

**Decades of Disasters: Major Project Management in
Defence**

SUBMISSION

to

The Senate Committee on Foreign Affairs, Defence and Trade

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The Author of this submission

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He is an Honours graduate of the University of Newcastle, NSW, and a JSSC graduate. Until June 2002 he was a Defence Advisor with the Parliamentary Information and Research Service at Parliament House, Canberra, where he provided confidential advice and research at request to members of all parties and Parliamentary committees, and produced regular Library publications on a wide range of defence issues. He is now an independent defence and security analyst.

Quotation from Senate Estimates Committee hearing, 12 February 1999

Speaker: Senator David MacGibbon

The [submarine] contract was signed in June 1987—nearly 12 years ago—and through the recess I decided to accurately find out what information the parliament had about the progress of this contract. I went through the Hansard for...[official] statements which related to the performance of the contractor or the execution of the contract. That is only a small sample of what I extracted from Hansard. The important point is that the general tenor of all the evidence given to the parliament can be paraphrased succinctly in these few words:

It's all going well—just a few minor problems—nothing to worry about—always expect a few hitches when you are pushing the boundaries of technology.

I do not propose to go through all the quotations I have here, but I just want to set the picture....

One point is absolutely irrefutable: the parliament was never informed that there was a serious problem with this program. The parliament has not been kept informed at the level it should have been, and it is not only the parliamentary committees who have not been kept informed. I defy anyone to read the ministerial statements that have been made in support of this program and not recognise that there is an arguable case that quite probably ministers have been misinformed also as to the status of this program, except up until recent times...

The Department of Defence has been less than frank with the parliament—if I can phrase it in a most benign and diplomatic way—and in so doing you have put the parliament in a very invidious position.

Source: Committee Hansard, 12 February 1999, p.255.

Principal Points, Issues and Recommendations

Importance of this inquiry

- The present top twenty major capital equipment projects have a total approved value in excess of 25 billion dollars; in 2002-03 alone they are expected to consume over 2.2 billion dollars. The Defence Organisation (DO) thus faces a huge ongoing responsibility.
- The present inquiry is important because it forms part of the accountability due to the Parliament from the Government and its agencies. Such accountability addresses not only taxpayer concerns but can provide a powerful mechanism for facilitating sound management.
- Conversely, failure to hold Governments and agencies accountable at this Parliamentary level can encourage a continuation, or even growth, of any lax practices and unsound management strategies which might exist.

History of mixed performance

- Historically the Defence Organisation's management record is fairly described as mixed. Though many projects have come to term near enough to on time and on budget, surmounting any problems which may have arisen, others have experienced serious delays, cost overruns and capability deficiencies. Currently the *Collins* submarine, the JORN over-the-horizon radar, the *Seasprite* helicopter and the *Bushranger* vehicle, projects which between them have a total approved value of \$7.9 billion¹, are in serious difficulty.
- While performance has been mixed, it must be said that when major projects go off the rails, they do so in a big way. The capability and credibility costs to the Defence Force of an ineffective submarine arm and of limited broad area surveillance (JORN) are considerable. So are the dollar costs to the taxpayer. The pre-sale value of Telstra was cut by \$600m due to its losses on JORN, there is an admitted additional \$228m cost on *Collins*, and in any case it costs just as much to crew and operate ineffective submarines as it does to use capable ones.
- We have just embarked on the Airborne Early Warning and Control (AEW&C) project, worth almost \$3.5 billion for four aircraft plus extensive support systems. With Project Air 6000, the decision has been made to commit substantial resources to a drawing-board aircraft, the Joint Strike Fighter (JSF) and effectively to lock us in to this choice. These projects, if

1. Defence *Portfolio Budget Statement 2002-2003*, Chapter 3, table 3.10 (except for JORN, which is from Defence *Portfolio Budget Additional Estimates Statement 2001-2002*, Chapter 3, table 3.10).

not effectively managed, each has the potential to become another high-priced disaster for the DO.

Disturbing aspects: a decades-old pattern

- The most disturbing aspects of the Defence Organisation's historical and current performance are:
 - that the mixed performance has been a constant for several decades: there is no evidence of improvement; rather, the pattern persists to the present day. This shows that the DO has not learned enough from previous mistakes or, indeed, from its successes.
 - that the DO continues not just to make mistakes in major project management, but that it makes the same or similar mistakes over extended periods of time and in the management of several projects.
 - that notwithstanding extensive scrutiny and analysis over at least thirty years by the relevant accountability organs – particularly the various Parliamentary institutions and the Australian National Audit Office (ANAO) – the DO has frequently failed to take effective notice of their findings and recommendations. This last is particularly unfortunate because on occasion both the Parliamentary Committee system and the ANAO have identified failings which, if addressed, might have been avoided in later projects.

Addressing the Problems

The DMO reform

- There is no reason to doubt that the creation of the Defence Materiel Organisation (DMO), which was based in part on commissioned external advice, will have a beneficial effect. Although at \$150 million the reform is as costly as some significant projects, its cost is evidence that Defence is, as it were, putting its money where its mouth is on acquisitions reform. This contrasts favourably with previous lip-service “reforms” announced by Defence.
- Nevertheless, this reform, genuine though it be, is unlikely in isolation to produce the desired improvement in the DO's major project management performance. The historical record strongly suggests a need for changes in the way both the DO and the Government of the day relate to industry, and in the way Government, through the Department of Finance and Administration, relates to the DO. Thus, assurances by the DO that the announced reforms will justify restored trust in its capacity need to be treated with some caution.

Contractual issues and relations with industry

- A recurrent theme in Audit Office and Parliamentary scrutiny of troubled Defence projects over many years is the failure to include adequate provisions in contracts to protect the Commonwealth interest. Equally significant is the marked reluctance of the DO and successive Governments to enforce penalty and compliance provisions, where they do exist, against defaulting contractors.
- Failure to enforce contract provisions sends inappropriate signals to industry, and encourages bidders to underprice tenders, anticipating that the Commonwealth will pick up the tab. With *Bushranger*, for example, the Commonwealth is now paying almost 25 percent more.
- On the other hand, a clearly signalled intention to enforce all contractual provisions provides a powerful incentive to contractors to submit realistic proposals and to carefully monitor and control all aspects of contractual performance.
- In my nearly thirty years of experience in the Defence field, one of the most disturbing things I have ever read was the following observation (made in 1992) by the Audit Office on the relationship it perceived between the Navy's Submarine Project Office and the contractor, the Australian Submarine Corporation:

Despite the Contractor's often strong tactics the Project Office continues to view the Contractor as almost an extension of itself.... *At times it has appeared to the ANAO that the Project Office has a perspective that its role is to act as an agent of the Contractor in its dealings with the Commonwealth rather than as an arm of the Commonwealth monitoring and controlling the Contractor.*¹

- It is essential that an appropriate distance be maintained between agents of the Commonwealth, tasked with project management and contract compliance monitoring, and those of the contractor, whose ultimate objective, as in any commercial operation, is to make a profit. If this does not happen on a given project, the seeds of serious trouble are already there.

Government's relationship with the Defence Organisation

- If non-enforcement of contractual penalties sends inappropriate signals to industry, low standards of accountability in public administration encourage continued under-performance by the DO.
- For this reason the strong actions taken under Minister Moore are to be commended. His enforcement of real accountability on the senior levels of the DO was undoubtedly traumatic, but it sent powerful and appropriate signals. *The future good administration of the Defence Portfolio, including*

1. ANAO, *Submarine Audit*, para 7.2.2 (emphasis added).

major project management, depends in large part on a continuation of the accountability precedents set by Minister Moore.

