

The Parliament of the Commonwealth of Australia

The Shipbuilding Industry:
In The Wake of The Bounty

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

May 1992

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The title of this report is the same as the original film of the mutiny on the *Bounty* which was filmed on Pitcairn Island and released in 1933. The film, *In The Wake of The Bounty*, starred Errol Flynn and was directed by Charles Chauvel.

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PREFACE

The House of Representatives Standing Committee on Industry, Science and Technology is one of eight general purpose standing committees established pursuant to sessional orders of the House on 8 May 1990. Each of the general purpose standing committees corresponds in its area of interest with a Federal Government department or group of departments. In the case of the Industry, Science and Technology Committee those departments are: Industry, Technology and Commerce; Primary Industries and Energy; and Industrial Relations.

The resolution of appointment of the Committee empowers it to inquire into and report on any matters referred to it by either House or a Minister, including any pre-legislation proposal, bill, motion, petition, vote or expenditure, other financial matter, report or paper. On 4 September 1991, the resolution of appointment was amended so that annual reports of government departments and statutory authorities stand referred automatically to the relevant Committee for any inquiry the Committee wishes to make.

On 6 March 1991 the Minister for Industry, Technology and Commerce requested the Committee to inquire into and report on the Australian shipbuilding industry. The referral followed an expression of interest by the Committee in conducting an inquiry into the industry. The Committee was concerned to ensure that the Australian shipbuilding industry maintained its competitive edge and that it realised its full potential through continuing development of technological expertise and better training and use of skilled personnel. The terms of reference are set out immediately following the *Table of Contents*.

In contrast to the promising outlook of the late 1980s the announcement of the inquiry coincided with a notable downturn in the industry. In December 1990 the large firm, Carrington Slipways, Newcastle, was placed in receivership and in March 1991 Australian Shipbuilding Industries (ASI) in Perth laid off many employees. Other firms were reportedly in trouble.

Despite the changed outlook, the inquiry terms of reference remained relevant to a review of the industry and the inquiry proceeded accordingly.

The Committee received 60 submissions and 85 exhibits in the course of the inquiry. Over 700 additional pages of evidence resulted from public hearings in Adelaide, Cairns, Canberra, Fremantle, Launceston, Melbourne, Newcastle and Sydney. On behalf of the Committee I wish to thank all those who gave their time and effort to contribute to the inquiry.

The Committee visited eight shipyards in six centres around Australia and was grateful for the assistance of the Australian Shipbuilders' Association.

It is the Committee's view that if availability of finance is improved in the post Shipbuilding Bounty era, and concerted efforts are made in marketing and research and development, the shipbuilding industry can be set on a successful course for the future. I hope this report will contribute to the public debate on the important issues and help to provide some of the solutions.

MICHAEL J LEE, MP
Chairman
May 1992



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TERMS OF REFERENCE OF THE INQUIRY

On 6 March 1991, the Minister for Industry, Technology and Commerce wrote to the Committee proposing terms of reference for an inquiry into the Australian shipbuilding industry. The terms of reference are as follows:

To inquire and report on the Australian shipbuilding industry, with particular reference to

- . the present nature of, and prospects for, the industry;
- . competitive advantages for the export market;
- . marketing intelligence and infrastructure;
- . availability of technological expertise and skilled personnel;
- . opportunities for both technical and management training;
- . design potential;
- . Government support for the industry;
- . impact of existing regulations on the industry;
- . extent of overseas involvement in Australian shipbuilding and the opportunities for the transfer of expertise and technological innovation.

MEMBERSHIP OF THE COMMITTEE

Chairman: Mr M J Lee MP

Deputy Chairman: Mr F S McArthur MP

Members:
Mr G Campbell MP
Mr M R Cobb MP
Mr L D Ferguson MP
Mr F A Ford MP
Mr E L Grace MP
Mr H A Jenkins MP
Hon B O Jones MP
Mr P E Nugent MP
Hon N B Reid MP
Mr L J Scott MP

Secretary: Mr P McMahon

Research Officer: Ms G Skinner

Other staff who assisted the Committee in the course of the inquiry:

Dr J Carter
Mr R Cavanagh
Ms H Fyfe
Ms G Gould

ACRONYMS/ABBREVIATIONS

ACM	Australian Chamber of Manufacturers
ADI	Australian Defence Industries
AII	Australian Industry Involvement
AMC	Australian Maritime College
AMECON	Australian Marine Engineering Consolidated Ltd
AMSA	Australian Maritime Safety Authority
AMT	Advanced Manufacturing Technology
ASA	Australian Shipbuilders' Association Ltd
ASI	Australian Shipbuilding Industries (WA) Pty Ltd
ATAC	Australian Transport Advisory Council
AUSTRADE	Australian Trade Commission
BMAA	Boat Manufacturers' Association of Australia
CRC	Cooperative Research Centre
DIFF	Development Import Finance Facility
DITAC	Department of Industry, Technology and Commerce
EDMG	Export Market Development Grants
EEC	European Economic Community
EFIC	Export Finance and Insurance Corporation
EIIP	Engineering Industries Internationalisation Program
GDP	Gross Domestic Product
IAC	Industries Assistance Commission
IMO	International Maritime Organisation
Incat	International Catamaran Designs Pty Ltd
ISO	Industrial Supplies Office
ITES	International Trade Enhancement Scheme
MBEP	Metal Based Engineering Program
MEWU	Metals and Engineering Workers' Union
NIES	National Industry Extension Service
NPDP	National Procurement Development Program
OECD	Organisation for Economic Cooperation and Development
R&D	Research and development
SCA	Shipbuilders Council of America
TAFE	Technical and Further Education
TUNRA	University of Newcastle Research Associates Ltd
UNSW	University of New South Wales
USL	Uniform Shipping Laws

SUMMARY

1. This report consists of eight chapters which analyses the Australian shipbuilding industry. Government involvement is covered in Chapter 2 followed by a discussion of the role of government in finance (Chapter 3) and marketing (Chapter 4). Arguments concerning research and development centres are aired in Chapter 5 and the need for flexible training programs in Chapter 6. The report covers defence procurement issues in Chapter 7 and concludes with a chapter discussing the industry's future.

2. The Committee has made 18 recommendations and these are listed after this summary in the order in which they appear in the report.

Shipbuilding in Australia

3. Chapter 1 of the report surveys present shipbuilding activity in Australia. Despite a current weakening of the market there appears potential for expansion over the next decade as commodity trade rises and the world fleet requires replacement. The Committee considers that the Government should support a feasibility study into a major shipbuilding proposal for Port Kembla (recommendation 1).

4. The sector of the market which uses lightweight materials such as aluminium alloys has achieved notable success. Innovative design with advanced materials and construction methods have been combined with market research to ensure that client requirements are met in terms of finish, fitout and delivery time.

5. A major market exists for Australian industry in ship fitout. In developing Australia-New Zealand procurement sources for the ANZAC ships project, the Industrial Supplies Office (ISO) has become ideally placed to become a procurement agency for Australian-sourced equipment for shipbuilders. The Committee considers this role for ISO should be encouraged (recommendations 2 & 3).

Government involvement in the industry

6. Chapter 2 commences with a history of the Australian shipbuilding bounty and an overview of subsidies enjoyed by overseas ship builders. The Committee recognises the concern of the industry that while the bounty is being reduced in Australia overseas competitors are still receiving assistance. However, the Committee agrees with the 1988 Industries Assistance Commission report which concluded that the bounty had achieved its aim of enabling industry to enter export markets but was not encouraging a viable, efficient industry.

7. Other support schemes for Australian shipbuilders include export enhancement, research and development schemes, import duty concessions and export finance. The Committee recommends that such schemes be reviewed with a view to consolidation where possible. There needs to be a review of methods by which industry is made aware of these schemes, and information about Australian-owned shipping lines which can be used to transport exports needs wider promotion (recommendation 4).

8. Government regulations which affect the industry can be both industry specific and general. The Committee considers that the Uniform Shipping Laws Code which has been adopted by the States and Commonwealth should be enforced uniformly throughout Australia (recommendation 6).

9. The Committee is aware that general industry regulations such as labour market regulations, occupational health and safety requirements, and environmental protection measures can serve to increase manufacturers' costs and decrease international competitiveness. The Committee considers, however, that many of these regulations establish standards which are highly desirable and therefore should be accepted as part of the cost of production. The committee notes that some reform of labour market regulation is occurring which will assist the shipbuilding industry, specifically in the development of enterprise based agreements.

Finance

10. In Chapter 3 the role of the Export Finance and Insurance Corporation (EFIC) is discussed. The Committee is concerned at the problems currently experienced in financing the building of ships. The Committee notes evidence which indicates that a major cause of delay in the approval of loan applications is the lack of adequate information provided by exporters. The Committee considers that shipbuilders need to be more aware of the information needs of EFIC in order to streamline application processing (recommendation 8).

11. Many of the criticisms directed at EFIC arise because of an appropriate caution on the part of EFIC in dealing with high risk loan categories and the constraints placed upon them in the provision of funds. While it is expected that some of these difficulties will be eased by the changes which became effective in November 1991, a review of the effect of these changes after a suitable period of time is warranted (recommendation 9).

12. The Committee recognises that some problems will remain in the provision of working capital to the shipbuilding industry. It considers, however, that private sector finance should be expected to provide that capital. For niche markets currently enjoying expansion, it could be expected that returns on investment will be sufficient to increase confidence within the private sector thereby promoting greater willingness to provide necessary capital. Merit is seen in the argument that, for vessels with a more predictable resale value, a greater security allowance should be given by EFIC than at present (recommendation 10).

13. The Committee notes a widespread concern among shipbuilders over the level of, and fluctuation in, Australian interest rates. These adversely affect the provision of competitive financing for shipbuilding loans. The Committee considers that there should be examination of a proposal for the creation of tax free savings accounts as a means of creating investment funds for Australian industry (recommendation 11). The recent falls in nominal interest rates in Australia should help assist Australian industry; although the current fall in the inflation rate means that real interest rates are still high by comparison with those in other countries.

Marketing

14. Chapter 4 covers the export marketing of ships and the role of AUSTRADE. Comments on the value of AUSTRADE ranged from very supportive to extremely negative. The more favourable comments were from currently successful builders in Western Australia who often mentioned that they had their own marketing strategies. AUSTRADE was seen as a supportive service rather than a primary means of obtaining overseas orders.

15. AUSTRADE's preferred approach is to work with common interest groups, such as the Australian Ferrybuilders' Association and the Australian Marine Export Group. While Austrade could not place a value on the service it supplies to shipbuilders, AUSTRADE's presence and involvement with shipbuilders did assist in marketing the shipbuilding industry overseas.

16. The Committee believes that to pass final judgement on the adequacy of AUSTRADE in assisting the shipbuilding industry would be premature as the changes recommended by the McKinsey and Company review are currently being implemented.

17. The Committee considers that the Export Access program could be of value to small firms in the shipbuilding sector. Small companies, such as builders of leisure and pleasure craft, often fall outside the guidelines for AUSTRADE's services and steps should be taken to encourage the use of the Export Access program (recommendation 12).

Research and development

18. Chapter 5 discusses the arguments concerning ship research centres, and the availability of financial support for research and development.

19. The cost of establishing a government owned and funded National Ship Research Centre has not been carefully quantified but it would clearly require significant capital expenditure. In contrast, the Australian maritime Engineering Cooperative Research Centre currently being developed will combine limited government funding with input and commitment from industry. The Committee considers that the cooperative research centre approach is, at present, more appropriate to meet the demand for

research and development facilities. Its progress, research outcomes and level of usage by industry should indicate whether the establishment of a federally-funded central research centre is desirable.

20. The major avenues for government support for research and development are via the 150 per cent tax concession and programs such as the Industry Research and Development grants, the National Procurement Development Program, and the Advanced Manufacturing Technology Development Program.

21. The Committee is concerned by the apparent confusion among shipbuilders as to what research and development grants are available to them, and their reluctance to apply for assistance because of perceived difficulties with bureaucratic processes. The Committee speculates whether these attitudes may also be prevalent among other industries. It believes that there is a shared responsibility between DITAC and the Australian Shipbuilders' Association and similar industry bodies to ensure that accurate information is disseminated among industry members and that processes are streamlined as much as possible (recommendations 13 & 14).

Training

22. The training relevant to the shipbuilding industry is covered in Chapter 6. Appropriate training can involve university degree courses in engineering and naval architecture, apprenticeship schemes, management education and in-house training.

23. The types of naval architecture course are discussed in the chapter as well as the relevance of the course content to an industry of rapidly changing technology and practice. The Committee considers that more flexibility in the structure of courses offered would benefit the industry by providing graduates with both sound theoretical backgrounds and relevant practical experience (recommendation 16).

24. The Committee is of the view that while a four year naval architecture degree may not be necessary to undertake successfully boat and ship design or to oversee construction projects, it is certainly desirable that some qualifications be held. It is especially important that purchasers be aware of the qualifications of those who have produced their craft, so that they may have some indication of the degree of expertise involved in its construction. Some form of registration is thus desirable (recommendation 15).

25. Shipbuilders were enthusiastic about the benefits of the current apprenticeship system. The Committee endorses the emergence of enterprise based educational programs and suggests that the Commonwealth should work with the States, industry and unions to develop a system of training wages based on a percentage of full adult wages of a particular classification. The recognition over time of increasing skills attainment of the trainee would maintain motivation.

Defence procurement

26. Chapter 7 covers naval procurement policies, the capacity for the use of Australian designs, and the two ocean policy.

27. The Department of Defence has in place policies to encourage Australian content. The high levels of local production in the submarine and ANZAC ships programs are examples of this current approach. Australian involvement in these programs is likely to increase the awarding to Australian industry of major defence contracts in the future and enhance export opportunities in Asia-Pacific region offshore oil and gas projects.

28. The use of overseas designs was questioned by industry representatives. The Navy explained that its reservations about Australian designs related to warships where a large proportion of design involves systems and interior equipment. For less unique equipment the Navy agrees that Australian capability should be used more often.

29. The Committee considers that dialogue between those involved in defence shipbuilding and those involved in commercial shipbuilding would be beneficial to both groups. This dialogue could encompass not only naval research and development but also naval procurement plans and advances in technology (recommendation 18).

30. In the long term, there will be two principal centres of repair located near the main naval bases on either side of the continent, to conveniently service the local fleet. The Navy has a strong interest in sustaining a Western Australian ship repair industry but it is extremely difficult to forecast potential repair and maintenance work. Refit agencies are likely to become project management centres as it will be possible to remove equipment from ships for repair rather than keeping ships in dock for lengthy periods.

The future

31. Despite the recent downturn in the industry, the Committee believes shipbuilding is now moving in the appropriate direction to ensure its revival and long-term viability. The new modular construction methods and the use of advanced materials are likely to become prevalent. Equipment will be able to be removed from vessels for repair in specialised workshops.

32. Training courses will need to keep pace with changes in construction and management requirements. The industry of the future is likely to be characterised by single union agreements and enterprise bargaining. Smaller firms will allow closer contact between management and staff enabling greater emphasis on quality of production.

33. The shipbuilders specialising in lightweight, high speed vessels using innovative design, advanced construction techniques, and high quality fitout and finish have become major world leaders in the space of five years. To maintain this position, the industry will have to consolidate its international reputation and begin designing vessels over 100m. This will require assistance in research and development.

34. The Committee notes the positive assistance given by AUSTRADE to Western Australian shipbuilders and considers that its role will be important in penetrating markets in Europe, South East Asia and North America.

35. The role of the Export Finance and Insurance Corporation (EFIC) in arranging loans will increase in importance. It is essential that applications to EFIC by shipbuilders be processed in the time-frame dictated by commercial reality. The information requirements of EFIC must be clearly understood by shipbuilders and must be complied with in the original application.

36. The increased emphasis in defence procurement policies on construction within Australia and increased Australian input will have spin-offs for the shipbuilding industry and associated industries. There is also potential for productive information exchange between defence and commercial shipbuilding interests in regard to research and technology developments.

RECOMMENDATIONS

Recommendation 1

The Committee recommends that the Government contribute an amount up to \$500 000 towards the cost of the feasibility study of the shipbuilding facility which is proposed for construction at Port Kembla, provided that private industry is prepared to contribute at least 75 per cent of the total cost of the study; and such commitment from private industry is placed on the public record in advance. (para 1.20)

Recommendation 2

The Committee recommends that the Marine Industries Section in the Department of Industry, Technology and Commerce in conjunction with the Industrial Supplies Office develop an information awareness campaign to promote the marine sector as a market for Australian manufacturers. (para 1.50)

Recommendation 3

The Committee recommends that, to increase the level of Australian manufactured equipment being used by Australian shipbuilders, both the Department of Industry, Technology and Commerce and the Australian Shipbuilders Association should encourage shipbuilders to consult the Industries Supplies Office as part of their procurement processes for all major ship building, repair and fitout contracts. (para 1.51)

Recommendation 4

The Committee recommends that the Minister for Industry, Technology and Commerce take action to encourage a viable, efficient shipbuilding industry by:

- . exploring what assistance other than subsidies can be given to the industry to promote its ability to be export competitive, for example through the use of financial packages for shipbuilding loans and internationally competitive interest rates; and
- . encouraging an international recognition of the desirability of limiting subsidisation practices which distort the international shipbuilding market. (para 2.32)

Recommendation 5

The Committee recommends that the Department of Industry, Technology and Commerce:

- . review the number and variety of programs available to assist industry in export enhancement and research and development, with a view to consolidating schemes wherever possible;
- . review the methods whereby eligible industry participants are made aware of assistance schemes to ensure that access is not limited by lack of knowledge or understanding. If shortcomings are revealed appropriate programs should be devised to promote the schemes more clearly and more widely. (para 2.52)

Recommendation 6

The Committee recommends that the Australian Transport Advisory Council review the enforcement of the Uniform Shipping Laws (USL) to ensure that the standards contained in the USL are applied uniformly in each State. (para 2.72)

Recommendation 7

The Committee recommends that the Export Finance and Insurance Corporation review its policy of 'country risk' in relation to loans for shipbuilding. (para 3.14)

Recommendation 8

The Committee recommends that the Export Finance and Insurance Corporation (EFIC), in consultation with the Australian Shipbuilders' Association and the Boat Manufacturers' Association of Australia, prepare an information kit for shipbuilders on the information requirements of the EFIC when assessing an application for a loan. (para 3.35)

Recommendation 9

The Committee recommends that the restructuring of the Export Finance and Insurance Corporation and other changes introduced in November 1991, be reviewed by the Minister for Industry, Technology and Commerce in late 1992 to determine whether or not they have achieved the stated aim of creating new market opportunities for Australian exporters. (para 3.36)

Recommendation 10

The Committee recommends that the Export Finance and Insurance Corporation re-examine its policy of allowing a maximum 50 per cent of a vessel's price to be taken as security, with a view to waiving that constraint for vessels with a wide market and a stable resale value, and provide a report to the Committee at the conclusion of this review. (para 3.37)

Recommendation 11

The Committee recommends that the proposal for tax free savings accounts as a means of creating investment funds for Australian industry be the subject of a joint feasibility study by the Commonwealth Development Bank and the Department of Industry, Technology and Commerce. (para 3.38)

Recommendation 12

The Committee recommends that:

- . smaller ship and boat building firms be encouraged to apply for export assistance through the Export Access program
- . funds be provided to allow the Export Access program to be widely publicised to ensure that all eligible businesses are aware of its existence and its relevance to their needs.
- . the information awareness kit to be prepared by the Export Finance and Insurance Corporation, in consultation with the Australian Shipbuilders' Association and the Boat Manufacturers' Association of Australia (see recommendation 8) be incorporated into the Export Access program awareness campaigns. (para 4.30)

Recommendation 13

The Committee recommends that the Department of Industry, Technology and Commerce, in conjunction with the Australian Shipbuilders' Association, produce a simplified guide to available R&D assistance for the shipbuilding industry. This guide could form the basis of a public relations campaign to raise awareness among industry members of the existence and extent of R&D measures relevant to their industry. (para 5.32)

Recommendation 14

The Committee recommends that the Department of Industry, Technology and Commerce review the penetration of awareness of assistance programs in other industries with a view to ascertaining whether similar awareness raising campaigns are necessary. (para 5.33)

Recommendation 15

The Committee recommends:

. that the Australian Shipbuilders' Association and the Boat Manufacturers' Association of Australia in conjunction with the Australian Division of the Royal Institution of Naval Architects draw up minimum qualifications to meet requirements of registration as a qualified ship or boat designer;

. that following agreement on this standard, it be adopted by these organisations who will each then be accorded authority to accredit individuals, including those with lengthy experience and a proven track record in the industry, who meet these requirements as registered boat or ship designers. (para 6.23)

Recommendation 16

The Committee recommends that the University of NSW and Australian Maritime College naval architecture sections explore the possibility of providing flexibility in the structure of their courses to enable those living at a distance from the centres to gain formal qualifications, and to provide a more practical orientation in the courses. (para 6.24)

Recommendation 17

The Committee recommends that the Minister for Employment, Education and Training, in consultation with the Institute of Engineers, Australia, develop and incorporate project management courses as an integral element of all engineering courses provided at tertiary institutions. (para 6.36)

Recommendation 18

The Committee recommends that representatives of the Australian Shipbuilders' Association and the Department of Defence arrange an annual forum at which information can be exchanged on naval research and development, advances in technology and naval procurement plans. (para 7.33)

CHAPTER ONE

SHIPBUILDING IN AUSTRALIA

A. SHIPBUILDING IN AUSTRALIA

1.1 The recent history of the Australian shipbuilding industry reveals considerable changes in its structure and direction. As recently as the mid 1940s shipyards producing steel ships were able to maintain full order books. By the 1970s, however, most producers of large steel-hulled ships had closed down and the industry focused on the production of fishing vessels, luxury yachts, tugs and smaller commercial and naval vessels.

1.2 From 1984 to 1989, export orders for Australian built vessels increased from nil to approximately \$150 million. The prognosis for the industry was encouraging. The key factors in industry improvement were rationalisation of the number of registered shipbuilders, improved technology and the move away from steel to aluminium and fibreglass construction.

1.3 In 1988 the Industries Assistance Commission reported that:

“... [IAC Inquiry] evidence indicated that by and large, the industry’s industrial relations record is good, and that work practices have greatly improved. The industry’s technological capability, including design, research and engineering development, is at least comparable to world standard, and in some cases Australia leads the world. Marketing effort has been increasing in recent years and is now bringing success.

