, p.175
101. Transcript of Evidence, p.504

RECOMMENDATION 13

The Committee recommends that:

- **the Minister for Industrial Relations consult with other relevant Ministers and the ACTU and relevant employer groups with a view to determining a basis for the negotiation of site agreements for the construction phase of all major resources projects.**

Infrastructure and Transport

5.72 This report has already touched on both of these subjects. Three areas have been raised; sites for pre-fabrication, road transport and cranage in ports.

5.73 There is major potential for future development of oil and gas resources off the coast of Western Australia and the Northern Territory. The need for adequate sites for pre-fabrication and load-out of pre-fabricated structures such as jackets and modules is demonstrated by the efforts being made to upgrade the Jervoise Bay site by the Western Australian Government.

5.74 While it is clear that other sites in eastern States would still be used to fabricate components, it is desirable that erection of these structures be carried out in Western Australia.

5.75 Road freight has also been cited as a significant problem in relation to moving heavy manufactured products. The cost of freighting by road from New South Wales to Western Australia can be higher than shipping from Europe to Western Australia. These costs are in part due to the fact that all States have different requirements for moving heavy loads. One item weighing 82 tonnes destined for the North West Shelf had to be offloaded twice due to different axle width requirements.[102] In addition $55 300 had

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102. Transcript of Evidence, p.122

be spent on upgrading bridges in New South Wales. This cost could be considerably reduced if regulations were uniform.

5.76 The alternative of transport by ship is not a viable option. The Committee understands that no port in Australia has facilities for handling very heavy lifts (100 tonnes) unless the ship itself has that capability.[103] If these facilities were available it would enable large items to be assembled at the port and then shipped. An example was given in evidence where a contract was lost because the freight cost of moving a 160 tonne pressure vessel was higher from Coffs Harbour to Brisbane (500km) than from Japan to Brisbane.[104]

RECOMMENDATION 14

The Committee recommends that:

- the Department of Industry, Technology and Commerce conduct a survey of infrastructure necessary to assist Australian industry to participate in major resource projects; and

- these requirements be considered in the development of Government industry policy.

RECOMMENDATION 15

The Committee recommends that:

- the Minister for Transport and Communications approach State Governments and seek agreement to standardise transport regulations related to the inter-state movement of heavy loads by road.

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103. Transcript of Evidence, p.123
104. Transcript of Evidence, p.123

CHAPTER 6

IMPACT ON AUSTRALIAN INDUSTRY

- Capability and Capacity
- Technology Transfer
- Industry Development and Exports
- Conclusion

Capability and Capacity

6.1 There is no doubt that Australian industry has the capability to undertake more of the work related to the development of the Goodwyn Phase of the North West Shelf Project, than was achieved on North Rankin and LNG Trains I and II.

6.2 The principal categories of work in which there was a low level of participation by Australian industry in Phases I and II were in the fabrication of major structural components of the North Rankin platform, conceptual design work and the supply of topsides equipment. Much of the 74 per cent Australian content comprised civil construction, the fabrication of items that could not be imported (such as the LNG storage tanks) and the supply of on-site labour, both skilled and unskilled. The impression that remained with the Committee was that Australian content was relatively poor in most of the areas where overseas supply was an option.

6.3 Much attention was given to the fabrication of major components such as the jacket. There were two views put by industry. The first was that the jacket is a very desirable piece of work due to its value ($57m)[105] and because the successful completion of such a task would provide a track record in terms of building up management and trade skills through the successful completion of a complex project. The value of that track record is that it equips industry to apply those skills not only in the

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105. Woodside Submission, GWA9

offshore oil and gas industry, but in heavy engineering generally.

6.4 Transfield provides an example of what can be achieved through experience in the oil and gas industry. The diverse experience within the Transfield subsidiaries, AMECON and Eglo Engineering has enabled it to win the construction contract for Australia's new frigates. Dr White, Managing Director of AMECON (Australian Marine Engineering Consolidated Ltd) is a product of the offshore oil and gas industry.[106]

6.5 Woodside acknowledged the capability of Australian industry to carry out major fabrication tasks on Goodwyn by pre-qualifying Australian companies for each major component of the project: jacket, modules and piles.[107] Australian industry will be fortunate if it gains all of the module contracts, with the other major fabrication tasks, the jacket and piles, almost certainly being performed overseas.

6.6 The second view put forward was that tasks such as fabricating the jacket are 'just big welding jobs' and in any event jackets cannot be exported. Australian industry should instead be chasing the quality and value added work. It is true that Australia would never export a jacket as no country in our region would allow a jacket to be imported. Australia maintains an 'open door' policy for such manufactured items, and as a consequence $79m[108] of imported jacket and piles will be added to our balance of payments deficit.

