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Audit Report No.3 2000–2001
Performance Audit

Environmental Management of Commonwealth Land —Follow-up Audit

Department of Defence

A u s t r a l i a n N a t i o n a l A u d i t O f f i c e

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Australian National
Audit Office

Canberra ACT
31 July 2000

Dear Madam President
Dear Mr Speaker

The Australian National Audit Office has undertaken a follow-up performance audit in accordance with the authority contained in the *Auditor-General Act 1997.* I present this report of this audit, and the accompanying brochure, to the Parliament. The report is titled *Environmental Management of Commonwealth Land—Follow-up audit.*

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—http://www.anao.gov.au.

Yours sincerely

P. J. Barrett
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

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GPO Box 707
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Audit Team

Grant Caine
Tony Grudzinski
Mike Lewis

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Abbreviations/Glossary

ANAO	Australian National Audit Office
DEEF	Defence Environment and Energy Forum
Defence	Department of Defence
Defence facilities	discrete areas within Defence sites that involve the storage, use or discharge of environmentally-sensitive substances (eg. sewage treatment plants, workshops, vehicle wash-down bays)
Defence facility managers	Defence personnel responsible for the day-to-day management of Defence facilities
DEH	Department of the Environment and Heritage
DEHSP	Defence Environment and Heritage Strategic Plan
DEMS	Defence Estate Management System
DEO	Defence Estate Organisation
DOFA	Department of Finance and Administration
ECC	Environmental Certificate of Compliance
EMP	Environmental Management Plan
EMPED	Environmental Management Plan Establishment Database
EMS	Environmental Management System
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPIP Act	*Environment Protection (Impact of Proposals) Act 1974*
HoRSCERA	(former) House of Representative Standing Committee on Environment, Recreation and the Arts
HoRSCERA Inquiry	HoRSCERA inquiry that led to the production of *Environmental Management of Commonwealth Land– a review of Audit Report No.31 1995–96 Environmental Management of Commonwealth Land: Site Contamination and Pollution Prevention (March 1997)*
ISO	International Organization for Standardization

original audit	Audit Report No.31 1995–96 *Environmental Management of Commonwealth Land: Site Contamination and Pollution Prevention*
QEPA	Queensland Environmental Protection Agency (formerly Queensland Department of the Environment)
RAAF	Royal Australian Air Force
REO	Regional Environmental Officer
TAMA	Training Area Management Authority
UXO	unexploded ordnance

Summary and Recommendations

Summary

Introduction

1. In 1995–96, the Australian National Audit Office (ANAO) examined the environmental management of land by Commonwealth land managing entities—Audit Report No.31 1995–96 *Environmental Management of Commonwealth Land: Site Contamination and Pollution Prevention* ('the original audit'). The Department of Defence (Defence) was the major agency examined in the original audit.

2. The original audit concluded that Commonwealth entities could make significant improvements in their environmental performance by adopting and adapting international developments in better practice and environmental risk management. The original audit also noted that Defence's resources needed to more appropriately match the risks to the public from unexploded ordnance (UXO). Audited agencies agreed, or agreed in principle, with all of the recommendations directed towards them.

3. In 1997, the then House of Representatives Standing Committee on Environment, Recreation and the Arts (HoRSCERA) reviewed aspects of the original audit report. These aspects were: (a) the development of a Commonwealth policy on the environmental management of Commonwealth land, (b) compliance with State/Territory legislation, (c) environmental management on land owned by Government Business Enterprises, and (d) the management of UXO on non-Commonwealth land. HoRSCERA's three recommendations effectively endorsed the ANAO's recommendations in relation to the development of a Commonwealth policy on the environmental management of Commonwealth land and the management of UXO on non-Commonwealth land. In April 1999, the Government announced its agreement, or agreement in principle, with all three HoRSCERA recommendations.

4. The ANAO has confined the scope of this follow-up audit to Defence's environmental management of its estate and its management of UXO on non-Commonwealth land. Defence has an extensive land portfolio valued at $2 billion. It has been, and continues to be, involved in many activities that could adversely impact the environment unless properly managed. Appropriate management of UXO contamination on non-Commonwealth land is of continuing importance due to land developments, particularly in Queensland, that continue to encroach on

potentially UXO contaminated areas. As part of the context for Defence's environmental management, this audit also examined progress made by Environment Australia to develop a Commonwealth policy on environmental management.

Environmental Management of Defence's Estate

5. The ANAO estimates that the Defence Estate Organisation (DEO) expends some $17 million per annum on Defence's environmental management. The complex and costly nature of the environmental management of Defence's land holdings demonstrates the need for a systemic approach to environmental management that will maximise benefits to the environment within the limit of available resources. Internationally recognised standards on environmental management (ISO 14000 series standards) advocate the development and implementation of an appropriate Environmental Management System (EMS) by organisations seeking to apply better practice. A properly functioning EMS operating both at the local and strategic levels makes sound management, financial and legal sense. Specifically it could:

- optimise the sustainable use of Defence's estate;
- protect property values and minimise financial liabilities;
- protect and enhance ecological integrity and human health;
- show Defence as a 'good corporate citizen' in line with community expectations of public sector entities;
- contribute to achieving Defence's environmental goals; and
- demonstrate due diligence in statutory and common law matters (which is an important element in meeting its legal responsibilities).

6. The original audit recommended that all Commonwealth land managing entities, including Defence, develop an EMS in line with best practice. Other ANAO recommendations directed at Defence (excluding those relating to UXO contamination on non-Commonwealth land) stressed particular environmental management elements that Defence should address as part its EMS.

Audit objectives and scope

7. The objectives of this follow-up audit were to determine the:

- extent to which Defence has implemented the agreed recommendations contained in the original audit; and
- effectiveness of the implemented recommendations in improving the environmental management of Commonwealth land.

8. The original audit focused primarily on site contamination and pollution prevention risks on Commonwealth land—a component of broader environmental management. However, current better practice environmental management (identified in ISO 14000 series of voluntary standards) indicates that such risks should be considered and managed concurrently with other environmental risks (including soil erosion, feral pests and noxious weeds etc.). This follow-up audit, therefore, has examined Defence's environmental management in total, with site contamination and pollution prevention being one of many environmental risks covered.

Overall conclusions

Environmental management of the Defence estate

9. The ANAO concluded that Defence has made some important progress towards developing a corporate EMS framework in accordance with internationally accepted better practice. However, its development progress slowed significantly from mid-1998 to late-1999, a period when other environmental tasks received a higher priority. As a result:

- most of the relevant recommendations from the original audit have been partially implemented or are on Defence's agenda for implementation in the near future; and
- because many of the recommendations have been implemented only partially to date, it is too early to form an opinion on whether they have been effective in improving the environmental management of Commonwealth land.

10. During the audit, the ANAO sought a timetable for the EMS's completion and implementation but Defence was unable to provide an authoritative one. At the current rate of progress, the ANAO considers that it is unlikely that Defence's EMS will be fully implemented until at least 2002–03. Defence's environmental vision to *'…be a leader in environmental stewardship as an integral part of its activities'*[1] cannot be achieved until Defence fully implements its EMS. Incorporating the development of the EMS into an overall timetable covering environmental matters would help to ensure that it was viewed in that context and received an appropriate priority.

11. Defence has improved the quality of its environmental management plans (EMPs) as management tools (particularly in relation to prioritising sites' environmental risks). However, this and other documented environmental risk information is not used systemically by Defence to manage its estate's environmental risks on a national basis.

At sites with a larger number of significant environmental risks, a sizeable proportion of environmental funding is directed towards either significant (but not the highest rated) environmental risks or non-significant environment risks.

12. Although there is still some conjecture over the applicability of State/Territory environmental legislation to Defence sites and facilities, Defence has committed itself to meet State and Territory environmental standards. However, environmental risk assessments conducted during 1999–2000 identified much long-standing actual and potential non-compliance with State and Territory environmental legislation across nearly all environmental risk areas on all sites examined. Considerable improvement in regulatory compliance is required for Defence to achieve its environmental vision.

13. The ANAO considers that a fully operational environmental management information system and improved records management practices would allow Defence to better identify, rate, prioritise, review and address the environmental management risks of Defence's estate. Furthermore, the ANAO considers that changes to Defence's site management procedures and practices offer the most cost-effective solution to Defence's regulatory compliance shortcomings, poor collection and integration of environmentally-related information held throughout Defence and the lack of monitoring being undertaken.

Unexploded ordnance contamination on non-Commonwealth land

14. The ANAO considers that the development of strategic and operational plans for the UXO program and better performance reporting would enhance the transparency of the program and, consequently, Defence's accountability for implementing the Commonwealth UXO policy. Defence has modestly increased the resources it allocates to UXO management throughout Australia since the original audit, with the prospect of an increase in contractor resources in Queensland from 2000–01. Although this satisfies the HoRSCERA Inquiry's recommendation, the ANAO estimates that it will still be at least 10 years before the UXO program is completed.

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[1] Defence (1998), *Defence Environment Policy Statement*, p. 4.

Recommendations for improvement

15. The ANAO has made five recommendations that Defence could implement in the short term. In the ANAO's opinion, they would improve the environmental management of Defence's estate and optimise the achievement of its environmental vision.

Defence response

16. Defence agreed with all five recommendations.

Key Findings

Defence's environmental management framework (Chapter 3)

17. This section of the key findings is generally focused on the EMS framework established by internationally accepted better practice environmental management standards (see Figure 1 in Chapter 1).

Management commitment

(Audit Report No.31 1995–96—Recommendation No.5)

18. Defence has simplified its environmental management structure since the original audit. It has consolidated the overall responsibility for managing its estate (including its environmental management issues) into one area—the Defence Estate Organisation (DEO). The ANAO considers that the changes provide a framework in which to manage environmental issues more consistently. Defence attributes the improvements in its environmental management in the past few years to the establishment of the DEO.

19. Overall environmental management responsibility now rests with the Head of DEO (ie. Head, Defence Estate). The Head, Defence Estate's environmental management role is assisted by the Defence Environment and Energy Forum (DEEF)—a body of Defence senior executives representing all Defence Groups, chaired by the Head, Defence Estate. Although this satisfies the ANAO's recommendation to clarify environmental management responsibilities (No.5 from the original audit), the ANAO considers that the administrative effectiveness of DEEF's strategic and operational roles could be enhanced by meeting more frequently than once a year.

Environmental policy

(Audit Report No.31 1995–96—Recommendation No.3)

20. Defence produced its *Defence Environment Policy Statement* in mid-1998. The tone of the Policy Statement is best described by Defence's environmental vision which states that '*Defence will be a leader in environmental stewardship as an integral part of its activities*'.[2] The ANAO has examined the Policy Statement relative to current better practice and considers it to be clear and comprehensive in setting out Defence's policy position on its environmental management issues. It sets the parameters

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[2] *ibid.*

from which an appropriate EMS can be developed and implemented. Consequently, the ANAO considers that Defence has fully implemented the ANAO's recommendation to develop an environmental policy (No.3 from the original audit).

Applicable environment laws and regulations

21. In January 2000, Defence completed its Environmental Compliance Manual. It summarises current and, to the extent possible, imminent Commonwealth, State and Territory environmental legislation that may be potentially relevant to Defence's operations and activities. Defence understands the need to keep up-to-date on applicable environmental legislation. The ANAO concluded that Defence is fully aware of its legal and legislative environmental management responsibilities within the context of its corporate EMS.

Environmental performance objectives and targets

22. Defence is currently developing the Defence Environment and Heritage Strategic Plan (DEHSP), which is due for completion by mid-2000. The DEHSP is designed to provide a valuable link between Defence's Environmental Policy and environmental management practice. It is expected to outline broadly the basis on which Defence intends to prioritise and direct its resources to estate environmental management issues over the next few years. Defence indicated that this is expected to be achieved, in part, by an appraisal of Defence-wide environmental risks. The ANAO agrees with the need for such an appraisal and the general approach being taken. However, to more easily compare and aggregate environmental risk information from various sources, Defence would need to resolve inconsistencies in the definition of risk issues and in its qualitative risk rating scales.

23. Defence should integrate other corporate priorities (including combat readiness, stakeholder influences, legislative compliance and value for money) into the environmental performance objectives of the DEHSP. Defence has yet to decide on its environmental performance indicators. The ANAO suggests that Defence consider the output-based performance indicators recommended to Defence in June 1998 by its consultant engaged to develop its EMS framework. Furthermore, the ANAO considers that one of the best means for Defence to demonstrate its effectiveness in estate environmental management is to assess the change in the estate's environmental risk profile over time.

Environmental Management Plans and Programs

(Audit Report No.31 1995–96—Recommendation 4(a))

24. Although Defence agreed to develop EMPs for all high-risk sites by the end of 1997 (Recommendation 4(a) from the original audit), by

mid-1999 only a little over half of Defence's high-risk sites had EMPs in place. Defence subsequently accelerated its EMP development program in 1999–00. The ANAO considers that progress has been made towards full implementation of Recommendation No.4(a) from the original audit, although at a much slower pace than originally agreed by Defence.