The projected increase in defence-related demand is likely to be of prime importance, and will give the industry new opportunities to develop and prosper.”¹

1.4 In 1989 the Review Committee on Marine Industries, Science and Technology concluded in its report *Oceans of Wealth* that:

“The shipbuilding industry has successfully restructured itself in the last five years to become a successful exporter with good prospects for the future, based on quality, innovation, entrepreneurship, management skills and improved technology.”²

1 *Ships, Boats and Other Vessels*, Industries Assistance Commission Report No 414, AGPS Canberra, 29 June 1988, p 50

2 *Oceans of Wealth? - A report by the Review Committee on Marine Industries, Science and Technology*, Department of Industry, Technology and Commerce, AGPS Canberra 1989, p 72

B. CURRENT SHIPBUILDING ACTIVITY

1.5 Current shipbuilding activity in Australia is composed of three main elements:

- “ . conventional steel ships, including cargo ships, tugs, offshore supply vessels, fishing trawlers, naval vessels, specialised vessels for use in the Antarctic, surveying, scientific research ships and some ferries;
- . high speed craft built in aluminium alloy, including most tourist craft and some ferries and special purpose vessels such as Customs launches and luxury yachts; and
- . boats, mostly constructed in fibre reinforced plastic, including leisure craft, some fishing vessels and other small service and commercial vessels.”³

1.6 These elements can be separated into two main categories - commercial and defence (naval).

B.1 Commercial Sector

1.7 The commercial sector, that is, the sector constructing or modifying ships in excess of 150 gross construction tonnes (gct), consists of small shipyards involved in the production of vessels such as passenger and vehicular ferries, luxury motor yachts, fishing vessels, offshore supply vessels, tugs and small trading vessels.⁴ Construction materials include steel, aluminium, and reinforced plastics.

1.8 The current small shipyards are in contrast to the shipyards of the 1970s when a wide range of large vessels were being built. These included bulk carriers, roll-on roll-off vessels and cargo vessels. The decline in this type of production has been attributed to lack of economies of scale, obsolete plant, low labour productivity and industrial unrest.⁵

1.9 The Australian Shipbuilders' Association (ASA) in its submission to the inquiry reported that firm orders for work in 1991/92 were weak, particularly for steel vessels and that the traditional steel industry was 'under pressure'.⁶

1.10 A mainstay of the steel ship and boat building sector of the industry - construction of fishing vessels - has recently experienced a marked decline in local demand, as a result of reductions in the fishing fleet. The ASA considers that Australian builders are unlikely to have more than limited success in selling overseas

3 Australian Maritime Safety Authority: Submission 30 p 2

4 Department of Industry Science and Technology: Submission 42 p 1

5 *ibid.*

6 Australian Shipbuilders' Association Limited: Submission 38 p 2

due to the competition from low labour cost countries such as Spain, Mexico and Argentina. A recurrence of the buoyancy of the fishing vessel section of the industry experienced in the 1980s is unlikely.⁷

1.11 The requirement for offshore supply vessels has also been dormant over the last five years. Australian manufacturers, however, are hopeful of taking advantage of an expected increase in demand over the next decade as offshore exploration expands.

1.12 Evidence to the Committee identified an area of opportunity for the shipbuilding industry in the construction of bulk carriers. This was based on predictions that the shipbuilding market will double in the next 10-15 years as commodity trade rises and the world fleet requires replacement.⁸ This expectation has prompted a proposal for a major steel shipbuilding and marine engineering facility at Port Kembla on the south coast of New South Wales. The Committee was advised that a preliminary market study had been positive, but it remains for a major feasibility study to be undertaken.

1.13 The proposed steel shipbuilding and marine facility would be built on a vacant site adjacent to the BHP steel mill. The site fronts an existing deep water port with infrastructure already in place. As a greenfield development the project would provide a unique opportunity to introduce a flow line construction system with modern robotic and computer technology and to adopt a progressive approach to marketing and industrial relations. A one union arrangement is envisaged for the site.

1.14 One of the members of the original task investigating the proposal was BHP Transport, which was of the opinion that such a project should be approached with caution. While BHP Transport recognised the advantage of a world class shipbuilding facility in Australia, it stressed that such facilities needed to be world competitive in order to be viable. BHP Transport stated in evidence to the Committee:

“... our concerns about adding to the capacity in Australia for large commercial vessels revolves around whether it would be internationally competitive because of factors such as the size of the Australian market not being able to support it; the cyclic nature of that market; the geography of a facility based in Australia compared with where the world market is; labour productivity; industrial relations issues that you obviously have heard about; the technical expertise and skill level of the labour force; and the large capital investment.”⁹

1.15 BHP Transport also made it clear to the Committee that these facilities needed to be world competitive as the Australian shipping industry, and BHP Transport, were not in a position to support an increase in costs arising from an uncompetitive facility.

7 *ibid.*, p 6

8 ADDCO Industrial Pty Ltd: Submission 2; Tasman Shipbuilding and Offshore Engineering Ltd: Submission 53; Austral Oceanic Services Pty Ltd: Submission 57

9 Hunt, G, Ports Manager of New South Wales, BHP Transport: Transcript p 348

Any decisions on future purchases for the BHP fleet would be based on the key factors of cost, delivery and quality and not promotion of a developing shipbuilding facility. Should incentives be provided, however, by way of taxation allowances or some other method, BHP may be encouraged to consider Australian suppliers.¹⁰

1.16 The Committee also received evidence more favourable to the Port Kembla proposal. In a written submission, the Port Kembla Harbour Task Force, which is comprised of representatives of shippers and other port users, the trade union movement, Wollongong City Council, the Maritime Services Board/Illawarra Port Authority and the general community, conveyed its "strongest support for the project and for any Federal Government support that may be required".¹¹ Further evidence from Westpac and Caltex expressed in-principle support for the project by these companies.

1.17 The Committee notes the support for the project by Caltex and Westpac, and understands that the next phase of the project will be the conduct of a feasibility study.

1.18 The Committee considers that this project could have a major impact on the shipbuilding industry in Australia, with a significant flow-on effect to related industries. The project warrants careful consideration to establish its viability.

1.19 The Committee further considers that the Federal Government should demonstrate its support for the future of the Australian shipbuilding industry by making a contribution to the cost of the feasibility study of the project.

Recommendation 1

1.20 The Committee recommends that the Government contribute an amount up to \$500 000 towards the cost of the feasibility study of the shipbuilding facility which is proposed for construction at Port Kembla, provided that private industry is prepared to contribute at least 75 per cent of the total cost of the study; and such commitment from private industry is placed on the public record in advance.

1.21 In contrast to the decline noted in the steel ships section of the industry, ship builders using more light weight materials have enjoyed considerable success and are considered to be world leaders.¹² This section of the industry concentrates on aluminium construction of high speed commercial vessels, generally ferries and motor

10 Hunt, G, Ports Manager of New South Wales, BHP Transport and Rumley, W, Project Development Superintendent, BHP Transport: Transcript pp 349-357

11 Port Kembla Harbour Task Force: Submission 41 p 2

12 Australian Maritime College: Submission 14 pp 2-3; Oceanfast Motor Yachts: Submission 36 p 2; Australian Shipbuilders' Association: Submission 38 p 6

yachts. It has had notable success in entering international markets.¹³

1.22 Western Australian shipbuilders are leaders in this industry sector. These shipbuilders have combined innovative design with advanced materials and construction to produce a quality product of world class. In tandem with producing advanced motor yachts and ferries, shipbuilders have also identified and targeted their markets, ensuring that their product meets client requirements in terms of finish, fitout and delivery time.

1.23 Two Western Australian shipyards informed the Committee that they now export all of their product, and rely on export orders to maintain their viability.¹⁴ Additionally, shipbuilders are also looking at the export potential of the technology developed in Australia to produce advanced high speed vessels. Mr John Farrell, Managing Director, Oceanfast Pty Ltd, informed the Committee that his company is involved in technology transfer agreements with the second largest shipbuilder in Japan.¹⁵

1.24 A major factor in maintaining the competitiveness of the Western Australian shipyards is the good relationship between management and the workforce. Managers of a number of Western Australian shipyards informed the Committee of the high level of skill and motivation of their employees, and of the low level of industrial unrest.¹⁶

1.25 Mr John Farrell also pointed to the low level of union involvement in the lightweight sector of the industry.

“... it is true to say that the major portion of the lightweight sector of the industry is non-unionised and I would suggest to you that is no accident.”¹⁷

1.26 Other evidence, however, was presented which indicated to the Committee that the extent of union involvement in the workplace was not a major factor in the level of industrial unrest.

“We can talk to the unions man to man. ... I worked for 24 years in Fremantle in shipbuilding and I can only remember one really long strike and that was a week and a half. We get national stoppages, you

13 DITAC: Submission 42 p 1

14 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript p 295; Cawthorn, M, Managing Director, Ocean Shipyards: Transcript p 265

15 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 235, 261

16 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 249-51; Cawthorn, M, Managing Director, Ocean Shipyards (WA) Pty Ltd: Transcript p 273; Rothwell, J Managing Director, Austal Ships Pty Ltd: Transcript p 207

17 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 249

know, where the whole metal trade has struck for one day but that is beyond our control.”¹⁸

1.27 A contributing factor to the low level of industrial unrest may be the relatively small size of the workforce in the shipyards, which facilitates greater contact between management and employees. Mr John Rothwell, Managing Director, Austal Ships Pty Ltd stated to the Committee:

“I do not think we would probably entertain any idea of going over 300 employees ... once the things seem to get up to 500 or 600 or 1000 people, the unions get heavily involved and the communication between management and people goes and so forth”¹⁹

1.28 Shipbuilders in Western Australia have also combined with AUSTRADE to assist in penetrating their market. AUSTRADE has provided, in the view of Mr John Farrell, Chairman, ASA, very good “peripheral support”.²⁰ This has mainly consisted of marketing support, promotion and providing an “inherent credibility” to marketing efforts by shipbuilders in overseas markets. AUSTRADE has also acted as a catalyst in bringing together individual shipbuilders to form industry sector marketing groups, for example for fishing vessel constructors and ferrybuilders.²¹ This is further discussed in Chapter Four.

1.29 Prominent among the high speed vessels have been the high speed wave piercer catamarans, first developed in the 1980s by International Catamaran Designs Pty Ltd of Sydney and built in Hobart. In the latter part of the decade it was recognised that the design could be modified to enable the vessel to carry cars as well as passengers. The first of the 74 metre vessels built for this purpose was *Hoverspeed Great Britain* which established a new trans-Atlantic speed record while being delivered to its owners.

1.30 *Hoverspeed Great Britain* and other wave piercers, however, subsequently attracted unfavourable publicity for mechanical breakdowns and for seasickness among their passengers, attributed to the vessels’ poor seakeeping ability. Early in the inquiry, the Committee was informed that publicity arising from the problems experienced by the vessels resulted in potential purchasers hesitating before negotiating further contracts with Australian builders. By the conclusion of the inquiry, however, these problems associated with the vessels were thought to have been corrected.²²

18 Cawthorn, M, Managing Director, Ocean Shipyards (WA) Pty Ltd: Transcript p 273

19 Rothwell, J Managing Director, Austal Ships Pty Ltd: Transcript p 308

20 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript, p 237

21 Cannon, P, Acting Manager, Marine Business Development Unit, AUSTRADE and Knowles, T, Senior Officer Marine (Perth) AUSTRADE: Transcript pp 168, 170

22 Meredyth, B, Assistant Secretary, Engineering Branch A, DITAC: Transcript p 25; Fry, D, Owner and Chairman, NQEA: Transcript pp 97, 103; Hercus, P, Managing Director, International

B.2 Report on Australian High Speed Shipbuilding

1.31 In 1991 the Marine Industries Section, Department of Industry, Technology and Commerce (DITAC), sponsored, in conjunction with the ASA, a study by ACIL Australia Pty Ltd of the high speed vessels sector. The consultant's brief was to analyse the opportunities and constraints facing Australia's development of the domestic and export markets related to high speed vessels. The report, titled *Australian High Speed Shipbuilding: Opportunities and actions for the 1990's*, was released in February 1992.

1.32 The consultant found that there is a growing world demand for high speed yachts and ferries. Currently, the Australian shipbuilders share of the world market for high speed vessels is approximately 10 per cent. Australian shipbuilding strengths have revolved around design and development flair, workmanship and delivery to buyer requirements.

1.33 The major threat to the industry was identified as the adequacy of financial services for shipbuilding contracts. The report recommends:

“ . an industry wide conference focussing on the provision of finance for ship purchases, including:

- industry concerns with EFIC policy, and
- EFIC loan assessment processes and information requirements; and

. workshops on:

- defence requirements and Australian High Speed Vessel capability,
- research and development requirements for the high speed vessel industry, and
- naval architecture in the 1990's.”²³

B.3 Naval Ship Construction

1.34 There are two major naval shipbuilding programs in progress. The Australian Submarine Corporation in Adelaide is undertaking construction of a fleet of six submarines, while AMECON in Melbourne has been awarded the contract for the construction of ten frigates.

1.35 The letting of these contracts within Australia has reversed a former general practice of overseas construction of submarines and vessels of destroyer and frigate size. They are reflective of the developing trend towards an increased Australian

²³ *Australian High Speed Shipbuilding: Opportunities and Actions for the 1990s: report to the Marine Industries Section, Department of Industry, Technology and Commerce, Acil Australia Pty Ltd, February 1992, p i*

industry involvement in defence projects. As such they have been welcomed by industry members and commentators.

1.36 Both programs are based on modular techniques which allows the construction to be spread among several companies. The contracts also involve a range of activities lying outside the traditional shipbuilding industry, such as installation of weapon systems.

B.4 Boatbuilding

1.37 This category refers to the building of smaller, mainly pleasure vessels, of less than 50 tonnes displacement. The boatbuilding industry is characterised by relatively small scale firms in terms of employment, capitalisation and operation, largely concentrated in the Brisbane/Gold Coast area of Queensland.

1.38 Industry representatives report a decline in employment in the industry from 21 100 to 1000 over the three years to October 1991, and attribute it to an unfavourable exchange rate, shipping and union problems.²⁴ In contrast to shipbuilders, who largely see export as the means of ensuring survival, boatbuilders argued that their survival depends on an expansion of their domestic base.

B.5 Ship repair and fitout

1.39 Although the inquiry terms of reference did not specify ship repair as an area *under review*, it was raised in several submissions to the inquiry as shipbuilding and ship repair have obvious areas of overlap in skills and facilities. For some companies ship repair is a significant proportion of total operations. For example, Australian Shipbuilding Industries in Western Australia noted in its submission that approximately half the company's activity is associated with the repair, overhaul and modification of naval and commercial ships.²⁵

1.40 Naval ship repair is at present contracted to Australian Defence Industries for all ships based on the east coast. This arrangement is in force for a period of five years. For ships based elsewhere other companies may tender for repair contracts. Concern about this policy was raised in evidence on several occasions and is discussed more fully in Chapter 7.

1.41 The ASA asserted that "commercial ship repair is spasmodic and returns low profits" but that Australian industry is quite capable in this area, particularly in

24 Barry-Cotter, R, Vice President, Boat Manufacturers' Association of Australia: Transcript p 407-408

25 Australian Shipbuilding Industries Pty Ltd: Submission 32 p 1

relation to smaller ships. For larger ships Australian yards are too small, "are unfortunately located, do not have access to cheap labour and are unable to justify investment costs".²⁶

1.42 The ASA also drew the Committee's attention to an anomaly operating under the diesel fuel rebate scheme. Under this scheme, ship repairers in the west stated that they are placed under a disadvantage in seeking ship repair contracts because it is cheaper for vessels to travel to Singapore and gain the benefit of the fuel concession.

1.43 DITAC advised that it is aware of the problem and that the solution is contingent upon a number of related reviews. A solution is expected in the latter half of 1992.²⁷

1.44 The Committee considers that the current structure of the diesel fuel rebate scheme reduces the competitiveness of Western Australian shipyards when seeking ship repair contracts. An efficient repair industry is capable of saving foreign exchange and repairing of foreign ships may provide export income for Australia. The Committee therefore urges DITAC to expedite the resolution of the fuel concession anomaly.

1.45 The Committee received evidence that a major market exists for Australian industry in ship fitout. Dr John White, Chief Executive, AMECON, stated that the amount of Australian-New Zealand content for the ANZAC ships project is 81 per cent, composed of 72 per cent direct content and 9 per cent offsets. This represents in excess of \$2 billion of work to be done by companies outside of the prime contractor group of companies.²⁸

1.46 The Committee notes that, in developing its Australia-New Zealand procurement sources, AMECON has worked closely with the Industrial Supplies Office (ISO) to identify potential Australian and New Zealand suppliers, and tailor AMECON's specifications to the capabilities of the suppliers.

1.47 In performing this function, the ISO has developed a large database of market intelligence which makes it ideally placed to act as a procurement agency/adviser for Australian sourced equipment for other shipbuilders.

1.48 The Committee considers that the work done by AMECON and the ISO to foster Australian and New Zealand industry involvement in the marine sector should have a flow on effect to other shipbuilders. The Committee is of the view that there needs to be a greater awareness among Australian manufacturers of the opportunities available in the marine sector.

26 Australian Shipbuilders' Association: Submission 38 pp 3, 7

27 Knight, R, Assistant Manager, Business Taxation Section, DITAC: Transcript p 617-618

28 White, Dr J, Chief Executive, AMECON: Transcript p 333

1.49 The Committee also considers that the ISO, being an agency that specialises in identifying Australian manufactured products for use in major Government projects, should have a greater involvement in the procurement process for major projects.

Recommendation 2

1.50 The Committee recommends that the Marine Industries Section in the Department of Industry, Technology and Commerce in conjunction with the Industrial Supplies Office develop an information awareness campaign to promote the marine sector as a market for Australian manufacturers.

Recommendation 3

1.51 The Committee recommends that, to increase the level of Australian manufactured equipment being used by Australian shipbuilders, both the Department of Industry, Technology and Commerce and the Australian Shipbuilders Association should encourage shipbuilders to consult the Industries Supplies Office as part of their procurement processes for all major ship building, repair and fitout contracts.

C. CURRENT POSITIVES FOR THE INDUSTRY

C.1 Design Capacity

1.52 Throughout the inquiry the Committee received evidence which cited design capacity as an outstanding strength of the industry. Innovative design has established Australia as a world leader in certain types of vessels, and allowed Australian designers and shipbuilders to maintain a competitive advantage in the export arena.

1.53 Australian world firsts include the combined roll-on roll-off bulk carrier, the compressed natural gas fuelled ship, the gasturbo-electric propelled ship and the purpose built cellular containership.

1.54 Current innovative designs capturing market attention are the wave piercer catamaran and luxury motor yachts. Designs being prepared for the market include an air cushioned catamaran and a 'hatchcoverless' containership, which facilitates access to container cargo.²⁹

29 The Institution of Engineers, Australia: Submission 11 p 1; Australian Maritime College: Submission 14 p 4; Ellis, W: Submission 24 p 6; Oceanafast: Submission 36 p 1; Australian Centre for Maritime Studies: Submission 39 p 4; DITAC: Submission 42 p 8; University of NSW:

1.55 The reputation for quality design is accompanied by a reputation for quality in production. The ability to produce a well-finished and well fitted-out vessel has contributed to the maintenance of a competitive edge. Some builders have international standard quality assurance and quality control systems in place and others are moving towards these systems.³⁰

1.56 Concern was expressed on several occasions, however, about the likelihood of this design advantage being eroded, as other shipbuilding nations adopt and further develop Australian designs. Several prominent designers and manufacturers, as well as DITAC, argued that to maintain the current advantages Australian industry must develop present technology further.³¹ The implications of these concerns for research and development are discussed further in Chapter 6.

C.2 Changing Industrial Environment

1.57 Changing industrial practices in shipyards and particularly the move towards single union agreements were often cited as a positive recent development in the industry. A Newcastle dockyard, for example, reported that:

“Industrial confrontation between ship yard management and workers is virtually non existent today and forms no impediment to desired levels of worker productivity.”³²

1.58 Representatives of both the submarine and frigate projects indicated that streamlining union agreements and the resultant decrease in demarcation disputes were key factors in their production and profitability strategies.³³

1.59 The decreasing level of industrial disputation also appeared to be linked to the transition to smaller yards, which has allowed the evolution of local wage/production agreements. Communication between management and staff is said to be more direct and relationships more harmonious and flexible.³⁴

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- 30 Ocean Shipyards: Submission 12 p 2; Australian Shipbuilding Industries Pty Ltd: Submission 32 p 3; Oceanfast: Submission 36 p 2; Australian Shipbuilders' Association: Submission 38 p 7; DITAC: Submission 42 p 8
- 31 DITAC: Submission 42 p 8; NQEA Australia Pty Ltd: Submission 48 p 4; Office of the Premier, WA: Submission 51 pp 1, 16; Incat Designs: Submission 54 p 3; Austral Oceanic Services Pty Ltd: Submission 57.1 p 4
- 32 Forgacs Dockyard: Submission 58 p 3
- 33 Williams, Dr D, Managing Director, Australian Submarine Corporation: Transcript pp 134-135; White, Dr J, Chief Executive, AMECON: Transcript pp 324-325
- 34 Swales, D: Submission 5 p 2; The Institute of Marine Engineers: Submission 21 p 1; Meredyth, B, Assistant Secretary, Engineering Branch A, DITAC: Transcript p 19; Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript pp 307-308; Gaspar, N, General Manager, EMS Holdings: Transcript p 316

1.60 Some industrial problems remain, however, mainly connected to waterfront problems. In particular, the Boat Manufacturers' Association of Australia reported on-going and debilitating problems in the loading of their products for export. Demarcation disputes and other wharf related costs were estimated to add five per cent to the cost of the boatbuilder's product. Similar difficulties were reported in seeking to launch yachts on the Western Australian waterfront.³⁵

C.3 Proximity to Asia

1.61 Several submissions, mainly from Western Australia, listed Australia's proximity to Asia as an advantage for the industry. The advantages conferred by geographic location in serving emerging Asian markets were also confirmed in evidence by AUSTRADE.³⁶ Compared to competitors in Europe, Western Australian manufacturers are well placed to capture the Asian market, particularly in the light weight sector where Asian competition is not yet strong. In the construction of steel ships lower Asian labour costs make it difficult for Australian manufacturers to compete.

1.62 Australian expertise in designing and constructing vessels for use in tropical waters was also considered to confer a competitive advantage to the shipbuilding industry.³⁷

1.63 The potential for export of educational programs to the Asian region has also been recognised by the Australian Maritime College in Launceston. It has established an Asia Pacific Maritime Centre with the intention of offering suitable training packages to assist in the development of shipbuilding capabilities in the region. It anticipates spin-offs in terms of equipment sales and specialist consultancies.³⁸

D. MONETARY EFFECTS ON THE INDUSTRY

D.1 Exchange and Interest Rates

1.64 While the downturn in the shipbuilding industry was linked in many submissions to the general downturn in the Australian economy, specific economic variables were of concern.