- Recent increases in DO funding, though held to be justified by changing strategic circumstances, may encourage the DO to believe that “the heat is off”. The associated management risk is that a fresh complacency will arise, working against the impetus for continuous improvement of Defence major project management. This risk can be minimised, however, by strong enforcement of DO accountability to Government.
- There is a strong case for bringing the Department of Finance and Administration (DOFA) more fully into the annual Defence Portfolio budget process. DOFA has a capacity to detect in particular unjustified outlays (eg, on poorly performing contracts) and to require explanations from the DO before agreeing to further funding in the following year. Such scrutiny gives the DO a further incentive to lift its major project management game.

Risk Management

- There was a serious failure of risk management in the JORN project. This highlights the importance addressing this issue effectively whenever a project involves something out of the ordinary, such as new technologies or industrial processes. Risk management will certainly be an essential precondition for success with the AEW&C and Air 6000 projects. Both projects, especially the latter, where we are committed to a drawing-board aircraft, clearly fall into the high risk category. If they are to succeed, the effective management of risk from the outset cannot again be allowed to lapse.

Decades of Disasters: Major Project Management in Defence

Gary Brown

Introduction: Importance of this Inquiry

1. Rarely has a Parliamentary Committee inquiry been more timely than this one into the Defence Organisation's (DO) management of major capital equipment acquisition projects. The recent succession of unsatisfactory acquisitions, which includes the *Collins* submarine, the JINDALEE Over-the-horizon radar Network (JORN), the *Seasprite* helicopter, the *Bushranger* vehicle for Army and, a little earlier, the acquisition from the US of what are now *Kanimbla* and *Manoora*, and the ill-fated Inshore Minehunter (MHI) project, no doubt help to focus attention on the responsible organisation.
2. Without a doubt the Committee will be told by the Department of Defence that these and similar outcomes are regrettable, that they are in the past, that there is a new team and fresh approach, and that consequently we can look forward to better results in future. Culpability, if admitted, will be assigned to individuals now safely retired or deceased, or to practices no longer followed. What will not be admitted is that a study of Defence's record over several decades reveals a consistent pattern of failure in major project management, and that similar assurances given in the past have proven groundless.
3. The Committee's inquiry is important for several reasons:
 - It is important that Australia manage its acquisition of major defence equipments (whether from foreign sources, locally or, as is common, from a mix of both) as effectively as possible. The present top twenty major capital equipment projects have a total approved value in excess of 25 billion dollars; in 2002-03 alone they are expected to consume over 2.2 billion dollars.¹ The Defence Organisation (DO) thus faces a huge ongoing responsibility.
 - This inquiry forms part of the accountability due to Parliament from the Government and its agencies. In public administration such accountability addresses not only the legitimate concerns of taxpayers but, properly enforced, provides a powerful mechanism in its own right for facilitating sound management of the very large sums involved. Thus this inquiry offers an opportunity to reinforce and to maintain the impetus of the drive towards reform initiated by the Government in the time of Defence Minister John Moore.
 - Conversely, failure to hold Governments and agencies accountable at this Parliamentary level can encourage a continuation, or even growth, of any lax practices and unsound management strategies which might exist. It

1. Defence *Portfolio Budget Statement 2002-2003*, Chapter 3, table 3.10.

can, moreover, send signals to the DO that enough has been done to “quieten the critics”, and thus remove a principal driver for the reform process. *Only the bright light of continued Parliamentary scrutiny will keep reform on track: once external pressure is removed, the tendency is for the organisation to fall back into its old inefficient ways.*

- The quotation at the front of this submission from former Senator MacGibbon’s remarks at the Defence Estimates hearings of 12 February 1999 emphasises the tendency of the DO to try to conceal failings where possible and the consequent requirement for ongoing vigilance by accountability organs like this Committee.

Nature of this submission

4. This submission will show that there has been an ongoing pattern of failure in the DO’s management of major capital equipment projects. This is not to say that all such projects have been mismanaged, but rather that where unsatisfactory outcomes have resulted the underlying causes tend to belong to a family of behaviours which the DO has repeated over at least the last three decades. There is extensive evidence to support this statement: a representative sample is at Annex A.

5. The existence of such patterns over so long a period shows that simplistic explanations or solutions based on the view that individuals or even particular Governments have made mistakes, are insufficient. While it is a key point of this submission that individuals should indeed be held accountable, it is obvious that over so long a period no particular individual(s) have remained in responsible positions or even Governments in office. In fact, the *Defence Organisation* has made most (but not all) of the mistakes and, given the parlous state of several current projects, clearly continues to make them.

6. Thus Defence’s capital procurement failures need to be seen as *systemic*, and not merely the result of personal failures which can be addressed by removing or retraining particular people. This may well be necessary in particular cases, but it is never going to be enough because the record shows that the DO continues to place fresh people in responsible positions and that these proceed to repeat, with variations, the mistakes of their predecessors.

7. In one sense, the issue is thus one of corporate memory and corporate enforcement. There is a strong case for believing that the evident contempt of modern managerialist philosophy for corporate memory is an important factor in Defence’s poor performance record.

8. This conclusion is only reinforced if we compare the generally excellent operational record of the ADF in the field over the same period with the poor performance of the DO. The ADF has a demonstrated capacity to learn from field experience and to maintain the memory of hard-learned lessons which the DO appears to lack when it comes to major project management.

The History of Defence Project Management

Managing Risk

9. If there anything truly unusual or unique about major Defence acquisitions, it is that they frequently involve the transfer of entirely new technologies to Australia and, for industry, are thus excursions onto wholly new ground. Thus the oft-repeated DO claim that many projects are “high-risk” and at the “cutting edge” of technology is by no means simply a cover story, though too often it has been used as such.

10. But given that the high-risk nature of many Defence projects is, or ought to be, understood from the outset, the issue becomes one of managing this risk. This is not an exercise in predicting the inherently unpredictable, but in building into contracts and contract management appropriate mechanisms for dealing with risk, and ensuring that these mechanisms are used.

11. The JORN project, for example, is indeed a “cutting edge” exercise. However, the Audit Office found that though the contract required “formal and systematic risk management by Telstra of all aspects of the JORN project, the JPO [Defence Department JORN Project Office] did not seek to enforce that requirement.”¹

12. One can only speculate as to why this was allowed to occur, and in particular why the JPO was not itself pulled into line by the DO. But this episode highlights the need for appropriate and enforced risk management in major Defence projects.

13. But many of the significant project problems we now face cannot be explained away in terms of risk. Submarine periscopes and diesel engines, for example, are long-proven and well understood technologies yet both have been significant problems with the *Collins* class. Likewise, the production of vehicles for Army under the *Bushranger* project should not have involved any particularly fresh technological challenges.

Sources of mistakes

14. There are, in fact, three sources of mistakes which can lead to serious difficulties in major defence projects:

Mistakes by contractors

15. Perhaps the worst mistake a contractor can make is to bite off more than it can chew: to bid for a potentially lucrative project which is at the margins of the contractor’s area of competence. The next worst mistake is to bid at a price designed to secure the contract rather than at one at which the bidder is confident of making a profit.

1. Australian National Audit Office, *Jindalee Operational Radar Network*, Performance Audit, Audit Report 28 1995-96, 18 June 1996, para 2.12.

16. In free market economies it is regular practice that a contractor, having signed up to deliver goods or services at a specified price and in a given timeframe, is required to deliver on the contract or face the consequences. As shown below, however, in major Australian defence acquisitions this is probably the exception rather than the rule.