6.7 It is essential that the reasons for Australian industry not securing such work are analysed. It is not simply a question of wages or of ongoing work. There are other factors which affect both cost and capacity. These include the lack of adequate fabrication sites, the seeming inability of Australian firms to

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106. Transcript of Evidence, p.204
107. Transcript of Evidence p.428
108. Woodside Submission, GWA9

form contracting consortia, the lack of time given to prepare a bid, the lack of familiarity with Australian industry capabilities by non-Australian project management staff, the level of commitment to quality management, poor planning and scheduling by Australian firms and the threat of industrial instability.

6.8 It must be understood that many of the issues that have arisen in the course of this inquiry can only be dealt with by Australian industry itself. Government can certainly assist to ensure that there are no unfair impediments to participation and also assist in identifying market opportunities and promoting the flow of information to industry.

6.9 Industry capacity is also restricted by the fragmented nature of the engineering industry in Australia, although there has been dramatic restructuring over the last 10 years with a number of large multi-faceted engineering companies emerging. These companies, if given the opportunity, should be in a position to take on large work packages as prime contractor and utilise the services of smaller specialised firms as sub-contractors.

6.10 There were many comments made to the effect that Australian engineering firms have not been prepared to enter into joint ventures in order to increase their capacity and capability for undertaking specific projects. The Committee believes that this is a major hurdle that needs to be overcome. It is ironic that a common recommendation from industry was that foreign firms wishing to work in resource projects should be required to demonstrate Australian participation. How can industry expect government to force joint venture requirements on overseas firms if Australian firms do not demonstrate they are prepared to joint venture locally?

6.11 This is not to suggest that joint ventures are essential. There are cost overheads incurred in joint venture arrangements and if the capability and capacity is there, then by all means Australian firms should go it alone.

6.12 The shortage of engineering professionals in Australia is a significant impediment to increasing Australian industry's project management and design capabilities, in particular. It has been reported that engineers make up about 1 per cent of the Australian workforce while in our competitor countries, engineers commonly make up about 2 per cent of the workforce.[109] It may be misleading to compare overall numbers and it would be necessary to consider specific skill categories if shortages are to be identified and rectified.

6.13 The shortage of engineers notwithstanding, it is fair to say that if the domination of the high technology aspects of the construction industry by US and European multinationals is to be changed, the Australian engineering industry will have to pay greater attention to its design and project management abilities. Project management and design skills in Australia need to be improved.

6.14 Industrial relations has already been discussed referring to the desirability of site agreements. However it must be stressed that the question of delivery on time does not relate solely to the construction and major fabrication sites. It also relates to for example, a factory in Melbourne or Sydney producing pumps or valves. Projects such as the Goodwyn are planned in detail to a tight schedule and delays in delivery of all materials, equipment and services can have an impact on scheduling, adding to cost and delaying production. While industrial relations is not the sole determinant of delivery, it is important and the Committee was pleased to find that good industrial relations is now accorded a high priority by both Australian industry, trade unions and in the case of the North West Shelf, Woodside. The Committee stresses, however, that if Australian industry is to increase the amount of work gained in the offshore oil and gas industry then trade unions and management must continue the process of constructive co-operation that has evolved over recent years.

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109. Australian Financial Review, 15 November 1989, p.45

Technology Transfer

6.15 If Australia's industrial capability is to be increased then it will be necessary to increase the level of technology transfer into Australia. It has been suggested that the most effective means of encouraging this is through joint ventures with overseas firms.

6.16 The formation of joint ventures is encouraged by Woodside and this has undoubtedly resulted in the transfer of skills, knowledge, design practice, and quality management techniques.

6.17 It is difficult to quantify the degree of technology transfer that has taken place on the Project to date. One means of evaluating this would be to monitor Phase III of the Project which is comparable to North Rankin and the LNG Trains, and assess whether Australian content has incresed as a result of technology transfer in specific areas.