25. Defence has continually refined the Statement of Requirement for EMPs over time, which has led to improvements in the quality of EMPs as a management tool (particularly in relation to rating and prioritising sites' environmental risks). However, the value of EMPs would be further enhanced if EMPs presented:

- risk information more consistently including: (a) risk scoring, (b) potential and actual breaches of Commonwealth, State/Territory environmental legislation, and (c) a greater focus on environmental effects and improved linkages between environmental causes (eg. underground storage tanks) and effects (eg. groundwater contamination, soil contamination); and
- the costs/benefits of various alternative investment/expenditure strategies in terms of impacts on risk reduction and other environmental outcomes.

26. Under internal Defence budgetary arrangements, the ANAO was advised that funding for EMP development is forfeited unless spent and it is kept separate from funding for remedial environmental works. The ANAO considers that this funding division may lead to inefficient expenditure of resources. There is no incentive to stop funding for EMP development on sites with few significant environment risks (as the funding is forfeited) and it is not possible to redirect such funds to address higher environmental risks at other sites. The ANAO considers that a better balance between the two funding pools would be established by allowing for some flexibility in funding movements between them so that the estate's highest environment risks are addressed first.

Environmental Management Information Systems

(Audit Report No.31 1995–96—Recommendation No.6(a))

27. Defence indicated to the 1996–97 HoRSCERA inquiry that it would introduce an Environmental Management Information System (EMIS) to increase the capability of environmental managers to more efficiently implement its EMPs. Although Defence has two EMIS-related systems under development, there is currently no functioning EMIS at Defence. Consequently, Defence has not implemented the ANAO's recommendation to develop and maintain an EMIS (No.6(a) from the original audit).

28. In the absence of any centrally-directed EMIS, the ANAO examined the means used by the regional offices to manage their environmental information. The ANAO found that the quality of records management in the regional offices varied greatly. Until recently, shortcomings included poor filing systems that led to relevant environmental risk information not being taken into account in the environmental management of some sites in some regions. The effect of record management shortcomings is further compounded by poor hand-over procedures between regional environmental officers (REOs) and between regional offices and REO positions left vacant for periods of between 6–12 months in some regional offices.

29. In addition, the REOs acknowledge that there is considerable relevant information (including reports and activities) in Defence that could aid their environmental management of sites. However, in many cases, REOs do not become routinely aware of this information. The ANAO considers that a fully operational EMIS and better records management practices would allow DEO to better identify, rate, prioritise, review and address the environmental management risk issues of Defence's estate. Defence indicated that information awareness is currently being addressed as part of the development of its geographical information system (GIS) that will map environmental risks at Defence sites.

Training awareness and competence

(Audit Report No.31 1995–96—Recommendation No.4(c))

30. DEO indicated that it was not aware of the environmental management training reviews conducted by Army, Navy and Air Force during 1996 and 1997, nor could the Services provide DEO with any documentation associated with them. As a result, the ANAO is unable to verify that Defence has implemented the ANAO's recommendation to conduct an environmental training needs assessment (No.4(c) from the original audit).

EMS and performance benchmarking

(Audit Report No.31 1995–96—Recommendation No.6(b))

31. Defence is currently developing environmental performance indicators and related targets as part of the DEHSP. Consequently, it is not possible at this time for Defence to implement the ANAO's recommendation to benchmark its environmental performance (No.6(b) from the original audit). However, it is currently possible for Defence to benchmark its corporate EMS against industry better practice (based on ISO 14000) and also against the EMSs of similar Defence

organisations in the United States, Canada and Britain. Similarly, once Defence has developed its performance indicators, it should consider benchmarking its environmental performance against appropriate organisations, such as those listed above, and other Commonwealth land managing entities.

Management of Defence's environmental risks (Chapter 4)

32. This section of the key findings is generally structured according to risk management methodology established by the Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999).

Identifying and prioritising environmental risks

(Audit Report No.31 1995–96—Recommendation Nos.4(b), 6(c) and 15)

33. Defence estimates that, of its 400 or so sites, about 160 (40 per cent) could be classified as high-risk sites (ie. sites with one or more 'significant' environment risks). Defence has used the Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999) as the basis for explicitly rating and prioritising the environmental risks of about 110 sites (70 per cent) of Defence's high-risk sites. However, EMPs developed before mid-1999 (and earlier Land Management Plans) that are currently in operation in about 50 high-risk Defence sites (30 per cent) did not necessarily explicitly rate or prioritise sites' environmental risks. In many cases, no other documented environmental risk information is available. The ANAO considers that it will be most difficult for Defence to identify, prioritise and manage systemically these sites' highest environmental risks until such time as reviews of these EMPs or Land Management Plans are completed. Should the environmental risks at Defence's high-risk sites be reviewed regularly, as currently planned by Defence, the ANAO would be assured that Recommendation No.6(c) from the original audit has been implemented. This recommendation called for regular environmental audits at Defence's high-risk sites.

34. There is still some conjecture over the applicability of State/Territory environmental legislation to Defence sites and facilities. Nevertheless, Defence has committed itself through its 1998 Environment Policy Statement to, among other things, '*meet State and Territory environmental standards where relevant Commonwealth policy and standards do not exist or are less stringent*' (the 'good neighbour' policy).[3] Even prior to the release of this Policy Statement, Defence indicated that it was standard practice to apply the 'good neighbour' policy. However, these stated

[3] *ibid.*, p. 9.

policies and practices contrast with actual practice. The environmental risk assessments conducted as part of Defence's 1999–2000 EMP development program identified much long-standing actual or potential non-compliance with State and Territory environmental legislation across nearly all environmental risk areas on all sites examined. In some cases, current management practices continue to not comply with State and Territory environmental legislation. Most of the actual or potential non-compliances are not related to Defence's training activities. Defence has established the policy and procedural framework but its practice does not satisfy the expectation arising from Defence's agreement with Recommendation Nos.4(b) and 15 from the original audit. These recommendations related to the disposal of hazardous materials and compliance with State and Territory environmental legislation. Considerable improvement in regulatory compliance is required for Defence to achieve its environmental vision.

Resource allocation to environmental management issues

(Audit Report No.31 1995–96—Recommendation No.4(b))

Remedial environmental works

35. The ANAO found that remedial environmental works are prioritised on a regional rather than a national, whole-of-Defence basis. As a consequence, funding is being directed to lesser environmental risks in some regions while higher risks in other regions are not funded. Furthermore, the ANAO found that at sites with few significant environmental risks there was a moderate to strong correlation between their highest environmental risks and the remedial works funded. However, at sites with a larger number of significant environmental risks, the correlation was much weaker. Consequently, a sizeable proportion of environmental works funding at the latter sites is directed towards either significant (but not the highest rated) environmental risks or non-significant environment risks. Generally, the ANAO agreed with the REOs that documented environmental risk information was not used systematically to manage the environmental risks of Defence's estate. Regional environmental management was based more on a 'feel' for the risks. As a result, the ANAO considers that Defence has only partially implemented the ANAO's recommendation to allocate resources to identified risks (No.4(b) from the original audit).

Monitoring activities

36. Regular monitoring of the impact of Defence's facilities on the environment (by conducting, as appropriate, water quality testing, soil sampling and air emissions monitoring) is not standard practice in

Defence. Defence acknowledges the monitoring shortcomings and indicated that it is currently considering quarantining some DEO funds for monitoring activities in the future. However, given the significant amount of non-compliance or potential non-compliance with State/ Territory environmental legislation as it relates to on-going monitoring, it is doubtful whether sufficient funding could be allocated within DEO for this purpose. The ANAO considers that changes to management procedures and practices can provide a workable solution to the level of monitoring and review.

Works conducted elsewhere in Defence

37. In addition to the remedial works controlled by REOs, many areas in Defence conduct activities that have an impact (positive or negative) on the environment on Defence's estate. Information on these activities could be valuable to REOs so as to gain a better understanding of the environmental risks facing sites and to avoid unnecessary duplication of effort. The REOs indicated consistently to the ANAO that they are not routinely made aware of nor, in some cases, are they inclined to seek potentially relevant environmentally-relevant information outside of the activities they control. The REOs consider that it is extremely difficult to keep themselves fully informed with relevant environmental information because of its many sources and locations, constantly changing personnel to deal with and the number of sites REOs must manage. Changes to management procedures and practices have been identified to address these problems.

Changes to management procedures and practices

38. The ANAO considers that changes to Defence's site management procedures and practices offers the most cost-effective solution to the regulatory compliance shortcomings, poor collection and integration of environmentally-related information held throughout Defence and the lack of monitoring being undertaken. Site-specific Standing Orders form the instructions covering all Defence facilities that all civilian and military personnel and contractors alike are expected to adhere to. Defence Corporate Support (another Group in Defence outside DEO) is solely responsible for keeping Standing Orders up-to-date. Nevertheless, the ANAO, DEO and REOs agree that REOs should be consulted on the environmental management aspects of Standing Orders when they are being updated. However, REOs claimed that they are rarely given this opportunity. Further, many REOs also claimed that they have not read all relevant Standing Orders and that in some regions, Standing Orders are not readily accessible to them.

39. The ANAO examined a sample of Standing Orders and found that generally they did not deal adequately with environmental management matters. It is highly likely that many Standing Orders do not provide Defence personnel with suitable and sufficient guidance on the environmental management of their facilities. The ANAO considers that this is a significant cause of Defence's lack of compliance with State and Territory environmental legislation.

40. The Defence Environment Policy Statement states that '*environmental management in Defence is the responsibility of all Defence personnel*'.[4] Therefore the ANAO considers it appropriate for DEO to liaise with Defence Corporate Support to ensure that appropriate environmental management requirements are incorporated (and kept up-to-date) in Standing Orders and for facility/training area managers to provide timely information on their implementation to DEO.

Environmental performance monitoring and reporting

41. Defence's current internal and external performance reporting framework is limited primarily to activity-based performance measures (ie. progress on the development of EMPs/EMS and implementing environmental works). The ANAO considers that a subset of key environmental performance indicators and targets currently being developed as part of the DEHSP could be used as the basis to report Defence's environmental performance both internally and externally. Better practice organisations have a strong commitment to outcome-based environmental performance reporting (eg. the U.S. Army which publishes a separate annual environment report). The ANAO considers that Defence could learn much from such better practice organisations in terms of environmental performance reporting.

Unexploded ordnance contamination on non-Commonwealth land (Chapter 5)

(Audit Report No.31 1995–96—Recommendation No.7)

42. In the four years since the original audit, Defence has completed 16 UXO site assessments in Queensland. The quality and depth of these assessments satisfy the requirements of stakeholders including the Queensland Environmental Protection Agency (QEPA) and local government authorities. Defence, however, does not have formal documented strategic and operational plans to manage UXO issues. Defence's priorities for UXO site assessments during 1999 were instead

[4] *ibid.*, p. 1.

based on a combination of the documented priorities of QEPA and the (undocumented) views of Defence's UXO Project Officer in Queensland. Defence's current UXO management practices do not satisfy the expectation arising from Defence's agreement with the ANAO's recommendation to develop plans for the UXO program that set priorities, allocated resources and included completion timetables (No.7(b) from the original audit).

43. QEPA's input into UXO site assessment priorities is of great value to Defence, but QEPA recently advised that it would have no further involvement in the prioritisation of sites for UXO assessment. Consequently, Defence will have to determine priorities for future UXO site assessments by itself, although it does not have ready access to some of the information necessary to make appropriate prioritisation decisions. The ANAO considers that Defence will need to allocate more resources to the UXO Project in Queensland just to maintain the current UXO site assessment rate into the future. Defence and QEPA indicated that the Memorandum of Understanding on the management of UXO in Queensland is close to finalisation. The ANAO considers that once it has been agreed, Defence will have implemented the ANAO's recommendation to develop administrative procedures with State jurisdictions (No.7(c) from the original audit) with respect to Queensland.

44. Defence implemented the ANAO's recommendation to review the priority given to its UXO program (No.7(a) from the original audit) in June 1997. The ANAO concluded that there has been a modest increase in Defence resources allocated to UXO management throughout Australia since the original audit, with the prospect of an increase in contractor resources in Queensland from 2000–01. Although this satisfies the HoRSCERA Inquiry's recommendation, the ANAO estimates that it will still be at least 10 years before the UXO program is completed.

45. In 1997, the HoRSCERA Inquiry recommended, and the Government agreed, that Defence would include in its annual report a statement of the progress made in implementing the UXO program. The ANAO considers that the statement included in Defence's 1996–97 Annual Report provided little real information on the progress of the UXO program. Progress towards implementing the UXO program has not been mentioned in subsequent Defence annual reports. The ANAO considers that Defence should report annually on the progress of implementing the UXO program along the lines recommended by the ANAO.

Recommendations

Recommendation No.1 Para. 3.28

The ANAO *recommends* that, in order to demonstrate improved performance in environmental management, Defence:

(a) establish a baseline of its estate's current environmental risk profile by collating and aggregating the environmental risk ratings for its estate; and

(b) monitor and review changes to the estate's environmental risk profile over time.

Defence response: Agreed.

Recommendation No.2 Para. 3.49

The ANAO *recommends* that, in order for Defence to determine progress towards the achievement of its environmental vision, Defence regularly review its EMS and environmental performance (to the extent relevant and possible) against:

(a) national and State/Territory standards and practices including relevant International Organization for Standardization (ISO), National Environment Protection Measures and national guidelines (including water quality); and

(b) other organisations, including the U.S. Department of Defense.

Defence response: Agreed.