35 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 255; Boat Manufacturers' Association of Australia representatives: Transcript pp 416-422

36 Cannon, P, Acting Manager, Marine Business Development Unit, AUSTRADE: Transcript pp 177, 180-181

37 ASDMAR Pty Ltd: Submission 3 p 2; Ocean Shipyards: Submission 12 p 2; Australian Shipbuilders' Association: Submission 38 p 8

38 Australian Maritime College: Submission 14 p 6

1.65 Many submissions alluded to the effects on exports of unfavourable exchange rates. An exchange rate closer to 70 cents per US dollar was said to be desirable to increase competitiveness in export markets.³⁹

1.66 High interest rates were also said to have affected the industry by raising the cost of capital, and contributing to the difficulties faced in arranging competitive financing for export orders.⁴⁰

1.67 The importance of appropriate and competitive finance packages for export orders emerged through the course of the inquiry as the single most important issue affecting the industry. Finance is discussed in Chapter 4.

E. OTHER ISSUES RAISED IN THE COURSE OF THE INQUIRY

1.68 The other issues raised in the course of the shipbuilding inquiry were largely reflective of those facing industry generally in the 1990s. They included:

- . government support for the industry in view of the phasing out of industry subsidy, and the appropriateness or otherwise of the 'level playing field' concept in the international context;
- . the importance of marketing strategies and the extent to which AUSTRADE meets the needs of the industry;
- . the ability of current educational institutions to provide relevant technological expertise and skilled personnel; and
- . the importance of research and development programs to the maintenance of present competitive advantages in the export market.

1.69 Of specific relevance to shipbuilding was the issue of the links between commercial and defence shipbuilding and the possibilities for better liaison between the two.

1.70 Discussion of these issues follows in succeeding chapters.

39 Ocean Shipyards: Submission 12 p 2; EMS Holdings: Submission 26 p 1; Australian Shipbuilding Industries Pty Ltd: Submission 32 p 3; Oceanfast: Submission 36 p 2; Australian Shipbuilders' Association: Submission 38 p 1; NQEA Australia Pty Ltd: Submission 48 p 1

40 Ocean Shipyards: Submission 12 p 1; EMS Holdings Pty Ltd: Submission 26 p 1

CHAPTER TWO

GOVERNMENT INVOLVEMENT IN THE INDUSTRY

2.1 Responsibility for the shipbuilding industry, as for industry in general, lies with the Department of Industry, Technology and Commerce (DITAC). Within the Department most involvement with the industry is through the Engineering Industries and Marine Industries Sections.

2.2 The Marine Industries Section was set up as part of the Government's response to the McKinnon review of 1989. It takes a broad view across a range of marine industries, *shipbuilding being just one of them. The Engineering Section is concerned more with the administration of the bounty and other engineering programs designed to support the industry.*

2.3 Significant Government involvement with the industry also occurs through the export body, AUSTRADE and through defence shipbuilding programs.

A. THE BOUNTY

A.1 Historical Background

2.4 Before 1940 protection for assistance to shipbuilding was provided solely in the form of import duties. A bounty scheme was introduced in 1940 but no claims for payment were made and it was removed in 1943.

2.5 In 1947 bounty assistance was re-introduced. Its purpose was to equate the costs of building a vessel in Australia with the costs of building a similar vessel in the United Kingdom. The subsidy scheme was supported by prohibition on imports of both new and second-hand vessels.

2.6 The 1947 cost-based scheme was replaced in 1975 by a bounty scheme based on selling price.

2.7 The *Bounty (Ships) Act 1980* provided for the bounty to be paid as a percentage of costs of construction of vessels over 150 gross construction tonnes (gct) and fishing vessels over 21 metres and costs of modification to vessels where total costs exceeded \$400 000. Under the Act progressive payments were to be made to the shipbuilder during construction. While some import controls were maintained, importation was allowed for all new vessels and for second-hand vessels meeting specific criteria.

2.8 From 1980 to 1984 bounty was only payable for vessels intended for use in Australian coastal waters. In 1984, in order to assist the industry to take up excess capacity through increased exports, the bounty scheme was extended to cover eligible

vessels built for export. Registration criteria were also introduced for builders wishing to claim bounty. Previously, registration under the Act was an administrative formality and builders seeking registration were not required to meet any prescribed conditions.

2.9 From 1980 to 1988 rates of payment of bounty varied according to the size of the vessel. From 1 January 1988 two rates of payment were set. These were 20 per cent of the cost of construction in the case of prescribed vessels and modification work, and 15 per cent of the cost of construction for other eligible vessels. Prescribed vessels included tugs, bulk carriers, rig servicing and fishing vessels.

2.10 An Industry Assistance Commission (IAC) review of assistance to the ship and boatbuilding industries was conducted in 1988. The Commission noted in its report that the effect of the registration process had been to restrict the bounty to a select group of shipbuilders, and thereby to favour selected firms, and to restrict competition, adaptability and ultimately efficiency of resource use in the industry.

2.11 The IAC noted further that, since the introduction of the export bounty, export sales had increased markedly but that currency depreciation, better marketing and improved engineering had been contributing factors.

2.12 Unanticipated outcomes were also reported. Because the total amount available for bounty payments had been capped in response to increased demand, builders could not be sure of assistance and were reluctant to write new business. In addition, while the export bounty had been designed to bring more work to the traditional steel shipyards, builders of aluminium ferries, luxury yachts and catamarans had received a significant portion of the bounty.

2.13 The IAC ultimately recommended that the export bounty be phased out over a three year period by the end of which shipbuilders would have had five years of export bounty to develop export markets.

2.14 As a result of the IAC review, several changes were made to bounty arrangements in the *Bounty (Ships) Act 1989*. Bounty payments were set, payable on eligible contract costs of construction for self-propelled navigable vessels greater than 150 gct and less than 20 000 gct, regardless of end use. The rates are:

- . 1 July 1989 to 30 June 1991 - 15%
- . 1 July 1991 to 30 June 1993 - 10%
- . 1 July 1993 to 30 June 1995 - 5%
- . 1 July 1995 - Nil

Table 1: Production of Bountiable Vessels by Type: 1982 to 1991**

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Fishing	27	7	16	20	16	21	22*	28	21*	1
Ferries and Yachts	14	17	13	15	21	29	15	28	21	15
Barges	3	5	6	4	7	5	1		1	-
Tugs	6	8	10	9	8	3	7	4	-	1
Rig/Supply	1	2	2	3*	1	2*	-	-	-	-
Bulk Carriers	1	-	1*	2*	2*	1	1*	-	1	1
Dredges	4	-	2	1	-	1	-	2	1	1
Paddle Wheel	3	-	-	-	1	2	2	-	-	-
Float Docks	-	-	-	1	1	-	-	-	-	-
Other	2	-	-	-	5	3	1	-	1	7
TOTAL	61	39	49	50	62	67	49	62	46	26

* Includes modifications

** Year end 30 June

Source: Department of Industry, Technology and Commerce¹

¹ *Shipbuilding Activities in Bountiable Shipbuilding*, Department of Industry, Technology and Commerce, Canberra, November 1991: Exhibit 63 p 2

A.2 The Bounty - Current Views

2.15 A number of views on the present bounty scheme were presented to the inquiry. The observation that the bounty had not encouraged efficiency was made by some witnesses. The NSW Government submission noted that, despite the bounty, inefficiencies remained and yards have not become competitive.²

2.16 Other evidence suggested that the bounty had been used inappropriately in the past to simply reduce prices rather than investing in longer term objectives.³ Mr Brian Meredyth, Assistant Secretary, Engineering Branch A, DITAC concurred with this view:

“For the moment [shipbuilders] have been able to use the bounty in some cases to attract the attention of the buyer, but in my judgment it is not a viable long term strategy for the Australian industry to try and be the cheapest producer of any class of vessel in the world. They have to produce the best vessel.”⁴

2.17 Reliance on the bounty to provide price competitiveness was evident in the following evidence of Dr Donald Williams, Chairman, Australian Submarine Corporation, in reference to a pending Philippines patrol boat contract:

“If we can get this Philippines job in the interim, that will be a real bonus ... because of the nature of the job and the risk involved - any project like this is a bit risky - the bounty gives us a bit more of a cushion, without which we would not have got the job ... that gives us enough comfort to go out into that market.”⁵

2.18 Concern with what other bidders may build into their prices was apparent in many submissions, particularly in relation to the levels of subsidy enjoyed by overseas shipbuilders. For example, NQEA Australia Pty Ltd stated:

“The almost hackneyed phrase ‘the level playing field’ does not apply in the international new ships market. Our company does not have a philosophical problem with the phasing out of bounty; however, doing so is most unwise unless competitor nations are doing the same things at the same time. ...

- 2 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 224; Dunn, J, Tutor and Doctoral Student, Department of Geography, University of Newcastle: Transcript p 657; Ellis, W: Transcript p 677; The Cabinet Office, NSW: Submission 34 p 4
- 3 Davey, J, Company Accountant and Acting General Manager, Launceston Marine Industries Pty Ltd: Transcript p 60; Tortolano, G, Transcript p 193; Australian Shipbuilders' Association: Submission 38 p 13
- 4 Meredyth, B, Assistant Secretary, Engineering Branch A, DITAC: Transcript p 16
- 5 Williams, Dr D, Managing Director, Australian Submarine Corporation Pty Ltd: Transcript p 127

Until appropriate 'level playing field' support for Australian shipbuilding can be guaranteed, the reduction in the bounty paid to the shipbuilder should be halted at the 1989-91 level of 15%."⁶

2.19 NQEA suggested that the bounty be continued in an altered form, where the subsidy is increased to 20% but applicable only to the net Australian content. 'Net Australian content' would be measured by the actual final cost of construction less all imported content. Such a change, it was argued, would encourage shipbuilders to utilise Australian equipment manufacturers with the spin-off benefits being an expansion of those firms and eventually the expansion of such firms into other export markets.

2.20 The Metals and Engineering Workers' Union, although not advocating the long term retention of the bounty, felt that it should be retained until 1996 as this would "bring the shipbuilding industry into line with other industries in terms of tariff and bounty assistance".⁷

2.21 The Western Australian Government recommended that the bounty should be returned to the 15% level to enable local companies to consolidate their position in the Asian and Middle East markets. It was argued that as direct subsidies in the European Community can amount up to 20% of construction costs, a bounty payment is necessary in order to be able to compete favourably.

2.22 The Australian Shipbuilders' Association (ASA) submission advised that "the industry generally supports the planned reduction in the Bounty provision".⁸ The ASA chairman, Mr John Farrell, later explained that this support had grown out of ASA's involvement in negotiating the present bounty scheme and an acceptance of the reality of a decrease in subsidy to industry.⁹

2.23 While reporting a general acceptance of the changes, the ASA also drew the Committee's attention to the change in the exchange rate since the decision to progressively reduce the bounty. Mr Farrell outlined the problem as follows:

"The obvious difficulty is that the background of this industry when the last bounty scheme was negotiated, when the industry agreed that it could phase it out and wean itself out, was an Australian dollar in the mid-60c range with a lot of people forecasting it going lower, and a bounty rate of 32½ per cent. Today, in 1991, we have an 80c dollar and a dollar that has generally increased against all its major trading partners, with a bounty rate of 10 per cent reducing to 5 per cent."¹⁰

6 NQEA Australia Pty Ltd: Submission 48 p 4

7 Metals and Engineering Workers' Union: Submission 20 p 2

8 Australian Shipbuilders' Association: Submission 38 p 13

9 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 226

10 *ibid.*, p 227

2.24 A prominent ferry builder, Mr John Rothwell, was concerned enough to say:

“The industry itself will need some support. That does not mean to say that it necessarily means a handout but I do think that the industry itself is very, very vulnerable and the dollar, as we know, is volatile and if it was certainly mid-80s creeping up towards 90, without the aid of bounty this industry would not survive. I am quite convinced of that.”¹¹

Similar concerns were expressed by others.¹²

A.3 The subsidising of shipbuilding by overseas countries

2.25 The subsidising of shipbuilding by overseas countries has been ascribed to a shipbuilding recession precipitated by the oil crisis of the mid-1970s and the subsequent detrimental effect on seaborne trade. The downturn followed an over-expansion of shipbuilding capacity during a time of unprecedented, speculative demand for new ships, particularly tankers, in the 1960s and early 1970s.¹³ Notwithstanding the cost, governments embarked on the subsidy strategy for social and strategic reasons. In addition, eastern bloc countries, such as Poland, used shipbuilding to obtain foreign currency.¹⁴

2.26 Subsidies take various forms and are often combined into a package. They include special financing arrangements, construction subsidy grants, shipyard reorganisation/investment aid, research and development aid specific to shipbuilding, and tax benefits. The ASA asserted in its submission that:

“The area where the experts come into their own is the financial engineering which now takes longer than the technical aspects of the specification. Tax related leases, interest and currency swaps, wrap around packages etc are terms being used with reckless abandon. In Denmark, by combining the limited subsidy available with the highly subsidised interest offered to Danish companies, coupled with tax incentives offered to individual investors and using the high rates of

11 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript p 296

12 EMS Holdings Pty Ltd: Submission 26 p 1; Boat Manufacturers' Association of Australia: Submission 40 p 2

13 Stocker, J: *In search of a level playing field: The Shipbuilders Council of America and the issue of foreign shipbuilding subsidies*, in *Journal of Ship Production*, Vol 7(2): Exhibit 43 p 118

14 *Financing Ships: The Challenge of the 1990s*, H P Drewry, London, 1989: Exhibit 32 p 44

interest that apply on the domestic market, it is possible to offer long term leases (12-15 years) at an effective interest rate that is sub-libor¹⁵ ... Similarly the Belgians offer their domestic owners a 17 year package at around 2% p.a.”¹⁶

2.27 There have been moves internationally to reduce subsidy levels. Agreements such as the OECD ‘Understanding’ in relation to terms and conditions of loans, and the EEC ‘Seventh Directive’ in relation to construction subsidies, are in place to limit their extent. The OECD Understanding sets the maximum duration of loans at 8.5 years from delivery and interest rates at 8 percent. Under the Seventh Directive the subsidy for large ships has been steadily decreased from 28 per cent in 1988 to 9 per cent in 1991.¹⁷ In addition, individual countries such as Denmark, the Netherlands and China have lowered or terminated their subsidies.¹⁸

2.28 Not all governments support the current trend of subsidy reductions. It has been reported, for example, that the recent EC Directive reductions were in fact “a compromise between the competition commissioner Sir Leon Brittan and demands from southern European countries to maintain the current levels”.¹⁹ Some countries circumvent international agreements and for others they simply do not apply. For example, South Korea, the world’s second ranked ship building nation, does not participate in the OECD Understanding.²⁰

2.29 The Shipbuilders Council of America (SCA) has been waging a campaign against what it perceives to be unfair trading practices since 1989. At that time it cited South Korea, Japan, West Germany and Norway as having the most “blatant subsidies”. In May 1991 the President of the SCA reported that a signed agreement with these nations had still not been achieved.²¹

2.30 In 1991 the Australian Industry Commission reviewed overseas export enhancement measures. It concluded that the Australian Government’s activities in international forums should include working towards:

- . adoption by developing countries of the same obligations as industrialised countries not to use export enhancement measures;

- 15 London Inter Bank Offered Rate (LIBOR). This is the rate of interest offered on loans between London banks. This rate acts as the banking industry standard when setting interest rates for loans. A sub-libor rate, therefore, would be an interest rate below the London Bank Offered Rate.
- 16 Australian Shipbuilders' Association: Submission 38 p 12
- 17 *EC cuts shipyard subsidies*, in *Fairplay*, Vol 315(5643), 2 January 1992 p 5
- 18 *Dutch shipbuilding aid abolished*, in *Fairplay*, Vol 313(5611), 16 May 1991 p 6; *China stops shipbuilding subsidies*, in *Fairplay*, Vol 314(5635), 31 October 1991 p 12; *EC cuts shipyard subsidies*, in *Fairplay*, Vol 315(5643), 2 January 1992 p 5
- 19 *EC cuts shipyard subsidies*, in *Fairplay*, Vol 315(5643), 2 January 1992 p 5
- 20 *Financing Ships: The Challenge of the 1990s*, H P Drewry, London, 1989: Exhibit 32 p 45
- 21 Stocker, J: *In search of a level playing field: The Shipbuilders Council of America and the issue of foreign shipbuilding subsidies*, in *Journal of Ship Production*, Vol 7(2): Exhibit 43 pp 120-124

- . tighter restrictions among all (particularly OECD) countries on the use of subsidised credit to finance exports; and
- . proscription in international agreements of arrangements to subsidise imports across all industry sectors.²²

2.31 The Committee recognises the concern of industry that while the bounty is being reduced in Australia, some competitor nations are subsidising their industries significantly both directly and indirectly. The Committee endorses, however, the decision arising from the IAC Report of 1988 which recommended a decrease in the bounty as it had achieved its aim of enabling the industry to enter export markets, but was not encouraging the growth of a viable, efficient industry.

Recommendation 4

2.32 The Committee recommends that the Minister for Industry, Technology and Commerce take action to encourage a viable, efficient shipbuilding industry by:

- . exploring what assistance other than subsidies can be given to the industry to promote its ability to be export competitive, for example through the use of financial packages for shipbuilding loans and internationally competitive interest rates; and
- . encouraging an international recognition of the desirability of limiting subsidisation practices which distort the international shipbuilding market.

B. OTHER SUPPORT SCHEMES

B.1 Export Enhancement

2.33 The Metal Based Engineering Program (MBEP) and the National Industry Extension Service (NIES) programs are relevant to the shipbuilding industry. The MBEP was introduced in 1989 to assist engineering industries to improve international competitiveness and increase exports. The program is managed by DITAC under NIES, and is comprised of an export enhancement element and a key technologies element. The program is implemented by AUSTRADE.²³

22 Draft Report: *Review of Overseas Export Enhancement Measures, Volume 1: Report*, Industry Commission, December 1991 p xvi

23 DITAC: Submission 42 p 10

2.34 Under the key technologies element of the MBEP, DITAC has initiated several projects to improve the take-up and development of enabling technologies. The primary focus is on a range of activities designed to improve the awareness in the engineering industry of key technologies, such as advanced manufacturing technologies and the use of advanced materials.²⁴

2.35 NIES is a network of Commonwealth, State and Territory government agencies which aims to assist firms in the traded goods and services sectors to become internationally competitive. It unites the suppliers of managerial, planning and quality expertise in the private sector with Australian enterprises needing those skills. The service helps firms to identify their need for improved management practices and then provides financial and other assistance for them to engage consultants to fill gaps in expertise. Examples include redesigning products for export markets, and obtaining additional quality control qualifications and credentials which may be sought by export markets. Under the program, companies are assisted on a maximum fifty-fifty basis.²⁵

2.36 AUSTRADE administers the Engineering Industries Internationalisation Program (EIIP), which is designed to assist companies or industry groups to make the initial foray into export markets. In the case of the shipbuilding industry, the ASA has formed an industry group in conjunction with AUSTRADE and is being funded for a variety of activities, such as market surveys, designed to improve the industry's ability to penetrate export markets.

B.2 Research and Development

2.37 The major element of government support for research and development (R&D) is the tax concession for such work carried out by, or for, industry. In the March 1991 Industry Statement, the Government announced that the concession would become a permanent feature of the tax system at a rate of 150 per cent to June 1993 and 125 per cent thereafter.

2.38 In addition to the tax concession, grants for R&D are available under the Discretionary Grants Scheme. This scheme aims to improve the efficiency and international competitiveness of Australian industry by encouraging research and development activities by companies which have insufficient taxation liability to adequately benefit from the R&D tax concessions. Special consideration is given to applications which show the greatest technical, commercial and economic merit and have the greatest potential for sustainable international competitiveness.²⁶

24 DITAC Annual Report 1990-91, p 50

25 DITAC Annual Report 1990-91, p 18; Meredyth, B, Assistant Secretary, Engineering Branch A, DITAC: Transcript p 4

26 DITAC Annual Report 1990-91, p 68

B.3 Import Duty Concessions

2.39 In the March 1991 Industry Statement, it was announced that import duties on all components for use in the construction, modification and repair of vessels above 150 gct would be removed. The purpose of this change is to allow access to components at world competitive prices while the bounty is being phased out.

B.4 Finance

2.40 Export finance, performance bonds and insurance facilities are available to exporters in the shipbuilding industry through the Export Finance and Insurance Corporation (EFIC). Export finance can be provided on OECD Ships Sector terms of 8 per cent.

2.41 Further finance concessions are available in markets eligible for Development Import Finance Facility (DIFF) funding. DIFF, administered by the Australian International Development Assistance Bureau, provides grant assistance to aid recipients and enables Australian suppliers to compete in those markets where competitors are supported by combinations of grants and concessional loan funds. DIFF funding can be mixed with concessional finance from EFIC to provide a soft loan to the buyer.²⁷

C. INDUSTRY RESPONSE TO GOVERNMENT PROGRAMS

C.1 Export Enhancement and R&D Grants

2.42 The ASA submission noted that Government initiatives such as the Heavy Engineering Program have had significant impact with respect to improvement in individual company performance because they have targeted specific areas such as design, business systems and skill enhancement.²⁸

2.43 Examples of the productive use of such schemes were provided by Mr John Rothwell, Managing Director of Austal Ships Pty Ltd, a successful ferry building company. An MBEP grant of \$150 000 had contributed to the development of an air-cushioned catamaran, while another grant had assisted the company to put together a business plan based on sustainable competitive advantage.²⁹

2.44 The use of these schemes by shipbuilders and, therefore, the extent to which they have assisted the industry was questioned by the chairman of the ASA, Mr John Farrell. He suggested that the take-up rate for R&D was considerably below the

27 DITAC: Submission 42 p 11

28 Australian Shipbuilders' Association: Submission 38 p 13

29 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript p 302

potential for the industry.³⁰ At a workshop held in conjunction with the DITAC consultancy into the high speed vessel industry in September 1991, similar reservations were expressed concerning the ineffective use of industry R&D grants. Application costs, time lags and difficulty in understanding definitions of eligible projects were cited as reasons for less than optimum take-up rates.

2.45 NQEA Australia Pty Ltd representatives suggested it would be useful if available assistance measures could be marketed to builders in a consolidated form.³¹ The implication seemed to be that knowledge of the various schemes was fragmented and confused and hence the accessibility of the schemes was reduced.