RECOMMENDATION 16

The Committee recommends that:

- **the Department of Industry, Technology and Commerce undertake a comparative study of Australian industry participation in Phase III of the Project as compared to Phases I and II to identify those specific areas where a demonstrable increase in Australian industry and technology capability has occurred.**

Industry Development and Exports

6.18 The offshore oil and gas industry represents a market valued at nearly $1b annually for the next ten years according to a survey conducted by the Victorian Department of Industry Technology and Resources.[110] This market includes construction an maintenance and it is worth noting the comments of Dr White of Australian Marine Engineering Consolidated Ltd (AMECON) about equipment maintenance: 'the real benefits for these companies .... is that they capture the market in Australia for supplying the support, maintenance and upgrades of that plant for the next 30 years.'[111]

6.19 The market is not simply for the supply of goods and services but also for maintaining that equipment over the productive life of the Project. The supply of equipment for the platform topsides and LNG Trains is an area dominated by overseas suppliers, and the repair and maintenance of that equipment represents a captive market for those suppliers for perhaps 20 years.

6.20 In addition to a billion dollar a year domestic market, the offshore oil and gas industry offers the opportunity for Australian industry to develop a track record in large scale sophisticated packages of work. The acquisition of this track record would enable Australian industry to have a head start in applying these newly acquired skills in all manner of engineering undertakings. This has already happened on the North West Shelf, where individuals and firms who worked on earlier Phases are now engaged in other engineering undertakings not necessarily related to offshore work.

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110. Department of Industry, Technology and Resources, 1989, 'Market Opportunities in the Offshore Oil and Gas Industry in Australia and Victorian Capability', p.4
111. Transcript of Evidence, p.205

6.21 An excellent example is provided again by Dr John White, Managing Director of AMECON who cut his teeth in the offshore oil and gas industry and is now using the design and management skills acquired there to build the next generation of frigates for the Australian Defence Forces.

6.22 As Dr White emphasised in evidence to the Committee:

> 'the real benefit is doing the work here, building up the management skills, building up the trade skills, building up the track record of achievement on a major and complex project and then having a pool of that expertise and corporate credibility in the country which can apply itself to a thousand different things in future years. It gives us the opportunity of developing engineered products and having engineering capabilities which can be used for exports, whether they are pumps or valves or modular components of a platform; or things not to do with the offshore industry, heavy engineering manufacturing in general. I myself came out of the offshore gas industry; I achieved a tremendous opportunity through Woodside. I am now building things which have nothing to do with offshore oil and gas platforms. We are building ships, we are doing pressure vessels. You do not know where the benefit is going to pop up.'

6.23 The market for exports in to South East Asia is also impressive. Once again the Victorian Department of Industry, Technology and Resources has commissioned a survey which identified expenditure on offshore oil and gas developments in the region over the next five years at between $US 1.5 and 2.0b per annum.[112] While it is true that most countries in this market have policies that discriminate in favour of their local industries, the market for design expertise, project management expertise and the supply of sophisticated equipment is open to foreign participation, especially as joint venture partners.

6.24 The level of interest in assessing industry capability and promoting industry participation by the Victorian, South Australian and Western Australian Governments is encouraging.

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112. Department of Industry, Technology and Resources, 1989, 'Doing Business in the Offshore Oil and Gas Industry in China, Indonesia, Malaysia, Thailand, Vietnam,' Evaluations and Recommendations 1

6.25 The conduct of these two market surveys by the Victorian Government is the type of assistance that the Committee believes Governments can provide to Australian industry to market itself and secure work on development projects like the North West Shelf.

6.26 DPIE has a thorough knowledge of just which projects are being developed and the scope of those projects. The Committee believes it would be appropriate for DPIE and DITAC to co-operate in producing an annual survey of market opportunities in Australia for the supply of goods and services to the offshore oil and gas industry.

RECOMMENDATION 17

The Committee recommends that:

- **the Department of Primary Industries and Energy and the Department of Industry, Technology and Commerce jointly produce a survey of market opportunities in the offshore oil and gas industry for the supply of goods and services by Australian industry; and**

- **this survey be updated on an annual basis.**

Conclusion

6.27 **The Committee concludes that the market for the supply of goods and services to the offshore oil and gas industry both in Australia and in South East Asia offers an opportunity that this country cannot afford to ignore. If Australia's dependence on commodity exports is to be broken, we must take advantage of opportunities such as those offered by the offshore oil and gas industry to further develop areas of expertise which replace imports and generate exports.**

6.28 Those areas of specialisation which offer market opportunities in the oil and gas industry can be identified. For example, an analysis of those goods and services imported from high cost overseas suppliers for projects like the North West Shelf will indicate the areas in which the Australian heavy engineering industry could grow and develop.

D P BEDDALL, MP
Chairman
November 1989

APPENDIX 1

CONDUCT OF THE INQUIRY, EVIDENCE AND WITNESSES

Conduct of the Inquiry

The House of Representatives Standing Committee on Industry, Science and Technology was appointed under Sessional Order 28B on 24 September 1987. The Committee is empowered to inquire into and report on any matters referred to it by either the House or a Minister.

