

Submission to Senate Foreign Affairs, Defence and Trade References Committee Inquiry into Material Acquisition and Management in the Department of Defence.

Submission by Rear Admiral (Ret'd) W.J.Rourke AO. FTSE Hon FIEAust FRINA

1. The Terms of Reference of the Committee are that it inquire and report whether the current materiel acquisition and framework of the Department of Defence is effective in meeting the organisation's equipment requirements.
2. The current framework of the DMO within the Department of Defence was initiated in June 2000, and it may be a little too soon to judge how well it will manage its task. However there are some indications available that it is already experiencing some difficulties, and there are some aspects of the organisation that might well be improved.
3. The author of these comments served as Chief of Naval Materiel from 1979 to 1985, and has maintained an interest and involvement in Defence matters and Defence Industry since that time. The views he expresses stem from his experience with both Defence and Industry.
4. My principal concern for the Defence Department generally, and of the DMO particularly, is that it does not give sufficient prominence or sufficient attention to lessons learned in its management of projects. When this is coupled with organisational change, and the frequent transfer of responsibility from one project director to another, there tends to be inadequate attention to the identification of causes of project problems, and their rectification. Problems with Defence projects and how best to avoid their recurrence should be clearly identified. The writer made a report at the conclusion of a six year term as Chief of Naval Materiel which emphasised the need for project histories to be compiled, and lessons learned identified, and the necessary remedial action taken. In 1994, he undertook a study for Defence entitled "An Economic Analysis of the Australian Shipbuilding Industry" ¹ One of its conclusions read *"Nearly every project contains lessons for its successors. Private industry ensures such lessons are identified and utilised to improve management policies and processes. Defence should ensure that Project Management Plans embody the requirement to produce a progressive history and identification of lessons learned, including of course those learned only with the benefit of hindsight. It may well be worthwhile to ensure that this is done retrospectively for selected projects. To the maximum possible extent these histories and lessons learned should be made public, so that customers and suppliers can each learn from the other."* There is no evidence that any action along these lines is being taken.
4. The Under Secretary for the Defence Materiel Organisation, Mr Mick Roche, has published an address he gave to Defence Watch on 4th April, 2002. He discusses the role of the DMO in regard to capability assets and says "In a way it means that the DMO will effectively own and maintain the asset, and the Defence Force end-user will effectively "lease" it. " I would have to express a concern about arrangements which suggest that the Defence Force is an end user but does not effectively own and maintain the equipment it must fight with. Discussions with industry suggest that to have DMO interposed between supplier

¹ " An Economic Analysis of the Australian Shipbuilding Industry" by W.J.Rourke. B.Ec. M.Econ

and end user, when the equipment being supported is deployed, would not be an effective arrangement.

5. There is a further problem relating to ownership and identification with the ships and weapons and systems with which the Navy may have to fight. The role of the naval engineer officer used to be a very wide and embracing one. I spent time in research relating to ships resistance and the appropriate docking intervals to maintain efficiency. I undertook post-graduate studies in nuclear engineering and developed procedures to limit the consequences of the maximum credible nuclear accident. I was involved in new ship design and took part in trials of new weapons systems. I worked with the Chief Defence Scientist. I spent several years in a small and effective shipbuilding yard in the United States. I was later appointed General Manager of Garden Island Dockyard, before being promoted to Rear Admiral and posted as Chief of Naval Materiel and a member of the Naval Board. I was well trained for a very responsible job and had no desire to transfer to civil employment. The position today is that the senior engineer in the Navy is a Commodore who is not a member of the Naval Board, that the post is suffering rapid turn-over linked to early retirements, and that engineering manpower and recruiting are in serious difficulties. It is no wonder. The job has become increasingly circumscribed until it offers limited challenges and rewards. I attended a recent discussion amongst naval architects in the Defence Department who noted sadly "We don't design any more!" The professional challenge is being destroyed and there will soon be a shortage of those who have the necessary knowledge to work effectively with industry.
6. I have had substantial experience with three Defence Materiel systems; those of the United Kingdom, of Australia and the United States. I have been involved in Defence Science matters, in design and construction and acquisition, and in operation in peace and war. The Defence organisation which I regard as the most effective and most efficient is that of the United States, and I would like to identify some of its characteristics which might usefully be applied in Australia. In doing so I will address a number of issues that are outside the current ambit of the Australian DMO, but relate to Defence capabilities and Defence Materiel.
7. Perhaps the most important characteristic of the US system is the emphasis that the US has always given on ensuring that its Naval Academy at Annapolis and its Military Academy at West Point educate their students by providing them with a university course in science and engineering. This provides the leaders of the Defence Forces with an understanding of their materiel, and how its development and design and production can best be assured, and how it can best be utilised in war, or in preventing war. A proportion of the Academy graduates are encouraged to undertake Masters degrees, and may become Engineering Duty Only specialists. The great merit of the US scheme is the breadth of understanding, throughout the officers of the Defence Force, of Defence Materiel matters. I note a recent article in *Australian Defence Force Journal March/April 2002* that emphasises that the Navy needs officers with a high level of technical expertise, and states it is unlikely under present arrangements to get the skills it needs.² The article was written about the need to transform the RAN College, but applies also to ADFA.
8. Another US organisational arrangement with many advantages is having a President of the Naval Board of Inspection and Survey appointed by Congress,