2.46 DITAC representatives advised that they were aware of shipbuilders' perceptions that dissemination of information on the schemes could be improved. Measures taken had included presentations on the schemes at ASA meetings.³²

2.47 An issue related to export enhancement of the shipbuilding industry is the overall thrust of the Government's policy towards the promotion of exports. While the Government is encouraging Australian manufacturers to export, the majority of exported goods are transported from Australia to overseas markets by non-Australian owned ships. In its submission to the Committee, the Department of Transport and Communications indicated that "some 99 per cent by weight of Australia's international trade ... is carried by ship. ... Australian flag shipping carries some 4 per cent by weight of total import and export cargoes".³³

2.48 The Committee considers that greater use of Australian flagged ships for the transport of Australian exports would obviously assist Australia's balance of payments. A boost to the local shipping industry may have flow on effects for local shipbuilding. However, the Committee is aware that an overriding consideration for exporters is obtaining a competitive price for transport costs.

2.49 The Committee considers that the government should encourage the use of Australian flagged ships by Australian exporters, particularly where new exporters are being encouraged to enter the overseas market.

2.50 The Committee considers that DITAC, in providing information on export markets, and access to those markets, should also provide information on Australian-owned shipping lines to transport exported goods.

30 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 252

31 NQEA Australia Pty Ltd: Submission 48 p 5; Grimley, S, Managing Director, NQEA Australia Pty Ltd: Transcript p 96

32 Beever, J, Assistant Secretary, Engineering Branch, DITAC, and Dowling, P, Assistant Manager, Engineering Industries Section, DITAC: Transcript pp 607-8

33 Department of Transport and Communications: Submission 50 p 3

2.51 The Committee notes DITAC's willingness to review problems with assistance schemes and to look at ways of addressing lack of knowledge and understanding of available schemes. It is concerned, however, that the bulk of shipbuilders may not be reached by presentations linked to meetings of industry participants and that the apparent confusion about possible government support also may be present in other eligible industry groups.

Recommendation 5

2.52 The Committee recommends that the Department of Industry, Technology and Commerce:

- . review the number and variety of programs available to assist industry in export enhancement and research and development, with a view to consolidating schemes wherever possible;
- . review the methods whereby eligible industry participants are made aware of assistance schemes to ensure that access is not limited by lack of knowledge or understanding. If shortcomings are revealed appropriate programs should be devised to promote the schemes more clearly and more widely.
- . include in export awareness campaigns, information on Australian-owned shipping lines which can be used to transport exported goods.

2.53 Further discussion of research and development and suggestions from the industry for alternative approaches to its promotion are discussed in Chapter 6.

C.2 Import Duties

2.54 The revision of the by-law relating to import duty on components used in ship construction announced in March 1991 was welcomed by the industry. The following comments are representative:

"The Item 42A Exemption, which we understand is close to proclamation, is most welcome."³⁴

"The simplifying of tariffs, import duties and the like have been of positive benefit to the industry, not only in terms of reducing the cost of

imported components but in the paperwork process of facilitating import and export.”³⁵

“... with the relaxation of Item 42A of the Tariff Act there appears to be an improvement in local pricing as a result of competition from imported steel and aluminium and that can only help the industry.”³⁶

C.3 Finance

2.55 Response from the industry to EFIC was almost entirely negative. The ASA submission stated:

“In the areas of DIFF funding and EFIC finance for export shipbuilding orders, Australian shipbuilders have generally experienced extreme frustration.”³⁷

2.56 Similar points of view were expressed many times in other submissions and in evidence before the Committee. Further discussion of these difficulties is contained in Chapter 4.

D. ALTERNATIVE APPROACHES TO SUPPORTING THE INDUSTRY

2.57 Various measures of industry support were suggested by industry participants. As would be expected they mirrored those proposed in relation to industry generally.

2.58 The Chief Executive of AMECON, Mr John White, suggested tax breaks and depreciation allowances rather than direct subsidies would better assist the industry.³⁸ Company tax or income tax concessions for ship and boatbuilders were also suggested by members of the Boat Manufacturers' Association of Australia (BMAA).³⁹ Removal of all sales tax and import duties on goods used in shipbuilding for domestic and export markets was also advocated.⁴⁰

2.59 Similar measures were recommended by the Industry Commission following its 1991 review of overseas export enhancement measures. The Commission recommended that the tax burden on industry should be as low as possible and noted that “effective depreciation arrangements are important”.⁴¹

35 Oceanfast Pty Ltd: Submission 36 p 4

36 Australian Shipbuilders' Association: Submission 38 p 9

37 *ibid.*, p 13

38 White, Dr J, Chief Executive, AMECON: Transcript p 336

39 Barry-Cotter, R, Vice-President, Boat Manufacturers' Association of Australia: Transcript p 434

40 Ralfs, K: Transcript p 485

41 Draft Report: *Review of Overseas Export Enhancement Measures Volume 1: Report*, Industry Commission, December 1991 p xvi

2.60 The recent announcement by the Government of changes in depreciation schedules will go some way towards meeting these calls for effective depreciation arrangements. The acceleration of depreciation is expected to result in a substantial reduction of the effective tax rate on domestic investment in plant and equipment.

2.61 The development allowance announced at the same time may also benefit the shipbuilding industry. Eligibility for this allowance is based on projects having a total capital cost of \$50 million or more, being completed in a tight time frame and meeting criteria to demonstrate that they are world competitive in respect of employers, employees and governments at all levels.⁴² This form of assistance may be particularly relevant to projects such as the proposed Port Kembla steel shipbuilding and heavy engineering facility.

E. GOVERNMENT REGULATIONS AFFECTING THE INDUSTRY

2.62 Responses to the aspects of the inquiry concerning the 'impact of existing regulations on the industry' fell into two categories - regulations covering design, operation and standards of vessels built and operated in Australia; and regulations which apply generally to industry.

E.1 Safety Regulations

2.63 The relevant Government body for safety regulations is the Australian Maritime Safety Authority (AMSA), which came into being on 1 January 1991. It is required to take responsibility for the safety certification of Australian flag trading ships operating on inter-state and international voyages and of imported foreign flag ships engaged in similar operations. These responsibilities are discharged through a combination of surveys by AMSA's marine surveyors and functions delegated to accredited international classification societies.

2.64 Many of the ships built in Australian shipyards are therefore constructed to the AMSA's safety standards and examined while under construction by its surveyors. The majority are conventional steel ships, such as cargo ships, tugs, offshore supply vessels, fishing trawlers, naval vessels and some ferries. AMSA has also had some involvement with high speed aluminium craft including the Bass Strait catamaran *Seacat Tasmania*.

42 *One Nation*, Statement by The Prime Minister, the Honourable P J Keating, MP, 26 February 1992, AGPS Canberra, 1992 p 71

2.65 AMSA's policy is to implement internationally agreed safety requirements. Australian legislation gives effect to International Maritime Organisation conventions to which Australia is a signatory. Examples include:

- . International Convention for the Safety of Life at Sea (SOLAS) 1974
- . International Convention on Load Lines 1966
- . International Convention on Tonnage Measurement of Ships 1969.

Industry bodies, and in particular the ASA, are consulted before giving effect to such instruments.

2.66 In rare cases a need has been identified for standards in excess of those provided by the international instruments to be incorporated in Australian legislation. Such cases often arise from the recommendations of Courts of Marine Inquiry and preliminary investigations under the *Marine Act*.

2.67 In relation to small commercial vessels AMSA plays an active role in the development of the Uniform Shipping Laws (USL) Code. The Code has been adopted by relevant Commonwealth and State ministers, meeting as the Australian Transport Advisory Council (ATAC) as a basis for uniform legislation relating to the survey, staffing and operation of commercial vessels in Australia.

2.68 ATAC has authorised the development of Australian Standards to replace the aluminium construction, glass reinforced plastic construction and design loading elements of the USL Code. These standards are due to be published by mid 1992.

2.69 It would appear from some evidence that an overhaul of the USL Code is overdue. In July 1991, NQEA felt that this code was "in a pathetic state at the moment" and explained that;

"... taking Queensland in particular, we do not know what the regulations are, because they are not given to the industry. It is as difficult as that. Departments or the individual surveyors interpret the regulations in whichever way they want. The interpretation can vary dramatically between States. It goes down to the point where, say, Harbours and Marine in Queensland adopt or use international regulations as the basis for a construction. This is frowned upon by, say, South Australia, which says that the vessel must be totally surveyed by the authority there. It is a mess."⁴³

2.70 This view was supported in the submissions of Austral Oceanic Services Pty Ltd and Stebercraft Pty Ltd. Austral Oceanic recommended that:

“All states should have common rules and regulations. The USL code should be simplified, all anomalies removed and all States to comply fully.”⁴⁴

Stebercraft commented that the USL Code, despite its name, was still not uniform throughout Australia.⁴⁵

2.71 The Committee considers that, as the USL has been adopted by the States and the Commonwealth, it should also be enforced uniformly throughout Australia.

Recommendation 6

2.72 The Committee recommends that the Australian Transport Advisory Council review the enforcement of the Uniform Shipping Laws (USL) to ensure that the standards contained in the USL are applied uniformly in each State.

2.73 AMSA outlined indirect support it provides to the industry by active participation in the development of international regulations for craft of the types constructed in Australian shipyards. Particular examples given were input to International Maritime Organisation (IMO) subcommittees on regulations relevant to wave piercing catamarans, without which Australian manufacturers may have been disadvantaged.

2.74 Other indirect technical assistance is provided to shipyards by the Authority's marine surveyors who undertake surveys of ships under construction. AMSA noted that this assistance had been provided in the past without extra fee but that additional fees could be expected in the future.

2.75 Support for regulations relating to safety standards was evident in submissions to the inquiry. Several comments were received to the effect that whilst Australian standards may be higher than those overseas, any lessening of standards is undesirable. The standards were considered to be appropriate and to contribute to the high quality reputation of Australian vessels.⁴⁶

44 Austral Oceanic Pty Ltd: Submission 57 p 7

45 Stebercraft Pty Ltd: Submission 22 p 2

46 Ocean Shipyards (WA) Pty Ltd: Submission 12 p 8; Australian Shipbuilding Industries Pty Ltd: Submission 32 p 5; Australian Shipbuilders' Association: Submission 38 p 14

2.76 Some complaints were received, however, in relation to charges levied by AMSA. Ocean Shipyards, for example, claimed that following the establishment of AMSA “a dramatic upsurge” of 200 - 400 per cent in survey fees had occurred⁴⁷ and the Royal Institution of Naval Architects noted that:

“... the present cost of a safety equipment survey by the Department of Transport and Communications of a 30m tug is in the order of \$50 000. The cost of the same survey by a classification society is in the order of \$3000.”⁴⁸

2.77 In response AMSA advised that a series of increases had occurred as part of a five year program to achieve cost recovery for fees for service activities and that the increases were on average 20 per cent. In some areas, because of historical under-costing it was necessary to apply a greater increase to bring the fees to cost recovery level. The fees were in fact agreed to in October 1990 prior to the transfer of functions from the Department of Transport to AMSA and AMSA fees had not increased since its formation in January 1991.⁴⁹

2.78 In regard to the comparison of costs between the Department of Transport prior to the establishment of AMSA and classification societies, AMSA representatives were unsure of the explanation, but assured the Committee that examination of fee and cost structures was ‘a very high priority’ of the AMSA Board.⁵⁰

2.79 The role played by AMSA in the development of international regulations for craft of the types constructed in Australian shipyards is highly valued by the high speed vessel industry. The Incat Designs submission remarked:

“IMO is currently engaged in a major review of safety requirements for fast craft and Australia has participated through the Australian Maritime Safety Authority. That contribution is widely respected overseas and is helping to establish the credibility of the Australian industry as a whole. That contribution must continue.”⁵¹

E.2 Industry regulations

2.80 The ASA mentioned regulations applying to the labour market, health and safety regulations, and taxation policy in relation to investment and depreciation as having an impact on the industry.

47 Ocean Shipyards (WA) Pty Ltd: Submission 12 p 8

48 Royal Institution of Naval Architects: Submission 45 p 5

49 Williams, I, Manager, Ship Safety, Australian Maritime Safety Authority: Transcript p 572

50 *ibid.*, p 573

51 Incat Designs Pty Ltd: Submission 54 p 4

2.81 The “lack of timely and adequate reform in labour market rigidity and power” was considered to result in much higher labour costs than in some competing countries. Similarly, costs are increased by the more stringent health and safety requirements than those required elsewhere. It was specified that despite the costs, Australian builders supported the health and safety requirements; however, the implication appeared to be that labour market regulations were in need of reform.⁵²

2.82 The BMAA commented about labour market regulations adding to builders’ costs:

“With a high level of wages and on-cost loadings such as payroll tax, holiday loadings and three per cent superannuation contributions etc., Australian industry has had some major problems to overcome.”⁵³

2.83 Forgacs Dockyard also ascribed comparatively low levels of productivity to award conditions for the workforce. Particular mention was made of the effect of the 38hr week on idle machinery time and postponement of contract delivery times.⁵⁴

2.84 The BMAA also specified environmental protection requirements as an added cost burden and estimated that such requirements add millions of dollars in capital costs to Australian production.⁵⁵ This view was supported by the Boating Industry Association of New South Wales Limited.⁵⁶

2.85 Taxation policy in relation to investment and depreciation, particularly when compared to other countries, was considered not to encourage major investment in the industry.

2.86 The Committee is aware of the argument that labour market regulations, occupational health and safety requirements, and environmental protection measures can serve to increase manufacturers’ costs and have the effect of decreasing the international competitiveness of the shipbuilding industry. The Committee considers, however, that labour market reform and improved productivity can be achieved without compromising occupational health and safety standards and environmental protection.

52 Australian Shipbuilders' Association: Submission 38 pp 14-15

53 Boat Manufacturers' Association of Australia: Submission 40 p 3

54 Forgacs Dockyard: Submission 58 p 5

55 Boat Manufacturers' Association of Australia: Submission 40 p 3; Barry-Cotter, R, Vice-President, and Savage, J, Director, Boat Manufacturers' Association of Australia: Transcript pp 430-431

56 Boating Industry Association of NSW Ltd: Submission 47 p 1

CHAPTER THREE

FINANCE

A. THE IMPORTANCE OF FINANCE TO SHIPBUILDERS

3.1 Shipbuilders consider the issue of finance to be of paramount importance to the future of the shipbuilding industry. Many expressed the view that unless and until satisfactory finance packages could be offered to buyers the pursuit of other concerns was futile. The following comments are illustrative:

“We must ... stress that excellence in design and construction can come to nothing if the bottom-line finance package is not competitive.”¹

“Undoubtedly the biggest single factor which if addressed aggressively would do much to enhance the industry is the provision of readily available finance packages for ship owners, packages which at least match those of overseas countries.”²

“I think that we could probably double our orders at the moment if we could get a more substantial or a more attractive finance package out of Australia.”³

3.2 Shipbuilders explained to the Committee that favourable finance packages are readily available for use by overseas shipbuilders to attract buyers, thus placing Australian shipbuilders at a disadvantage. Some recounted instances when failure to secure a contract resulted solely from the lack of a suitable finance package.⁴ While actual building contract prices may be competitive, the financial package used to fund the contract is equally important to a purchaser.⁵

B. EXPORT FINANCE AND INSURANCE CORPORATION

3.3 The necessity for Australian exporters to have access to competitive finance has been recognised by successive Commonwealth Governments. The role of the Export Finance and Insurance Corporation (EFIC), which has been in operation for 35 years, is to provide export finance, guarantee and insurance services on the Government's behalf.

1 Incat Designs Pty Ltd: Submission 54 p 5

2 Australian Shipbuilders' Association: Submission 38 p 17

3 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript p 296

4 Cawthorn, M, Managing Director, Ocean Shipyards (WA) Pty Ltd: Transcript p 268; Gaspar, N, General Manager, EMS Holdings: Transcript pp 310-11

5 Gaspar, N, General Manager, EMS Holdings: Transcript pp 310-311

3.4 A major restructuring of EFIC was announced in the March 1991 Industry Statement. Effective from 1 November 1991, EFIC was separated from AUSTRADE, of which it had been a part for the previous four years, and re-established as an independent statutory corporation. Its financial structure was reorganised. Callable capital of \$200 million was provided to supplement existing reserves of \$160 million, and a \$50 million facility was to be made available to enable exporters to meet demands for performance bonds without using their own reserves.

3.5 EFIC was also given the opportunity to improve financial services for exporters through the use of interest subsidy arrangements, Australian dollar financing and lines of credit for Australian banks offshore.⁶ In February 1992 it was announced that, in view of the success of the performance bonds, the facility would be expanded from \$50 million to \$150 million. Development Import Finance Facility (DIFF) funding was also to be increased in the next financial year by \$18 million to \$120 million.⁷

3.6 Dissatisfaction with the then role and performance of EFIC was evident throughout the inquiry. It was described as being ineffective⁸, a source of extreme frustration⁹, and as being in need of having its procedures streamlined,¹⁰ and its methodology brought into line with commercial reality¹¹.

3.7 Of particular concern to builders was the time frame in which EFIC operates. The Chairman of the Australian Shipbuilders' Association (ASA), Mr John Farrell, explained:

"Let me mention the way we currently work, particularly with people like EFIC. While we have to jump on a plane and fly across to the other side of the world overnight to try to do a deal, EFIC somehow has three to six months to do its end of the deal. International business does not operate in those timeframes. By the time you have gone back to Australia and pleaded with EFIC and done all the things you have to do, it is all over. It is finished."¹²

6 *Building a Competitive Australia*, 12 March 1991, Statements by the Prime Minister, Bob Hawke, MP; the Treasurer, Paul Keating, MP; Senator John Button; Department of the Prime Minister and Cabinet, AGPS, Canberra, 1991 p 3.21

7 *One Nation*, Statement by the Prime Minister, the Honourable P J Keating, MP, 26 February 1992, AGPS Canberra, 1992 pp 80-81

8 EMS Holdings Pty Ltd: Submission 26

9 Australian Shipbuilders' Association: Submission 38

10 Antelope Engineering Pty Ltd: Submission 10

11 ASDMAR Pty Ltd: Submission 3

12 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 234

Similarly the Australian Shipbuilding Industries Pty Ltd (ASI) submission observed:

“The tortuous path through the processes to achieve this assistance is usually not worth the effort because it is almost impossible to match the timescale of the [EFIC] approval to the timescale of the client’s requirements.”¹³

NQEA Australia Pty Ltd stated:

“In Australia we have huge delays in getting any sort of consideration of EFIC financing proposals taken through to completion. I do not think we have ever seen EFIC funds flow in anything we have built under EFIC - that is, flow in during the time of construction. It has taken over 12 months and either the clients or ourselves have had to fund that gap. That is not support.”¹⁴

3.8 In response, Mr Martyn Parry, Manager, Lending Operations, EFIC explained that the time taken to process applications depended on the amount of information provided at the time of application, on the size of loan applied for and on the security EFIC was asked to consider. If insufficient information was provided initially then the process was slowed, particularly if further information had to be obtained from overseas. Depending on the amount applied for, approval could be required from as high as Cabinet level. Where high level security was available, decisions could be given quickly but in other cases there was a need to thoroughly investigate the application.¹⁵

3.9 In an effort to ameliorate some of these delays, EFIC provides fact sheets to exporters explaining what the normal terms and conditions are, what information is required and what pitfalls to avoid when negotiating contracts. Despite this effort EFIC continues to find that the largest cause of delays is lack of adequate information provided by exporters.

3.10 There were also suggestions that EFIC finance delegations would be reviewed following its re-establishment in November 1991 as a separate authority. If authority for approval were subsequently able to be provided at a lower level then delays might be shortened.¹⁶

13 Australian Shipbuilding Industries Pty Ltd: Submission 32 p 4

14 Grimley, S, Managing Director, NQEA Australia Pty Ltd: Transcript p 101

15 Parry, M, Manager, Lending Operations, EFIC: Transcript pp 466-9

16 *ibid.*

3.11 The second major criticism of EFIC during the inquiry was of its requirements in regard to security. In particular it was argued that access to EFIC's financial backing is limited by its emphasis on the estimate of 'country risk' associated with the borrower's base of operation and on the practice of taking only 30 - 50 per cent of a vessel's value as security.¹⁷

3.12 In regard to country risk, Mr Parry explained that as well as assessing the ability of the shipowner to make repayments, an export credit agency should also appraise current economic and political trends in the country concerned, to determine the country's ability to make the foreign exchange available to enable the repayments to be made. He maintained that EFIC views both factors as equally important. Where it is very obvious to EFIC that a country has severe foreign exchange problems, however, there seems little value in spending time investigating the borrower, unless that borrower can demonstrate that he can find security outside of that country.

3.13 While the Committee notes the views of EFIC in relation to 'country risk', it considers that the ability of the shipowner to make repayments should be given greater emphasis than the adequacy of the shipowner's country's foreign reserves.

Recommendation 7

3.14 The Committee recommends that the Export Finance and Insurance Corporation review its policy of 'country risk' in relation to loans for shipbuilding.

3.15 Responding to the criticism that only 30 to 50 per cent of the vessel's value is taken as security, Mr Parry explained that EFIC's experience on loans to buyers of Australian ships had been 'rather unfortunate' and that it would prefer to receive a guarantee from a bank for the full value of any loan it provided. At 7 per cent, the percentage of non-performing loans in the ships sector "far exceeded that of the rest of the book". Since inception the loss on loans in the ship sector had been 5 per cent of total value of all loans in this sector and up to one-fifth of the 36 loans signed will result in a loss to the Corporation. Accepting less security was unlikely to solve the problem.¹⁸

3.16 Security based on the value of a yet to be constructed ship is considered very poor because of the volatility of ships' prices. Once constructed, the price depends on earning capacity. If the vessel is unable to earn the return which the owner would want, it will have depreciated in value. If the loan is then not serviced and EFIC is

17 Office of the Premier, WA: Submission 51 p 14; Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 230-231; Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript pp 297-298

18 Parry, M, Manager, Lending Operations, EFIC: Transcript p 470

obliged to enter into a forced sale, it may not get a full recovery price for that vessel. For these reasons, EFIC subscribes to the standard of 50 per cent as maximum reliance to be placed on a vessel.¹⁹

3.17 An alternative, however, is to evaluate security on a case by case basis, as suggested by one witness. While resale value of specialist vessels may be volatile, other vessels have a more predictable market base which may warrant more generous security allowance.²⁰

3.18 The ASA Chairman, Mr John Farrell, gave some support to EFIC's comment that it had some poor experiences with shipbuilders.

“... the industry has to be honest that it has got a fairly bad financial track record with EFIC. EFIC prides itself on making a profit - and I think that is fair and reasonable - and one of the bad eggs in that equation has been the shipbuilding industry with a few highly publicised and notable failures over the last few years. For that reason EFIC generally looks at this industry as one that maybe has got a few wrinkles attached. ...