Recommendation No.3 Para. 4.45

The ANAO *recommends* that to improve the integration of environmental management as part of Defence's activities:

(a) DEO liaise with Defence Corporate Support to ensure that site-specific Standing Orders incorporate appropriate environmental management requirements (that meet Commonwealth and State/Territory environmental legislation) covering each Defence facility (eg. sewage treatment plants, workshops, vehicle wash-down bays) and training areas; and

(b) facility managers (ie. Defence personnel responsible for the day-to-day management of Defence facilities) and training area managers be accountable within their respective Groups for the implementation of environmental management requirements incorporated in Standing Orders.

Defence response: Agreed.

Recommendation No.4 Para. 4.47

The ANAO *recommends* that to better identify, prioritise and address the environmental risks of Defence's estate:

(a) facility managers and training area managers provide timely information to DEO on:

(i) the extent to which the facilities and training areashave been operated in accordance with site-specific Standing Orders; and

(ii) any significant impact the facilities' operations and training activities may pose to the environment; and

(b) DEO integrate this and other environmental risk information held within Defence as a basis for allocating resources aimed at addressing the estate's highest environmental risks in accordance with corporate priorities.

Defence response: Agreed.

Recommendation No.5 Para. 5.29

The ANAO *recommends* that to improve Defence's accountability for Commonwealth UXO policy and the management of UXO contamination on non-Commonwealth land, Defence:

(a) develop risk-based strategic and operational plans for the UXO site assessment program in consultation with the States/Territories;

(b) review the priority and the resources allocated to addressing UXO contamination on non-Commonwealth land with a view to a more timely completion of Defence's UXO site assessment program; and

(c) report annually to Parliament on the progress of implementing its UXO program against its strategic and operational plans including:

(i) quantitative statistics on the number of significant UXO sites in each State/Territory;

(ii) the number of sites assessed during the reporting period;

(iii) on an exception basis, the number of civilian injuries from UXO during the reporting period; and

(iv) an indication of when Defence is likely to complete its program of detailed assessments of significant sites.

Defence response: Agreed.

Audit Findings and Conclusions

1. Introduction

Background

1.1 In 1995–96, the Australian National Audit Office (ANAO) examined the environmental management of land by Commonwealth land managing entities—Audit Report No.31 1995–96 *Environmental Management of Commonwealth Land: Site Contamination and Pollution Prevention* ('the original audit').

1.2 The objectives of the original audit were to assess the efficiency, economy and administrative effectiveness and associated accountability arrangements in relation to the environmental management of Commonwealth land holdings. The scope of the 1996 Audit was designed to cover the following issues, as they relate to contaminated sites:

- implementation of environmental policy;
- current and better practice for Commonwealth land management;
- Commonwealth liabilities in relation to contaminated land; and
- oversighting environmental performance of Government Business Enterprises (GBEs).

1.3 The original audit examined the environmental management mechanisms in the following major Commonwealth land management and oversighting entities:

- Commonwealth Environment Protection Agency (now Environment Australia);
- Department of Defence (Defence);
- Australian Estate Management (part of the former Department of Administrative Services);
- Department of Transport and Regional Development; and
- Department of Communications and the Arts.

1.4 The original audit concluded that Commonwealth entities could make significant improvements in their performance by adopting and adapting international developments in better practice and environmental risk management. However, the absence of a clear Commonwealth policy framework was seen as a major constraint. The ANAO considered that environmental management issues were seen generally as lower priority, non-core business activities. It suggested that the broad direction for improvement in Commonwealth performance should be towards

preventing pollution and the integration of better management systems to cost-effectively manage existing site contamination problems. The original audit also noted that Defence's resources needed to more appropriately match the risks to the public from unexploded ordnance (UXO). Audited agencies (listed above) either agreed, or agreed in principle, with all of the recommendations directed towards them.

1.5 In 1997, the then House of Representatives Standing Committee on Environment, Recreation and the Arts (HoRSCERA) reviewed aspects of the original audit report including:

(a) development of a Commonwealth policy on the environmental management of Commonwealth land;

(b) Commonwealth compliance with State/Territory legislation;

(c) environmental management on GBE-owned land; and

(d) management of UXO contamination on non-Commonwealth land.

1.6 HoRSCERA made three recommendations in relation to the development of a Commonwealth policy on the environmental management of Commonwealth land and the management of UXO on non-Commonwealth land that effectively endorsed the relevant ANAO recommendations. In April 1999, the Government announced its agreement, or agreement in principle, with all three HoRSCERA recommendations.

Audit scope and objectives

1.7 The ANAO has confined the scope of this follow-up audit to Defence's environmental management of its estate and the management of UXO on non-Commonwealth land. Defence has an extensive land portfolio valued at $2 billion. It has been, and continues to be, involved in many activities that could adversely impact the environment unless properly managed. Defence's long association with some of these sites and the lack of awareness of site contamination issues in earlier times suggests there is significant potential for contamination on Defence's estate. Appropriate management of UXO contamination on non-Commonwealth land by Defence is of continuing importance due to land developments, particularly in Queensland, that continue to encroach on potentially UXO contaminated areas. As part of the context for Defence's environmental management, this audit also examined progress made by Environment Australia to develop a Commonwealth policy on environmental management.

1.8 The follow-up audit process reinforces the ANAO's commitment to improving public administration and accountability through monitoring the implementation of audit reports recommendations where they have retained their relevance. Improved performance is clearly forgone by no, partial, unnecessarily delayed or quasi-implementation action.

1.9 The objectives of this follow-up audit were to determine the:

- extent to which Defence has implemented the agreed recommendations contained in the original audit; and
- effectiveness of the implemented recommendations in improving the environmental management of Commonwealth land.

Audit criteria

1.10 The original audit focused primarily on site contamination and pollution prevention risks on Commonwealth land—a component of broader environmental management. However, current better practice environmental management (identified in ISO 14000 series of voluntary standards) indicates that such risks should be considered and managed concurrently with other environmental risks (including soil erosion, feral pests and noxious weeds, etc.). This follow-up audit, therefore, has examined Defence's environmental management in total, with site contamination and pollution prevention being one of many environmental risks covered.

1.11 In this report, the ANAO examined the systems and processes used by Defence to allocate effectively its resources towards addressing its environmental management issues. However, the ANAO does not purport to judge how effective or efficient particular environmental works funded by Defence have been, or will be, in addressing the risks concerned.

Audit methodology, conduct and cost

1.12 The methodology used to produce this report involved:

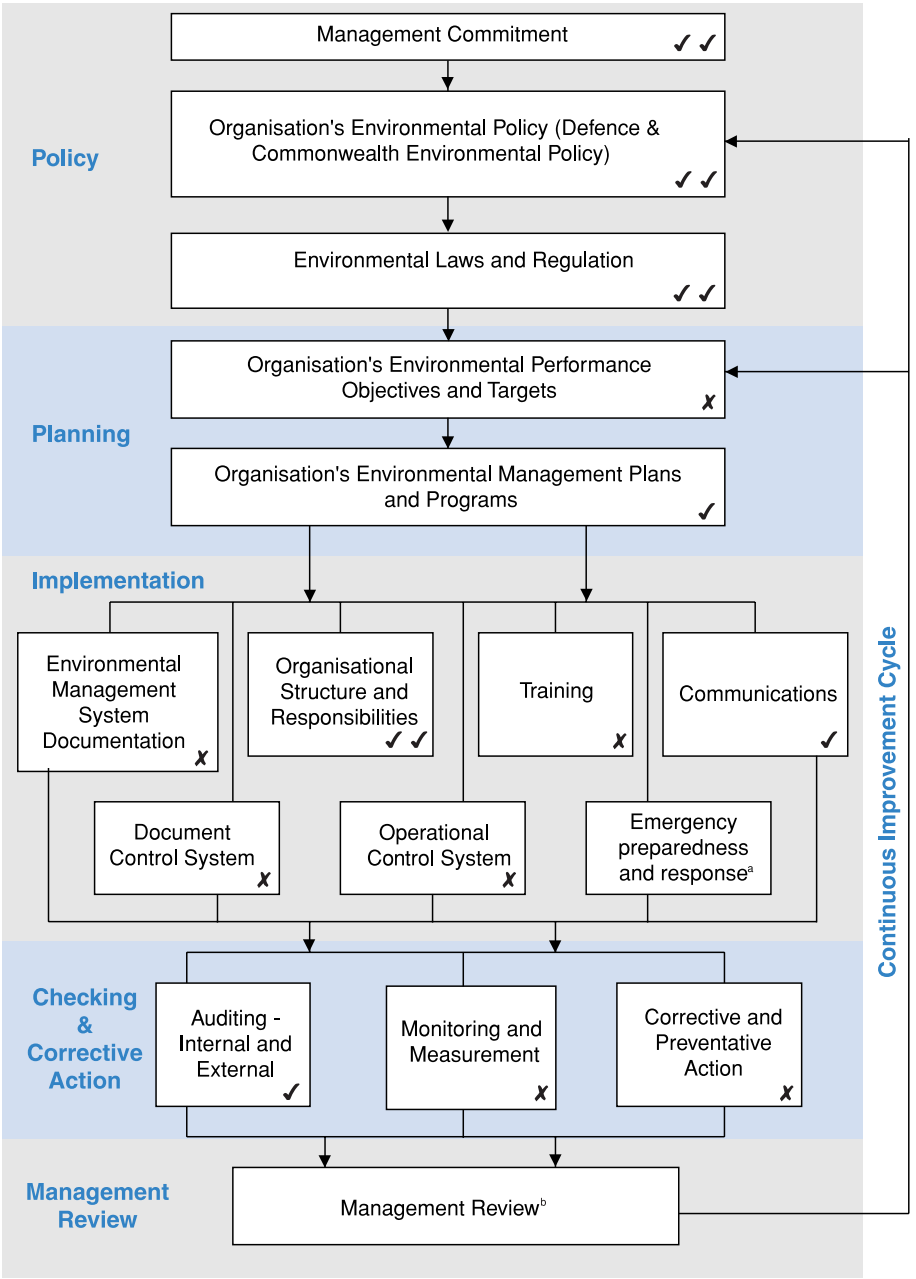
- discussions with key personnel;
- examining relevant files, documents, reports and meeting minutes maintained by Defence; and
- considering current literature relating to environmental and risk management systems and its component aspects as well as the relevant national and international standards.

1.13 The follow-up audit was conducted in accordance with the ANAO Auditing Standards and cost approximately $153 000. The majority of the fieldwork was conducted between January and March 2000.

Report structure

1.14 Chapter 2 places environmental management into the Defence context. The structure of Chapter 3 is based generally on international better practice (the ISO 14000 series standards framework) illustrated at Figure 1 and addresses environmental policy, planning and implementation in Defence. Chapter 4 examines environmental checking and corrective action with its structure being based on the risk management model under the Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999). Chapter 5 examines Defence's management of UXO contamination on non-Commonwealth land.

Figure 1
Environmental Management System Framework



Source: Nestel G.K. (1996), *The Road to ISO 14000*, Irwin Publishing, p. 38.

✓✓ —In place fully in Defence.
✓ —In place partially in Defence.
✗ —Not yet in place in Defence.
a —'Emergency preparedness and response' is not examined in the report because the recording of environmental incidents and accidents made such an analysis not viable.
b —'Management Review' is not referenced in the report because Defence's EMS is not fully implemented.

See Appendix 1 for a greater explanation of the ISO 14000 EMS framework.

2. Context for Environmental Land Management by Defence

Introduction

2.1 Defence's extensive land holdings in both urban and rural areas of Australia and their diverse uses make their environmental management both complex and costly. The ANAO estimates that the Defence Estate Organisation (DEO) expends some $17 million per annum on Defence's environmental management,[5] representing 0.15 per cent of total annual Defence expenditure. This, however, demonstrates the need for a systemic approach to environmental management that will maximise benefits to the environment within the limit of available resources. Internationally recognised standards on environmental management (ISO 14000 series standards) advocate the development and implementation of an appropriate Environmental Management System (EMS) by organisations seeking to apply better practice. A properly functioning EMS operating both at the local and strategic levels makes sound management, financial and legal sense. Specifically it could:

- optimise the sustainable use of Defence's estate;
- protect property values and minimise financial liabilities;
- protect and enhance ecological integrity and human health;
- show Defence as a 'good corporate citizen' in line with community expectations of public sector entities;
- contribute to achieving Defence's environmental goals; and
- demonstrate due diligence in statutory and common law matters (which is an important element in meeting its legal responsibilities).

2.2 This Chapter examines factors that influence Defence's environmental management of its estate including relevant Commonwealth legislation, the National Environment Protection Measures, Commonwealth environmental policy and applicable State/Territory legislation and common law.

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[5] Calculated on a full-cost basis but excluding depreciation charges. Amount does not include expenditure by other areas of Defence on activities that may have a direct or indirect impact on Defence's environment.

Commonwealth legislation

2.3 The original audit noted that there was no specific Commonwealth legislation on the environmental management of Commonwealth property at the time, but that a number of Commonwealth Acts were relevant to environmental management. The most relevant of these was the *Environment Protection (Impact of Proposals) Act 1974* (EPIP Act) which provided the framework for the Department of the Environment and Heritage (DEH) to become actively involved where, in the opinion of the action Minister,[6] an environmentally significant action was being considered.[7] The EPIP Act (and the related memorandum of understanding between DEH and Defence) sets the parameters for Defence to assess the environmental impacts of its activities using Environmental Certificates of Compliance (ECCs). ECCs are discussed in Chapter 4.