On 14 April 1989 the Minister for Resources, Senator the Hon. P. Cook, wrote to the Chairman requesting the Committee to undertake an inquiry into the second stage of the North West Shelf Project, and providing terms of reference for the inquiry.

The inquiry was advertised in national newspapers on 28 and 29 April 1989. The advertisements contained the Committee's terms of reference and called for submissions by 9 June 1989.

In May 1989 as part of a familiarisation exercise, the Committee held informal briefings with Woodside Offshore Petroleum Pty Ltd and the Heavy Engineering Board. Public hearings commenced on 15 June 1989 and finished on 5 October 1989.

Details of the dates and place of hearings and inspections, witnesses, submissions and exhibits are as follows-

HEARINGS AND INSPECTIONS

15 June 1989	- Canberra	Public hearing
19 July 1989	- Sydney	Public hearing
19 July 1989	- Sydney	In Camera hearing
20 July 1989	- Melbourne	Public hearing and Inspection of Hu-Metal Engineering P/L
21 July 1989	- Melbourne	In Camera hearing
31 July 1989	- Karratha	Inspection of the LNG plant and Rankin 'A' Platform
1 August 1989	- Perth	Public hearing
2 August 1989	- Perth	Public hearing
2 August 1989	- Perth	In Camera hearing
31 August 1989	- Canberra	Public hearing
7 September 1989	- Canberra	Public hearing
5 October 1989	- Canberra	Public hearing

LIST OF WITNESSES

Woodside and Joint Venture Partners	Date of Appearance
Mr Jan Johan Al, Manager, LNG Projects, Woodside Offshore Petroleum Pty Ltd, 1 Adelaide Terrace, Perth, Western Australia	1 August 1989
Mr Francis Tony Brown, Manager, Goodwyn A Project, Woodside Offshore Petroleum Pty Ltd, 1 Adelaide Terrace, Perth, Western Australia	1 August 1989
Mr Peter Purcell Tapper, Executive General Manager and Director, Woodside Offshore Petroleum Pty Ltd, 1 Adelaide Terrace, Perth, Western Australia	1 August 1989
Mr John Terrence, Executive Engineer, Woodside Offshore Petroleum Pty Ltd, 1 Adelaide Terrace, Perth, Western Australia	1 August 1989
Mr David Brian Larke, Finance Director, Woodside Petroleum Ltd, 385 Bourke Street, Melbourne, Victoria	7 September 1989
Mr Russell Ronald Caplan, General Manager, Natural Gas, Shell Development Australia Pty Ltd, 1 Spring Street, Melbourne, Victoria	7 September 1989
Mr David Curry, Manager, North West Shelf, BHP Petroleum, 35 Collins Street, Melbourne, Victoria	7 September 1989
Mr Kenzo Moriume, Deputy General Manager, Japan Australia LNG (MIMI) Pty Ltd, Level 3, 385 Bourke Street, Melbourne, Victoria	7 September 1989
Mr Bob Olsen, Managing Director, Chevron Asiatic Ltd, Level 24, 385 Bourke Street, Melbourne, Victoria	7 September 1989
Mr John Edward Arthur Shawley, President, BP Developments Australia Ltd, 1 Albert Road, Melbourne, Victoria	7 September 1989
Mr Graham John Nigel Sutton, Executive Director, South Australian Industrial Supplies Office, PO Box 767, Unley, South Australia	5 October 1989

Federal and State Government

Mr Robert Richard Alderson, Acting First Assistant Secretary, Petroleum Division, Department of Primary Industries and Energy, Canberra, Australian Capital Territory	15 June 1989
Dr John Soderbaum, Acting Director, Gas Section, Petroleum Division, Department of Primary Industries and Energy, Canberra, Australian Capital Territory	15 June 1989
Mr Dick Wells, Acting Assistant Secretary, Petroleum Industry Branch, Petroleum Division, Department of Primary Industries and Energy, Canberra, Australian Capital Territory	15 June 1989
Mr Drew Cameron Andison, Manager, Metals and Materials Section, Department of Industry, Technology and Commerce, Canberra, Australian Capital Territory	31 August 1989
Mr Brian Meredyth, Assistant Secretary, Metals and Engineering Section, Department of Industry, Technology and Commerce, Canberra, Australian Capital Territory	31 August 1989
Mr Veshi Basharen, Project Manager, The Victorian Department of Industry, Technology and Resources, 228 Victoria Parade, East Melbourne, Victoria	20 July 1989
Mr Bruce Charles Hartnett, Deputy Director-General, Department of Industry, Technology and Resources, 228 Victoria Parade, East Melbourne, Victoria	20 July 1989
Mr Stephen George Grocott, Acting Manager, Procurement Branch, Ministry of Economic Development and Trade, 170 St Georges Terrace, Perth, Western Australia	1 August 1989
Ms Cheryl Marie Gwilliam, Acting Director, Industry Services Division, Ministry of Economic Development and Trade, 170 St Georges Terrace, Perth, Western Australia	1 August 1989
Mr Nicolas Hardy Parkhurst, Senior Manager, Energy Development Branch, Department of Resources Development, Perth, Western Australia	1 August 1989