The real problem has been that almost all the noticeable failures of the industry in recent times, and why it has cost EFIC a considerable amount of money, is that all the focus was on the ability of the customer to pay back the loan. There was no focus on the ability of the yard to complete the project. Most of EFIC's problems have been with giving performance bonds and associated financing with a boat that never got completed. It was not that the customer defaulted on repaying his loan; he actually did not get the product. So, there was a wrong focus from EFIC's point of view.”²¹

3.19 The importance placed on assessing the financial and technical ability of a shipyard and its likelihood of completing a vessel successfully during the contract period was later confirmed by EFIC. It was estimated that over half of the problem loans had arisen as a result of the inability of the shipyard to complete the contract. Shipbuilders were seen as similar to other small companies in the construction industry in that they are often under-capitalised and are likely to underquote to maintain constant production. A lending institution would classify such businesses as high risk.

3.20 The Committee considers that adequate finance is essential to the continued buoyancy of the industry. The rapidly changing nature of the market has required larger ships whose value is significantly higher. In the industry's view neither EFIC

19 *ibid.*, pp 467-468

20 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript p 299

21 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 226

nor the private financial sector has yet developed the capacity to deal adequately with these demands.

3.21 A clear exposition of the problem was given by the ASA Chairman, Mr John Farrell.

“Perhaps five years ago, an expensive Australian and commercial exporter was \$3m to \$5m and it was probably a 30-odd metre boat. Today the world market demand is probably for a boat that is more like \$25m and it is the sort of customer who probably only wants to talk in multiples. ...

All of a sudden you are talking about a contract that is worth probably a bare minimum \$25m or \$30m but more likely \$50m or \$80m. ... So the same shipbuilder who five years ago only dealt with \$5m orders is in a much bigger game. ...

Australian shipbuilders are not sophisticated enough yet to deal with that. EFIC certainly is not sophisticated enough to deal with it or quick enough to react to it and the private sector of financial industry seems to have no interest in it. They do not have anybody financing boats generally. So we have developed an industry pretty quickly in, really, two or three years, where there is no finance help available.

The fact that our boats have become so big and the customers’ demands have changed means that the value of the deals now is just much higher. It needs a new level of maturity and professionalism for both the industry and the financiers who are going to either finance Australian shipbuilders; or we will stay building these small boats because we will not be able to deal with the bigger orders.”²²

3.22 The Committee notes that apart from the Australian Submarine Corporation and AMECON, Australian shipbuilders are all relatively small and for this reason are not likely to be well regarded by EFIC in any loan application. At the same time, for the industry to survive it must export and will require export finance to be competitive.

3.23 The Committee is concerned at the problems currently experienced in financing the building of ships. Many of the criticisms directed at EFIC in the course of the inquiry arise because of an appropriate caution on the part of EFIC in dealing with high risk loan categories and the constraints placed upon them in the provision of funds. It is expected that some of these difficulties will be eased, at least in part, by the changes which became effective in November 1991. A review of the effect of those changes after a suitable period of time will clarify whether that it is the case.

3.24 The Committee further notes that non-competitive export finance was identified as a major threat to the industry by the report on the Australian high speed shipbuilding industry. This report recommended that an industry wide conference take place to discuss, with EFIC, problems encountered by shipbuilders.²³ The Committee endorses this recommendation, and considers that such consultation should take place on a regular basis in order to facilitate access to finance for, and the development of financial packages by, shipbuilders.

3.25 The Committee notes evidence which indicates that a major cause of delays in the approval of loan applications is the lack of adequate information provided by exporters. The Committee considers that shipbuilders need to be more aware of the information needs of EFIC in order to streamline processing of their applications.

3.26 The Committee recognises that problems will remain in the provision of working capital to the shipbuilding industry. It is of the opinion, however, that the private finance sector should be expected to provide that capital. For those niche shipbuilding markets enjoying expansion at present, it could be expected that returns on investment will be sufficient to increase confidence within the private sector and therefore willingness to consider provision of necessary capital.

3.27 Some merit is seen by the Committee in the argument that certain sectors of the shipbuilding industry produce vessels which will have a more predictable resale value and hence could be given a greater security allowance under EFIC loan conditions. The appointment of an independent consultant to evaluate individual shipbuilding loans would assist.

3.28 An issue related to the provision of working capital is in the interest rates charged on loans for shipbuilding. The current relatively high interest rates (in comparison with interest rates on shipbuilding loans offered by competitor nations) reduces the competitiveness of both EFIC and Australian shipbuilders in their ability to assemble an attractive financial package for potential clients.

3.29 In evidence to the Committee Mr John Farrell, Managing Director, Oceanfast Pty Ltd stated:

“... most customers want to buy in the currency of their choosing and they have to buy at the competitive interest rate of their choosing. Up until very recent times, Australian interest rates would make it ludicrous to offer any customer Australian bank finance ... because they would say they had never heard of a 20 per cent interest rate. it does not happen.”²⁴

23 *Australian High Speed Shipbuilding: Opportunities and Actions for the 1990s: report to the Marine Industries Section, Department of Industry, Technology and Commerce, Acil Australia Pty Ltd, February 1992, p 8*

24 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 253-4

3.30 Mr Ned Gaspar, General Manager, EMS Holdings informed the Committee that non-competitive interest rates on a loan offered as part of a financial package for a contract had been a major factor in losing that contract.

“... we had a situation where the buyer indicated to us that the proposal was good, our equipment was good and the price was also good, but we could not quite meet his financial package that he had been given by the European banks. ... EFIC could not come up with the package equivalent to what the European banks were offering. At that stage [the European banks] were offering about ... 4 per cent with the first three or four years at zero interest.”²⁵

3.31 The Committee notes the recent fall in Australian interest rates, but recognises, however, that it is international interest rates which are more relevant to export manufacturers. Additionally, Australian interest rate fluctuations add an element of unpredictability to long term financing of ship loans, which acts as a further disincentive for shipbuilders to use Australian finance.

3.32 Despite the fall in Australian interest rates, they are still high in international terms. The Committee therefore supports the designing of finance packages that incorporate internationally competitive interest rates on a long term predictable basis.

3.33 An alternate proposal put to the Committee involved the establishment of tax-free savings accounts to be managed by the Commonwealth Development Bank. The proposed scheme is similar to one operating in Japan known as Maruyu accounts. Under this scheme, sums up to a specified limit would be deposited into a savings account, which would attract a small interest rate. These deposits would be tax free. The accumulated funds could then be used as cheaper investment capital for the development of export industries, including shipbuilding.

3.34 The Committee supports such a proposal and considers that, the proposal warrants further examination to establish its viability.

Recommendation 8

3.35 The Committee recommends that the Export Finance and Insurance Corporation (EFIC), in consultation with the Australian Shipbuilders' Association and Boat Manufacturers' Association of Australia, prepare an information kit for shipbuilders on the information requirements of EFIC when assessing an application for a loan.

Recommendation 9

3.36 The Committee recommends that the restructuring of the Export Finance and Insurance Corporation and other changes introduced in November 1991, be reviewed by the Minister for Industry, Technology and Commerce in late 1992 to determine whether or not they have achieved the stated aim of creating new market opportunities for Australian exporters.

Recommendation 10

3.37 The Committee recommends that the Export Finance and Insurance Corporation re-examine its policy of allowing a maximum 50 per cent of a vessel's price to be taken as security, with a view to waiving that constraint for vessels with a wide market and a stable resale value, and provide a report to the Committee at the conclusion of this review.

Recommendation 11

3.38 The Committee recommends that the proposal for tax free savings accounts as a means of creating investment funds for Australian industry be the subject of a joint feasibility study by the Commonwealth Development Bank and the Department of Industry, Technology and Commerce.

CHAPTER FOUR

MARKETING

4.1 The establishment and expansion of export markets have been crucial to the viability of Australia's shipbuilding industry in recent years. Most evidence on this issue centred on the role and performance of the Australian Trade Commission (AUSTRADE).

A. AUSTRADE

4.2 AUSTRADE was formed in 1986 and combined the previously separate areas of the Trade Commission Service, and the marketing and promotion areas of the Department of Trade, the Australian Overseas Projects Corporation, the Export Development Grants Board and the Export Finance and Insurance Corporation. The aim was to create a single commercially driven organisation which would provide increased assistance to Australia's export effort.

4.3 After five years of operation, the Board of AUSTRADE commissioned an independent evaluation of AUSTRADE's effectiveness. The report prepared by McKinsey and Company recommended significant changes to AUSTRADE's structure and emphasis. These changes were implemented during 1991.

4.4 The recommended changes included an increased concentration on markets with more substantial trade opportunities where Australian companies face problems of culture, language and government style. North Asia and South East Asia were considered to be of special importance. A streamlining of internal processes and upgrading of services were required to achieve such changes.

4.5 AUSTRADE advised the Committee that the restructure has resulted in more resources being allocated to the marine sector within Australia and an increased effort offshore to upgrade the knowledge and appreciation of Australia's resources and capability. A Marine Business Development Unit was set up towards the end of 1991, which when fully staffed will have a complement of five to six persons.¹

1 Druce, Dr E, Group National Manager, Australian Export Groups, Australian Trade Commission: Transcript p 640

A.1 Industry Response to AUSTRADE

4.6 Comments on the usefulness of AUSTRADE varied from very supportive to extremely negative. While one submission described the organisation as “inept”, others described it as valuable and as having provided useful assistance.² The Australian Shipbuilders’ Association (ASA) alluded to the outcome of the McKinsey review and suggested that the recommended changes would improve AUSTRADE’s performance.³

4.7 There was a noticeable variation in assessment of AUSTRADE according to geographic location - there were favourable comments from builders in the west but not from those on the eastern seaboard. The more favourable comments received from the west were also from currently successful builders who often mentioned that they had their own marketing strategies, as well as utilising AUSTRADE’s services. AUSTRADE was seen as a support service rather than a means of obtaining overseas orders.

“I see Austrade as a regional office that will assist with general things. I think that sometimes Austrade is perceived as an organisation that is supposed to help you get orders. I do not think it does that and I do not really believe that is its role. It certainly offers a very supportive role and I do not rely on Austrade, even when I go overseas. I may well travel to a country several times before I have the time to go and make myself known. So I am doing an autonomous thing”.⁴

The ASA chairman, Mr John Farrell, when asked to comment on AUSTRADE’s performance, stated:

“I would say very good but with a sense of realism. The sense of realism is that in our industry selling the things that we do - a very specialised thing generally of high dollar value - it is ludicrous to imagine that anybody is going to sell that thing other than yourself. So what you are really looking for is peripheral support.

I think in the early days of shipbuilders trying to export, there was some sort of imagined idea that somehow or another if you told an Austrade trade commissioner somewhere that you were a shipbuilder, and you visited him once every now and then, that after that, somehow or another, he would sell whatever it is that you sold. And, that was unrealistic.

2 Barber, W: Submission 4 p 15; Ocean Shipyards Pty Ltd: Submission 12 p 3; Australian Shipbuilding Industries Pty Ltd: Submission 32 p 3
 3 Australian Shipbuilders’ Association: Submission 38 p 8
 4 Rothwell, J, Managing Director, Austal Ships Pty Ltd: Transcript pp 299-300

I think today there is a pretty good understanding that their role is a support role. To that extent, I think they do a great job and ... I would say it is *one of those groups of people in Government who are enthusiastic and committed about the idea of exporting.*"⁵

4.8 AUSTRADE representatives explained to the Committee that AUSTRADE's approach is to work with common interest industry groups as well as individual companies. The advantage of working with groups or 'networking', as AUSTRADE refers to it, is that AUSTRADE can then service the key client and smaller clients at the same time without any additional time and cost.⁶ Examples of such groups in the shipbuilding area are the Australian Ferrybuilders' Association and the Australian Marine Export Group.

4.9 In AUSTRADE's view, a significant advantage of the formation of such groups is the development of co-operation between the companies in promoting themselves overseas as shipbuilders. AUSTRADE hopes that this spirit of co-operation will, in the longer term, enable the industry to decide the best way to spend the discretionary dollar rather than having marketing strategies imposed by AUSTRADE officers.⁷

4.10 As examples of tangible benefits arising from the formation of an industry group, AUSTRADE noted the accessing of Engineering Industries Internationalisation Program funds for promotional activities for the Ferrybuilders' Association, and the undertaking of market research in Taiwan, the Philippines and Indonesia. It was asserted that the response to group advertising is much greater than response to individual advertising.

4.11 The value of the contribution that AUSTRADE makes to the promotion of Australian shipbuilding as an export industry could therefore be questioned. Builders could achieve the same outcomes by combining their resources and using their own marketing expertise. A conduit for government funding would be necessary but beyond that direct government involvement may be unnecessary.

4.12 The Committee notes, for example, that the Queensland Department of Transport is assisting local manufacturers to form industry groupings to jointly market overseas. Industry members have recognised the benefits of combining resources and expertise to undertake strategic marketing.⁸

5 Farrell, J, Managing Director, Oceanfast Pty Ltd, and Chairman, Australian Shipbuilders' Association: Transcript pp 237-238

6 Druce, Dr E, Group National Manager, Australian Export Groups, Australian Trade Commission: Transcript p 644

7 Knowles, T, Senior Officer Marine (Perth), AUSTRADE, and Cannon, P, Acting Manager, Marine Business Development Unit, AUSTRADE: Transcript pp 167-171; Druce, Dr E, Group National Manager, Australian Export Groups, Australian Trade Commission: Transcript p 642

8 Office of the Cabinet, Queensland Government: Submission 52 pp 2-3

4.13 AUSTRADE representatives conceded that this was possible but reported that in fact it does not occur.

“I do not have the answer to your question of why they do not do it themselves. I guess the simple answer is that they can do it themselves, but the facts are that in the past they have not. It appears to me as an observer that the members of the group are comfortable having an organisation like Austrade there as the catalyst, the figurehead, or whatever term you would like to put to it. I can only say that in the past they have not done what you suggest but that technically there is no reason why they could not.”⁹

4.14 AUSTRADE representatives pointed to growth in marine industry exports over a 5 year period - from \$28.9m in 1986 to \$155m in 1990/91. It would be extremely difficult to establish, however, to what extent this growth was a result of AUSTRADE's activities.¹⁰

4.15 At a later hearing it was conceded that:

“In terms of fast ferries, there is obviously a European market, but basically the ferry builders have cracked that market on their own. If we have supplied any assistance, that has been peripheral.”¹¹

4.16 It was expected, however, that the market would become tighter and that AUSTRADE would be able to assist in penetrating China, Japan and possibly Canada.

4.17 An explanation of the differences between builders on Australia's east and west coasts in assessment of AUSTRADE's value was sought by the Committee. The AUSTRADE representative postulated that, with the exception of NQEA Australia Pty Ltd in Cairns and International Catamaran Designs Pty Ltd in Sydney, the industry on the east coast is characterised by builders in the smaller leisure and pleasure craft category. While their boats may be quality products, AUSTRADE does not consider them to have significant export potential and, where appropriate, has given that advice to the builders. In contrast, the shipbuilders in the west are producing craft which have technical advantages which provide them with some competitive edge for export. AUSTRADE has worked closely with them and, through the networking approach, has assisted in forming them into a closely knit community.

9 Knowles, T, Senior Officer Marine (Perth), AUSTRADE: Transcript p 174

10 Cannon, P, Acting Manager, Marine Business Development Unit, AUSTRADE: Transcript p 176

11 Druce, Dr E, Group National Manager, Australian Export Groups, Australian Trade Commission: Transcript p 647

A.2 Export Market Development Grants

4.18 The Export Market Development Grants (EMDG) Scheme, administered by AUSTRADE, is designed to assist companies with the initial expense of overseas marketing by reimbursing part of their costs. It provides taxable cash re-imbusement to exporters.

4.19 Before 30 June 1990, grants were determined on the basis of 70 per cent of eligible expenditure in excess of \$10 000. Several changes were made to the scheme effective from July 1990. Principal changes were:

- . the scheme to operate till 1994-95;
- . a reduction in the grant rate to 50 per cent of expenditure;
- . claimants to be excluded from the scheme after receiving eight grants;
- . an increase in the threshold from \$10 000 to \$30 000;
- . an increase in the maximum grant from \$200 000 to \$250 000 a year; and
- . \$200 a day allowance for a maximum of 21 days for each overseas visit in lieu of accommodation, meals and entertainment

4.20 Some of these changes were of concern to some witnesses. The limit of eight claims was considered too restrictive. Most medium sized shipbuilders utilise their EMDG entitlement during the initial exploration of overseas markets, yet the need for funding is on-going to enable shipbuilders to follow-up potential clients and contracts. It was also argued that the increase in threshold effectively gave increased focus on the major exporters at the expense of the smaller companies.¹²

4.21 AUSTRADE representatives agreed with some of these criticisms and explained that the scheme was aimed basically at the middle range of companies. Those which achieve more than \$25m in exports in a year either singly or in an affiliated group are also ineligible for grants. At the same time, the existence of the International Trade Enhancement Scheme (ITES) was drawn to the Committee's attention as a scheme which could to some extent take over and assist companies which had used up their EMDG entitlement.¹³

4.22 While the EMDG scheme is an open access scheme under which all exporters who meet legislative requirements are entitled to make a claim for financial support, ITES is discretionary. It is directed towards those firms which have "demonstrated a

12 Ocean Shipyards: Submission 12 p 7; Premier of Western Australia: Submission 51 p 19; Office of the Cabinet, Queensland Government: Submission 52 p 4

13 Knowles, T, Senior Officer Marine (Perth), AUSTRADE and Quartermaine, B, Manager (Western Australia), Export Development Incentives, AUSTRADE: Transcript pp 164-5

successful track record in exporting and who need assistance to substantially expand their current international business activities".¹⁴ Thus if AUSTRADE felt an exporter's project was a reasonable one, funding could be approved under the ITES scheme.

4.23 The Committee is concerned at the apparent inadequacy of the schemes available through AUSTRADE to assist smaller businesses. It notes that an alternative may be found by these companies in the recently announced Export Access program which is specifically targeted at small to medium businesses.

B. EXPORT ACCESS PROGRAM

4.24 The Export Access program was jointly announced by the Minister for Small Business and Customs and the National Chief Executive of the Australian Chamber of Manufacturers (ACM) in October 1991. It is directed towards companies which have not yet developed sufficient expertise and resources to maintain a sustained export development program on their own.

4.25 The program is to be delivered by the ACM in close cooperation with other national business organisations including the Australian Chamber of Commerce, the Confederation of Australian Industry, the Council of Small Business Organisations of Australia, the Metal Trade Industry Association of Australia as well as the Department of Foreign Affairs and Trade, DITAC and AUSTRADE.

4.26 The thrust of Export Access is to provide successful applicants with the free services of a part-time export manager for a finite period, to enable the firm to enter the export market. It has been carefully monitored to ensure that the application process is relatively simple and that even unsuccessful applicants receive constructive advice and redirection, where appropriate, to other assistance mechanisms.

4.27 The Committee considers that this scheme could be of value to many of the small firms in the shipbuilding sector. As outlined in the Queensland Cabinet Office submission small businesses often fall outside the guidelines of AUSTRADE's services but lack expertise within the firm to undertake export strategies.

"Many [manufacturers] are one man or a husband and wife team, with a few employees. Only the largest can afford the luxury of a marketing manager or other professional, specialist staff, and even in such cases the CEO is usually the only effective decision maker.

The net result is that in most cases one person does virtually everything to run the firm, albeit that his (or her) expertise might only be in the practical side of boat design and construction."¹⁵

14 Australian Trade Commission Annual Report 1990/91, p 62

15 Office of the Cabinet, Queensland Government: Submission 52 p 1

4.28 The Committee believes that comment at this time on the adequacy of AUSTRADE in assisting the shipbuilding industry would be premature as AUSTRADE is currently in the process of implementing the changes recommended by the McKinsey and Company review. During the inquiry, industry members varied in their assessment of the ability of AUSTRADE to meet their needs. In particular it appears that small companies, such as builders of leisure and pleasure craft, are not catered for in the schemes which it administers. The Export Access program, however, is designed to fill this gap.

4.29 The Committee concurs with the overall AUSTRADE strategy of moving shipbuilders towards independent responsibility for their promotional activities. To this end it supports the suggestion of the ASA Chairman, Mr Farrell, which was endorsed by AUSTRADE, that where increased funds are allocated by government to promote export trade they should go to promotional activities controlled by the industry itself.¹⁶

Recommendation 12

4.30 The Committee recommends that:

- . smaller ship and boat building firms be encouraged to apply for export assistance through the Export Access program
- . funds be provided to allow the Export Access program to be widely publicised to ensure that all eligible businesses are aware of its existence and its relevance to their needs.
- . the information awareness kit to be prepared by the Export Finance and Insurance Corporation, in consultation with the Australian Shipbuilders' Association and the Boat Manufacturers' Association of Australia (see recommendation 8) be incorporated into the Export Access program awareness campaigns.

16 Farrell, J, Managing Director, Oceanfast Pty Ltd, and Chairman, Australian Shipbuilders' Association: Transcript p 259; Druce, Dr E, Group National Manager, Australian Export Groups, Australian Trade Commission: Transcript p 642

CHAPTER FIVE

RESEARCH AND DEVELOPMENT

5.1 The importance of research and development to the future of the shipbuilding industry was stressed throughout the inquiry. There was recognition that a competitive edge can be maintained only through continuing research and development.

5.2 Most calls for increased research and development were coupled with calls for government assistance in this area and, in particular, the establishment of a national ship research centre.

A. CENTRALISED RESEARCH AND DEVELOPMENT

5.3 One of the strongest proponents of a national ship research centre was the Australian Maritime College (AMC). AMC was established in 1980 following a decision of the Commission of Inquiry into the Maritime Industry in 1974. It is a national, federally-funded tertiary institution which offers courses in maritime and maritime-related subjects. Research and development projects are also undertaken to serve the interests of maritime and maritime-related industries. Special facilities at the College include a towing tank, ship simulator and flume tank.

5.4 AMC argued that Australia needs a ship research centre to remain competitive with overseas counterparts, and to provide the technical support needed to capitalise on the good, innovative design for which Australia is recognised. They stated that the lack of a research centre has forced Australian ship designers and builders to develop their ideas using overseas facilities with consequent additional costs, delays and the possibility of “technology transfer in reverse.”¹

5.5 The centre, as envisaged by AMC, would be government funded but be free to attract funds from contract research, including research for the Department of Transport and Communications and the Navy. It would be linked with an educational institution, such as AMC, involved with the training of undergraduate naval architects.