2.4 From July 2000, the Commonwealth legislation governing the consideration of proposed environmentally significant actions will change. The EPIP Act, among others, will be repealed and replaced by the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). With the imminent introduction of the EPBC Act, Defence and DEH have established a joint working group to address application and transition issues associated with the EPIP and EPBC Acts and suggest actions to be taken by Defence. It is reasonable to expect that Defence environmental impact assessment procedures will be adapted to address the EPBC Act requirements. Nevertheless, it is likely that Defence's ECC environmental impact assessment processes will be maintained, but in a revised form.

2.5 Although the EPBC Act is an important change to Commonwealth environmental legislation, it does not of itself provide a comprehensive framework for the environmental management of Commonwealth properties. Relevant Departments must establish a suitable management system to operate within the revised legal requirements.

National Environment Protection Measures

2.6 National Environment Protection Measures (NEPMs) are broad framework-setting statutory instruments that outline agreed national objectives for protecting or managing particular aspects of the

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6 'action Minister' refers to the Minister of State for the Commonwealth responsible for the proposed action.

7 Or where the action Minister is satisfied that '*for other reasons it is desirable*' to implement the EPIP Act.

environment. Determination and promulgation of NEPMs is the responsibility of the National Environment Protection Council—a statutory body under the *National Environment Protection Council Act 1994* (NEPC Act) whose members are Ministers from each participating jurisdiction (Commonwealth, State and Territory Governments). Each jurisdiction decides for itself how it will implement the agreed NEPMs. The *National Environment Protection Measure (Implementation) Act 1998* (Cwth) addresses the implementation of NEPMs on Commonwealth land and for Commonwealth activities.

2.7 At the time of the original audit, the NEPC had only been recently established and had not determined NEPM development priorities. However, NEPC has now produced a number of NEPMs, two of which are particularly relevant to the environmental management of Commonwealth land:

- NEPM for the Assessment of Site Contamination; and
- NEPM for the National Pollutant Inventory (NPI).

NEPM for the Assessment of Site Contamination

2.8 This NEPM aims to establish a nationally consistent approach to the assessment of site contamination to ensure adequate protection of the environment and human health where site contamination has occurred. Environment Australia indicated that implementation of the NEPM in the Commonwealth will be by Ministerial directives to Commonwealth land managing entities. Therefore, Defence will be expected to operate in accordance with the NEPM's policy framework and guidelines, whenever it assesses site contamination on its estate.

NEPM for the National Pollutant Inventory

2.9 This NEPM aims to provide improved information on emissions entering the environment from industrial sites to assist better environmental management by Government, industry and the community. Since 1998–99, the NPI has collected detailed information on the type and amounts of certain pollutants for each reporting facility (as defined by the NEPM). It then presents the information for public access on a geographical information system on the Internet. Defence has a number of 'reporting facilities' and Environment Australia indicated that Defence is required to report, subject to any exemptions, to the relevant State or Territory EPA annually by the end of September each year. Defence indicated that it is currently determining its reporting obligations under the NEPM.

Commonwealth policy

2.10 The original audit noted the absence of a clear Commonwealth policy framework for the environmental management of Commonwealth land and recommended that the Commonwealth Environment Protection Agency (now Environment Australia) develop a policy proposal for Government consideration. Environment Australia indicated to the HoRSCERA inquiry that development of a policy should be delayed pending the development and implementation of the NEPM for the Assessment of Site Contamination (see above) which Environment Australia considered would form the major part of a Commonwealth policy. Nevertheless, the 1996–97 HoRSCERA inquiry recommended that Environment Australia be resourced to develop a Commonwealth policy on the environmental management of Commonwealth land, including site contamination and pollution prevention. In April 1999, the Government announced its agreement in principle with HoRSCERA's recommendations and had allocated an officer from Environment Australia to address it.

2.11 At the November 1997 meeting of the Council of Australian Governments, the Commonwealth expressed its commitment to taking additional steps to improve its compliance with State environment and planning legislation. Environment Australia indicated that a recent survey of Commonwealth portfolios has shown that there is a high level of compliance—with some exceptions. Environment Australia intends to develop a position paper for Ministers' consideration on implementing the Commonwealth's commitment to Council of Australian Governments.

2.12 In December 1999, Environment Australia sought its Minister's agreement to develop a formal Commonwealth policy on site contamination and have it in place by the time the NEPM for the Assessment of Site Contamination was implemented in April 2000. Environment Australia's proposal is still subject to consideration by the Minister. Nevertheless, the Government's implementation strategy for the NEPM by Commonwealth entities, dated March 2000, contains the beginnings of a Commonwealth policy on site contamination. The implementation strategy indicates that the Commonwealth is expected to prevent contamination, or further contamination of its sites.

2.13 The Commonwealth does not have a comprehensive coordinated policy on the environmental land management issues to guide Commonwealth land managing entities, including Defence, on these matters. However, there is some policy guidance for Commonwealth entities on the prevention of site contamination through the NEPM implementation strategy.

Environmental State/Territory Statutory and Common Law

2.14 The original audit noted that complex constitutional issues were involved in determining whether State/Territory laws applied to Commonwealth Places. A 1997 case in the High Court (the Henderson Case) clarified the law by deciding that, in most cases, the Commonwealth is not inherently immune from the application of State and Territory laws.[8] As a general principle, most environmental legislation will bind Defence. Nevertheless, the question of whether a State or Territory law actually binds Defence would depend on the particular facts of each situation.[9]

2.15 From a legal standpoint, it is important for Defence to appropriately manage (a) the environmental issues of its estate and (b) the permissible actions (or inactions) of its staff. Subject to the resolution of complex constitutional issues on a case-by-case basis, Defence (in the name of the Commonwealth) and its personnel may be subject to civil proceedings at common law for negligence, nuisance, trespass or breach of statutory duty. Environment Australia indicated that the joint Defence/Environment Australia working group is addressing how best to increase Defence's compliance with State environment and planning laws.

2.16 The demonstration of 'due diligence' is an important element in meeting Defence's legal responsibilities. The notion of 'due diligence' involves

> *taking sufficient precautions to avoid pollution or environmental harm that a court could conclude that the defendant was not at fault or negligent.*[10]

This point is well grounded in common law. A court would determine that an organisation had exercised 'due diligence' by examining whether it

> *had maintained an environmental assurance program which encompassed planning, training, monitoring, review and improvement; actively conducted environmental audits; and was developing an environmental assurance standard.*[11]

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8 The six majority judges agreed that the Commonwealth still enjoys inherent immunity from State and Territory laws, in some limited circumstances, such as the exercise of the Commonwealth's executive capacities. However, most environmental legislation would only affect activities and functions of the Commonwealth, not the Commonwealth's executive capacities (Source: Defence (2000), *Environmental Compliance Manual*).

9 Defence (2000), *Environmental Compliance Manual*, pp. 2, 3.

10 Bates (1995), *Environmental Law in Australia*, Butterworths, Sydney, p. 439.

11 *ibid.*, p. 441.

Conclusion

2.17 Progress has been made in the development of a comprehensive Commonwealth policy framework for environmental management of Commonwealth land since the original audit. Although there is a Commonwealth commitment to improve its compliance with State environmental laws, strategies and processes to implement this commitment are still being developed. A fully implemented EMS developed in accordance with ISO 14000 series standards offers the best means to effectively integrate applicable environmental legislation and policy considerations into an organisation's environmental management.

3. Defence's Environmental Management Framework

This chapter examines the extent to which the development of Defence's environmental management system framework is progressing in accordance with internationally accepted better practice.

Environmental Management System

Recommendation No.2 from the original audit: The ANAO recommends that land managing entities address pollution prevention, detection and remediation in accordance with best industry practice. A well-developed Environment Management System, such as that outlined in the summary of current better land management practice, may assist entities in this regard and provide a useful framework for the ANZECC/NHMRC Guidelines detailed in this report.

Defence response: Agreed.

3.1 In September 1996, Defence indicated to the HoRSCERA Inquiry that it was developing a corporate Environmental Management System (EMS) in accordance with the ISO 14000 series of voluntary standards. Defence engaged EMS development consultants for this purpose. ISO 14000 series standards outline the internationally accepted framework for managing organisations' environmental risks (see Appendix 1). As noted earlier, implementation of a corporate EMS is designed to satisfy management, financial and legal imperatives.

3.2 Aspects of the EMS completed to date since the EMS development consultants produced their Stage One and Two reports in December 1997 and June 1998, respectively, are:

- the establishment of the Defence Estate Organisation (DEO);
- the *Defence Environmental Policy Statement*;
- the *Environmental Compliance Manual*;
- the re-establishment of the Defence Environment and Energy Forum (DEEF); and
- consistent Environment Management Plan (EMP) preparation.

3.3 However, key areas of the EMS still outstanding include:

- the Defence Environment and Heritage Strategic Plan (DEHSP);
- an Environmental Training and Awareness Strategy;
- documentation of the EMS framework; and
- completion of the Environmental Management 'toolkit' for users.

This chapter discusses these developments.

3.4 Defence has made some important progress towards developing a corporate EMS framework in accordance with ISO 14000 series standards (and thus is in the process of implementing Recommendation 2 from the original report). However, after the sound preparatory work and direction provided by mid-1998, its development progress slowed significantly until late-1999. Other environmental priorities, including the establishment of the Defence Environment Panel, have delayed the development of Defence's EMS.

3.5 During the audit, the ANAO sought a timetable for the EMS's completion and implementation but Defence was unable to provide an authoritative one. Apart from the DEHSP, the outstanding EMS areas are not currently being addressed, although most are on Defence's agenda for implementation in the near future. DEO resources are directed primarily towards the imminent introduction of the EPBC Act and review of the Defence Environment Panel. Although these tasks are important, the lack of a timetable for the EMS's completion, in effect, puts it at a lower priority to other tasks that do contain deadlines. At the current rate of progress, the ANAO considers that it is unlikely that Defence's EMS (and thus Recommendation No.2 from the original audit) will be fully implemented until at least 2002–03.

3.6 Defence's environmental vision to *'…be a leader in environmental stewardship as an integral part of its activities'*[12] cannot be achieved until Defence fully implements its EMS. Incorporating the development of the EMS into an overall timetable covering environmental matters would help to ensure that it was viewed in that context and received an appropriate priority.

Management commitment

3.7 Organisational commitment to better practice environmental management is most important to the successful introduction and

[12] Defence (1998), *op. cit.*, p. 4.

integration of an EMS into an organisation's core business activities. The original audit recognised this and considered that Defence's environmental management would improve by centralising overall environmental management responsibility.

Recommendation No.5 from the original audit: The ANAO *recommends* that the Department of Defence nominate a Senior Executive Service officer with a sound appreciation of environmental management practices to:

(a) chair the Defence Environment Forum;

(b) have prime responsibility for portfolio-wide environmental coordination and policy as the major component of his/her duties; and

(c) have responsibility for focusing strategic, portfolio-wide environmental actions and reporting so as to raise the status and priority of environmental matters such as pollution prevention, detection and remediation as appropriate.

Defence response: Agreed

3.8 The ANAO has examined Defence's management commitment in terms of its:

- environmental management structure; and
- the Defence Environment and Energy Forum.

Environmental management structure in Defence

3.9 The original audit considered that an appropriate organisation structure is essential to properly manage environmental issues. The original audit found that Defence's environmental management structure was complex and confused. Responsibilities were spread throughout the military and civilian programs—at lower and middle management level. However, Defence's environment management structure changed as a result of the 1997 Defence Efficiency Review.

3.10 Defence's Facilities and Property Division was restructured as DEO, consolidating the overall responsibility for managing the Defence estate (including its environmental management issues) into one area. DEO is responsible for all Defence land, buildings and infrastructure assets. It manages the estate functions of investment, reinvestment, divestment, acquisition, leasing, environmental management and most repairs and maintenance. DEO operates from its head office in Canberra and nine regional estate centres throughout Australia. 'On the ground' environmental management of Defence's estate lies with 25 regional environmental officers (REOs).

3.11 The ANAO considers that the restructure of Defence's environmental management responsibilities provides a framework in which to manage environmental issues more consistently. Defence attributes the improvements in its environmental management in the past few years to the establishment of the DEO.

Defence Environment and Energy Forum

3.12 Overall environmental management responsibility now rests with the Head of DEO (ie. Head Defence Estate). The Head Defence Estate's environmental management role is assisted by the Defence Environment and Energy Forum (DEEF)—a body of Defence senior executives representing all Defence Groups, chaired by the Head Defence Estate. Although this satisfies the ANAO's recommendation to clarify environmental management responsibilities (No.5 from the original audit), the ANAO considers that the administrative effectiveness of DEEF could be improved by it meeting more frequently.

3.13 DEEF was established in 1996 at the time of the original audit to coordinate environmental activity across Defence. At the time, the ANAO supported this initiative because the absence of such a body had contributed to the low status and priority of environmental matters in Defence. After a three-year absence, DEEF reconvened in October 1999. (Defence indicated that its absence was due primarily to the Defence Efficiency Review and the resulting reorganisation of estate management in Defence.) DEEF's self-endorsed terms of reference give it both strategic and operational environmental management roles. These include:

- considering, endorsing and supporting implementation of Defence's environmental management policy (eg. corporate EMS development);
- reviewing the status, effectiveness and resource implications of Group and Portfolio environmental plans and initiatives; and
- considering, endorsing and reviewing progress with Defence environmental management works programs.