Mr Phillip Royston Haines, Director, Industrial Supplies Office, PO Box 6084, East Perth, Western Australia	1 August 1989
Mr Robert Alexander Kee, National Co-ordinator, Industrial Supplies Office, 20 Mayne Street Chifley, Australian Capital Territory	31 August 1989 5 October 1989

Professional and Industry Associations

Mr Richard Fyfe Dowe, Executive Director, Heavy Engineering Manufacturers' Association, PO Box 368, Kingston, Australian Capital Territory	19 July 1989
Mr Colin James Barnett, Executive Director, Western Australian Chamber of Commerce and Industry, 14 Parliament Place, West Perth, Western Australia	1 August 1989
Dr Aubrey Warren Birkelbach, Manager, Policy and Research, Western Australian Chamber of Commerce and Industry, 14 Parliament Place, West Perth, Western Australia	1 August 1989
Mr Eric Andrew Englund, Secretary, Private Industry Group, Association of Professional Engineers Australia, Unit 3, 5 Colin Street, West Perth, Western Australia	1 August 1989
Mr Ronald Charles McDavitt, Federal Councillor, Association of Professional Engineers Australia, Unit 3, 5 Colin Street, West Perth, Western Australia	1 August 1989
Mr William Stephen Sashegyi, Manager, Trade and Industry Development, Confederation of Western Australian Industry, 190 Hay Street, East Perth, Western Australia	1 August 1989
Mr Peter James Scales, Chairman, Western Australian Division, The Institute of Engineers Australia, 11 National Circuit, Canberra, Australian Capital Territory	1 August 1989
Mr Michael Richard Taylor, Federal Councillor, Association of Professional Engineers Australia, Unit 3, 5 Colin Street, West Perth, Western Australia	1 August 1989

Mr John Damien Vines, Executive Director, Association of Professional Engineers Australia, 360 King Street, West Melbourne, Victoria	1 August 1989
Mr Graham Douglas White, 12 Charles Street, Fremantle, Western Australia	1 August 1989

Individuals/Companies

Mr Glen Kenneth Cunningham, Manager, Corporate Development, Transfield Pty Ltd, 100 Arthur Street, North Sydney New South Wales	19 July 1989
Mr Leslie Phillip Douglass, Sales Manager, W.E. Smith Engineering Pty Ltd, PO Box 274, via Coffs Harbour, New South Wales	19 July 1989
Mr Brian George Roylett, Acting Chairman, Australian Risk Management Consortium, 18 - 24 Chandos Street, St Leonards, New South Wales	19 July 1989
Mr Leslie Stephen Boelckey, General Manager, United Pumps Australia, 31 Western Avenue, Sunshine, Victoria	20 July 1989
Dr John Douglas White, Managing Director, Australian Marine Engineering Consolidated Ltd, a subsidiary of Transfield, PO Box 346, Williamstown, Victoria	20 July 1989
Mr Kenneth Hume, Director of Engineering, Hu-Metal Engineering Pty Ltd, 33 Trawalla Street, Thomastown, Victoria	20 July 1989
Mr Geoffrey Allan Leeds, Managing Director, Hu-Metal Engineering Pty Ltd, 33 Trawalla Street, Thomastown, Victoria	20 July 1989
Mr Ian William Shedden, Chairman, Shedden Group of Companies, c/- Shedden Pacific Pty Ltd, 136 Buckhurst Street, South Melbourne, Victoria	21 July 1989
Mr Neil Quinn, 493 Kooyona Road, Elsternwick, Victoria	21 July 1989

Trade Union Representatives

Mr John Halfpenny, Secretary, Victorian Trades Hall Council, Trades Hall, 54 Victoria Street, Carlton South, Victoria	20 July 1989
Mr Keith James Peckham, State President, Amalgamated Metal Workers' Union, 401 Oxford Street, Mount Hawthorn, Perth, Western Australia	2 August 1989