5.6 AMC emphasised that the centre should conduct applied research. It stressed that it did not support the establishment of a National Ship Design Bureau. AMC believes that design is best carried out by the private sector, but that technical support is best provided by the public sector.²

1 Australian Maritime College: Submission 14 p 8

2 Australian Maritime College: Submission 14 p 9; Renilson, Dr M, Director, Ships Hydrodynamic Centre, Australian Maritime College: Transcript p 45

5.7 In AMC's view some urgency is attached to the need for an Australian research centre, as national facilities have recently been provided in such competitor nations as Canada and Korea; are near completion in Indonesia; and are planned for Malaysia. The expertise advantage currently held by Australia is in danger of being eroded and the potential for export to South East Asia is accordingly inhibited.

5.8 Support for the government funded research centre concept was widespread. The following excerpts from evidence are representative.

"If we had a facility available in Australia, we would be able to do more research and development into the different areas that the industry has open to it. That would make us more competitive. Also, if it is in Australia, perhaps work is less likely to go to competitors."³

"I think one of the things I would like to see in Australia, and one of the points that I think is a weak feature of Australian shipbuilding, is that we do not have a national research centre. ... I have been in this game for about 25 years now. I have visited the United States, Norway, the UK and a number of other countries and each of these countries has got a national research centre ... we are the only ones that do not have a research centre in naval architecture or in ship design."⁴

"... the relatively small size of individual Western Australian shipbuilding companies mitigates against these firms developing their own extensive R&D capability. Therefore, it is recommended that Federal assistance be provided to establish facilities for testing advanced designs and new materials used in vessel construction."⁵

5.9 An added reason to develop a local research centre was suggested by one submission.

"Wherever possible Australian companies should undertake research and development projects within Australia. The lack of commercial security within foreign [test] tanks and research institutions is legendary. Sadly, it is doubtful that we can ever achieve complete security, but at least at home the risks can be minimised."⁶

5.10 The cost of building a national research centre had not been carefully costed by any witnesses but an estimate was provided based on the amount allocated to a similar project in Malaysia. \$US20m was budgeted for the initial capital cost of the

3 Davey, J, Company Accountant and Acting Manager, Launceston Marine Industries Pty Ltd: Transcript p 70

4 Doctors, Assoc. Prof. L, Head, Naval Architecture Section, University of NSW: Transcript p 382

5 Premier of Western Australia: Submission 51 p 20

6 Incat Designs Pty Ltd: Submission 54 p 5

hydrodynamics facility being established there.⁷ A decision to build such a centre would have to weigh this cost against the increased potential for the Australian economy from the shipbuilding industry. At the end of June 1991, the number of orders for Australian bountiable vessels totalled \$402 million. Seventy-five per cent of total orders were destined for the export market.⁸

5.11 Some industry members argued against the proposal for government funded research bodies. One saw such research as a drain on private enterprise.

“An adverse effect on the activities of private marine consultants in recent years has been the establishment of design (called ‘research’) consultancies by various universities and bodies such as the Australian Maritime College. These public funded bodies in many cases offer direct competition to private consultants on a wide range of design areas - thereby decreasing the potential of the smaller companies/consultancies for gaining experience and expertise.”⁹

5.12 One witness declared:

“I have never seen a government research institute invent anything that anybody ever used. The whole lightweight industry has been developed on the designs of a handful of private enterprise individuals and supported by those companies, and I do not see that will ever change. The Australian Maritime College has some reasonable, world-class facilities which are hopelessly under-utilised. If there was ever going to be money spent on R&D that the Government was going to involve itself in, then in my view it should, at least in a major part, be directed and spent through the private enterprise naval architects, even if they are required to use some of the Australian educational institutions to support it. The idea of giving it to an AMC and saying, ‘We hope that you people might invent something that Australian industry can sell’, in my view is something that will never happen. It has never happened, and I do not see why it will ever happen.”¹⁰

5.13 On examination, this criticism seems to be directed at purely academic research whereas most suggestions for a research centre envisaged considerable input from industry. Many specified that a national centre should be modelled on the Co-operative Research Centres approach.

7 Renilson, Dr M, Director, Ship Hydrodynamics Centre, Australian Maritime College: Transcript p 43

8 *Shipbuilding Activities in Bountiable Shipbuilding 1990-91*, Department of Industry, Technology and Commerce, November 1991: Exhibit 63 pp 3-4

9 Swales, D: Submission 5 p 4

10 Farrell, J, Managing Director, Oceanfast Pty Ltd, and Chairman, Australian Shipbuilders' Association: Transcript p 244

A.1 Cooperative Research Centres

5.14 The Cooperative Research Centres (CRC) Program was launched in May 1990 with the objectives of:

“. supporting long-term high-quality scientific and technological research which contributes to national objectives, including economic and social development, the maintenance of a strong capability in basic research and development of internationally competitive industry sectors;

. capturing the benefits of research and strengthening the links between research and its commercial and other applications by the active involvement of the users of research in the work of the Centres;

. building centres of research concentration by promoting cooperative research, and through it a more efficient use of resources in the national effort; and

. stimulating education and training, particularly in graduate programs, through the active involvement of researchers from outside the higher education system in educational activities, and graduate students in major research programs.”¹¹

5.15 Several participants in the inquiry advised the Committee that they supported the concept of a marine CRC and some were directly involved as group members in an application for CRC funding.¹² The proposal was to establish an Australian Maritime Engineering Research and Design Centre, with the aim of enhancing Australia’s maritime manufacturing-related industries through technological advancement.

5.16 The Committee is pleased to note the announcement in December 1991 that the above application had been successful. The Centre, to be known as the Australian Maritime Engineering Cooperative Research Centre, plans to undertake three research programs into calm water performance of maritime vehicles, ocean influence on ships and maritime structures, and structural design and fabrication of ships and maritime structures. New research facilities are to be constructed. They include a cavitation tunnel and a wind/wave basin for simulation of ocean environment forces.

11 *Co-operative Research Centres Program - Guidelines for Applicants*, Department of Prime Minister and Cabinet, Office of the Chief Scientist, AGPS Canberra, February 1991 p 3

12 Institution of Engineers: Submission 11 p 1; Klaka, K, The Centre for Marine and Technology: Submission 23 p 5; Richards, M, Chief Naval Architect, NQEA Australia Pty Ltd: Transcript pp 83-84; Prandolini, L, Vice-President, Australia-New Zealand Division, Institute of Marine Engineers: Transcript p 395; Riley, N, Council Member, Australian Division, Royal Institution of Naval Architects: Transcript p 452; Hercus, P, Managing Director, International Catamaran Designs Pty Ltd: Transcript p 511

5.17 The cost of establishing a government owned and funded national ship research centre has not been fully quantified but would clearly require significant capital expenditure. In contrast, the CRC currently being developed will combine limited government funding with input and commitment from industry. The Committee considers that the CRC approach is, at present, more appropriate to the shipbuilding industry needs in meeting the demand for research and development facilities. Its progress, research outcomes and level of usage by industry should provide valuable pointers to the need for, and desirability of, establishing a federally funded national ship research centre in the future.

B. RESEARCH AND DEVELOPMENT GRANTS

5.18 As outlined in Chapter 3, the major element of government support for research and development (R&D) is the tax concession for R&D carried out by, or for, industry. The concession is to remain at its present rate of 150 per cent to June 1993, reducing to 125 per cent thereafter. Grants for R&D are also available under the Discretionary Grants Scheme, for firms which are unable to use the tax concession.

5.19 The tax concession was not raised often in evidence to the inquiry. The Australian Shipbuilders' Association (ASA) Chairman, Mr John Farrell, noted that as shipbuilding companies are relatively small, the profits being made are not significant enough for the tax concession to be relevant.¹³ In contrast, Dr John White, the Chief Executive of AMECON, which is a large company suggested that tax concessions for design engineering research and development could encourage companies to develop and maintain valuable intellectual property and management skills.¹⁴ One submission argued for a reduction in the threshold level for the tax concession to zero dollars so that all research and development expenditure would be eligible for this concession.¹⁵

5.20 The research and development grants schemes were criticised on two counts. The first was the difficulty in dealing with bureaucratic procedures. The Director of the Centre of Marine Science and Technology of the Curtin University of Technology, Mr Kim Klaka, stated:

“The Federal and State Government R&D incentive schemes for industry have not been maximised by the industry. The prime reason offered is the bureaucratic procedures and difficulty in identifying true R&D within a production environment.”¹⁶

13 Farrell, J, Managing Director, Oceanfast Pty Ltd, and Chairman, Australian Shipbuilders' Association: Transcript p 252

14 White, Dr J, Chief Executive, AMECON: Transcript p 330

15 Austral Oceanic Services Pty Ltd: Submission 57.1 p 2-4

16 Klaka, K: Submission 3 p 5

5.21 The ASA Chairman, Mr John Farrell, reported scepticism among builders in relation to grants:

“... we got all the shipbuilders together in Canberra, and we asked everybody in the room, including the leading designers, whether they had been involved in R&D. One of the leading architects got \$70,000 in a scheme four years ago and somebody else thought they got \$10,000 five or six years ago. So here is a \$200m a year export industry, a world leader, and that was the total amount that it had enjoyed.”¹⁷

5.22 A cause of the scepticism and reluctance to seek grants was revealed in the subsequent explanation.

“I tried to get one of those schemes some years ago in my only exposure, and the feeling that I got was that anybody who wanted to do R&D to sell and build something tomorrow was obviously not high tech enough. In fact, they told me that my application was rejected primarily because I was trying to refine, design and manufacture and that the money was available more for pure research. I am not knocking that because if that is really what it is supposed to do, that is what it is supposed to do. But if you live in the real world of manufacturing and trying to sell things, most of your R&D has to be to sell something fairly quickly, and not in five or six years down the track. It does not seem to be a scheme that is conducive to that.”¹⁸

5.23 DITAC explained that applications for Industry Research and Development grants are assessed against several criteria which include:

- “. the technical merit of the project;
- . the risk involved;
- . the economics of the project;
- . the commercial viability or commercial prospects of the project;
- . the contribution a project will make to Australia’s international competitiveness and to the Australian economy;
- . the eligibility of the company; and
- . whether the project involves research and development as defined by the Act.”¹⁹

17 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 252

18 *ibid.*, p 253

19 Walker, B, Director, Operations, Research and Development Grants Branch, DITAC: Transcript p 614

5.24 The stipulation that grants are available for research, but cannot be used to develop a product for commercial application, was pursued by the Committee. DITAC advised that there are two programs available to assist companies to take their research through to commercialisation.

5.25 The first of these is the National Procurement Development Program (NPDP) which commenced in 1987. It provides grants to support joint projects for research, development, trialing and demonstration activities which are directed at meeting government procurement requirements and producing internationally competitive goods and services.²⁰

5.26 The second is the Advanced Manufacturing Technology (AMT) Development Program, an initiative announced in the March 1991 Industry Statement. It is modelled on the NPDP program and provides grants to research, develop, trial and demonstrate innovative Australian AMT products and services which meet the needs of manufacturing industries.²¹

5.27 DITAC conceded, however, that a gap exists between funding for research and funding required to develop a product to its full commercial potential. With limited funds available, the balance must be struck between allowing fewer projects to be developed to commercialisation and granting funds to a greater number of projects to allow initial research and development.²²

5.28 It was asserted by DITAC that before funding preliminary research, consideration should be given to whether research projects are likely to lead to commercial viability. If not, then granting R&D funds is unwise. For this reason increasing emphasis is being placed, before granting research funds, on the ability of companies to fund commercialisation themselves or to attract commercialisation funds from other sources. A lack of patient capital for this purpose is an on-going problem.²³

5.29 The underdeveloped equity market for small to medium firms and the short term focus of those providing funds for investment were also recognised by the Block²⁴ and Coghlan²⁵ Reports as impeding the commercialisation of research in Australia. The recently announced Government decision, to provide for the establishment of

20 DITAC Annual Report 1990-91, p 68

21 *Building a Competitive Australia, 12 March 1991*, - Statements by Prime Minister, Bob Hawke; Treasurer, Paul Keating; Industry Minister, John Button, Department of the Prime Minister and Cabinet, AGPS Canberra, 1991 pp 5.34-5.35

22 Bain, A, First Assistant Secretary, Policy and Projects Division, DITAC: Transcript p 623

23 Walker, B, Director, Operations, Research and Development Grants Branch, DITAC: Transcript pp 624-625

24 *Bringing the Market to Bear on Research*, Report of the Task Force on the Commercialisation of Research, AGPS, Canberra, November 1991

25 *Report of the Working Party on the Commercial Development of Medical Research*, Department of Health, Housing and Community Services, December 1991

concessionally taxed investment companies for investment in established small to medium firms (Pooled Development Funds) and to establish an Australian Technology Group to link research institutions and the market-place, is aimed at addressing these problems.²⁶

5.30 DITAC advised the Committee that it was aware of some cynicism among builders regarding the availability and usefulness of R&D grants. In response it was planned to address ASA meetings on available grants, processes and procedures.²⁷

5.31 The Committee is concerned by the apparent confusion among shipbuilders as to what R&D grants are available to them, and their reluctance to apply for assistance because of perceived difficulties with bureaucratic processes. The Committee speculates whether these attitudes may also be prevalent among companies in other industries. It believes that there is a shared responsibility between DITAC and the ASA and similar industry bodies to ensure that accurate information is disseminated among industry members and that processes are streamlined as much as possible.

Recommendation 13

5.32 The Committee recommends that the Department of Industry, Technology and Commerce, in conjunction with the Australian Shipbuilders' Association, produce a simplified guide to available R&D assistance for the shipbuilding industry. This guide could form the basis of a public relations campaign to raise awareness among industry members of the existence and extent of R&D measures relevant to their industry.

Recommendation 14

5.33 The Committee recommends that the Department of Industry, Technology and Commerce review the penetration of awareness of assistance programs in other industries with a view to ascertaining whether similar awareness raising campaigns are necessary.

26 *One Nation*, - Statement by The Prime Minister, the Honourable P J Keating, MP, 26 February 1992, AGPS, Canberra, 1992 pp 76, 78

27 Diamond, D, Manager, Engineering Industries, DITAC: Transcript pp 607-608

C. UNIVERSITIES - A SOURCE OF UNTAPPED RESEARCH POTENTIAL?

5.34 TUNRA²⁸, the research arm of the University of Newcastle, drew the Committee's attention to the possibility that universities could provide another avenue of research for shipbuilders. The research envisaged was not specific to shipbuilding but of a more general technological nature. Examples provided by TUNRA were the technological expertise available at Newcastle in bulk handling and photogrammetry applications.²⁹

5.35 The Committee notes TUNRA's observation that such resources are available to be tapped by shipbuilding and other industries. It is of the opinion, however, that responsibility for advertising these resources lies with the tertiary institutions themselves. This may be done by formal marketing campaigns or by informal relationship building between industry and academia.

28 The University of Newcastle Research Associates Ltd

29 Photogrammetry reduces paired photographs to topographic measurements. An application to the shipbuilding industry would be in a photogrammetric survey of hull frames and plates to ensure a proper fit prior to assembly.

CHAPTER SIX

TRAINING

6.1 Training relevant to the shipbuilding industry covers a variety of disciplines and is delivered by a number of institutions. It includes university degree courses in engineering and naval architecture, apprenticeship schemes, management education and in-house training.

A. ENGINEERING AND NAVAL ARCHITECTURE

6.2 A variety of engineering skills underpin the shipbuilding industry. For example, *marine mechanical engineers are needed to design and supervise the installation of machinery and piping systems*, and electrical engineers to design and supervise the installation of electrical systems for shipboard use.

6.3 Naval architecture is also a branch of engineering and one of vital importance to shipbuilding. It is concerned with the design, building and utilisation of all types of ships and marine vehicles. A professional naval architect is a qualified engineer who has undertaken an accredited four year tertiary-level degree course in an engineering school in a university. The naval architect takes major responsibility for the overall concept of a marine construction and for the quality of the final product.

6.4 Until recently, there was only one degree course in naval architecture in Australia, provided at the University of New South Wales (UNSW). From 1991 a second course became available at the Australian Maritime College (AMC) in Launceston. The UNSW course is financially supported by the Department of Defence which also offers cadetships to sponsor full-time students.

6.5 Associate diploma courses and short courses in maritime subjects are available elsewhere. Curtin University in Western Australia, for example, has a Centre for Maritime Science and Technology which has been providing short courses for the industry since 1986.

6.6 Conflicting reports were given to the Committee regarding the adequacy of the number of naval architects in Australia. AMC and UNSW representatives, along with the Department of Defence, reported a shortage, with the Department of Defence finding it necessary to recruit extensively from overseas.

“In the Department of Defence we have a cadet trainee scheme going whereby we sponsor about four or five naval architects per year through the University of New South Wales. We find that is insufficient. We

really need more, but we cannot get more.”¹

6.7 Prominent builders in the industry, however, considered the supply of skilled naval architects to be quite satisfactory.

“I have never found any shortage. We have them here in Fremantle and we have them in Newcastle and Sydney. I honestly cannot say that we are short of naval architects.”²

6.8 The discrepancy may be explained by a difference in perception of what constitutes a naval architect. The educational institutions and the Defence Department place emphasis on the acquisition of formal qualifications to degree level, while the industry representatives are concerned to employ persons with knowledge of essential concepts and with flair for design, rather than a degree as such.

6.9 The educational institutions argued strongly that those without qualifications should not be allowed to call themselves ‘naval architects’ and that registration should be required. They maintained that in the absence of such regulation the risk to Australia’s reputation and to the public was significant.

“With the scarcity of qualified naval architects, unqualified people, calling themselves ship or boat designers, have emerged. In some cases these individuals have been quite successful in selling their designs, which have not always been technically sound. The resulting problems can give Australia’s shipbuilding industry a bad name.”³

“I was involved with a court case where I know very certainly that the vessel was designed by someone who called themselves a naval architect. I know that I talked to the people involved and, rather stupidly, they told me that they had not actually done any calculations at all. They had just drawn the shape of the vessel. I know it led to some deaths.”⁴

6.10 This position was supported by the Royal Institution of Naval Architects.

“As matters stand at present, any person may practise as a naval architect and the unsuspecting public is unable to differentiate between a properly qualified professional and an inspired amateur. Because of a hostile marine environment, it is imperative that vessel designers be adequately trained and experienced. For this reason, it is submitted that a form of registration should be instituted to differentiate between

1 Robson, B, Immediate Past President, Australian Division, Royal Institution of Naval Architects: Transcript p 455

2 Cawthorn, M, Managing Director, Ocean Shipyards (WA) Pty Ltd: Transcript p 266

3 Australian Maritime College: Submission 14 p 6

4 Doctors, Assoc. Prof. L, Head, Naval Architecture Section, University of NSW: Transcript p 392

qualified and unqualified personnel.”⁵

6.11 For many builders, however, the possession of formal naval architecture qualifications was not important. Boatbuilders, in particular, preferred designers to have talent rather than formal academic qualifications.

“We have had very little success using qualified naval architects because they are not teaching them flair.”⁶

6.12 University courses were viewed as less practical and up-to-date than desired. This observation was often presented not so much as a criticism as a recognition that in an industry of rapidly changing technology and practice it is not possible for academic courses to keep pace with developments.

“We train [naval architects] in Australia both at AMC and the University of New South Wales and elsewhere. I think the private enterprise architects would argue that they are not necessarily as well trained in this modern industry as we would like but there is a sense of realism that this industry has developed very quickly; in the space of five years. And, of course, the academic world has not been able to convert the courses quickly enough. That being said though, it is not difficult to get graduate Naval architects and take them into your operation and quickly teach them about the modern industry.”⁷

“I believe that we are living in a world of very, very rapidly changing technology and while I would like to think that the universities would produce graduates who would slip straight into a productive role in our business, in reality, we have never expected that. We really only seek to get guys who speak the technical language and then we believe we have got to train them, brainwash them, however you want to put it, in the ways of our business, the practices that we are following.”⁸

6.13 Support for the shipbuilders’ view was given by the Royal Institution of Naval Architects.

“There is some criticism of the present method of tertiary education. The end users of the product manufactured by the University of New South Wales are of the view that present-day graduates do not have sufficient practical experience to permit them to take their rightful place

5 Riley, N, Council Member, Australian Division, Royal Institution of Naval Architects: Transcript pp 453-454
 6 Barry-Cotter, R, Vice-President, Boat Manufacturers' Association of Australia: Transcript p 425
 7 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 256-257
 8 Hercus, P, Managing Director, Incat Designs Pty Ltd: Transcript p 506

in the industry.”⁹

6.14 It was suggested that more practical knowledge could be gained by students if courses could be undertaken on a part-time or a ‘sandwich course’ basis. Institution representatives suggested a structure of six months of practical experience alternating with six months of theoretical training for each of the four years of the university course, or of a 12 month alternating pattern. The proposal had been raised with UNSW but the answer allegedly was that ‘it is all too difficult’ and not in keeping with the rest of the university.¹⁰

6.15 A difficulty arises, in combining part-time study with working in the industry, due to the disparate locations of shipyards and specialised naval architecture course providers. While employment may be available in areas such as Fremantle and Cairns, academic courses are in Sydney and Launceston. A proposed solution was for part-time study in mechanical engineering or science to be followed by an intensive period of naval architecture specialisation at Sydney or Launceston.¹¹

6.16 For Dr John White, the Chief Executive of AMECON, the lack of practical knowledge among the four year trained engineers was indicative of an on-going division between those who do the manufacturing on the shop floor and those responsible for the designing and the managing. While highly educated and capable in a theoretical sense, graduates were judged to lack experience of productive value-adding industry, resulting in a need for considerable in-house training.

6.17 A bridging of the gap, by provision of career paths from non-trades to trades and from trades into diploma engineering qualifications and beyond, was called for. Such career paths, it was asserted, are common in Germany and Japan, where a career in manufacturing also commands greater status than in Australia.¹²

6.18 AMECON has developed an enterprise-based training system to meet its needs by integrating its workforce skills requirements with existing tertiary course work modules from a range of tertiary institutions and by developing courses specifically for AMECON itself. The resulting education program is gaining accreditation by the relevant authorities so that it will be recognised in its own right.¹³

6.19 AMECON also provides work experience to student engineers from Australia and overseas. The benefits to the company are seen as the development of industrial links between AMECON and the student’s home country, the ‘internationalisation’ of AMECON employees and the creation of goodwill.