3.14 Defence indicated that DEEF will meet once a year, complemented by papers circulated to DEEF members out-of-session. The ANAO supports the environmental management support role that DEEF intends to undertake but considers that its role would be fulfilled in a more efficient, timely and thorough manner if it met more frequently than once a year. Key elements of Defence's EMS framework are currently being developed, particularly the DEHSP. This Plan will provide the direction and performance objectives for Defence's environmental management for the next few years (see below), but DEEF will not meet again before its implementation. DEEF's once-a-year review of the effectiveness of environmental initiatives and progress of environmental works programs may not be sufficiently timely to influence priorities

and budgetary allocations or cater for swift corrective action. DEEF's responsibilities cannot be easily fulfilled without more frequent face-to-face meetings.

Environmental policy

3.15 The original audit emphasised the importance of Defence establishing an environmental policy. Among other things, such a policy emphasises to Defence personnel and external stakeholders the importance of Defence's environmental management in the achievement of its broader corporate goals.

Recommendation No.3 from the original audit: The ANAO *recommends* that the Department of Defence, as a matter of priority, develop and implement an effective, departmental-wide environment policy instruction as part of the implementation of an environmental management system and systematic risk management, as suggested in the better practice guide in Appendix 2 [of the original audit report].

Defence response: Agreed.

3.16 Defence produced its *Defence Environmental Policy Statement* in mid-1998. The tone of the Policy Statement is best described by Defence's environmental vision which is '*Defence will be a leader in environmental stewardship as an integral part of its activities*'.[13] Appendix 2 lists Defence's environmental goals articulated in the Policy Statement.

3.17 The ANAO has examined the Policy Statement relative to current better practice and considers it to be clear and comprehensive in setting out Defence's policy position on its environmental management issues. It sets the parameters from which an appropriate EMS can be developed and implemented. Consequently, the ANAO considers that Defence has fully implemented Recommendation No.3 from the original audit.

Applicable environment laws and regulations

3.18 There is still some conjecture about how State and Territory environmental legislation applies to Defence. Nevertheless, Defence has committed itself through its Environmental Policy Statement to '*meet State and Territory environmental standards where relevant Commonwealth policy and standards do not exist or are less stringent*'.[14] The international standards guiding better practice organisations (ISO 14000 series standards) require '*an organisation to have some way to keep track of legal requirements that apply to the environmental aspects of its activities, products and services*'.[15]

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[13] *ibid.*, p. 4.

[14] *ibid.*, p. 5.

[15] Tibor T. (1996), *ISO 14000 A Guide to the New Environmental Management Standards*, Irwin Publishing, p. 57.

3.19 In January 2000, Defence completed its *Environmental Compliance Manual*. The Manual contains general summaries on current and, to the extent possible, imminent Commonwealth, State and Territory environmental legislation that may potentially be relevant to Defence operations and activities. The ANAO agrees with Defence that the development of the manual was a significant undertaking in terms of its corporate EMS development.

3.20 Defence understands the need to keep up-to-date on applicable environmental legislation but has concerns about the practicality of using the Manual to meet this goal. The ANAO suggests that Defence consider the costs and benefits of engaging one or more environmental law firms (for a set time period) to provide DEO with regular strategic and operational briefings/papers on changes to relevant Commonwealth and State/Territory environmental legislation and case law. DEO could then arrange for this information to be appropriately incorporated into Defence's EMS (via site Standing Orders, for example). The ANAO concluded that Defence is fully aware of its legal and legislative environmental management responsibilities within the context of its corporate EMS.

Environmental performance objectives and targets

3.21 As noted by one author involved in the development of ISO 14000 standards:

> *it is important to transform the environmental policy and those environmental aspects of the organisation's activities, products, and processes that have significant environmental impacts, into specific objectives and targets…[otherwise] the policy remains a set of vague generalities that are unlikely to make much difference.* [16]

3.22 This section discusses the extent to which Defence has integrated its environmental performance objectives with corporate priorities and determined appropriate performance indicators and targets.

Defence Environment and Heritage Strategic Plan

3.23 As noted earlier, development of the *Defence Environment and Heritage Strategic Plan* (DEHSP) is proceeding as part of the broader Defence EMS. The DEHSP, due for completion by mid-2000, is designed to provide a valuable link between Defence's Environmental Policy and

[16] *ibid.*

environmental management practice. It is expected to outline broadly the basis on which Defence intends to prioritise and direct its resources to estate environmental management issues over the next few years. The objectives of the DEHSP are to:

- ensure compliance with Defence EMS framework (based on ISO 14000 series);
- ensure satisfactory documentation through risk analysis;
- develop Defence wide performance targets;
- involve and commit regional/group personnel; and
- realise regulatory and public relations benefits through consultation.[17]

Appraising Defence's environmental risks

3.24 One of the tasks of the DEHSP is to prioritise Defence-wide environmental management issues, based in part, on an appraisal of environmental risks across the Defence estate. The ANAO agrees with the need for such an appraisal and the general approach being taken. However, it considers that the environmental risk information obtained exclusively through the DEHSP's development would be more valuable to Defence if its format was consistent with existing environmental risk information. To more easily compare and aggregate environmental risk information from various sources, Defence would need to resolve inconsistencies in the definition of risk issues and in its qualitative risk rating scales.

Integrating corporate priorities

3.25 An organisation needs to balance its 'core business' and other priorities with its environmental objectives and integrate them to achieve a consistent overall strategic direction.[18] Defence recognises this need and envisages that the DEHSP development process will achieve this integration. The following corporate priorities should be considered and their relative importance determined by Defence within the DEHSP:

- Combat readiness—Combat readiness is rightfully more important to Defence than environmental management. However, good environment management supports combat readiness by ensuring that certain key Defence training and other sites remain fit for purpose.

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[17] Tender documents for the DEHSP contract.

[18] Tibor, *op. cit.*

- Stakeholder influences—Defence operates in the community and must take into account the views and concerns of those who feel the environmental impact from Defence activities and facilities. Some Defence bases that were once in the fringes of metropolitan centres are now part of suburbia. This places additional pressure on Defence to strike an appropriate balance.
- Legislative compliance—To the extent that the various environmental laws of the Commonwealth, States or Territories apply to Defence, it is obliged to comply.
- Value for money—Value for money is the overriding principle governing Commonwealth procurement. Defence will need to consider the costs/benefits of the various remedial environmental works in terms of their impact on the environmental risk(s) they intend to address.

Performance indicators

3.26 It is expected that the DEHSP will include a range of output-based performance indicators to measure Defence's environmental performance. These indicators have yet to be determined. In this regard, the ANAO suggests that Defence consider using the output-based performance indicators recommended to Defence in June 1998 by its consultant engaged to develop its EMS framework.

3.27 Furthermore, the ANAO considers that one of the best means for Defence to demonstrate its effectiveness in estate environmental management is to assess the change in the estate's environmental risk profile over time. The aggregation of estate environmental risk information across Defence, as is planned under the DEHSP, would present a picture of Defence's environmental risk profile. The profile could then form a performance baseline from which management targets could be set and environmental performance measured over time.

Recommendation No.1

3.28 The ANAO *recommends* that, in order to demonstrate improved performance in environmental management, Defence:

(a) establish a baseline of its estate's current environmental risk profile by collating and aggregating the environmental risk ratings for its estate; and

(b) monitor and review changes to the estate's environmental risk profile over time.

Defence Response

3.29 Agreed.

Environmental Management Plans and Programs

3.30 Achievement of environmental goals requires organisations to develop and implement specific management programs. The programs may be issue-specific, such as improving stakeholder satisfaction with the organisation as a whole, or site-specific, such as managing a site's environmental risks through an environmental management plan (EMP).[19] The original audit also recognised the importance of EMPs.

Recommendation No.4(a) from the original audit: The ANAO *recommends* that the Department of Defence (where it has not already done so) commit to the introduction of integrated environment management plans (EMPs) by the end of 1997 for all sites with high-risk characteristics (ie. potential dangers to human health or serious damage to the environment, such as from off-site movement of contaminants) as identified in the internal Management Audit Branch review. These EMPs should be integrated into the Defence Management System and include quantitative performance indicators, review and reporting mechanisms.

Defence response: Agreed.

3.31 In response to the original audit, Defence agreed to introduce EMPs for all its high-risk sites[20] by the end of 1997. Since this time, Defence indicated that it has been developing these EMPs and that, by mid-1999, 80–90 EMPs or older Land Management Plans, representing a little over half of Defence's high-risk sites, were in place. In 1999–2000 Defence accelerated the development of EMPs (or reviews of older ones) for its high-risk sites by allocating $2.5 million for about 40 EMPs. The timing of the completion of EMPs for all Defence's high-risk sites depends on the funding allocated in the next few years. Therefore, the ANAO considers that progress has been made towards full implementation of Recommendation No.4(a) from the original audit, although at a much slower pace than originally agreed by Defence.

3.32 Defence has continually refined the Statement of Requirement for EMPs over time, which has led to improvements in the quality of EMPs as a management tool. Although EMPs have generally been sound technical 'manuals' on how to manage sites' environmental issues, environmental risk rating and prioritising was not necessarily a feature of EMPs developed before mid-1999. The ANAO considers that EMPs developed from 1999–2000 onwards, now explicitly and comprehensively rate and prioritise sites' environmental risks (using the Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999) as the basis).

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[19] *ibid.*

[20] 'High-risk sites' are those sites with one or more 'significant' environmental risks (with 'significant' being defined in Chapter 4).

3.33 The current Statement of Requirement now ensures that sites' environmental risks are scored and ranked. However, the value of EMPs would be further enhanced if EMPs presented:

- risk information more consistently including: (a) risk scoring method (preferably quantitative or a consistent qualitative categorisation scale), (b) potential and actual breaches of Commonwealth, State/Territory environmental legislation, and (c) a greater focus on environmental effects and improved linkages between environmental causes (eg. underground storage tanks) and effects (eg. groundwater contamination, soil contamination); and
- the costs/benefits of various alternative investment/expenditure strategies in terms of impacts on risk reduction and other environmental outcomes.

3.34 Under internal Defence budgetary arrangements, the ANAO was advised that funding for EMP development is forfeited unless spent and it is kept separate from funding for remedial environmental works (see Chapter 4). The ANAO considers that this funding division may lead to inefficient expenditure of resources. There is no incentive to stop funding for EMP development on sites with few significant environment risks (as the funding is forfeited) and it is not possible to redirect such funds to address higher environmental risks at other sites. During the audit the ANAO examined the environmental risk assessment of one site that identified only one significant environmental risk on the site. However, funding was directed towards assessing to greater depth three non-significant environment risks (at a cost of $19 000) and completing the EMP (a further $22 000).[21] The ANAO acknowledges that the separate pools of funding for EMP development and remedial environmental works are designed to ensure that resources are directed to both important areas. However, the ANAO considers that a better balance would be established by allowing for some flexibility in funding movements between the two pools so that the estate's highest environment risks are addressed first.

Environmental Management Information Systems

3.35 Open internal communication and documentation using an environmental management information system, which can include the results of EMS monitoring audits and management reviews, is critical to an effective EMS.[22] The original audit also recognised the importance of an environmental management information system (EMIS).

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[21] 'Significant' and 'non-significant' environmental risks are defined in Chapter 4.

[22] Tibor, *op. cit.*

Recommendation No.6(a) from the original audit: The ANAO *recommends* that the Department of Defence develop and maintain a management information system that will allow it to record and use site contamination information to improve environmental and financial performance. Recorded information could include, among other things:

- past uses of the site;
- whether contamination is suspected or confirmed;
- whether off-site leaching of contaminants is suspected or confirmed;
- the nature of the contamination or potential contamination; and
- the location or potential location of contaminants on the site.

Defence response: Agreed.

3.36 Defence indicated to the 1996–97 HoRSCERA inquiry that it would introduce an Environmental Management Information System (EMIS) to increase the capability of environmental managers to more efficiently implement its EMPs. Although Defence has two EMIS related systems under development, there is currently no functioning EMIS at Defence. Consequently, Defence has not implemented Recommendation No.6(a) from the original audit.

3.37 The first system under development, the Environmental Management Plan Establishment Database (EMPED), is a repository of environmental risk information taken from the DEO risk assessment questionnaires completed (by REOs) for most of Defence's high-risk sites in 1998 and 1999. (The questionnaires are discussed in greater depth in Chapter 4). EMPED is not in mainstream use due to data integrity and formatting problems and its potential usefulness as a risk management tool is diminishing as its data ages. Defence indicated that it intends to use EMPED to store data from some form of risk assessment questionnaires conducted regularly in the future. Should this be the case, EMPED could be a valuable tool for monitoring and reporting changes to Defence's environmental risk profile over time.

3.38 The second system, is a Geographical Information System (GIS) which Defence indicated will map environmental risks (including land contamination) at Defence sites by the end of 2000 and establish an index GIS library of relevant information. Defence is aware of the shortcomings of current information management and envisages integrating this system with the Defence Estate Management System (DEMS) by the end of 2001. DEMS is used more broadly in DEO, primarily for facilities maintenance purposes.