LIST OF SUBMISSIONS

Submission No	Date	Persons or Organisations
1	19 May 1989	United Pumps Australia
2	18 May 1989	MeLeSco Manufacturing Co. Pty Ltd
3	17 May 1989	The Australian Gas Association (AGA)
4	10 May 1989	Import Replacement Service of Industrial Supplies Office of Western Australia
5	29 May 1989	Thompsons, Kelly and Lewis Limited
6	31 May 1989	Comsteel (Commonwealth Steel Company Limited)
7	7 June 1989	Hu-Metal Engineering Pty Ltd
8	8 June 1989	The Australian Risk Management Consortium
9	6 June 1989	W.E. Smith Engineering Pty Ltd
9a	19 July 1989	Supplementary submission from W.E. Smith Engineering Pty Ltd
10	8 June 1989	Australian Manufacturing Council
10a	20 July 1989	Supplementary submission from the Australian Manufacturing Council
11	13 June 1989	Department of Primary Industries and Energy
12	13 June 1989	The Association of Professional Engineers Australia
13	13 June 1989	Jaques
14	14 June 1989	Woodside Offshore Petroleum Pty Ltd
15	19 June 1989	A. Goninan and Co. Limited

16	19 June 1989	Amecon (Australian Marine Engineering Consolidated Limited)
17	21 June 1989	Western Australian Government - Deputy Premier, Mr D. Parker, MLA - Minister for Economic, Development and Trade, Mr J Grill, MLA
18	26 June 1989	Confederation of Western Australian Industry
19	30 June 1989	Institute of Engineers Australia
20	6 July 1989	Transfield Corporate
21	10 July 1989	New South Wales Government
22	11 July 1989	Heavy Engineering Manufacturers' Assoc.
22a	19 July 1989	Supplementary submission from the Heavy Engineering Manufacturers' Assoc.
23	26 July 1989	Department of Industry, Technology and Commerce
24	20 July 1989	Victorian Government
25	26 July 1989	Trades and Labour Council of Western Australia
26	28 July 1989	Australian Shipbuilding Industries (WA) Pty Ltd
27	26 July 1989	Queensland Government
28	1 August 1989	Western Australian Chamber of Commerce
29	21 July 1989	Neil Quinn - individual
30	24 August 1989	Industrial Supplies Office National Co-ordinator
31	2 August 1989	The Amalgamated Metal Workers' Union of Western Australia
32	27 July 1989	Tasmanian Government
33	10 August 1989	South Australian Government

34	7 September 1989	Australian North West Shelf Gas Project - Project Co-ordination Group
34a	13 October 1989	Supplementary Submission from the Australian North West Shelf Gas Project - Project Co-ordination Group
35	29 August 1989	South Australian Industrial Supplies Office

LIST OF EXHIBITS

Exhibit No.	Persons or Organisation	Title/Document	Date Received
1.	W.E. Smith Engineering	Correspondence with NSW Dept. of Main Roads dated 9 March 1987	19.7.89
2.	Hu-Metal Engineering	Technical literature	20.7.89
3.	Dept. of Resources Development - WA	WA Content in Major Resource Development Projects	1.8.89
4.	Dept. of Resources Development - WA	Media Statement	1.8.89
4a.	Assoc. of Professional Engineers Australia	Article - Goodwyn Project Given Green Light	1.8.89
5.	Confederation of WA Industry	Circulars of 21.4.89, 30.5.89 and 30.6.89	1.8.89
6.	Confederation of WA Industry	REPS Articles May - July 1989	1.8.89
7.	Confederation of WA Industry	REPS Articles April - May 1989	1.8.89
8.	Confederation of WA Industry	REPS - Direct Dispatch 11.7.89 and 20.7.89	1.8.89
9.	Confederation of WA Industry	1989 Services Directory	1.8.89
10.	Confederation of WA Industry	Local References Point Service	1.8.89

APPENDIX 2

MEMORANDUM OF UNDERSTANDING BETWEEN DEPARTMENT OF ENERGY AND UNITED KINGDOM OFFSHORE OPERATORS ASSOCIATION LIMITED

1. It is the declared intention of the Government that the UK offshore industry should provide, on a competitive basis, a major and progressively increasing share of the goods and services required for the development of our continental shelf and should establish a growing export market. For this purpose, the Government has made it clear that UK industry should be given full and fair opportunity to compete and Members of the United Kingdom Offshore Operators Association Limited (UKOOA) fully support this policy.