9 Riley, N, Council Member, Australian Division, Royal Institution of Naval Architects: Transcript pp 451-452

10 Robson, B, Immediate Past President, Australian Division, Royal Institute of Naval Architects: Transcript pp 455-456

11 Hercus, P, Managing Director, Incat Designs Pty Ltd: Transcript p 519

12 White, Dr J, Chief Executive, AMECON: Transcript pp 326-327

13 *ibid.*, pp 342-343

6.20 International exchange was also advocated by Mr Scott Grimley of NQEA Australia Pty Ltd with the proposition that experience overseas was highly desirable to increase the skills base of locally trained naval architects and to provide some 'reverse technology transfer'. A scholarship scheme was envisaged as a means of providing overseas opportunities.¹⁴

6.21 The Committee is of the view that while a four year naval architecture degree may not be necessary to undertake successfully boat and ship design or to oversee construction projects, it is certainly desirable that some qualifications be held. It is especially important that purchasers be aware of the qualification of those who have produced their craft, so that they may have some indication of the degree of expertise involved in its construction. Some form of registration is thus desirable.

6.22 The Committee considers that more flexibility in the structure of courses offered through tertiary institutions would benefit the industry by providing graduates with both sound theoretical backgrounds and relevant practical experience. Flexibility would also facilitate transition between levels of qualification thus broadening career paths for those employed in the industry.

Recommendation 15

6.23 The Committee recommends:

. that the Australian Shipbuilders' Association and Boat Manufacturers' Association of Australia in conjunction with the Australian Division of the Royal Institution of Naval Architects draw up minimum qualifications to meet requirements of registration as a qualified ship or boat designer;

. that following agreement on this standard, it be adopted by these organisations who will each then be accorded authority to accredit individuals, including those with lengthy experience and a proven track record in the industry, who meet these requirements as registered boat or ship designers.

Recommendation 16

6.24 The Committee recommends that the University of NSW and Australian Maritime College naval architecture sections explore the possibility of providing flexibility in the structure of their courses to enable those living at a distance from the centres to gain formal qualifications, and to provide a more practical orientation in the courses.

B. TECHNICAL TRAINING AND APPRENTICESHIP

6.25 In contrast to their indifferent response to university training for naval architects, shipbuilders were enthusiastic about the benefits of the apprenticeship system. The Australian Shipbuilders' Association (ASA) Chairman, Mr John Farrell, described the system as "one of the unsung things about Australia" and asserted that "some of the younger apprentices are the best tradesmen we've got".¹⁵ The enthusiasm of apprentices and their readiness to adopt new ideas and technology were of particular value. The result was said to be that Australia has "incredibly skilled tradesmen".

6.26 Support was expressed for the proposition that apprenticeships be restructured to allow apprentices to progress according to skill, rather than elapsed time. It was felt that such a change would ensure that talented trainees remained well-motivated.

6.27 Industry has called for wage rates for youth and others employed on the basis of a training scheme to accurately reflect the cost of training and the real work performance of those being trained. The very high youth unemployment rates being experienced in Australia today indicate the need for an urgent re-evaluation of current wage fixing systems for apprentices and trainees.

6.28 This is borne out by the statement from NQEA Australia Pty Ltd that, while they are committed to apprenticeship training, in times of economic downturn difficulties are experienced in maintaining apprenticeship obligations.¹⁶

6.29 The Commonwealth should work with the States, industry and unions to develop a system of training wages based on a percentage of full adult wages of a particular classification and recognising over time the increasing skills attainment of the trainee.

6.30 The importance of technician training was stressed by the immediate past president of the Institution of Engineers, Rear-Admiral William Rourke. He recommended to the Committee the concept of industrial training centres as

15 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript p 248

16 Grimley, S, Managing Director, NQEA Australia Pty Ltd: Transcript p 84

established in Singapore. The centres are provided by the Government and operate as a close partnership between the State and the companies who are going to be using the technology.¹⁷

6.31 The Institution of Engineers also supported the ideas of Mr Farrell in regard to facilitating the continual upgrading of workforce skills. A combined approach by industry, TAFE colleges and bodies such as the Institution of Engineers was suggested.

6.32 The Committee endorses the emergence of enterprise based educational programs. The Committee considers that there is a continuing need to upgrade skills and broaden career paths within the shipbuilding industry for the long-term benefit to the shipbuilding industry and individuals within that industry. (7.27)

C. MANAGEMENT TRAINING

6.33 Several submissions drew attention to the importance of project management skills to the industry. Some drew attention to the need for appropriate training in this area. The then Premier of Tasmania, Mr Michael Field, for example, suggested that management training for the industry was generally deficient and recommended that courses be provided through AMC.¹⁸

6.34 For more complex shipbuilding projects, such as that being undertaken by the Australian Submarine Corporation in South Australia, project management skills are as vital as technical expertise. The Managing Director, Dr Donald Williams, told the Committee that it had not been possible to hire the total range of skills needed. It had been necessary to set up training courses to enhance the specific skills of those who met the demands of the organisation in other ways.¹⁹

6.35 The Committee agrees with the suggestion contained in the submission from the then Premier of Tasmania, Mr Michael Field, that management training should be included in undergraduate courses in naval architecture and other branches of engineering. The head of the Naval Architecture section of the University of New South Wales, Associate Professor Lawrence Doctors, conceded that not enough coverage is given to management but explained that it is difficult already to include all that is desirable into the four year course. He suggested that it is necessary to extend the course to five years.²⁰

17 Rourke, Rear-Admiral W, member, Institution of Engineers: Transcript p 602

18 Premier of Tasmania: Submission 46 p 2

19 Williams, Dr D, Managing Director, Australian Submarine Corporation Pty Ltd: Transcript pp 116-117

20 Doctors, Assoc. Prof. L, Head, Naval Architecture Section, University of NSW: Transcript p 385

Recommendation 17

6.36 The Committee recommends that the Minister for Employment, Education and Training, in consultation with the Institute of Engineers, Australia, develop and incorporate project management courses as an integral element of all engineering courses provided at tertiary institutions.

CHAPTER SEVEN

DEFENCE PROCUREMENT

A. NAVAL PROCUREMENT POLICIES

7.1 In May 1991, in response to the results of a review of defence requirements, a series of significant defence reforms were announced. The following were of relevance to navy procurement:

- “. by 2009 the number of major surface combatants will increase to 16 from the current 10.
- . Fremantle class patrol boats will be replaced by 12 more capable offshore vessels for delivery by 2004. Pending their introduction a life extension program is to be undertaken for the 15 Fremantle patrol boats presently in service;
- . government commitment to two ocean basing was re-affirmed, with plans to base all Collins class submarines at HMAS Stirling in Western Australia, two frigates there in the next few years and ANZAC class ships there later;
- . four coastal mine hunters are to be acquired as a matter of priority and
- . plans were announced for the acquisition of a helicopter support/training ship and three replacement destroyers in the later 1990s.”¹

7.2 Given such a projected shipbuilding program, the Navy clearly has the potential to influence activity in the shipbuilding industry through its procurement policies. The Department of Defence advised the Committee that its usual approach is to clearly define its requirements and allow companies to compete for the contract. The decision to build in Australia or elsewhere is taken on the basis of preliminary exploration of comparative costs. It accepts that some small premiums may be involved in building in Australia, but is prepared to accept such premiums if there are significant benefits such as overall capability enhancement, including the through-life support of the ships being constructed.²

7.3 To ensure a long term support base is built up, the Department of Defence has in place policies collectively known as Australian Industry Involvement (AII). Proposals

1 Bilney, The Hon G N, *House of Representatives Hansard*, 30 May 1991, pp 4366-9

2 Department of Defence: Submission 36 p 2

for AII are sought as part of a tender response, and the AII agreed to become a requirement of the contract. There are three elements to AII:

- . Australian production - firms are encouraged to source in Australia where it is economic to do so;
- . 'Defence Designated and Assisted Work' - certain tasks must be carried out in Australia for the defence-specific reason of independent supply and support; and
- . the Defence Offsets Program - associated costs must be fully justified in terms of the quality and relevance of the offset activity to assessed defence capability requirements.³

7.4 The Department of Defence advised that such projects as the submarine and ANZAC ships programs, with their Australian prime contractors and high levels of local production are examples of the current approach to procurement.

7.5 The Metals and Engineering Workers' Union (MEWU) argued in favour of such an approach noting that it is "critical that the Department of Defence continue to support local industry". It also presented a set of purchasing guidelines for 'projects of national significance.' These emphasise, inter alia, that specifications, special requirements and time periods should not preclude Australian companies from the tendering process. As well, the use of non-Australian personnel should be monitored with the aim of replacing them through "appropriate training schemes, career development activities or other such means".⁴

7.6 The contract for the submarine project requires that, except for the weapons system, 70 per cent of the contract be expended in Australia. In relation to the weapons system, 45 per cent is to be expended in Australia. Sub-contractors are required to set up and manufacture components in Australia, rather than meet their obligations through offsets.⁵

7.7 The ANZAC ships contract is for 10 ships to be built by AMECON. The Australian-New Zealand industry participation as tendered was 81 per cent. The Chief Executive of AMECON, Dr John White, reported to the Committee that in October 1991 the project was on track to achieve 72 per cent direct Australian content with 9 per cent offsets taking the total up to the contractual obligation.⁶

7.8 The Department of Defence advised the Committee that the decision to award this contract to a single yard was a carefully considered one. It is the opinion of the Navy and the Defence Department that there are major gains to both customer and

3 *ibid.*

4 Metals and Engineering Workers' Union: Submission 20 p 4 and Appendix I

5 Williams, Dr D, Managing Director, Australian Submarine Corporation: Transcript p 113

6 White, Dr J, Chief Executive, AMECON: Transcript p 333

contractor in this approach. For the customer, there are price and efficiency advantages; while for the contractor it increases the marginal profitability and allows the maintenance of design capacity and intellectual capital.⁷

7.9 The value to the economy of projects such as the ANZAC frigates was stated by the MEWU as being:

- . additional net employment generation Australia wide of 7,300 at its peak;
- . higher GDP and a lower current account deficit;
- “ . Net benefits ... estimated to be \$872 million.”⁸

7.10 Even more important in the MEWU’s view are the long term benefits of the resulting enhancement of Australia’s marine engineering technology capability.

“The ANZ project will stimulate the development of marine engineering technology applicable to a wide variety of marine applications including off-shore oil and gas projects. It will increase the opportunity for a long term and significant level of Australian involvement in the industry by establishing the international credibility and competitiveness of an integrated heavy engineering/marine engineering/electronics network of companies.”⁹

7.11 In the Union’s view this would place Australian industry “in a very good position to capture a significant share of the benefits from the \$15 billion in projects anticipated over the next 2 decades in the oil and gas sector” and would also increase the likelihood of Australian industry being awarded major defence contracts. Export opportunities in the Asia-Pacific region for offshore oil and gas projects would also be boosted.¹⁰

B. DESIGN

7.12 The Navy embraced the ideal of procurement of its ships from within Australia but doubted “whether it would be appropriate to develop a capability for indigenous design of complete major combatants”.¹¹ This position was questioned by other submissions to the inquiry.

7 White, Dr J, Chief Executive, AMECON: Transcript p 335; Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Materiel, Department of Defence: Transcript p 534

8 Metals and Engineering Workers' Union: Submission 20 p 2 referring to Armstrong, G: *The ANZAC Frigate Project*, in *National Economic Review*, No 12, December 1989 p 62

9 *ibid.*, p 60

10 Metals and Engineering Workers' Union: Submission 20 p 3

11 Department of Defence: Submission 37 p 8

7.13 The immediate past president of the Australian Division of the Royal Institution of Naval Architects, Mr Brian Robson, argued that without design capability Australia's technology is incomplete. Building to overseas designs, in his view, lowers competitiveness in exports, leaves Australia lagging behind overseas technology advances and lessens opportunities for Australian components to be used in construction. He pointed out that the design for the Collins class submarine was prepared overseas as was the design for the ANZAC ships.¹²

7.14 NQEA Australia Pty Ltd Chairman, Mr Donald Fry, also criticised the Navy's readiness to purchase designs from overseas. He referred in particular to the search for a mine hunter design.

"The Navy presently has a requirement for a mine hunter; at the present time, it has a team out in the world, buzzing around looking at what is in the marketplace. If the people from the Navy would only come and sit down in my office for eight hours, brief us on what they required and enter a joint program, we would build exactly what they required and do it in less time than it would take for delivery through the process it is currently undertaking. That would enable an increase in our number of technicians. Naval architects and engineers would participate in that project design - tell us exactly what they require - and we as a nation would be a lot better for it.

Regrettably, in the areas where the Navy has undertaken its own design and it has finally resulted in a contract, it has resulted in something more like a camel than a horse. Navy does not have the best record, as recognised internationally, for getting it right when it undertakes design in Canberra. I suggest that the message needs to be given loud and clear that, if properly handled, as it is in America and Scandinavia, when government and industry joins together to do it, they get it right. The Collins class submarine developed by Sweden and Kockums is a good example."¹³

7.15 NQEA Australia Pty Ltd also referred to the effect that lack of Australian Navy support for local design has on potential exports. It was maintained that it is detrimental for potential overseas purchasers to hear that the local design has not been bought by the local Navy.¹⁴

12 Robson, B, Immediate Past President, Australian Division, Royal Institution of Naval Architects: Transcript pp 446-449

13 Fry, D, Owner and Chairman, NQEA Australia Pty Ltd: Transcript pp 80-81

14 Grimley, S, Managing Director, NQEA Australia Pty Ltd: Transcript p 82

7.16 The Australian Shipbuilders' Association (ASA) Chairman, Mr John Farrell, was more scathing in his perception of lack of Navy support for local design.

"That gets me to the question of Australia's Navy. It has never supported the lightweight industry, probably because it has all happened in five years and Navy, which does not move in five-year timeframes, does not even know there is one. The perception I have is that the Navy always seems to resist the idea that Australia can do it. The Navy is one of those groups that seems to think that, if you have to buy something, you must buy it from overseas because obviously nobody here can do it."¹⁵

7.17 Like NQEA Australia Pty Ltd, Mr Farrell also called for collaboration on design between Navy and industry.

"I think there would be a great ability, if only we could encourage Australia's military users to do some of this R&D that has to be done, to support some of these designers. There are really only three leading high-speed designers in this whole country. None of them are rich, yet in world terms they are regarded as technological leaders. Most of the R&D they have done has been far too small because they could not afford to do any more, and it has been paid for [by] people like me. Yet our Navy will go and spend huge amounts of money to do it with Vosper Thornycroft or some defunct European or English mob whom we would regard as 20 years behind. I think there is a need for the military to be forced to perhaps support some of these people, to the betterment of all. ...

I believe, as an optimist, that, if Australia's Navy and private enterprise joined together to design [a lightweight high speed patrol boat] and units were bought by the Australian Navy, that in itself would generate a very good export industry right in our own backyard."¹⁶

7.18 At a subsequent hearing the Navy clarified that its reservations about Australian construction related to warships, a large proportion of the design of which concerns systems and interior equipment. For 'less unique equipment' there was agreement that Australia should become involved in the design, but:

"To develop in Australia the ability to design specific components for a warship from scratch and compete in the world would be astronomically expensive and of very questionable gain."¹⁷

15 Farrell, J, Managing Director, Oceanfast Pty Ltd and Chairman, Australian Shipbuilders' Association: Transcript pp 243-244

16 *ibid.*

17 Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Materiel, Department of Defence: Transcript p 525

The preferable approach in the Navy's view is for collaboration with international designers.

7.19 In response to criticisms that it purchases from overseas, Department of Defence representatives supplied a list of all Australia/New Zealand acquisitions for the period 1981 - 1991.¹⁸ In that period the Navy has undertaken 15 separate support acquisition programs ranging from dinghies to motor launches. All were built in Australia and most were designed in Australia. In regard to the likelihood of the Department of Defence utilising the lightweight industry the response was more guarded.

“Let me assure you that we will follow the sensible trends of the industry. My predecessors might have had an inclination for wood instead of steel and so on but in recent times we pretty well have followed the market!”¹⁹

C. TWO OCEAN POLICY

7.20 The two ocean policy refers to the Navy's strategic plan that by the year 2000 half of the operational fleet will be based at HMAS Stirling in the west. At present three destroyer escorts, one submarine, one survey vessel three patrol boats and an auxiliary tanker are based there. In the long term, there will be two principal centres of repair located near the main naval bases on either side of the continent, to conveniently service the local fleet.

7.21 Submissions from Western Australia conveyed concerns about the Commonwealth commitment to the two ocean policy, and its consequent effects on the shipbuilding industry in the west. The Western Australian government submission stated that:

“A firm pronouncement by the Commonwealth concerning the reality of the ‘Two Ocean Policy’ would greatly assist Western Australian shipbuilders and associated subcontractors. Such a statement is necessary so that local industry can plan ahead with respect to investment in equipment and acquiring the necessary skills in labour and management.”²⁰

7.22 The ASA also sought some assurance of work for Western Australian repairers.

“The traditional steel industry, in particular, is under pressure. The Government could ease its plight by honouring its commitments in terms

18 *Setting New Standards*, Report by Australian Shipbuilding Industries Pty Ltd: Exhibit 65

19 Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Materiel, Department of Defence: Transcript p 532

20 Premier of Western Australia: Submission 51 p 17

of repair and refit work that it promised shipbuilders many times. A case in point is that West Australian industry, in concert with the State Government, made a huge commitment in terms of infrastructure and training in the expectation of getting major Naval work.”²¹

7.23 Department of Defence representatives commented that the Federal Government had contributed significantly to the establishment of the shiplift facility at Cockburn Sound. The Department explained that while the Navy has “a very strong interest in sustaining a Western Australian ship repair industry”²², it is extremely difficult to forecast potential repair and maintenance work after deployment of ships in the west. Since it is planned to base all six submarines there, some work can be expected from that avenue. It is not possible, however, to accurately predict “how often they are going to break down”.²³

7.24 The nature of repair work is also likely to change in the future. Rather than ships being in dockyards for lengthy periods it will be possible to remove equipment from them and transport it to an appropriate manufacturer. Refit agencies are likely to become increasingly project management centres.²⁴

7.25 In addition to concerns in relation to long term repair contracts, the Western Australian company Australian Shipbuilding Industries Pty Ltd (ASI), also expressed grave doubts about the allocation of current refit contracts.

“ASI has difficulty in understanding why it is that the Royal Australian Navy continues to tolerate major time, and presumably cost, overruns in the refitting of warships in Sydney when Western Australian Industry is desperate for work and has a very good track record in this work.”²⁵

7.26 The Manager, Defence and Commercial Projects, Mr Graham White, expanded on this concern when the Committee travelled to Fremantle. He explained that, having proved the capability of the company to undertake refit reliably and in a shorter time frame than is allocated to repairers in the eastern states, it was ASI’s expectation that the company had a very good chance of winning the contract for Oberon submarine refits. ASI’s tender was, in its estimation, very competitive in terms of costs, the proven quality and capability of the company and a guaranteed time delivery. ASI believed their tender was not successful because they were penalised for their location, perceived lack of capability in the area and the risk involved in moving to a new facility. The contract was awarded to Australian Defence Industries in Sydney.

21 Australian Shipbuilders' Association: Submission 38 p 2

22 Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Material, Department of Defence: Transcript p 544

23 *ibid.*, p 540

24 *ibid.*, pp 539-540, 544

25 Australian Shipbuilding Industries Pty Ltd: Submission 32 p 5

7.27 ASI considered that the refit currently under way was taking much longer than the contract conditions and that this would have a flow-on effect to the refit of the next submarine, resulting in that vessel being out of commission for a total of 15 months before refit would commence. In ASI's experience such a significant over-run in contract time would result in a significant addition to contract costs.²⁶

7.28 Defence representatives agreed that the refit was taking longer than originally contracted. One cause was the learning curve of Australian Defence Industries (ADI), which had not refitted submarines before. Some of the delay, however, could be attributed to 'emergent work' which cannot be accurately estimated until the submarine is disassembled. The quantification of that work was still being analysed, but the Navy anticipated a delay of several months in completion of the project.

7.29 The Navy assured the Committee that:

"When the job was tendered in 1989 it was indeed one of the significant factors in ADI being awarded the job that their costs were lower than the competition."²⁷

7.30 The Committee was subsequently advised that there is no evidence that any delay will necessarily result in any 'blow out' in cost. No claim for additional payment had been received.²⁸

D. RESEARCH AND DEVELOPMENT

7.31 NQEA suggested that great benefits could be reaped for both defence and commercial shipbuilding through exchanges of information and personnel. It was envisaged that naval personnel and industry members could work together on design tasks. The research data held by the Navy could flow to industry and the expertise and technology of industry could be shared with the Navy.

"We are finding in Australia that we are unlike other nations where the Navy or the naval department in our competitors' countries support the industry by having naval personnel working within shipyards. The data that has been generated by their own research and that of shipwrights and naval architects within their own organisation has flowed to industry. In Australia we get very little back from the Navy. I understand it is in the throes of bringing in a lot more naval architects from overseas, but it has vast data banks on ship research and studies into

26 White, G, Manager, Defence and Commercial Projects, Australian Shipbuilding Industries Pty Ltd: Transcript pp 279-282

27 Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Materiel, Department of Defence: Transcript p 538

28 Correspondence from Hunt, Rear Admiral A, Assistant Chief of Naval Staff - Materiel, Department of Defence, 3 December 1991

such things as propellers and propulsion systems, and very little of that flows back to industry. Maybe this system could change somewhat and we could be given a better go with the research that has been done by Australians so that it could flow back to Australian industry.”²⁹

7.32 The Committee considers that dialogue between those involved in defence shipbuilding and those involved in commercial shipbuilding would be beneficial to both groups. This dialogue could encompass not only naval research and development but also naval procurement plans and advances in technology.

Recommendation 18

7.33 The Committee recommends that representatives of the Australian Shipbuilders’ Association and the Department of Defence arrange an annual forum at which information can be exchanged on naval research and development, advances in technology and naval procurement plans.

CHAPTER EIGHT

THE FUTURE

A. THE FUTURE OF THE INDUSTRY

8.1 Despite the recent downturn in the industry the Committee believes that some sections of the shipbuilding industry are now moving in the appropriate direction to ensure its revival and long-term viability. The changes from past practice which have been evident throughout the inquiry represent, in the Committee's view, an evolutionary process which will result in a stronger industry in the future.

8.2 As shipbuilding moves into the next century it is likely to bear little resemblance to the industry of the mid-twentieth century. The large labour intensive shipyards of the past have been replaced by smaller firms, currently operating in niche markets with a smaller workforce. Smaller firms allow closer contact between management and staff, which in turn will enable a new emphasis on quality in production. At present, many of the lightweight vessel building companies are non-unionised. This may be a growing trend given the importance of the sector.

8.3 The present swing from steel to aluminium construction is likely to continue in Australia. Where steel shipbuilding remains, or perhaps is established as is mooted for Port Kembla, it is likely to be in conjunction with a wider marine and heavy engineering base.