3.39 In the absence of any centrally-directed EMIS, the ANAO examined the means used by the regional offices to manage their environmental information. The ANAO found that the quality of records management in the regional offices varies greatly. Until recently, shortcomings included poor filing systems that may have led to relevant environmental risk information (such as the summary of site contamination issues at RAAF bases throughout Australia dated early 1998) not being taken into account in the environmental management of RAAF bases in some regions. The effect of record management shortcomings is further compounded by:

- poor hand-over procedures between REOs and between regional offices (as a result of the recent consolidation of DEO regional offices from 11 to 9); and
- REO positions left vacant for periods of between 6–12 months in some regional offices.

3.40 In addition, REOs acknowledge that there is considerable relevant information (including reports and activities) in Defence that could aid their environmental management of sites. However, in many cases, REOs do not become routinely aware of this information. This shortcoming is discussed in greater detail in Chapter 4.

3.41 The ANAO considers that a fully operational EMIS and better information management practices would allow DEO to better identify, rate, prioritise, review and address the environmental management risk issues of Defence's estate. Defence indicated that information awareness is currently being addressed as part of the development of its GIS.

Training awareness and competence

3.42 The ISO 14000 series of standards requires organisations to '*set up a procedure to identify training needs and make sure all personnel whose work may create a significant impact upon the environment receive appropriate training*'.[23] Moreover, the success of an EMS depends on employee commitment and competence, which the original audit recognised.

Recommendation No.4(c) from the original audit: The ANAO *recommends* that the Department of Defence (where it has not already done so) conduct a cost-effective training needs assessment across the portfolio to facilitate the development of training modules on environmental management procedures and objectives for relevant personnel.

Defence response: Agreed.

[23] *ibid.*, p. 63.

3.43 Defence indicated that as part of its EMS, it intends to develop an Environmental Training and Awareness Strategy. The first step of the strategy is to conduct a Defence-wide environmental training audit because little is known of current environmental training activities or skills of its staff. However, in response to Recommendation No.4(c) from the original audit, Defence stated to the Minister for Finance in 1996 and 1997 that Army, Navy and Air Force were reviewing or had reviewed their environmental management training. DEO indicated that it was not aware of these reviews nor could the Services provide DEO with any documentation associated with them. As a result, the ANAO is unable to verify that Defence has implemented Recommendation No.4(c) from the original audit.

EMS performance and benchmarking

3.44 The ISO 14000 series indicates that the first basic element of EMS checking and corrective action is the recording of information to track performance, operational controls, and conformance with objectives and targets, ie. undertake environmental performance evaluations, including benchmarking.[24] The original audit also recognised the importance of environmental performance benchmarking.

Recommendation No.6(b) from the original audit: The ANAO *recommends* that the Department of Defence, in consultation with other Commonwealth Contaminated Sites Steering Group members, progressively introduce benchmarking of environmental performance to enable the Department to keep pace with developments in best practice both across the Commonwealth and in relation to private industry best practice.

Defence response: Agreed in principle. Defence considered that it would keep abreast of best industry practice by the work it or its environmental consultants undertake.

3.45 The original audit considered that Defence should communicate regularly with other Commonwealth Land Managers, including the Department of Finance and Administration (DOFA) (which now manage the bulk of the non-Defence estate) on best practice environmental management. Work done by DOFA to manage its land-related environmental issues, including the development of a comprehensive environmental risk assessment of its entire Industrial and Special Purpose estate, may be of interest and relevance to Defence. However, communication between Defence and DOFA on environmental management issues is rare and ad-hoc.

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[24] *ibid.*, p. 71.

3.46 Defence is currently developing output and outcome-based environmental performance indicators and related targets as part of the DEHSP. Consequently, it is not possible at this time for Defence to implement the ANAO's recommendation to benchmark its environmental performance (No.6(b) from the original audit). However, it is currently possible for Defence to benchmark its corporate EMS against industry better practice (based on ISO 14000) and also against the EMSs of similar Defence organisations in the United States (see below), Canada and Britain.

3.47 Defence indicated that environmental ideas and information are already exchanged with its US and Canadian counterparts through the Trilateral on Environmental Security Cooperation. Defence also indicated that its good environmental practices have been well recognised at sites such as the Shoalwater Bay Training Area (Central Queensland), Holsworthy Army Base (Sydney), Canungra Army Base (South-East Queensland) and Puckapunyal Army Base (North of Melbourne).

3.48 Benchmarking is an important process as it indicates performance relative to world leaders in EMS (and industry better practice). This should be particularly important for Defence given its environmental vision to '*... be a leader in environmental stewardship ...*'.[25] The U.S. Environmental Protection Agency recognises the value of benchmarking as a driver for improving EMS performance and has published EMS benchmarking results of U.S. Federal Agencies which includes U.S. Defense.[26] Once Defence has developed its performance indicators, it should consider benchmarking its environmental performance against appropriate organisations, such as those listed above, and other Commonwealth land managing entities.

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[25] Defence (1998), *op. cit.*, p. 4.

[26] The United States Environmental Protection Agency has developed a Code of Environmental Management Principles (CEMP) and benchmarks Federal agencies (including Defense) using a Generic Protocol for Conducting Environmental Audits of Federal Agencies (available at: http://es.epa.gov/oeca/fedfac/complian/mainintro.html).

Recommendation No.2

3.49 The ANAO *recommends* that, in order for Defence to determine progress towards the achievement of its environmental vision, Defence regularly review its EMS and environmental performance (to the extent relevant and possible) against:

(a) national and State/Territory standards and practices including relevant International Organization for Standardization (ISO), National Environment Protection Measures and national guidelines (including water quality); and

(b) other organisations, including the U.S. Department of Defense.

Defence response

3.50 Agreed.

4. Management of Defence's Environmental Risks

This chapter examines the extent to which Defence identifies and prioritises its estate's environment risks, allocates its resources accordingly and monitors and reports its environmental performance over time.

Introduction

4.1 There are many more calls on Defence resources than can be met by the Defence budget. Therefore an appropriate environmental management strategy is to apply risk management principles to maximise the benefit to Defence's environment within the limit of available resources.

4.2 The process of environmental risk management is the same as the process for managing mainstream business risks. The first step is to identify, rate and prioritise the environmental risks facing Defence's estate. The second step is to allocate available resources to addressing the estate's highest environmental risks, within the context of corporate priorities (see *Environmental Performance Objectives and Targets* in Chapter 3). The third step is to monitor and report on the impact of allocated resources and other environmentally related activities on the estate's environmental risks (by re-rating the estate's environmental risks over time) and proceed to the first step again (the continuous improvement cycle). This Chapter is structured according to the risk management steps outlined above.

Identifying and prioritising environmental risks

4.3 This section reports the extent and means through which Defence have identified and prioritised its estate's environmental risks. It also examines the extent to which Defence has implemented recommendations from the original audit related to particular environmental risks.

Recommendation No.4(b) from the original audit: The ANAO *recommends* that the Department of Defence (where it has not already done so) dispose of hazardous material according to recognised best practice …

Defence response: Agreed.

Recommendation No.6(c) from the original audit: The ANAO *recommends* that the Department of Defence introduce regular, independent environmental audits of high-risk sites, such as those conducted by the Management Audit Branch, every two to three years.

Defence response: Agreed in principle. Defence was concerned about the resource implications of implementing recommendation 6(c). Defence also indicated that the Services had recently undertaken pollution audits of their sites in all States and Territories.

Recommendation No.15 from the original audit: The ANAO *recommends* that the Commonwealth land managing entities and their tenants have full regard to State and Territory environmental regulations:

(a) where practicable, to prevent pollution; and

(b) as soon as off-site contamination/pollution or unacceptable human health risks are suspected or identified.

Defence response: Agreed.

Rating sites' environmental risks

4.4 Defence estimates that, of its 400 or so sites, about 160 (40 per cent) could be classified as high-risk sites (ie. sites with one or more 'significant' environment risks). Of all the high-risk Defence sites, Defence has explicitly rated and prioritised the environmental risks of about 110 sites (or 70 per cent). Since 1998, Defence has instituted two systematic approaches to classifying and rating the significance of environmental risks on these sites. They are:

- DEO risk assessment questionnaires completed by REOs in 1998 and 1999; and
- environmental risk assessments conducted by Defence's environmental consultants as part of EMPs developed from mid-1999 onwards.

4.5 The ANAO has examined both approaches to evaluate whether they form a sufficiently accurate basis to allocate resources to the highest environmental risks. The ANAO concluded that although the earlier assessments were not as comprehensive and precise as the later ones, taken together, they provide reliable management information. If the later form of assessment is conducted regularly, as currently planned by Defence, the ANAO would be assured that Recommendation No.6(c) from the original audit has been implemented.

4.6 The Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999) was used as the basis for both of the above risk rating approaches. As illustrated in Figure 2, risks are rated according to a combination of (a) the likelihood of an event occurring (a 5–point scale) and (b) the consequence of an event occurring (another 5–point scale).

Figure 2

Risk rating matrix[a] applied by Defence to each environmental risk[b]

Consequence (Score)	*Likelihood (Score)*				
	Almost certain (5)	*Likely (4)*	*Moderate (3)*	*Unlikely (2)*	*Rare (1)*
Catastrophic (5)	25	20	15	10	5
Major (4)	20	16	12	8	4
Moderate (3)	15	12	9	6	3
Minor (2)	10	8	6	4	2
Insignificant (1)	5	4	3	2	1

a —Based on Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999).

b —Environmental risks are classified as 'significant' where their risk rating is 10 or greater (grey-shaded area above).

4.7 Defence classifies environmental risks as 'significant' where their risk rating is determined as 10 or greater (see grey-shaded area in Figure 2). The environmental risk profile of Defence's high-risk sites varies greatly. Some of the sites' greatest environmental risks are in the highest-range of significance (ie. risk ratings of between 15–20 and in some cases, 25), while other sites' greatest environmental risks are in low-range of significance (ie. risk ratings of between 10–12). Some sites have many significant environmental risks and others have only a few.

Sites without environmental risk ratings

4.8 About 50 high-risk Defence sites (30 per cent) have EMPs developed before mid-1999 or earlier Land Management Plans that are currently in operation. However, they do not necessarily explicitly rate or prioritise sites' environmental risks. Furthermore, in many cases, DEO risk assessment questionnaires were not completed for these sites. As a result, many of these high-risk Defence sites have little or no documented information upon which to determine the significance of their environmental risks (both in terms of 'absolute' significance ie. 'high', 'medium' etc. and significance relative to other environment risks on the sites or other sites). The ANAO considers that it will be most difficult for Defence to identify, prioritise and manage systemically these sites' highest environmental risks until such time as reviews of these EMPs or Land Management Plans are completed.

Compliance with State/Territory environmental legislation

4.9 There is still some conjecture over the applicability of State/Territory environmental legislation to Defence sites and facilities. Nevertheless, Defence committed itself through its 1998 Environment Policy Statement to, among other things, '*meet State and Territory environmental standards where relevant Commonwealth policy and standards do not exist or are less stringent*' (the 'good neighbour' policy).[27] Even prior to the release of this Policy Statement, Defence indicated to the ANAO and the HoRSCERA inquiry that it was already Defence practice to adopt a 'good neighbour' policy in relation to State/Territory environmental regulations.

4.10 However, these stated policies and practices contrast with actual practice. The environmental risk assessments conducted as part of Defence's 1999–2000 EMP development program identified much long-standing actual or potential non-compliance with State and Territory environmental legislation across nearly all environmental risk areas on all sites examined. In some cases, current management practices continue to not comply with State and Territory environmental legislation. Most of the actual or potential non-compliances are not related to Defence's training activities but involve:

- on-site dangerous goods/hazardous waste storage and management;
- on-site soil/groundwater contamination (eg. from poorly managed underground storage tanks);
- off-site discharge of contaminants (via air, surface water and groundwater);
- ecological issues (fire management, noxious weeds, feral pests, etc.); and
- lack of monitoring data and other documentation.

4.11 The impact or potential impact on the environment from the non-compliances with State/Territory legislation varies greatly. For example, substandard fire management procedures and substandard underground storage tank management usually score in the high-range of significant environmental risks (ie. a risk score of 15+). However, the disposal of cooking oils and fats into wastewater drains, while not complying with State environmental legislation, was considered a non-significant environmental risk by the consultants developing one site's EMP. In other cases, the lack of monitoring data and other documentation (a legislative non-compliance in itself), means that Defence is not aware

[27] Defence (1998), *op.cit.*, p. 9.

whether certain facilities are meeting environmental standards or not (eg. whether a Defence sewage plant is meeting State-imposed heavy metal concentration limits in its liquid waste discharge to the environment).

4.12 Compliance with relevant legislation forms a performance baseline within a comprehensive EMS, with 'better practice' organisations (which Defence indicates it wants to be) usually performing over and above legislative standards. Defence has established the policy and procedural framework but its practice does not satisfy the expectation arising from Defence's agreement with Recommendation Nos.4(b) and 15 from the original audit. Considerable improvement in regulatory compliance is required for Defence to achieve its environmental vision.

Environmental incidents and accidents

4.13 It is unrealistic to expect that all environmental incidents and accidents will be eliminated by a fully implemented, better practice EMS. However, a goal of a good EMS is to:

- minimise, to the extent practicable, the occurrence of environmental incidents and accidents that are reasonably foreseeable and/or preventable;
- learn from incidents and accidents; and
- reassess the sites' environmental risks related to the incidents and accidents after they occur.