2. The Offshore Supplies Office (OSO) of the Department of Energy is responsible to the Secretary of State for ensuring the maximum possible involvement of UK manufacturers, consultants, contractors and service companies in the provision of supplies and services to the offshore hydrocarbon industry. This includes the creation of new industrial capacity to meet existing and emerging needs to ensure that such new capacity is as fully and continuously utilised as possible. For this purpose, the Government stands ready, in selected cases, to make use of the resources of the Industry Act 1972, the new powers to be granted by the Industry Bill now before Parliament and the proposed Scottish and Welsh Development Agencies.

3. Members of UKOOA have undertaken to give UK industry a full and fair opportunity to manufacture and supply the goods and provide the services necessary for the programme of exploration, field delineation and the development of a field and associated facilities to full production and beyond. Further, individual Members recognise the potential benefits of encouraging, through appropriate technical and contractual support, the creation of UK capacity to meet the mutually agreed needs, both existing and emerging, of their respective offshore activities. The Members shall use goods and services of British origin in these activities whenever they are competitive in regard to specification, service, delivery and price.

4. To satisfy the Secretary of State for Energy that the procedures and practices adopted by all Members are such as to support the Government's policy described above, the Members of UKOOA (detailed in Appendix A of this Memorandum) have individually agreed to comply with the Code of Practice set out in the attached annex and to make available to officers of the OSO such information as those officers may reasonably require to satisfy themselves that the Government's objectives are being met.

5. HMG and OSO recognise that Members remain fully responsible for the safety and commercial success or failure of their operations and will take all reasonable steps not to delay the Members' decision-making processes and commercial practices (consistent with the other obligations in this document). Further, the strictest confidentiality will be maintained by the Department in respect of competitive commercial information submitted to OSO under the terms of the Code of Practice.

6. This Memorandum shall be interpreted and applied in a manner consistent with the provisions of the Treaty establishing the European Economic Community.

3 November 1975

ADDENDUM TO MEMORANDUM OF UNDERSTANDING

FEASIBILITY, DESIGN AND MAINTENANCE STUDIES

The Offshore Supplies Office regards as a very high priority the involvement of UK concerns firstly in feasibility and design studies and secondly in consultancy/appraisal studies for long term offshore structure maintenance. The Office recognises that in these cases there is often a predominantly in-house involvement or an involvement of consultants retained for their special capabilities. Both the international nature and confidentiality of such studies is also appreciated. However, experience has shown that the origin of location for development of new and advanced large scale techniques. UKOOA appreciate OSO's concern that British interest having appropriate capabilities actual or potential, be given an opportunity to be involved in studies of the kind indicated.

It has been agreed that OSO, with the full support of UKOOA could register their concerns and aims in these two special areas. It would be appreciated if this concern be made known in those parts of your organisation where the selection of consultants or other 'out of house' specialist services is made. The full co-operation of OSO will be available in assisting you to identify suitable UK sources if you should so require.

[Revised 2 February 1981]

ANNEX TO MEMORANDUM OF UNDERSTANDING

CODE OF PRACTICE FOR PURCHASERS OF GOODS AND SERVICES FOR OIL RELATED ACTIVITIES ON THE UK CONTINENTAL SHELF

Introduction

This Code of Practice defines the procedure which Members of UKOOA have undertaken to apply in the procurement of materials and services required to support oil related activities on the UK Continental Shelf. While this Code of Practice applies to all purchases, the principle of prior information of intent to make a purchase or place a contract outside the UK will not normally apply to orders for materials and manufactures or to services contracts below 250,000, or to offshore construction contracts below 1 million, except in those cases where operators are advised that a lower level has been agreed between the Offshore Supplies Office and UKOOA in a particular sector or sectors.

In accordance with the associated Memorandum of Understanding between the Department of Energy and UKOOA dated 3 November 1975 the Department undertakes to observe the strictest confidentiality on all aspects relating to the commercially competitive data submitted to them under the terms of this Code of Practice, and operators undertake to maintain strict confidentiality on such discussions with OSO.