Mistakes by the Defence Organisation

17. Mistakes by the DO are outlined below. However, one in particular highlights the importance of a proper relationship between the DO and major contractors. In September 1993 the prime contractor for the *Collins* submarine, the Australian Submarine Corporation (ASC) advised the combat system subcontractor (Rockwell) of a default in its contract. The effect of this action would probably have been the immediate removal of the defaulting subcontractor with consequent legal action.

18. However, the Department of Defence, for reasons unknown, prevented ASC from proceeding along these lines.¹ Rockwell remained in charge of the non-performing combat system for several more years. While it is true that ASC itself may not be blameless for some aspects of the *Collins* failure, in this case one can only sympathise with a prime contractor seeking to do the right thing, only to be prevented by its customer, and at great ultimate cost to the taxpayer.

Mistakes by Governments

19. Governments do make mistakes. Contracts may be awarded for the wrong (eg, political/electoral) reasons. More seriously, warnings reaching Government from contractors, the DO or agencies such the Audit Office and the Parliamentary Committee system may be ignored.

20. A telling example of a mistake by Government concerns the *Collins* submarine project. By August 1991 the combat system had become a serious issue. Instead of addressing the problem, the Government of the day agreed to contract amendments “to provide a two-stage delivery. This was to allow submarine platform trials to proceed in advance of a fully compliant combat system being available.”²

21. Clearly wishing to avoid the odium of being aught with a non-performing contract, Government in effect manipulated the contract in order to cover up the failings. However, because the *Collins* combat system problem only got worse, the effect of this decision was to delay effective remedial action for several years.

1. M.McIntosh and J. Prescott, *Report to the Minister for Defence on the Collins Class Submarine and Related Matters*, June 1999, p.11.

2. M.McIntosh and J. Prescott, *Report to the Minister for Defence on the Collins Class Submarine and Related Matters*, June 1999, p.11

22. A similar mistake may now be being made with regard to the *Bushranger* project, where the Government appears to be funding the defaulting contractor rather than requiring it to meet the costs of non-performance. This is discussed further below.

23. A very different kind of mistake has recently been made by the present Government with respect to the *Collins* project. Having commissioned the so-called McIntosh/Prescott report on the project (1999), the Government has disregarded one of its key recommendations on the deficient combat system, embarking instead on a very high risk course of action.

24. McIntosh/Prescott recommended “calling for proposals using *only proven in-service systems*” for the replacement combat system.¹ This course was initially adopted by the Government, which called for tenders and initiated a selection process.

25. However, on 9 July 2001 this selection process, which was almost complete, was abruptly abandoned by the Government. Instead it announced “a comprehensive arrangement with the US Navy on submarine issues”.² This decision was, moreover, apparently taken against the professional advice of the project team evaluating the bids made under the abandoned selection process.³ It also caused great disquiet in industry, not least for the two major bidders who had invested substantial resources in the process, but also more widely because of the dangerous precedent it set.

26. The decision is undoubtedly high-risk and, on the Government’s own admission, added yet another year to the delay in getting the *Collins* class a reliable combat system. The risk is substantial, because the United States Navy has had no experience with operating conventionally powered submarines for at least forty years, and yet US industry is now expected to adapt for the conventionally-powered *Collins* class a combat system purpose-designed for the energy-rich environment of nuclear-powered US attack submarines. This may indeed prove feasible, but the level of risk involved, contrasted with the unequivocal advice from McIntosh/Prescott, and apparently from the project evaluation team, is very high. Should the US process prove lengthy and/or costly, the *Collins* boats may be without a viable combat system for much longer than is planned and further dollar costs may be incurred.

Overview of major project performance

27. **Annex A** to this submission provides an account of some significant Defence capital projects since the mid-seventies. The aspects of this history relevant to the Committee’s terms of reference are:

1. *ibid.*, p.29.

2. Minister for Defence, “Submarines Combat System”, *Media Release 244/01*, 9 July 2001.

3. Robert Garran, “German firm ‘won’ sub bidding contest”, *Weekend Australian*, 14 July 2001, relying on leaked project evaluation team documents.

- that the DO tends to go into denial when a project begins to off the rails. This is reflected in repetitive claims that the project is “on time and on budget”, or that any difficulties are minor, or that difficulties are to expected with “cutting edge” projects. On occasion efforts are made to discredit the source of any adverse comment, as when the then Minister sought to discredit an ANAO Report on the *Collins* project in 1992¹. The remarks of former Senator MacGibbon, at the front of this submission, illustrate the point;
- that the DO apparently lacks a sufficient “stock” of competent project managers;
- that the DO has not taken the often-repeated advice of Parliamentary Committees and the ANAO to treat procurement as a specialist activity: instead, in the name of career development, it rotates people in and out of project manager positions. Thus a competent officer can be arbitrarily replaced with a new person who at best must travel down the inevitable learning curve before reaching his/her predecessor’s level of efficiency;
- that the DO, in the form of its Project Offices, can sometimes get too close to the contractors it is supposed to be monitoring, thus negating what is supposed to be a central management tool. This was a particular concern for ANAO when it first reported on the *Collins* project²;
- that, with respect to contracts, there are often deficiencies either in:
 - drafting of performance or penalty clauses; and/or
 - drafting of specifications, so that a non-performing contractor escapes using a literal reading of the specification; and/or
 - enforcement of performance or penalty clauses.

28. This last has recently been highlighted by the *Bushranger* project. As outlined in the Annex, the contractor (Australian Defence Industries) has failed to meet contractual requirements. Instead of being held responsible by the Commonwealth for this failing, it would appear that taxpayers will have to meet a price increase of almost 25 percent, and that the Army and RAAF, which were to share a planned 370 vehicles, will now have to make do with only 299.

29. As with *Collins*, this shows that there are not only dollar costs but also capability losses associated with “bailing out” a contractor who fails to perform. Because ADI failed to perform, the ADF ground component will now be less mobile than planned.

1. Australian National Audit Office, *Department of Defence: New Submarine Project*, Audit Report No.22, 1992-93, AGPS 1992. For the Minister see *Senate Hansard*, 17 December 1992, pp.5421-22.

2. Australian National Audit Office, *Department of Defence: New Submarine Project*, Audit Report No.22, para 7.2.2.

Addressing the Problems

30. There are a number of initiatives which can be taken. It needs to be understood, however, that little beyond remediation can be done with projects like *Collins*, JORN or *Seasprite*. Initiatives taken now, however, can have effects down the track on major projects just getting underway, such as the two very large air projects – the AEW&C project and Air 6000.

31. In all probability, if a major project is to go wrong, it will do so due to key decisions taken early on in the process. This was certainly the case with the *Collins* submarine, where the fatal decision to adopt a certain (distributed) architecture for the combat system, rather than to leave other technological options open in a fast-moving field, was taken early and adhered to in the face of mounting contrary evidence, for far too long.¹

The DMO reforms

32. Former Minister John Moore set in train a process of restructure and reform in the DO, which – as well as the necessary removal of non-performing and discredited individuals – ultimately led to the creation of the Defence Materiel Organisation (DMO). The Committee will be aware from its Estimates activities that the creation of DMO was no mere juggling of lines on an organisation chart: on the contrary, almost \$150 million has been devoted to this exercise.²

33. The underlying concept of the DMO restructure is the creation of Systems Program Offices (SPO) to integrate under one roof acquisitions and through-life support for various capabilities around Australia. Thus there is now, for instance, a Maritime Subs SPO at HMAS *Stirling* (WA), and an Aerospace Maritime Patrol SPO at RAAF Base Edinburgh in South Australia. The focus on types of capabilities, and on costing and management from inception to end-of-life, are especially welcome.