² Transforming the Officer Initial Training Facility (OITF) of the Royal Australian Naval College (RANC) by Lieut. Jason J. Kirwin in Australian Defence Force Journal No 153 March/April 2002

and reporting to both Congress and the Navy. The INSURV Board assesses the merits and deficiencies of all ships delivered to the US Navy by carrying out extensive preliminary acceptance and final acceptance trials, and by carrying out inspection and surveys at regular intervals during the ship's life. This process provides a critical assessment of both the industry performance and the Defence Materiel performance in regard to all major acquisitions. This does not seem to happen in Australia at present, and its absence can lead to problems not being adequately identified and deficient processes not being addressed..

9. My personal experience of the US approach stems largely from the 1960's when I spent four and a half years in the US, at shipbuilding yards, equipment production sites, and in ships at sea. There was a widespread understanding and responsibility for what naval vessels cost to build, maintain and run. Each Supervisor of Shipbuilding, USN, had a budget, and could decide how best to allocate it for optimum efficiency. The officers responsible for various classes of ships could monitor the costs of supplying spares and costs of refits and take actions to correct problems. The shipborne officers too had budgets within which to operate. Some recent enquiries relating to support costs indicate there is no equivalent visibility in the Australian Navy, or within the DMO. One of the consequences of this is that the ANZAC frigates have inadequate arrangements for their support. Coupled with this was the comment at the 2002 Maritime Conference that the high separation rates of naval engineering personnel are linked to a lack of the tools to do the job.
10. It seems to me that in the United States there is far more visibility of contracts with industry. It is the usual US practice to announce the content of all bids received for a particular contract, and to explain why one proposal is preferred to others. It is not known why similar approaches are not followed here.
11. Mr Roche's paper, referred to earlier, states that *"in some cases capability is not sufficiently defined before project commencement, with the inevitable result of capability cost and schedule blow out through scope change and delayed outcomes."* It is of course desirable to define all capability needs before project commencement, but this is not always possible. Some naval projects take some fifteen years or so from project approval to last ship acceptance, and it is not possible to forecast ahead all developments in communications and other fields. What should be done is to allow an appropriate project contingency, so that developments can be taken up as necessary. There is some indication in Mr Roche's speech that DMO recognises the need for flexibility where leading edge technology is involved.
12. The writer is an engineer, economist, and military manager who has worked in research and development, and in design, and in ship construction, and military operations over many years. It is therefore to be expected that he regards engineering understanding and experience to be at the heart of Defence Materiel specification, procurement, operation and maintenance. He believes it necessary that there be a very high level of expertise amongst operator, designer, builder, and purchaser, and it is preferred that those involved have some exposure to each of these phases. It is understood that there is some crisis of recruitment and retention of naval engineers at present, and it appears that the DMO has too few people with appropriate industry/military experience. There should be some programme to remedy this state of affairs.

13. I have some misgivings about the approach to the patrol boat contract. It seems to me that to choose the preferred bid may require the exercise of judgments on capabilities and characteristics which could have been determined earlier and more appropriately by the prospective user.
14. I can understand and support the idea of a partnership with industry on defence production, but believe that there need to be ways of withholding payments when progress is not satisfactory. Mr Roche seems to regard the Seasprite program failures as unavoidable by Defence. I do not believe this should be accepted.
- 15 I would not want to leave an impression that I believe all aspects of the Defence Materiel Organisation approach are unsatisfactory. It is quite correct that industry should be considered as a critical part of Defence capability, and that strategically linked programs should be devised. There should be programmes which involve the industry providers and Defence customers in partnerships or alliances. However there is a need to be more communicative on programs and performance, and there needs to be better communication in regard to scheduled events, and the slippages or changes of plan that are occurring. I believe that the largest problem, of an indirect nature, is that there is a decreasing role for the engineer and technologist in the Services, at a time when the need for them is increasing. Action should be taken to set this right.

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