8.4 Construction methods have changed and are likely to continue to do so. Modular construction, as evidenced in the submarine project, is likely to become the method of the future, particularly for larger vessels. Construction can then be decentralised. Robotics and computer-aided technology which is available now to assist in design, manufacture and construction will become more prevalent.

8.5 Ship repair also will be decentralised. Modular construction techniques will allow equipment to be removed from vessels so that repair may take place in specialised workshops rather than in large docks.

8.6 With decentralisation of construction and use of specialised computer technology services, project management will be crucial to successful production. Personnel with skills in this field will be as indispensable as are naval architects and skilled technicians.

8.7 Training courses need to keep pace with these changes. Skills in production techniques relevant to new materials are required. Project management training is essential.

8.8 Sectors of the industry are likely to be characterised by single union agreements and enterprise bargaining.

8.9 The shipbuilders specialising in lightweight, high speed vessels provide an indicator for the future structure of the industry. The combination of innovative design, advanced construction techniques, high quality fitout and finish, and ability to deliver according to the construction timetable has established this sector of the industry as a major world leader in the space of five years.

8.10 World thinking on the potential of high speed ferries has been revolutionised. Australian shipbuilders have acted as market leaders in designing and developing a product with a global application.

8.11 The use of advanced materials and composites and the growing demand for larger vessels acted as a catalyst for lightweight shipbuilders to use non-traditional ship construction methods, borrowing heavily from the aircraft industry for inspiration. As Mr John Farrell, Managing Director, Oceanfast Pty Ltd, explained to the Committee:

“... as customers want to build bigger and faster boats, whatever the aircraft industry is doing is what this industry will have to follow because the parallels between the two are very much the same. We are a long, way behind the aircraft industry .. but we are going to have to keep borrowing from the aircraft industry the whole way.

Five years ago nobody would have conceived that you could build a 50-metre, 30-knot boat at all, whether it be a ferry or a private boat. Today it is normal. Now everybody is talking about 100-metre, 50-knot 500-passenger or car carrying boats, and we are only a year or two away from doing that.

The more we do this the more we are going to become akin to the aircraft industry and we are not going to have anything to do with shipbuilding that Australia once knew even 10 years ago - it will not be the same thing - and it is not even today.”¹

8.12 Shipbuilders will require assistance in meeting the world demand for their products. The Committee notes the positive assistance given by AUSTRADE to Western Australian shipbuilders in marketing both the shipyards and the vessels, and considers that AUSTRADE can provide greater assistance in the future to shipbuilders in penetrating markets in Europe, South East Asia and North America.

1 Farrell, J, Managing Director, Oceanfast Pty Ltd, and Chairman, Australian Shipbuilders' Association: Transcript p 247

8.13 The rapid growth of the lightweight high-speed vessel sector of the industry has highlighted a continuing problem of arranging loans for the purchase of ships. As the number of contracts increases, and the value of individual contracts also increases, the need for finance will correspondingly grow. The role of the Export Finance and Insurance Corporation (EFIC) will, therefore, be of increasing importance to the industry. It is essential that applications to EFIC by shipbuilders be processed in the time-frame dictated by commercial reality. To make that possible, the information requirements of EFIC in processing loans must be clearly understood by the shipbuilders and must be complied with in the application. In order to increase the flexibility of shipbuilders in providing financial services for potential clients, alternate sources of capital, such as the use of tax free savings accounts to generate investment funds, need to be explored.

8.14 The replacement of the ageing world bulk carrier fleet was identified as a potential opportunity for Australian shipbuilders. While the Committee considers that this potential should be further explored, it is clear that substantial financial investment will be required if there is to be any chance of competing for that market.

8.15 The increased emphasis in defence procurement policies on construction within Australia and increased Australian industry input will have spin-offs for the shipbuilding industry and associated industries. There is also potential for productive information exchange between defence and commercial shipbuilding interests in regard to research and technology developments.

8.16 The outcomes of the recently established Cooperative Research Centre will be awaited with interest by both the industry and government. It is expected that the combination of academic and industry input will achieve valuable advances in design and technology.

8.17 The Committee considers that, while the traditional steel shipbuilding sector of the industry has declined, the lightweight, high-speed vessel sector of the industry has established itself as world class, and a world leader in design and construction. In order to maintain this position, however, this sector of the industry will have to consolidate its international reputation and begin designing larger (over 100m) vessels. This will require assistance in research and development, export marketing and the development of sophisticated financial servicing of shipbuilding contracts together with the maintenance of the new work practices established in this sector of the industry.

M J Lee, MP
Chairman

Report adopted by Committee 26 May 1992

APPENDIX I

CONDUCT OF THE INQUIRY

On 6 March 1991 the Minister for Industry, Technology and Commerce requested the Committee to inquire into and report on the Australian shipbuilding industry.

The Committee advertised the inquiry nationally in major metropolitan newspapers. In addition, submissions were sought directly from relevant Commonwealth Government Ministers, State Governments and industry. Appendix II lists those who made submissions to the inquiry. Sixty submissions were received (not including supplementary submissions). Eighty five exhibits were also submitted to the inquiry and these are listed in Appendix IV.

Ten public hearings were held in Adelaide, Cairns, Canberra, Fremantle, Launceston, Melbourne, Newcastle and Sydney. Seventy-five witnesses gave evidence. These are listed in Appendix III. Over seven hundred pages of evidence were received at these public hearings. A transcripts of all the evidence is available for inspection at the Committee Office of the House of Representatives and at the National Library of Australia.

APPENDIX II

LIST OF SUBMISSIONS

Submission No	Date	Person or organisation
1	20/03/91	Mr R H Turner Jarcat Marine
2	20/03/91	Mr John D Watts ADDCO Industrial Pty Ltd
3	28/03/91	Mr S Ballantyne ASDMAR Pty Ltd
4	02/04/91	Mr William G Barber William G Barber and Associates Pty Ltd
5	03/04/91	Mr David Swales Hobart, TAS
6	03/04/91	Mr Martin Hartman Raymond Terrace, Newcastle
7	12/04/91	Mr G C Rae United Ship Repair Services
8	16/04/91	Mr A C Bell Broadwater Yachts
9	00/04/91	Mr P McNair Glen Waverley, Vic
10	15/04/91	Mr D N Dammers Antelope Engineering Pty Ltd
11	22/04/91	Mr Bill Rourke The Institution of Engineers, Australia
12	23/04/91	Mr Mark Cawthorn Ocean Shipyards (WA) Pty Ltd
13	22/04/91	Mr H L Hyland Woollahra, NSW

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14	23/04/91	Mr R F Short Australian Maritime College
15	24/04/91	Mr Chen Nande CMIEC (Australia) Pty Ltd
16	24/04/91	Mr Garth Walton Speers Point, Newcastle NSW
17	26/04/91	Mrs Gloria Gilling International Reform Alliance
18	24/04/91	Mr Kevin Dunn The University of Newcastle
19	26/04/91	Mr G Tortolano Spearwood, WA
20	24/04/91	Metals and Engineering Workers' Union
21	29/04/91	Mr Keith Murray The Institute of Marine Engineers
22	30/04/91	Mr A Steber Stebercraft Pty Ltd
23	30/04/91	Mr Kim Klaka The Centre for Marine Science and Technology Curtin University of Technology
24	30/04/91	Mr W F Ellis, AM North Sydney, NSW
24.1	13/11/91	Supplementary to Submission No 24
25	30/04/91	Mr B Hatter Concord, NSW
26	30/04/91	Mr N J Gaspar EMS Holdings Pty Ltd
27	30/04/91	Mr Murray Makin Naval Architect, Toongabbie, NSW
28	01/05/91	Mr R Campbell Marine Consultancy Services

29	03/05/91	Mr C F Vassarotti Australian Customs Service
30	03/05/91	Mr J W Spencer Australian Maritime Safety Authority
31	06/05/91	Mr Ian Charlton The Caddsmen Limited
32	06/05/91	Mr G D White Australian Shipbuilding Industries (WA) Pty Ltd
33	07/05/91	Mr P Brown BHP Transport
34	08/05/91	Gary L Sturgess The Cabinet Office New South Wales
35	09/05/91	Dr Samuel F Lackey Westpac Banking Corporation
36	09/05/91	Mr John Farrell Oceanfast Pty Ltd
37	09/05/91	Mr M F Domney Department of Defence
37.1	24/07/91	Mr G Verney Supplementary to Submission No 37
38	13/05/91	Mr P J Wheeler Australian Shipbuilders' Association Ltd
39	10/05/91	Commodore H J P Adams The Australian Centre for Maritime Studies Inc.
40	13/05/91	Mr R Koziara The Boat Manufacturers' Association of Australia
41	00/05/91	Glenys McLaine Executive Officer Port Kembla Harbour Task Force

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42 28/05/91 Mr John Diamond
Department of Industry, Technology and
Commerce

43 31/05/91 Dr D G Williams
Managing Director
Australian Submarine Corp. Pty Ltd

44 29/05/91 Prof. Lawrence J Doctors
Associate Professor and Head
Naval Architecture Section
School of Mechanical and Manufacturing
Engineering
The University of New South Wales

45 03/06/91 Prof. Lawrence J Doctors
The Royal Institution of Naval Architects

46 10/05/91 Hon. Michael Field
Premier
Tasmania

47 14/06/91 Mr Roy Privett
General Manager
Boating Industry Association of NSW Ltd

48 28/06/91 Mr Marc Richards
NQE Australia Pty Ltd

49 30/04/91 Mr David Johnson
Institute of Oceanographic Sciences
Deacon Laboratory

50 24/06/91 Mr John Page
Department of Transport and Communications

51 6/06/91 Hon. Dr Carmen Lawrence MLA
Premier
Office of the Premier - Western Australia

52 9/08/91 Mr R F I Smith
Office of the Cabinet - Queensland

53 05/09/91 Mr Keith Ralfs
Tasman Shipbuilding and Offshore Engineering Ltd

- 54 20/09/91 Mr P C Hercus
 INCAT DESIGNS
 International Catamaran Designs Pty Ltd
- 55 27/09/91 Mr Ken Harris
 Australian Defence Industries
- 56 16/10/91 Mr Karel Grezl
 TUNRA
 Newcastle University
- 57 16/10/91 Mr Keith Ralphs
 Austral Oceanic Services Pty Ltd
- 57.1 14/11/91 Supplementary to Submission 57
- 58 21/11/91 Mr J F Weatherby
 Forgacs Dockyard
- 59 00/12/91 Newcastle Chamber of Commerce and Industry
- 60 15/04/92 Dr R B Dun
 Director General
 Australian International Development
 Assistance Bureau
- 60.1 28/04/92 Mr Scott Dawson
 Acting Assistant Director General
 Community, Commercial and Refugee Programs
 Branch
 Supplementary to Submission No 60

APPENDIX III

LIST OF HEARINGS AND WITNESSES

Canberra, 6 June 1991

Department of Industry, Technology and Commerce

Mr M Arblaster, Acting Director, Export Credit Policy Section

Mr P W Dowling, Assistant Manager, Engineering, Shipbuilding and Electrical Section

Mr G Leach, Assistant Secretary, Asia Branch

Mr B Meredyth, Assistant Secretary, Engineering Branch A

Launceston, 28 June 1991

Australian Maritime College

Dr M R Renilson, Director, Ship Hydrodynamics Centre

Launceston Marine Industries Pty Ltd

Ms J A Davey, Company Accountant and Acting General Manager

Mr J G Sharp, Project Manager and Acting Joint General Manager

Cairns, 4 July 1991

NQEA Australia Pty Ltd

Mr D G Fry, Owner and Chairman

Mr S C Grimley, Managing Director

Mr M D Richards, Chief Naval Architect

Adelaide, 27 August 1991

Australian Submarine Corporation Pty Ltd

Mr R H Milton, Corporate Affairs Manager

Dr D G Williams, Managing Director

The Cadds Man Ltd

Mr I V Charlton, Managing Director

Fremantle, 19 September 1991

Australian Trade Commission

Mr P J Cannon, Acting Manager, Marine Business Development Unit
 Mr T J Knowles, Senior Officer, Marine (Perth)
 Mr B G Quartermaine, Manager (WA) Export Development Incentives

Department of State Development

Mr B Abrahams, Senior Project Manager, Manufacturing Services
 Mr J R Donovan, Acting Manager, Manufacturing Services
 Mr Q Harrington, Acting Director, Strategic Policy Branch
 Mr H Jones, Research Officer, Strategic Policy Branch

Private Citizen

Mr G Tortolano

Fremantle, 20 September 1991

Austal Ships Pty Ltd

Mr J Rothwell, Managing Director

Australian Customs Service

Mr P J Williams, Regional Manager, Industry Assistance

Australian Shipbuilders' Association

Mr J C Farrell, Chairman, and Managing Director, Oceanfast Pty Ltd

Australian Shipbuilding Industries (WA) Pty Ltd

Mr G D White, Manager, Defence and Commercial Projects

EMS Holdings

Mr N Gaspar, General Manager

Ocean Shipyards (WA) Pty Ltd

Mr M Cawthorn, Managing Director

Melbourne, 23 October 1991

Australian Marine Engineering Consolidated Ltd (AMECON)

Dr J D White, Chief Executive

William G Barber & Associates Pty Ltd

Mr W G T Barber, Managing Director (Small Business)

BHP Transport

Mr G P Hunt, Ports Manager of New South Wales

Mr W E Rumley, Project Development Superintendent

Sydney, 24 October 1991**ADDCO Industrial**

Mr I M Prosin, Technical Director

Antelope Engineering Pty Ltd

Mr D N Dammers, Director

Boat Manufacturers' Association of Australia

Mr R W Barry-Cotter, Vice-President

Mr R Koziara, Executive Director

Mr J S Savage, Director

Mr A B Steber, Director

Caltex Tanker Co. Pty Ltd

Mr G H Quine, Marine Projects Manager

Department of State Development

Mr R T Fisk, Senior Project Officer

Export Finance and Insurance Corporation

Mr M G Parry, Manager, Lending Operations

Institute of Marine Engineers

Mr L J Prandolini, Vice-President, Australia-New Zealand Division

International Catamaran Designs Pty Ltd

Mr N A Armstrong, Director of Design

Mr P C Hercus, Managing Director

Private Citizen

Mr Keith Ralfs

Royal Institution of Naval Architects

Mr N T Riley, Council Member, Australian Division

Mr B L Robson, Immediate Past President, Australian Division

State Transit Authority

Captain M Costelloe, Manager, Sydney Ferries

University of New South Wales

Associate Professor L J Doctors, Head, Naval Architecture Section

Westpac Banking Corporation
Dr S F Lackey, Senior Manager, Westpac Project Finance

Canberra, 15 November 1991

Australian Centre for Maritime Studies

Mr H J P Adams, Chairman
Mr J Chapman, Board Member
Mr A R Cummins, Board Member

Australian Maritime Safety Authority

Mr R C Gehling, Chief Naval Architect
Mr I M Williams, Manager, Ship Safety

Australian Trade Commission

Dr E D Druce, Group National Manager, Australian Export Groups

Department of Defence

Rear Admiral A L Hunt, Assistant Chief of Naval Staff - Materiel
Dr G S Verney, Assistant Secretary, Industry Policy and Programs Branch
Mr D D Wood, First Assistant Secretary, Industry Policy and Operations Division

Department of Industry, Technology and Commerce

Mr A Bain, First Assistant Secretary, Policy and Projects Division
Mr J Beever, Assistant Secretary, Engineering Branch
Mr J Diamond, Manager, Engineering Industries, Heavy Industries Division
Mr P Dowling, Assistant Manager, Engineering Industries Section
Mr R A Knight, Assistant Manager, Business Taxation Section
Mr M Perri, Director, Marine Industries Section
Mr B J Walker, Director, Operations, Research and Development Grants Branch

Department of Transport and Communications

Mr M R Cotton, Acting Assistant Secretary, National Shipping Infrastructure
Branch
Mr G M Outzen, Director, Shipping Industry Section

Institution of Engineers, Australia

Rear-Admiral W J Rourke, Member

Newcastle, 4 December 1991

Forgacs Engineering Pty Ltd

Mr J F Weatherby, Chief General Manager

Mr A A Morris, Federal Member for Newcastle

Newcastle Chamber of Commerce and Industry
Mr G A Jefferies, Executive Director

Private Citizens

Mr W F Ellis
Mr J A Laverick

University of Newcastle

Mr K M Dunn, Tutor and Doctoral Student, Department of Geography
Mr K Grezl, Chief Executive Officer, TUNRA Ltd
Mr P O'Neill, Lecturer, Department of Geography

APPENDIX IV

LIST OF EXHIBITS

Exhibit No	Title/Document
1	Australian Dockyard Development Company Pty Ltd: <i>Proposal for an International Marine Engineering Facility at Port Kembla Harbour</i> , June 1989 (attachment to Submission 2)
2	ADDCO Industrial: <i>Kembla Shipbuilding and Marine Facility - Memorandum of Information</i> (attachment to Submission 2)
3	EFIC brochure: <i>Lady of the Loch</i> , (attachment to Submission 4)
4	Crisp, Dale: <i>Australian Shipbuilding on the Slip: Subsidised competition problem</i> , in <i>Daily Commercial News</i> , 20 March 1991 pp 1, 4 (attachment to Submission 4)
5	<i>Lloyd's Register Class for Bell Lines' new hatch coverless ship</i> , in <i>Ships and Ports</i> , November 1990 p 14 (attachment to Submission 4)
6	Barber, William: <i>Austrade inept</i> , in <i>Herald-Sun</i> , 22 February 1991 p 14 (attachment to Submission 4)
7	Barber, William: <i>Ferris' defence indicates arrogance towards clients</i> , and <i>AUSTRADE: Austrade offers an apology, but explains an oversight</i> , in <i>Daily Commercial News</i> , 7 March 1991 (attachment to Submission 4)
8	Barber, William: <i>Australia's shipbuilding - What of its future?</i> in <i>Ships and Ports</i> , November 1991 p 16 (attachment to Submission 4)
9	Barber, William: <i>Carrington Slipways in Receivership - What happened?</i> in <i>Ships and Ports</i> , March 1991 p 34 (attachment to Submission 4)
10	Barber, William: <i>Carrington Slipways in Receivership - What happened?</i> in <i>Workboat World</i> , February 1991 p 23 (attachment to Submission 4)
11	Riley, Mark: <i>Goodbye to hundreds of jobs that slipped away</i> , in <i>Sydney Morning Herald</i> , 23 March 1991 p 9 (attachment to Submission 17)
12	<i>Shipbuilding: Phoenix or Sunset Industry?</i> in <i>Det Norske Veritas Corporate Magazine</i> , Winter issue 90/91 (attachment to Submission 24)

- 13 Australian Shipbuilding Board/Shipbuilding Division, Department of Transport/Ship Design Group, Department of Industry and Commerce: *Ship Design Work 1964-1980*, Campbell, Robert: *An appraisal of Australian shipbuilding since 1940*, a paper delivered to the Bicentennial Maritime Symposium, January 1988 (attachments to Submission 28)
- 14 *Beyond 2000*, video cassette recording (attachment to Submission 31)
- 15 *Shape up or ship out - profiting by design*, video cassette recording (attachment to Submission 31)
- 16 Australian Shipbuilding Industries (WA) Pty Ltd: *Setting New Standards*, (attachment to Submission 32)
- 17 *Setting New Standards*, video cassette recording (attachment to Submission 32)
- 18 ADDCO Industrial: *Kembla Shipbuilding and Marine Facility - Memorandum of Information* (attachment to Submission 35)
- 19 Oceanfast Pty Ltd: *Opal . C* (attachment to Submission 36)
- 20 Oceanfast Pty Ltd: *"MV OCEANA" - 55m water jet driven high speed motor yacht* (attachment to Submission 36)
- 21 Oceanfast Pty Ltd: *Sounds of the Pacific* (attachment to Submission 36)
- 22 Oceanfast Pty Ltd: *Mystique* (attachment to Submission 36)
- 23 Oceanfast Pty Ltd: *Sun Paradise* (attachment to Submission 36)
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- 25 Oceanfast Pty Ltd: *Antipodean* (attachment to Submission 36)
- 26 Oceanfast Pty Ltd: *Mercedes* (attachment to Submission 36)
- 27 Oceanfast Pty Ltd: *Model 4000* (attachment to Submission 36)
- 28 Oceanfast Pty Ltd: *Model 3000* (attachment to Submission 36)
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38 A Folder containing:

. NQEA Australia - Company Profile;

. NQEA Australia company brochures entitled:

- NQEA Australia Engineers and Shipbuilders
- T-Shuttle
- Post sale Customer Service Department
- Quality Assurance
- Marine Survival and Safety Equipment
- Wavepiercer "Quicksilver"
- Wavepiercer "Prince of Wales"
- Wavepiercer "Seacom 1"
- High speed catamarans "The Adaire" "Na' Ayem"
- High speed catamarans "Blue Fin"
- High speed catamarans "Supercat III"
- Cheetah
- An Advanced Hovercraft The OGF-15
- Bigfoot
- The New Generation Coffee Harvester
- Superfugal
- Oceanographic Research Vessel "Franklin";

. Copy of letter to Director - Ship Hydrodynamics Centre, Australian Maritime College from Marc Richards, NQEA, concerning the establishment of an Australian Maritime Engineering Research Centre;

. Copy of letter to Principal Policy Adviser, Policy and Planning

- Unit, Queensland Department of Transport concerning Marine Board Role Review;
- . Documents dated April 1991 and 15 April 1991 addressed to Standards Australia from Mr Marc Richards, NQEA, concerning recommended changes to draft Australian standards; and
- . NQEA Notes on EFIC Finance and Insurance prepared for Inquiry into the Shipbuilding Industry.
- 39 Carrington Slipways Pty Ltd: *Construction Record*
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- 44 *Marine Industry Exports*, a graph - source not known
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- 57 *SCA cries 'unfair' on shipbuilding subsidy issue*, in *Mer*, May 1991 p 3 (attachment to Submission 53)
- 58 Scottish Ship Management (Australia) Pty Ltd: *To Whom It May Concern*
- 59 *Study forecasts rising level of shipbuilding and further increase in newbuilding prices*, in *Asian Shipping*, September 1991 p 9
- 60 *Endeavouring to become competitive*, in *Fairplay*, 22 August 1991 p 25
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CONFIDENTIAL EXHIBITS

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NUMERICAL STABILITY

Consider the system of linear equations $Ax = b$ where A is a matrix and b is a vector.

The solution is given by $x = A^{-1}b$. The numerical stability of the solution depends on the condition number of the matrix A .