34. There is no reason to doubt that this reform, which was based in part on commissioned external advice, will have a beneficial effect. Although at \$150 million the reform is as costly as some significant projects, its cost is evidence that Defence is, as it were, putting its money where its mouth is on acquisitions reform. This contrasts favourably with previous lip-service “reforms” announced by Defence but not carried through, or carried through in a tokenistic way in response to earlier criticisms of the DO’s performance.

35. Nevertheless, this reform, genuine though it be, is unlikely in isolation to produce the desired improvement in the DO’s major project management performance. The organisational issues it addresses are important, but the historical record strongly suggests a need for key changes in the way both the

1. See Derek Woolner, *Getting in Early: Lessons of the Collins Submarine Program for Improved Oversight of Defence Procurement*, Research Paper 3, 2001-2002, p.33. Available online at: <http://www.aph.gov.au/library/pubs/rp/2001-02/02RP03.htm>

² Senate FADT Legislation Committee, *Additional Information Received: Additional Estimates 2001-2002 – Defence Portfolio*, Volume 1, pages “V-W”.

DO and the Government of the day relate to industry, and in the way Government, through the Department of Finance and Administration, relates to the DO. For this reason, assurances by the DO that the announced reforms will justify restored trust in its capacity to deliver “on time and on budget” need to be treated with some caution.

Contractual provisions

36. A recurrent theme in Audit Office and Parliamentary scrutiny of troubled Defence projects over many years is the failure to include adequate provisions in the contract to protect the Commonwealth interest. In 1986, the Joint Committee on Public Accounts (as it then was) inquiry into Defence project management found *inter alia* a prevalence of contracts which:

- do not equitably share risk or which do not protect the Commonwealth interest;
- have contract changes inadequately scrutinised before agreement;
- have inadequate monitoring of contractor performance.¹

37. Other investigations revealed inadequate penalty and performance clauses in several contracts (eg, that for HMAS *Tobruk*, which was both over-time and well in excess of budget).

38. Still more significant has been the marked reluctance of the DO and successive Governments to enforce penalty and compliance provisions, where they do exist, against defaulting contractors. That this last syndrome is still alive and well is demonstrated by the decisions recently taken on *Bushranger*.

Relations with industry

Monitoring and control of contractors

39. It is commonplace for both Government and the DO to speak of the need for a “partnership” with industry. At the level of strategic industry planning this is entirely reasonable, but it should not be permitted to affect the normal business relations between suppliers and customers.

40. In my nearly thirty years of experience in the Defence field, one of the most disturbing things I have ever read was the following observation (made in 1992) by the Audit Office on the relationship which it perceived between the Navy’s Submarine Project Office and the contractor, the Australian Submarine Corporation:

Despite the Contractor's often strong tactics the Project Office continues to view the Contractor as almost an extension of itself.... *At times it has appeared to the ANAO that the Project Office has a perspective that its role is to act as an agent of the Contractor in*

1. Joint Committee on Public Accounts, Report No.243, *Review of Defence Project Management - Volume 1: Report*, AGPS 1986, pp.16-20.

*its dealings with the Commonwealth rather than as an arm of the Commonwealth monitoring and controlling the Contractor.*¹

41. Given that DO managers will work in daily contact with contractor staffs, and that both are committed to the production/construction of the contracted equipment, it is not surprising that a cooperative relationship based on monitoring and control can on occasion degenerate into a collaborative one based on a mutual desire to protect “the project” from unwelcome scrutiny or criticism, as ANAO appears to believe occurred with the submarine project.

42. But no such degeneration of the relationship, which is sometimes disguised by rhetoric about a “Defence-Industry partnership”, can ever be in the interests of the Commonwealth and its taxpayers. *It is essential that an appropriate distance be maintained between agents of the Commonwealth, tasked with project management and contract compliance monitoring, and those of the contractor, whose ultimate objective, as in any commercial operation, is to make a profit.* If this does not happen on a given project, the seeds of serious trouble are already there.

Enforcement of contractual provisions

43. There seems little point in writing performance milestone and penalty clauses into contracts if they are not going to be enforced. Without enforcement, such clauses become mere *pro-forma* provisions of no practical significance.

44. Repeated failure to enforce such clauses sends entirely inappropriate signals to industry. A would-be contractor can be justified in concluding that a low-priced bid, which it suspects it cannot meet at the quoted price, might secure it the contract. Because it believes that any penalty clauses will probably not be enforced, it can then anticipate that when it fails to perform, the Commonwealth will eventually come up with the necessary supplementary funding or its equivalent.

45. On the other hand, a clearly signalled intention to enforce all contractual provisions provides a powerful incentive to contractors to submit realistic proposals and to carefully monitor and control all aspects of contractual performance.

46. It can be objected that in some cases enforcement might impose ruinous costs on contractors, to the detriment of the project and of local defence industry. Yet, in the name of structural economic reform, over the last two or three decades Governments have taken major economic decisions which have decimated whole industry sectors (eg, textiles, clothing and footwear) and cost tens (probably hundreds) of thousands of jobs. There is no excuse for a failure to apply at least basic contractual principles to defence industry, which is in many ways one of the most protected industry sectors.

1. ANAO, *Submarine Audit*, para 7.2.2 (emphasis added).

47. In all probability severe contractual measures would only need to be taken once or twice against defaulting defence industry contractors. The signals such measures would send would ensure that thereafter contractors would be somewhat more careful in the nature of their bids and of their compliance with the provisions they agreed to on contract signature.

48. Moreover, it should be a routine part of the tender assessment process to examine the capacity of tenderers to perform the contract, especially in the contingency of time or cost overruns. In other words, contracts should be awarded to bidders judged able to absorb losses under penalty provisions if this should prove necessary.

Government and the Defence Organisation

49. The relationship between Government and the DO is equally important. If non-enforcement of contractual penalties sends inappropriate signals to industry, Government willingness to bail the DO out of mismanaged projects, and to increase budgetary allocations, likewise sends inappropriate signals to the Russell Offices. Likewise, failure to remove responsible senior officers (uniformed or civilian) from key positions after they have mismanaged important projects encourages continued under-performance.

50. For this reason the strong actions taken under Minister Moore are to be commended. His enforcement of real accountability on the senior levels of the DO was undoubtedly traumatic, but it sent powerful and appropriate signals. *The future good administration of the Defence Portfolio, including major project management, depends in large part on a continuation of the accountability precedents set by Minister Moore.*

51. In the public sector organisational status comes largely from the size of the Departmental or Portfolio budget. The present Government's reluctance, in its first four years of office, to do more than set the Defence vote at zero real growth was a strong signal of its dissatisfaction with the DO's performance.

52. More recent increases in DO funding, though held to be justified by changing strategic circumstances, will nevertheless have the effect of encouraging the DO to believe that "the heat is off". The management risk associated with these increases is that a fresh complacency will arise, working against the impetus for continuous improvement of Defence major project management.

53. This risk can be minimised, however, by strong enforcement of DO accountability to Government. Not only should under-performing individuals be called to account, but sections of the DO which unreasonably overspend their budgets should not automatically receive funding supplementation.

54. There is a strong case for bringing the Department of Finance and Administration (DOFA) more fully into the annual Defence Portfolio budget

process. Acting as a *de facto* regulator, DOFA has a capacity to detect in particular unjustified outlays (eg, on poorly performing contracts), to require explanations from the DO before agreeing to further funding in the following year. Such scrutiny would give the DO a further incentive to lift its major project management game.

Risk Management

55. The failure of risk management in the JORN project (see Annex A) highlights the importance addressing this issue effectively whenever a project involves something out of the ordinary, such as new technologies or industrial processes.