4.14 In relation to Defence, the ANAO found that:

- REOs mostly became aware of environmental incidents and accidents indirectly (and then usually some time after the event)—thus creating a risk that some environmental incidents and accidents may not be brought to the attention of REOs at all;
- environmental incidents and accidents were mostly poorly documented or not documented by REOs; and
- there was little, if any, information on follow-up action taken (including remediation, determining the source and reason for the accident/incident, and measures incorporated to prevent such future incidents/accidents).

4.15 DEO indicated that it considers that environmental incidents and accidents occur infrequently. However, the risk assessments undertaken when EMPs are developed show that environmental incidents and accidents are more frequent than Defence generally acknowledges.

4.16 At the time of the audit, there was no clear, consistent visible system used by REOs to manage environmental incident and accident information. As a result, this information is not systemically taken into account when REOs are rating, prioritising and managing their sites' environmental risks. The ANAO considers that improved management of environmental incident and accident information by REOs and implementation of the ANAO recommendations and suggestions elsewhere in this report, will improve this situation. Defence indicated that environmental incident and accident information will be pursued within the framework of the EMS and subordinate DEHSP. During the audit, DEO established incident registers and a file for recording potential legislative breaches.

Resource allocation to environmental management issues

4.17 The original audit considered that Defence should allocate its resources to addressing its identified risks and remediate high-risk sites. As noted in Chapter 3, Defence needs to also balance and integrate its corporate priorities with its environmental objectives.

Recommendation No.4(b) from the original audit: The ANAO *recommends* that the Department of Defence (where it has not already done so) ... review its on-site disposal of hazardous materials and introduce a program to identify and remediate high-risk sites as soon as possible. Resource allocations should be linked to identified risks such as the degree of risk to human health and the potential for off-site movement of contaminants.

Defence response: Agreed.

4.18 Defence believes that it has balanced effectively its 'core business' and other priorities with its environmental objectives and has put in place a system that is more visible and defensible, than has existed in the past. The ANAO notes, however, that the strategy outlining the balance between, and integration of, Defence's corporate priorities and environmental objectives are still under development as part of the DEHSP. Consequently, the ANAO's examination focussed on the extent to which resources have been allocated to the estate's highest environmental risks as identified by Defence.

Categorising environmental management resource allocations

4.19 The ANAO has categorised Defence's allocation of resources to environmental management issues into four categories, each of which is discussed below:

- remedial environmental works;
- monitoring activities;
- works conducted elsewhere in Defence; and
- changes to management policies and practices.

Remedial environmental works

4.20 DEO is responsible for, and funded for, conducting remedial environmental works (eg. weed and feral pest management, remediation of old landfill sites) on Defence's estate. Apart from overseeing EMP development, most of the REOs' administrative effort is directed towards prioritising, planning and overseeing remedial environmental works. Every year each region lodges bids for specific environmental works projects, which are then vetted and approved by DEO Central Office subject to the limit of available funds.

4.21 Funding for remedial environmental works is illustrated in Figure 3. It shows that remedial environmental works funding relative to total DEO funding to the regional offices varies significantly over time—that is, 3.9 per cent in 1997–98, 5.1 per cent (1998–99), 4.1 per cent (1999–2000) and 5.6 per cent (2000–01). Although total DEO regional funding in 2000–01 decreased by 13.0 per cent over the previous year's funding, funding for remedial environmental works increased by 17.3 per cent.[28]

4.22 From 1999–2000, regional bids for most remedial environment works began to be prioritised according to a three-tier hierarchy established by DEO Central Office—with the greatest priority (Priority 1) '*to cater for legal and regulatory requirements, and for exercising duty of care and due diligence under common law*'.[29] Although Priority 1 bids in most cases met this criterion, so did many remedial environmental works bids classified as lower priorities (Priority 2 and 3). As funding for remedial environmental works was allocated only to Priority 1 works, many works to address legal compliance were not funded.

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[28] Funding allocations for 2000-01 are yet to be approved by Defence. Percentages involving 2000-01 funding are based on recommended allocations only.

[29] DEO (1999), Minute—*Additional Requirements for the FACOPs and Discretionary Items Bid for FY99/00*, p. 2.

Figure 3
Funding for remedial environmental works

Year		*Remedial environmental works*	*Total DEO funding to Regional offices*	*Percentage of DEO funding*
1997–98	Regional bids ($m)	n/a	n/a	n/a
	Allocation ($m)	9.0	228.7	3.9 %
	% of Bid	n/a	n/a	
1998–99	Regional bids ($m)	20.5	347.9	5.9 %
	Allocation ($m)	10.5	207.3	5.1 %
	% of Bid	51.2 %	60.0 %	
1999–2000	Regional bids ($m)	34.2	379.4	9.0 %
	Allocation ($m)	9.8	236.9	4.1 %
	% of Bid	28.7 %	62.4 %	
2000–01	Regional bids ($m)	20.0	255.8	7.8 %
	Allocation ($m)	11.5 [a]	206.0 [a]	5.6 %
	% of Bid	57.5 %	80.5 %	

Source: DEO.

a —Recommended funding allocations only. Funding allocations for 2000–01 are yet to be approved by Defence.

n/a —not available

4.23 The ANAO found that remedial environmental works are prioritised on a regional rather than a national, whole-of-Defence basis. As a consequence, funding is being directed to lesser environmental risks in some regions while higher risks in other regions are not funded. Furthermore, the ANAO found that at sites with few significant environmental risks there was a moderate to strong correlation between their highest environmental risks and the remedial works funded. However, at sites with a larger number of significant environmental risks, the correlation was much weaker. Consequently, a sizeable proportion of environmental works funding at the latter sites is directed towards either significant (but not the highest noted) environmental risks or non-significant environment risks.

4.24 Generally, the ANAO agreed with the REOs that documented environmental risk information was not used systematically to manage the environmental issues of the Defence estate. Regional environmental management was based more on a 'feel' for the issues and covering the 'basics' ie. particularly 'green' issues including vegetation management, fire management, noxious weeds and feral pests. The ANAO considers that this management approach resulted in certain 'brown' issues (including potential and actual soil and groundwater contamination and potential and actual off-site movement of contaminants) making up a large proportion of the highest environmental risks that have not been addressed. As a result, the ANAO considers that Defence has only partially implemented Recommendation No.4(b) from the original audit.

Monitoring activities

4.25 Monitoring an organisation's impact on the environment (by conducting, as appropriate, regular water quality testing, soil sampling and air emissions monitoring) is part of all better practice EMSs. However, it is not standard practice in Defence to undertake regular monitoring of its facilities'[30] impact on the environment. Managers of Defence facilities[31] do not regularly monitor environmental impacts. REOs sponsor little or no regular monitoring for many of the estate's high environmental risks, including risks that have no other management strategies in place. The REOs claim that this is due to lack of funding and the associated lower priority given to monitoring activities in Defence.

4.26 Defence acknowledge the monitoring shortcomings and indicated that it is currently considering quarantining some DEO funds for monitoring activities in the future. However, given the significant amount of non-compliance or potential non-compliance with State/Territory environmental legislation as it relates to on-going monitoring, it is doubtful whether sufficient funding could be allocated within DEO for this purpose. The ANAO considers that changes to management procedures and practices can provide a workable solution to the level of monitoring and review.

Works conducted elsewhere in Defence

4.27 In addition to the remedial works controlled by REOs, many areas in Defence conduct activities that have an impact (positive or negative) on the environment on Defence's estate (eg. revised waste disposal procedures, repair/replacement of sewage or stormwater drains, concreting parade grounds etc.). Information on these activities could be valuable to REOs so as to gain a better understanding of the environmental risks facing sites and to avoid unnecessary duplication of effort.

4.28 The REOs indicated consistently to the ANAO that they are not routinely made aware of nor, in some cases, are they inclined to seek potentially relevant environmentally-related information outside of the activities they control. This information includes:

- maintenance activities conducted by Defence Corporate Support;
- Environmental Certificates of Compliance (ECCs) for Training Areas (and the associated follow-up compliance checks);

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[30] ie. discrete areas within Defence sites that involve the storage, use or discharge of environmentally-sensitive substances (eg. sewage treatment plants, workshops, vehicle wash-down bays).

[31] ie. Defence personnel responsible for the day-to-day management of Defence facilities.

- Standing Orders for sites within their region;
- the Defence Safety Management Agency—internal and Comcare investigations into OH&S incidents and accidents, Comcare audit reports (about 40 or so per annum) that may also have environmental consequences; and
- environmental incidents and accident reports.

4.29 REOs generally become aware of relevant environmental information (such as that listed above) by observation or ad-hoc discussions with Defence personnel 'in the know'. The REOs consider that it is extremely difficult to keep themselves fully informed with relevant environmental information because of:

- the many sources of environmental information within DEO, the Services and other areas of Defence;
- their disparate locations;
- constantly changing personnel to deal with; and
- the number of sites REOs must manage.

4.30 Changes to management procedures and practices have been identified to address these problems.

Changes to management procedures and practices

4.31 The ANAO considers that changes to Defence's site management procedures and practices offers the most cost-effective solution to Defence's regulatory compliance shortcomings, poor collection and integration of environmentally-related information held throughout Defence and the lack of monitoring being undertaken.

Standing Orders

4.32 Defence has a number of Defence-wide and Service-specific instructions associated with the management of its environment. However, it is the site-specific Standing Orders that Defence personnel as a whole are most familiar with. Site Standing Orders form the instructions that all civilian and military personnel and contractors alike are expected to adhere to on Defence properties. Standing Orders are designed to cover all Defence facilities (eg. sewage treatment plants, workshops, vehicle wash-down bays) and training areas—by either containing detailed instructions themselves or through reference to other management documents. Any Defence-wide and Service-specific instructions associated with the management of the environment—including the contents of Defence's Environment Policy Statement—would be expected to be incorporated, as appropriate, into site-specific Standing Orders.

4.33 Defence Corporate Support (another Group in Defence outside DEO) is solely responsible for keeping Standing Orders up-to-date. Nevertheless, the ANAO, DEO and REOs agree that REOs should be consulted on the environmental management aspects of Standing Orders when they are being updated. However, REOs claimed that they are rarely given this opportunity. Further, many REOs also claimed that they have not read all relevant Standing Orders and that in some regions, Standing Orders are not readily accessible to them.

4.34 The ANAO examined a sample of Standing Orders and found that generally they did not deal adequately with environmental management matters. It is highly likely that many Standing Orders do not provide Defence personnel with suitable and sufficient guidance on the environmental management of their facilities. The ANAO considers that this is a significant cause of Defence's lack of compliance with State and Territory environmental legislation.

4.35 The site-specific environmental risks assessments and the resulting EMPs produced in Defence's EMP development program provide an excellent opportunity to correct shortcomings in site Standing Orders. These assessments identify environmental management problems and risks, including those related to current poor environmental management processes and procedures, that could be corrected by refining Standing Orders.

4.36 As the Defence Environment Policy Statement states that '*environmental management in Defence is the responsibility of all Defence personnel*',[32] the ANAO considers it appropriate for:

- DEO to liaise with Defence Corporate Support to ensure that appropriate environment management requirements (that at the very least would meet Commonwealth and State/Territory legislation) are incorporated (and kept up-to-date) for each Defence facility and training area; and
- facility managers (eg. sewage treatment plant managers and workshop managers) and training area managers to be accountable for the implementation of those environmental management requirements. Environmental management of areas of Defence estate that have no facility manager (eg. disused underground storage tanks) would be DEO's responsibility.

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[32] Defence (1998), *op. cit.*, p. 5.

4.37 Facilities managers and training area managers would be also responsible for:

- regular monitoring and documenting of the impact that facilities/ training activities are having on the on-site and off-site environment; and
- providing timely information to DEO in that respect.

4.38 Defence indicated that the ANAO's suggestions for Standing Orders will be pursued within the framework of the EMS and subordinate DEHSP.

Environmental Certificates of Compliance

4.39 Environmental Certificates of Compliance (ECCs) are the primary means through which Defence assesses its activities' impact on the environment and sets conditions which, if followed by the activities' proponents, should minimise or mitigate such impact. ECCs are used primarily in relation to site establishment, decommissioning or redevelopment activities (eg. facilities construction and demolition) and training area use. Although activity proponents first seek advice on the need for an ECC, development of ECC terms and conditions can be the responsibility of a number of different areas in Defence. Depending upon the type of activity, the following areas of Defence may be involved in developing ECCs:

- Project Delivery Office (in DEO Canberra) would most likely have responsibility for developing ECCs, with assistance from consultants, for site establishment, decommissioning or redevelopment activities;
- Training Area Management Authorities (TAMAs) within Defence have responsibility for establishing all ECCs on Defence training areas and ranges from July 1999 onwards. TAMAs include Defence Corporate Support, Maritime Headquarters, Naval Training Command, Headquarters Air Command, Headquarters Training Command—Air Force and Support Command Australia (Army); and
- REOs are generally responsible for developing all other ECCs.

4.40 The ANAO found that the quality of ECCs developed by REOs varied between regional offices, but was generally satisfactory. The better ECCs included a mini risk analysis and practical mitigation measures for proponents to implement. However, the ANAO considers that the overall quality of ECCs could be improved if they contained a reference to site Standing Orders (where the Standing Orders satisfactorily cover environmental management issues. Additional ECC requirements would take into account site condition at the time of the proposed activity (eg. sodden ground) and features unique to the proposed activity.