Code of Practice

1. To ensure that UK organisations are given a full and fair opportunity on each and every contract, the operator will ensure that :-

(a) all potential suppliers selected to bid receive a fully definitive enquiry specification in the English language for the goods and/or services required;

(b) the specification is in accordance with the accepted oil industry standards or British standards, it indicates a willingness to accept equivalents and states the equivalent whenever possible;

(c) the specification is drawn in a manner which does not deliberately preclude UK suppliers from tendering or diminish their prospects of submitting a successful tender;

(d) any amendments to the specification that emerge during the course of the tender preparation are notified to all bidders so that there is full equality of information;

(e) all potential suppliers selected to bid are given an equal and adequate period in which to tender, such period to take into account the need to meet demonstrably unavoidable critical construction of production schedules of the operator;

(f) any special conditions attached to the materials, the source of supply of components and materials, and the inspection of goods are stated in the specification or enquiry documents;

(g) stated delivery requirements are not more stringent than is necessary to meet the construction and/or production schedules of the operator;

(h) where the requirement includes the need to develop equipment or proposals in conjunction with the operator, all bidders are given equal information at the same time;

(i) when the operator is unable to identify a reasonable number of suitably qualified UK suppliers for his invitation to tender, he will consult the OSO before issuing enquiries;

(j) the enquiry documents require the potential bidders to estimate the value of the UK content of the goods and/or services to be supplied.

2. At the tender evaluation stage, the operator will ensure that :-

(a) anomalies or inequalities between the submissions and the enquiry documents are fully resolved relative to the short-listed bidders;

(b) delivery promises of all bidders are assessed for their reality in the light of past performance and an assessment of current performance;

(c) when costs are compared, account is taken of financial assistance available to buyers;

(d) the foreseeable impact of currency fluctuations and the effects of escalation clauses are taken into account;

3. When the operator has determined his decision for the award of contract, in the case of non-UK award he will inform OSO prior to notifying selected suppliers and will give OSO a reasonable time, in the circumstances applying, for representation and clarification. This procedure will be followed in the case of sub-contracts referred by main or sub-contractors to the operator for approval. Where the operator does not intend to call for prior approval of sub-contracts the procedure for adherence to the Memorandum of Understanding and this Code of Practice will be agreed between the operator and OSO. Where this gives OSO access to the operator's contractors and sub-contractors this procedure will not diminish the direct and normal contractual relationship between the operator and his suppliers. The principle shall be adopted that following disclosure of prior information to OSO on intended awards no subsequent representation to the operator by a potential supplier, other than at the express request of the operator, shall be entertained.

4. To satisfy the OSO that full and fair opportunity is being given to UK suppliers operators will, on request, make available to officers of the OSO such information as they may reasonably require about:-

(a) the programme of intended enquiries to industry necessary to implement the anticipated overall programme of exploration and/or development to the extent that this information has not already been made available to the Department of Energy. (The operators may supply this information in any format convenient to themselves provided it is sufficiently comprehensive to enable OSO to assess the potential opportunity for UK industry);

(b) the specifications and tender documents at the earliest possible time and, prior to the issue of the documents to the suppliers the list of suppliers to whom it is intended to issue invitations to tender;

(c) the bid summaries so that when necessary and reasonable OSO may request sight of bid summaries and all relevant documents for examination;

(d) the names of appropriate representatives within the operators' organisation with whom OSO can make contact should further discussion be required.

3 November 1975

[Revised 2 February 1981]

APPENDIX A

UK OFFSHORE OPERATORS ASSOCIATION LIMITED

LIST OF MEMBER COMPANIES (AS AT 5 MARCH 1987)

Agip (UK) Ltd
Amerada Hess Limited
Amoco (UK) Exploration Co
Arco British Ltd
BP Petroleum Development Ltd
Britoil Plc
Chevron Petroleum (UK) Ltd
Cluff Oil Plc
Conoco UK Ltd
CSX Oil & Gas (UK) Corporation
Deminex UK Oil & Gas Ltd
Elf UK Plc
Enterprise Oil Plc
Esso Exploration & Production UK Ltd
Fina Exploration Ltd
Hamilton Brothers Oil & Gas Ltd
Hydrocarbons Gt Britain Ltd
Kerr-McGee Oil (UK) Ltd
London & Scottish Marine Oil Plc
Marathon Oil UK Ltd
Mobil North Sea Ltd.
Murphy Petroleum Ltd
North Sea Sun Oil Co Ltd.
Occidental Petroleum (Caledonia) Ltd
Phillips Petroleum Company UK Ltd
Placid Oil Company (UK)
Premier Consolidated Oilfields Plc
Ranger Oil (UK) Ltd
Shell UK Ltd
Sovereign Oil & Gas Plc
Tenneco United Kingdom Plc
Texaco North Sea UK Company
Total Oil Marine Plc
Tricentrol Exploration UK Ltd
Ultramar Exploration Ltd
Union Texas Petroleum Ltd
Unocal UK Ltd