56. This will certainly be an essential precondition for success with the AEW&C and Air 6000 projects. Both projects, especially the latter, where we are committed to a drawing-board aircraft, clearly fall into the high risk category. If they are to succeed, the effective management of risk from the outset cannot be allowed to lapse, as occurred with JORN.

Annex A: A Short History of Key Defence Projects and Management Issues

This Annex shows that there has been a consistent pattern in many of the major projects which have gone wrong in the last two or three decades. Attention is focussed here particularly on the JORN project (item 10 below), both because of the huge scale of the losses incurred (at least \$600m) and because it highlights many failings evident in both earlier and later major projects.

It also shows that despite ongoing scrutiny by both Parliament and the ANAO, the DO continues to mismanage some major projects.

1. Early-mid 1970s: Unaccounted *Mirage* spare parts worth \$34m

At this time the RAAF was operating the French *Mirage III* fighter aircraft. Concerns surfaced about the fate of a large quantity of *Mirage* spare parts which could not be accounted for. These concerns were investigated at length by the Joint Committee on Public Accounts and by the Audit Office in a series of reports.¹

It became apparent, as the Audit Office concluded in 1977, that a massive failure of accounting had taken place. *Mirage* spares worth (at the time) over \$34 million could not be accounted for. It has never been made clear whether these stores were received and paid for but simply badly documented, or never received at all but paid for, or simply lost. The then Department of Productivity believed that all stores paid for were received, but was unable to demonstrate this to the satisfaction of either the PAC or the Audit Office.

Though only one aspect of an otherwise successful acquisition, Defence's inability to account for stores on this scale (in today's dollars, \$34m would probably be in excess of \$150m) said much about its management skills at the time.

2. 1979: Failure of the *Turana* Target Project

Turana was to be a pilotless jet aircraft for use by the Navy in training with gunnery and missile systems. It received initial approval in 1971, with an authorised cost of \$1.183m. An order for twelve vehicles was placed by Navy with the then Government Aircraft Factories (GAF). The project design and production was carried out by GAF acting as a contractor for Navy.

1. *Auditor-General Reports* for Financial Years ending 30 Jun 1972 (p.338), 1973 (p.325), 1974 (pp.208-9), 1975 (p.219) 1976 (p.182) and 1977 (p.183). Joint Committee on Public Accounts, *Report No. 167*, Parliamentary Paper 232/1977.

By 1978-79, failures and consequent redesign work resulted in a blowout to \$3.4m. The Government eventually cancelled the project in September 1979.¹ The Audit Office criticised the Navy in its report on several grounds:

- Navy ordered a production version of *Turana* despite the fact that trials to that time had revealed significant faults;
- Navy did not adequately specify its requirements to GAF;
- there was unsatisfactory communication from Navy to GAF: Audit found that the consultative process was insufficiently effective to resolve defects in the redesigned system.²

Although this particular failure did not involve very large sums, the deficiencies it revealed - willingness to press ahead regardless of past failures, poor communication and consultation - are common to other instances noted below.

3. 1983: The Audit Office on Defence Project Management

In the period April 1980 to September 1983 the Audit Office had conducted reviews of more than ten Defence projects, in each case finding significant deficiencies. This consistent pattern of problems led Audit to undertake a general review of Defence project management based on its previous work on these projects³. It found that:

...the Department's project management practices for projects covered by this review were unsatisfactory, contributing to:
 significant additional costs to the Commonwealth (incurred and prospective)
 the need for scarce resources to be engaged in rectifying project problems, and
 diminution of the Defence capability through untimely delivery of equipment and facilities and through equipment and facilities not meeting technical performance objectives.'

Audit concluded that 'urgent action is needed so that all issues within the control of the Department are fully recognised and appropriate measures taken to contain lead times, ensure adherence to specified service requirements and minimise cost escalation.'⁴

4. 1984: The HMAS *Tobruk* Project

HMAS *Tobruk* was an Australian-built amphibious transport and landing ship based on a British design (the *Sir Bedivere* type). Its principal roles were to embark, transport and land (across beaches if necessary) Army elements,

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1. Statement by the Minister for Defence, *Hansard (House)*, 27 September 1979, pp.1642-43.
 2. *Report of the Auditor-General for the Year ended 30 June 1979*, pp.21-3.
 3. The projects covered by this review were: Humpty Doo transmitting station; Minehunter catamarans; Fleet Underway Replenishment Ship; Medium Girder Bridge Acquisition; Mobile Radio Terminals; several air traffic control and air defence radar acquisitions; RAN oceanographic ship; Amphibious Heavy Lift Ship; *Fremantle* class patrol boats; and *River* class destroyer escort modernisation.
 4. *Report of the Auditor-General upon audits, examinations and inspections under the Audit and other Acts*, September 1983, p.38.

including vehicles. The *Tobruk* project was criticised by the Auditor-General in a March 1982 Report. It had been found by this time that the ship was significantly overweight, a problem which significantly reduced its operational value to the Defence Force. Audit found that this problem arose for a number of reasons:

- Departmental documentation lacked detail necessary to assign clear responsibility for weight monitoring in Navy Office;
- The contractor and Navy Office used different weighing systems, leading to different results;
- the contract had **no penalty clauses on the contractor if specified weight was exceeded;**
- Government Furnished Equipment (GFE) was supplied late to the contractor;
- Navy Office and contractor delays, design changes and modifications led to delays;
- the Department did not meet contractual requirements with respect to determination of 'excusable delay' as per the contract.¹

These Audit comments notwithstanding, it was not until *Tobruk* went to sea that its deficiencies really came to public notice. The ship was delivered to Navy 293 days late (as against the original contract) and 22 days late even against an amended contract. It also came in 42% over budget (project cost of \$59.2m).²

- There were particular problems with the onboard sewerage system, but *no defects were officially reported* before *Tobruk* was commissioned into the Navy in April 1981. The same day a major sewerage spill occurred on board, and other defects were noticed later. On December 14 that year a young Naval Reserve Cadet, Kenneth Dax, was fatally gassed at sea by a malfunctioning sewerage unit aboard *Tobruk*. This prompted a fullscale inquiry by the Parliamentary Public Accounts Committee (PAC). Space does not permit even a full summary of the PAC report, but the principal findings were:
 - the Defence Department's formal organisation and lines of responsibility reduced the effectiveness of the project team's interactions elsewhere in the Department (including the ADF);
 - the Department failed to secure (from the contractor) system handbooks and drawings for *Tobruk*;
 - the Department either allocated insufficient resources to a study of *Tobruk's* 'key build approval drawings' or, alternatively, never had the resources to allocate - especially trained engineers and draughtsmen;
 - the Department neglected its contract supervision duty to ensure that the contractor supplied it with warranty/guarantee information in a timely manner;
 - the Department failed to simplify and standardise warranty/guarantee information through use of contract clauses and specifications.

1. *Report of the Auditor-General upon audits, examinations and inspections under the Audit and other Acts*, March 1982, pp.28-35.

2. Committee on Public Accounts, *HMAS Tobruk*, Report No.223, AGPS 1984, pp.11-17 (chronology).

In addition the Committee found adversely against the Navy in respect of some events leading up to the gassing and death of Naval Reserve Cadet Dax.¹

1986: Defence Project Management Generally

By 1985 the list of significant problems in defence projects was sufficiently long to persuade the Public Accounts Committee that it should examine, not another individual project, but Defence Department project management in general.

The inquiry...arose out of the Committee's report on HMAS *Tobruk* which identified major deficiencies in Defence's management of the project and the September 1983 Report of the Auditor General...[whose report] was prompted by adverse findings in several audits of Defence capital equipment projects in recent years.²

Like the Audit Office before it (1983 - see item (3) above), the PAC was seeking systemic answers to what was clearly a pattern of poor Defence management over many years. It focused its attention on issues of 'efficiency, effectiveness and accountability.'

Effectiveness was defined by the Committee as managing resources so that actual outcomes agree with planned outcomes at minimum cost. *Efficiency* is defined either as managing resources to achieve a given output at minimum cost (ie, economy) or as maximum output for a given input (productivity).³ The PAC found that most problems arose from ineffective Defence project management - including:

- poor assessment of financial/technical risk;
- cost and time underestimates;
- inadequate project planning;
- insufficient attention to management information and control arrangements;
- inadequate technical specifications in contracts;
- lack of comprehensive tender evaluations;
- **contracts which do not equitably share risk or which do not protect the Commonwealth interest;**
- **contract changes inadequately scrutinised before agreement;**
- **inadequate monitoring of contractor performance;**
- slow response to difficulties;
- unsatisfactory project records and reports;
- absence of project evaluation and review machinery; and
- that inefficiencies existed in project approval procedures, contractual arrangements project administration and resource management.⁴

3. *HMAS Tobruk*, pp.107-8.

2. Joint Committee on Public Accounts, Report No.243, *Review of Defence Project Management - Volume 1: Report*, AGPS 1986, p. (v).

3. Joint Committee on Public Accounts, Report No.243, *Review of Defence Project Management - Volume 1: Report*, AGPS 1986, p.5.

4. *Review of Defence Project Management - Volume 1: Report*, pp.16-20.

6. 1976 to 1992: The Inshore Minehunter (MHI)

In 1976 it was decided that Australia required Inshore Minehunters to locate and disable sea mines which might be laid close to or inside ports. For various technical reasons, this requires vessels with three key characteristics. First, their hulls and equipment must be as far as possible absolutely non-magnetic (to avoid triggering mines which react to metallic magnetic signatures). Second, a sonar capable of reliably detecting submerged mines in shallow and disturbed water is required. Third, the hull must be sufficiently stable to allow the craft to operate in inclement weather up to a defined level.

A prototype construction and evaluation contract (\$112m) was let in 1990, after a 1988 Project Definition Study. Unfortunately, two of the three necessary characteristics were never achieved by this prototype. While the catamaran-type non-magnetic hull (glass-reinforced-plastic or GRP) was indeed non-magnetic, it transpired that its stability in inclement conditions was less than desired. Moreover, the Krupp Atlas minehunting sonar failed to meet performance requirements.

In the event, as the *Force Structure Review* of May 1991 admitted, 'The inshore minehunter project has not met performance expectations, and there are also severe limitations to its deployability around the Australian coast.'¹ This was an admission of the failure of the hull to meet seakeeping requirements and of the sonar to function. In the event, the two MHI vessels that were constructed had to be confined to Sydney Harbour and used for mine warfare training.² They were eventually decommissioned in late 2001, having been laid up in reserve for some time before that.³ In terms of the Public Accounts Committee concepts of *effectiveness* and *efficiency* (noted in item (5) above), this project was neither effective nor efficient.

It is hard to state exactly the amount expended on this project. However, the Defence Department's *Program Performance Statements* for 1992-93 show that to 30 June 1992 not less than \$102.655m had been spent. In addition, a further \$13.321m was authorised for the 1992-93 financial year.⁴ Changes in presentation of budgetary information make it impossible to state with authority whether this sum was actually spent. If it was, then the total outlay on the MHI failure amounted to \$115.886m. In any case one can say with certainty that over \$100m was spent for no effective return.

7. Assessing Additional Costs ('premiums') for Local Military Construction

The question of whether it is cheaper to acquire major items of defence equipment (eg, warships, aircraft) from external sources or to construct them in Australia is one of the most hotly debated questions in the whole defence field.

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1. Department of Defence, *Force Structure Review*, AGPS May 1991, p.20.
 2. Department of Defence, *Force Structure Review*, AGPS May 1991, p.21.
 3. 'Dispatch: HMAS *Rushcutter* and HMAS *Shoalwater*' *The Navy*, Oct-Dec 2001, p.28.
 4. Department of Defence, *Program Performance Statements 1992-93*, p.510.

This is a separate debate, but it is reasonable to assume that the Defence Department, which advises Government on these matters, would understand and assess the cost implications of the various choices. In this way it could, eg, advise Government that tax clawbacks, job creation, external trading deficit issues and so on would justify some level of extra cost (a 'premium') for local construction - or, indeed, advise the other way if the numbers suggested it in a particular case.

However, it seems that Defence only rarely makes any estimate of the extent of the local construction 'premium' before Government proceeds to a decision. Moreover, the Industry Commission records that for one very large project - the F/A-18 fighter acquisition - the Department's estimate was significantly in error. The error was so large that the difference between the estimated premium and that actually paid would have bought **fourteen extra fighter aircraft**.¹

But, in general, the Industry Commission said:

...based on the evidence available to it, the Commission concludes that only in very few major capital equipment projects have the nature and extent of premiums been adequately and rigorously assessed.²

Clearly, the Defence Department has been less than energetic in seeing that Governments are properly advised and informed about the cost implications involved in decisions to buy major equipments overseas or construct them locally. The Industry Commission records that no premium estimates were made for either the *Collins* submarine or the ANZAC frigate projects, which between them involve over \$9 billion of public money.

8. The *Collins* Submarine Project

The story of this project is well known. It is, however, perhaps less well known that as early as 1992 the Audit Office raised a number of concerns, several of which will be familiar to readers who have perused the items recounted in this Annex.³

Audit found that:

- Substantial profits were made by the contractor (the Australian Submarine Corporation - ASC) well before the first boat was launched (August 1993), and the Federal Government appears to have funded seventy five per cent of ASC's assets as distinct from only two per cent funded by the ASC shareholders (the balance being eighteen per cent 'third parties' and four per cent from the South Australian Government).

1. Industry Commission, Defence Procurement, Report No.41, AGPS 30 August 1994, p.42.

2. *loc.cit.*

3. Australian National Audit Office, *Department of Defence: New Submarine Project*, Audit Report No.22 1992-93, AGPS 1992.

- The shareholders have nevertheless achieved substantial profits which, no matter what may occur in future, **are apparently irrecoverable by the Commonwealth by virtue of a specific clause in the contract.**¹
- Over sixty per cent of the total contract price had already been paid to ASC by late 1992 before the first boat was even in the water, and the corporation apparently achieved significant returns for itself by the simple expedient of investing funds not immediately required.²
- A serious and significant Audit observation concerned the performance of the RAN submarine Project Office:

Despite the Contractor's often strong tactics the Project Office continues to view the Contractor as almost an extension of itself.... **At times it has appeared to the ANAO that the Project Office has a perspective that its role is to act as an agent of the Contractor in its dealings with the Commonwealth rather than as an arm of the Commonwealth monitoring and controlling the Contractor.**³

Given the importance of the functions of a Defence Project Office for a construction effort on the scale of the *Collins* class, this is one of the most significant and critical comments ever to come from the independent observer, the Australian National Audit Office.

There was of course a second ANAO Report on *Collins* in 1998.⁴ This was followed up by hearings before the Joint Committee on Public Accounts and Audit in 1999. And of course the McIntosh/Prescott Report of June 1999 exposed the extent of the failings.⁵

Most recently, the Government has **expressly violated** one of the McIntosh/Prescott recommendations (that proposals for the failed combat system be called using 'only proven in-service systems')⁶ in favour of an undeveloped unproven US solution which, on the Government's own admission, will lead to at least a year's additional delay.⁷ This decision aborted an almost completed evaluation of US and German tenders for a replacement combat

1. Australian National Audit Office (ANAO), *Department of Defence: New Submarine Project*, Audit Report No.22 1992-93, AGPS 1992, paras 1.1.5 (profits), 1.1.12 (ASC asset funding - also Figure 1) and 1.1.18 (irrecoverability of profits). The ASC funding breakdown given adds up to 99% - I assume, due to rounding effects. (Hereafter cited as ANAO, *Submarine Audit*).

2. ANAO, *Submarine Audit*, paras 1.1.3 (proportion of funds already paid) and 1.2.4 (ASC profits from Government money). ANAO not unreasonably wondered why the Commonwealth could not invest the funds itself and collect the returns, providing cash to ASC only when genuinely needed for legitimate contractual obligations.

3. ANAO, *Submarine Audit*, para 7.2.2 (emphasis added).

4. Australian National Audit Office, *New Submarine Project*, Audit Report No.34, 1997-98, March 1998.

5. M. McIntosh and R. Prescott, *Report to the Minister for Defence on the Collins Class Submarine and Related Matters*, June 1999.

6. McIntosh/Prescott, *op.cit.*, p.28.

7. See Derek Woolner, *Getting in Early: Lessons of the Collins Submarine Program for Improved Oversight of Defence Procurement*, Research Paper 3, 2001-2002, p.33. Available online at: <http://www.aph.gov.au/library/pubs/rp/2001-02/02RP03.htm>

system, and led to much criticism from industry about the apparent compromising of the selection process and, of course, about dollar losses incurred by the two competitors.

9. 1994-95: The US Landing Ships Acquisition

In brief, the former Labor Government decided to acquire two ex-US Navy landing ships at a claimed 'bargain basement' price (\$61m).

This was an example of the post-Cold War defence equipment 'fire sale' phenomenon, where equipment surplus to the superpowers (and, indeed, others) came on the market at much reduced prices. The other instance for Australia was its acquisition of ex-US Air Force F-111G bombers.

However, it has subsequently been found that both ex-US vessels are severely affected by rust. This rust, it seems, was in places inaccessible before the main boilers were removed in Australia. Thus the Navy team that examined the ships did not see it. Some suggestion of deliberate deception by the US Navy has been made, but not proven.¹

The upshot is that the original \$61m acquisition blew out, on Navy's own admission, to not less than \$340m.²

The ships have now entered service as HMAS *Manoora* and HMAS *Kanimbla*. They are now giving good service, but at an entirely excessive price.

10. The JINDALEE (JORN) radar project

JORN (JINDALEE Operational Radar Network) is a long-range radar project designed to give broad area surveillance of the northern approaches to Australia. The prime contractor was Telstra, working for the Defence Department through a Defence JORN Project Office. The contract is of the fixed price type. It is clear from a scrutiny of the 1996 ANAO report on JORN that many of the themes identified in earlier reports and studies of major defence projects have resurfaced in this project. For this reason, I set out below in some detail the principal themes identified by the National Audit Office in its report.

Risk assessment and management

- Though the contract required 'formal and systematic risk management by Telstra of all aspects of the JORN project, the JPO [Defence Department JORN Project Office] **did not seek to enforce that requirement**. It would have been to Defence's benefit if the JPO had have [sic] been more insistent on full compliance with the contract's risk management provisions.³

1. Ian McPhedran, 'How the RAN was ripped off', *Canberra Times*, 21 March 1996.

2. RAN, *Report on the Amphibious Transport (LPA) Project*, December 1999, "LPA Funding Summary" table.

3. Australian National Audit Office, *Jindalee Operational Radar Network*, Performance Audit, Audit Report 28 1995-96, 18 June 1996, para 2.12 (emphasis added).

- The present stage of the project began in 1991, but it was not until December 1994 that the JPO prepared its first Project Risk Management Plan. Audit 'finds this delay surprising, given the high-risk nature of the project.'¹
- The JPO response was that 'it was important not to confuse awareness and intelligent management of risk with slavish management to process', but Audit remains 'unconvinced by the JPO's comments on risk management and considers that the JPO gave the JORN contract's risk management provisions a low priority.' Claims that JPO seriously tried to apply a risk management strategy 'are not supported by the evidence.'²

Measuring project progress

Audit found that:

- In comparison with the original 1991 schedule (six years, 72 'milestones' to pass):
- the contractors are 44 months behind original schedule in completing software specifications;
- they are 37 months behind original schedule in achieving all hardware development specifications;
- the project seems to be at about milestone 17 regarding software and milestone 24 regarding hardware. These milestones should have been passed by June 1993.
- Had these milestones been met on time, at that (June 93) time payments of \$393m would have been made; in the event, by April 1996 payments amounted to \$657m - ie, an extra \$264m has been paid out, and an extra 33 months passed, to get the project to these milestones.³
- Although 80 per cent of JORN prime contract target price (73 per cent of ceiling price) has been spent, and 80 per cent of project schedule has elapsed, **less than 20 per cent of the configuration items have passed the critical design review stage.**
- Delivery of JORN, which the contract requires for June 1997, **is likely to be three years overdue (June 2000).**
- On current trends JORN's fullscale development budget will be spent by June 1997 but there will still be **at least two years of work to be done at that time, including some high-risk, high cost, work.**
- 'it is therefore apparent,' writes Audit, 'that the JORN project will surpass the target price and reach the ceiling price. The contract provides that, after that latter point, additional costs will be borne by Telstra.'⁴ This of

1. *JORN Audit Report*, para 2.17.

2. *JORN Audit Report*, para 2.21 (emphasis added).

3. *JORN Audit Report*, para 3.17.

4. *JORN Audit Report*, para 3.21 (source for this dot and three preceding dots).

course means by the taxpayer: nor will the knowledge that Telstra is carrying a large potential loss with JORN make it any easier to sell on the share market.

Project organisational problems and risk control

The JORN project is being developed by three separate organisations (in Victoria, South Australia and NSW) and two UK corporations. Audit found that this (partly unavoidable) organisational complexity inhibited the speedy resolution of technical issues and forced use of formal inter-company liaison procedures, which 'often involve cost share changes and commercial risk decisions. This can inevitably delay the resolution of technical issues and add cost to the project'.¹

Audit found that:

- there have been instances where organisational arrangements could have been greatly improved from the project's outset;
- Telstra reported to the JPO as long ago as 13 March 1992 and 1 June 1992 that there were risks associated with complex work handovers from one entity to another, **but it was not until 1995 that anything was done;**
- the Commonwealth (ie, the taxpayer) has to bear an escalation for **project management costs alone** of \$56m (total \$130m, as against \$74m target price).²

Engineering management and payments

- The contract required an overall JORN system requirements analysis to be presented to Defence during a 'System Requirements Review' (SRR) scheduled for January 1992; an overall system functional design was to be presented to Defence during a 'System Design Review' (SDR) scheduled for October 1992;
- Defence paid Telstra \$21.9m as a progress payment for the SRR in January 1992 and a further \$10.7m for the SDR in May 1993;
- But, **Defence indicated to the contractor at these times that it was dissatisfied with the SRR and SDR;**
- Audit therefore notes that:

It is difficult to argue, in value-for-money and contractual risk terms, that the full value of the progress payments should have been advanced to Telstra when such important reviews were incomplete.³

1. *JORN Audit Report*, para 4.3.
 2. *JORN Audit Report*, paras 4.4.3 - 4.6.
 3. *JORN Audit Report*, paras 5.4 - 5.6.

- From April to August 1995 the JORN contractors conducted a JORN Technical Audit. This suggested that:
 - Defence is inexperienced in the management of major contracts;
 - Defence should not have approved the SRR or paid for documents which 'do not have the necessary design work to back them';
 - the requirements data base are riddled with TBD [to be decided], TBR [to be reviewed] and TBA [to be advised].¹

The suggestion that Defence is 'inexperienced' in the management of major contracts is of course incorrect: as these notes show, Defence has had much experience. It is just that for all this experience Defence still seems unable to manage some key major projects *properly*.

- On the JORN Project Office (JPO), the Audit Office commented:

...the JPO is responsible for the expenditure of public funds which will probably amount to \$1.1 billion. It should have at least seriously considered exercising its contractual right to withhold full payment for the SSR and SDR until it was satisfied... However, significant project management and systems engineering management problems have persisted.²

The pressure to spend money

- Audit came across examples of a well-known bureaucratic phenomenon - the need to spend the allocated budget by the end of the financial year. Audit refers to concerned expressed to it by JPO staff 'about pressure applied to ensure actual JORN expenditure matched the actual expenditure estimates set into the Defence budget. **JPO staff indicated that this sometimes conflicted with their desire to ensure expenditure was approved only when the value in the progress payment was actually earned.**' Audit said that it itself saw this phenomenon at work at a meeting when the JPO 'expressed disappointment that Telstra was unable to achieve its forecast expenditure.'³
- As Audit notes, 'this attitude to maintaining the Defence budget is not in the Commonwealth's interests either from a contractual or budgetary perspective. It does little to encourage efficiency and good performance by contractors...'⁴

Project management skills

As noted, the JORN Technical Audit run by the contractors suggested that Defence lacked experience in the management of this type of large contract. The Audit Office likewise raised this issue:

1. *JORN Audit Report*, paras 5.9 - 5.10 (quoting the JORN Technical Audit).
 2. *JORN Audit Report*, para 5.13.
 3. *JORN Audit Report*, paras 5.24 - 5.25 (emphasis added).
 4. *JORN Audit Report*, para 5.26.

Having regard to the JORN Technical Audit report's comments about Defence, and comments in previous ANAO reports indicating varying levels of Defence project management performance, *it seems clear that Defence needs to give more attention to project management skills.*¹

In fact Audit made further inquiries of Defence about the training, qualifications and experience of major capital equipment project managers, and learned that there are no formal requirements for any form of undergraduate or post-graduate study, though Defence runs some in-house courses (on which some might comment that this is the blind training the blind).

Defence, significantly, did not accept 'the implication that the JPO lacked the appropriate training and experience'.² One wonders, if its project management is not at fault, how it explains the recurrent series of project disasters outlined in these notes.

Audit concluded that:

...a cultural change is also required to ensure that the JORN project and its systems engineering are managed in a more professional and disciplined manner.

...[This] may have been achieved if **the JPO had been more resolute in exercising the contract's remedies, procedures and rights in order to protect the Commonwealth's interest by:**

- making progress payments that reflect the value of work done...
- insisting that Telstra adhere to properly tailored engineering development standards specified in the JORN contract; and
- insisting that JORN's risks were managed in a thorough, timely and systematic manner.³

These comments will be familiar to anyone who has read these notes, or who is acquainted with Defence's project management record.

The JORN contract and legal issues

Audit contracted out to an external law firm to get an independent review of the JORN contract. Its comments in the published report are somewhat truncated, because Audit does not wish to make public weaknesses in the contract which might later be exploited by a litigant. The contract itself is classified. Nevertheless, it was able to say that there were 'particular concerns' for the Commonwealth, especially with regard to, *inter alia*:

- protection of the Commonwealth against risks associated with delay and cost increases;
- payment for value earned at particular 'milestones';
- the risk of non-performance of the requirement to progressively deliver elements of the system meeting Defence requirements;

1. *JORN Audit Report*, para 5.30 (emphasis added).

2. *JORN Audit Report*, paras 5.30 - 5.35.

3. *JORN Audit Report*, paras 5.65 - 5.66 (emphasis added).

- protection of Commonwealth intellectual property.¹

Audit also noted that the contract assigned **all risk from price inflation and currency movements to the Commonwealth, and said that these factors had pushed the project target price up from \$685.5m (April 1991 prices) to \$814.2m (December 1995) - an increase of \$128.7m or about 18 per cent.**²

Losses

It later became clear that \$600m had to be written off the pre-sale value of Telstra in order to cover the losses this contractor incurred on JORN.³ The contract was transferred from Telstra to RLM (a Tenix/Lockheed Martin consortium) in early 2000.

10a. JORN Status in 2002: more losses to come?

Recent information on JORN appeared in the Defence *Portfolio Budget Statement* for the 2001-2002 Additional Estimates (p.66) which records “a significant anticipated schedule slippage” by the contractor. It is unclear at present precisely what the dollar and capability costs of this slippage are going to be. There was no additional explanation provided in the 2002-03 *Portfolio Budget Statement*, because JORN has dropped from the “top twenty” list for which summary statements of progress are given. **The Committee could be well advised to pursue this question further with Defence.**

11. *Seasprite* helicopters

It recently emerged at Estimates hearings that there are significant issues with the *Seasprite* helicopters intended for the RAN's *Anzac* frigates. Though this story is still developing and not all matters are clear, it already seems as though at least one of the issues identified many times in the past as a failure of Defence contracting has surfaced again. This is the poor drafting of contracts with inadequate, nonexistent or unenforced penalty clauses such that a non-performing contractor will escape scot free, or at minimal loss, with the Commonwealth picking up the tab.

Clearly there is much more to find out about this issue. However, as was the case with the most serious aspects of *Collins* and with JORN, it does appear that software development and integration is likely to be a key aspect.

12. *Bushranger* Army vehicle project

In 1999 Defence contracted Australian Defence Industries (ADI) to equip the Army's 7th Brigade and RAAF Airfield Defence Guards with over 370

1. *JORN Audit Report*, para 6.2.

2. *JORN Audit Report*, para 6.17.

3. E.M. Andrews, *The Department of Defence*, Oxford UP 2001, p.289. (This is Volume V of the *Australian Centenary History of Defence*.) See also *Defence Systems Daily* 20 February 2000, at: <http://defence-data.com/features/fpage37.htm>.

Bushmaster infantry mobility vehicles by October 2002. However, the contract stalled when ADI advised it could not deliver the expected quantity and quality of vehicles within the agreed timeframe and budget.

On 6 June this year the Minister (Senator Hill) announced that the Government was considering “a major modification to the *Bushranger* contract which would result in a significant increase in the price of each vehicle.”¹ Twenty days later, he announced that “The Federal Government has agreed to a revised *Bushranger* contract in a bid to revive the troubled project” and that this contract revision would indeed mean that “Defence will pay significantly more for each vehicle - receiving 299 vehicles within the existing project budget.”²

It thus appears that instead of receiving over 370 vehicles for an approved project cost of \$316m (a notional unit cost of \$854,000) we will now receive only 299 vehicles for the same price – a notional unit cost of \$1,057,000, or in other words an overrun of 23 percent, or almost a quarter.

Though the Minister’s 26 June statement spoke of extensive negotiations with the non-performing contractor, it seems clear that it will be the taxpayer and not the contractor who has to pay for the failure to deliver the goods contracted for. **Once more, then, we see a non-performing contractor bailed out by the taxpayer instead of being required to face the dollar consequences of its failure to deliver.**

1. Minister for Defence, *Media Release 273/02*, 6 June 2002.
2. Minister for Defence, *Media Release 308/02*, 26 June 2002.