4.41 The REOs generally consider that they are not being informed of all environmentally significant activities being conducted on Defence's estate. Administrative oversight by the activities' proponents is the most likely explanation for such situations. Given the very few ECCs on REOs' files, the ANAO agrees that ECCs do not appear to be raised in all cases when they should be. As a consequence, there is an increased risk of damage to the environment.

4.42 The REOs are also concerned about the lack of information they receive on ECCs raised by TAMAs, despite some prompting of the TAMAs by REOs. Their concern is founded on the general lack of consultation between TAMAs and REOs on environmental matters and the knowledge that 'blanket' ECCs had not been established for any training area in at least one region by March 2000—some nine months after TAMAs took on responsibility for developing ECC. The ANAO considers that REOs should be provided with copies of all ECCs generated in Defence in relation to their region—no matter what their origin. This would give the REOs a more complete picture of the frequency and impact of Defence activities in their region so that they can better manage sites' environmental risks.

4.43 Although activity proponents are required to follow ECC conditions, the REOs indicated that most post-activity checks of compliance with ECCs developed by REOs are ad-hoc and rarely documented. Most of these checks are done by observation when passing the activity location on other business. A notable exception was an independent review of compliance with six ECCs conducted in one region. The ANAO considers the process for following-up on ECC compliance could be enhanced by requiring the proponent to report after the activity on the extent to which it was conducted in accordance with the ECC conditions (and specify any non-compliances). REOs/TAMAs could then develop a sampling program to test compliance that could be conducted by REOs/TAMAs or contractors. Defence indicated that there is an established process for monitoring ECC compliance but that it may not be fully adhered to in practice.

4.44 Defence indicated that the ANAO's suggestions for ECCs will be pursued within the framework of the EMS and subordinate DEHSP.

Recommendation No.3

4.45 The ANAO *recommends* that to improve the integration of environmental management as part of Defence's activities:

(a) DEO liaise with Defence Corporate Support to ensure that site-specific Standing Orders incorporate appropriate environmental management requirements (that meet Commonwealth and State/Territory environmental legislation) covering each Defence facility (eg. sewage treatment plants, workshops, vehicle wash-down bays) and training areas; and

(b) facility managers (ie. Defence personnel responsible for the day-to-day management of Defence facilities) and training area managers be accountable within their respective Groups for the implementation of environmental management requirements incorporated in Standing Orders.

Defence response

4.46 Agreed.

Recommendation No.4

4.47 The ANAO recommends that to better identify, prioritise and address the environmental risks of Defence's estate:

(a) facility managers and training area managers be required to provide timely information to DEO on:

(i) the extent to which the facilities and training areas have been operated in accordance with site-specific Standing Orders; and

(ii) any significant impact the facilities' operations and training activities may pose to the environment; and

(b) DEO integrate this and other environmental risk information held within Defence as a basis for allocating resources aimed at addressing the estate's highest environmental risks in accordance with corporate priorities.

Defence response

4.48 Agreed.

Environmental performance monitoring and reporting

4.49 Internal and external (public) environmental reporting is an important element of better practice environmental management as it delivers transparency, accountability and stakeholder dialogue.[33] The reporting of environmental performance relative to:

- an organisation's own environmental objectives and policy goals; and
- industry better practice;

is a critical driver in the continuous cycle of improvement and is vital to a successful EMS.

4.50 Defence's current internal performance reporting framework involves quarterly reports from the DEO regional offices to DEO Canberra that contain limited information on the regional offices' activities—ie. progress on developing EMPs and implementing environmental works (both activity-based performance measures). Defence's current external performance reporting of environmental matters is limited primarily to a description of Defence's progress in implementing its EMS.

4.51 Defence's internal and external reporting of its environmental performance has some way to go to meet better industry practice. As noted in Chapter 3, output and outcome-based environmental performance indicators and targets are currently being developed as part of the DEHSP. The ANAO considers that a subset of key environmental performance indicators and targets could be used as the basis to report Defence's environmental performance both internally and externally.

4.52 Better practice organisations have a strong commitment to outcome-based environmental performance reporting (eg. the U.S. Army which publishes a separate annual environment report). Useful guidance on better practice is also provided by the ISO Standards 14031 & 14032 relating to environmental performance evaluation and the Global Reporting Initiative.[34] Table 1 illustrates a sample of indicators and targets that the U.S. Defence Department reports publicly to demonstrate its environmental performance. The ANAO considers that Defence could learn much from such better practice organisations in terms of environmental performance reporting.

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[33] Natural Heritage Trust (2000) A Framework for Public Environmental Reporting—An Australian Approach (http://www.gov.au/epg/environet/eecp/publications.html).

[34] Convened by the Coalition for Environmentally Responsible Economies (CERES) and available at http://www.globalreporting.org with an example better practice report by Bristol-Myers Squibb Company and available at http://www.bms.com/EHS/sideba/data/ehsr99.pdf.

Table 1

U.S. Defence Performance Reporting

The United States Department of Defense uses various qualitative and quantitative management tools to establish environmental program goals and objectives. The U.S. Defense Department recognises the need to monitor and evaluate performance against these environmental performance indicators and also the importance of reporting this information. For example, U.S. Defense reported its goals of:

- meeting 100 per cent compliance with U.S. Environmental Protection Authority standards regarding underground storage tanks by December 1998 and that was fully achieved during 1999;
- environmentally restoring contaminated sites based on the principle of relative risk reduction, utilising a performance indicator comprising the number of sites in each relative risk category for each fiscal year;
- pollution prevention using a performance target of a 50 per cent reduction in toxic release compared to the 1994 baseline, by the end of 1999; and
- managing natural and cultural resources to ensure continued availability of military lands, by adopting a performance target of full development and implementation of management plans at all appropriate installations by financial year 2001 with annual performance reporting against this target.

Source: U.S. Department of Defense: Environmental Program Measures of Merit and Army Strategic Management Plan Objectives

5. Unexploded Ordnance Contamination on Non-Commonwealth Land

This chapter examines Defence's management of UXO contamination on non-Commonwealth land.

Introduction

5.1 Australian and Allied Defence Forces have used extensive areas of land throughout Australia for military training activities since the early 1900s. Much of the training (especially during World War II) was conducted on non-Commonwealth land and involved the use of explosive ordnance such as bombs, mortars and artillery, as well as live firing of small arms. Unexploded ordnance (UXO) refers to those items of ordnance that failed to explode on impact or have only partially functioned. Any residual explosive may still be sensitive and dangerous, many decades later.

5.2 The original audit noted that in many cases historical records of training sites used during World War II are incomplete or non-existent. That audit concluded that:

- it was unlikely that Defence had identified all UXO sites; and
- the risks of further injuries and fatalities would probably increase with continued urban encroachment on former World War II training areas, particularly in Queensland.

5.3 Since the original audit, Defence has identified a further 59 sites potentially contaminated by UXO—an increase of 5.5 per cent over four years. This brings the total number of sites on Defence's UXO Register to 1129 as at February 2000, including 418 in Queensland.[35] Defence indicated that UXO finds or exploded ordnance remnants are now the primary means used to identify previously unknown sites potentially contaminated by UXO.

5.4 The efficient and effective management of UXO contamination on non-Commonwealth land continues to be of great importance from a public safety perspective. The focus of the ANAO's examination of

[35] Sites vary in size. They may form part of single parcel of land or comprise hundreds of individual land parcels.

Defence's management of UXO is Queensland, due to the heightened risks in that State.

5.5 This chapter examines, within the context of current Commonwealth UXO Policy, the means Defence uses to prioritise, assess, resource, manage information and report publicly on its activities to reduce the hazards associated with UXO contamination on non-Commonwealth land.

Commonwealth UXO policy

5.6 As noted in the original audit, the *Commonwealth Policy on the Management of Land Affected by Unexploded Ordnance* specifies measures that Defence will take to identify and minimise UXO hazards including:

- maintain a comprehensive record of sites confirmed as, or suspected of being contaminated by UXO;
- seek to influence development and zoning proposals of UXO affected land through consultation;
- render safe UXO reported on request;
- seek to inform the public where it knows of dangers considered to have arisen from particular UXO contamination;
- take all reasonable steps to prevent unauthorised access to areas controlled by it that are believed to be contaminated by UXO; and
- provide to other authorities or individuals, technical advice on the hazards associated with UXO.

5.7 The Commonwealth UXO policy does not extend to site remediation activities or certification that sites are clear of UXO.

5.8 In May 1999, the Government amended its UXO policy. The Commonwealth may now, subject to the satisfaction of certain conditions, indemnify landowners/occupiers for claims made against them for personal injury and/or property damage from the detonation of UXO or such injury or damage suffered by themselves. Defence indicated that, as at February 2000, no indemnity claims had been lodged with Defence.

UXO assessment priorities and progress

5.9 The original audit stressed the need for more systematic risk management and clearer criteria for setting priorities to implement current UXO Policy. The HoRSCERA inquiry supported the ANAO's position and recommended that Defence develop a program to identify and assess UXO contamination.

Recommendation No.7(b) and (c) from the original audit: The ANAO *recommends* that the Department of Defence:

(b) develop strategic and operational plans for dealing with UXO issues that set site assessment priorities based on appropriate criteria, allocate sufficient resources and include timetables for completion; and

(c) develop and finalise administrative procedures with State jurisdictions for site assessments and agreed hazard reduction operations.

Defence response: Agreed in principle.

Assessment progress

5.10 Most of Defence's UXO resource effort is directed towards the production of assessment reports for sites potentially contaminated by UXO. The assessments involve desktop studies of historical information to identify ordnance impact zones, one or more visual site inspections and perhaps magnetometer surveys.

5.11 Since the original audit, Defence has identified a further fifteen sites in Queensland potentially contaminated by UXO—including one site heavily contaminated by UXO in an area developed for residential use within the last decade. Of the 418 currently known sites potentially contaminated by UXO in Queensland, Defence estimates that about 120 sites require a detailed site assessment. At the time of the original audit, two assessments had been completed and another five were in draft form. In the four years since the original audit, Defence has completed 16 site assessments in Queensland. The quality and depth of these assessments satisfy the requirements of stakeholders including the Queensland Environmental Protection Agency (QEPA) and local government authorities. The ANAO considers that, in respect of the sites assessed, the assessments meet Defence's responsibilities to influence development on sites potentially contaminated by UXO and inform the public of the dangers of particular UXO contamination.

5.12 According to Defence, unless new information is forthcoming, action on the 300 or so sites that do not require detailed site assessments is likely to be limited to advice to QEPA and relevant local government authorities that:

- the sites were gazetted for military use;
- no other information is available; and
- site examinations, where conducted, revealed nothing of note.

5.13 Past public relations efforts (including school visits and posting material in National Park Headquarters) have not been well structured or systematic. Consequently, the benefits of public relations campaigns have not been maximised. To establish a coordinated public awareness strategy involving schools, State government agencies and other target groups (bushwalkers, trailbikers, tourists etc.), Defence, with the assistance from Central Queensland University, conducted a pilot survey into UXO awareness in one UXO-contaminated region of Queensland in early-May 2000. The ANAO supports the development of a well-targeted and structured strategy to make the public aware of the dangers associated with UXO.

Assessment priorities

5.14 Defence does not have formal documented strategic and operational plans to manage UXO issues. Defence's priorities for UXO site assessments during 1999 were instead based on a combination of the documented priorities of QEPA and the (undocumented) views of Defence's UXO Project Officer in Queensland. Although UXO assessments on QEPA's priority sites for 1999 had been substantially completed by February 2000, no official timetables for their assessment had been set in advance. Defence's current UXO management practices do not satisfy the expectation arising from Defence's agreement in principle with Recommendation No.7(b) from the original audit. The ANAO considers that documented strategic and operational plans for Defence's UXO program would enhance the transparency of the program and, consequently, Defence's accountability for implementing Commonwealth UXO policy.

5.15 QEPA's input into Defence's site assessment priorities is of great value as QEPA is in close contact with, and can weigh up the needs of, the various stakeholders (including local government authorities) across the State. However, when Defence sought QEPA' priorities in late 1999 for future UXO site assessments QEPA advised that it:

- considered site prioritisation to be the responsibility of the Commonwealth and other parties and QEPA would have no further involvement in this process;
- would pass on UXO site assessment reports prepared by Defence to the local governments concerned but would make no attempt to interpret and translate them into definitive management advice for local governments and landowners/occupiers; and
- would no longer liaise formally with local government on UXO related areas and all queries and requests for advice from local government would be referred to Defence.

5.16 QEPA indicated that its role in the prioritisation of sites for UXO assessment was only ever an informal arrangement at officer level that did not reflect any formal commitment between Defence and QEPA. In future, QEPA intends to limit its role and responsibilities to that included in the Memorandum of Understanding on the management of UXO in Queensland between Defence and QEPA (below).

5.17 The ANAO considers that Defence's management of UXO in Queensland will be affected by QEPA's decision not to continue to provide advice on UXO site assessment priorities. Defence will have to determine priorities for future UXO site assessments by itself, although it does not have ready access to some of the information necessary to make appropriate prioritisation decisions (eg. statistics on urban growth areas, rezoning applications, etc.). Defence will need to take on the added responsibility of liaising closely with various Queensland government departments and local government authorities to determine UXO site assessment priorities. Defence can also expect a greater number of queries and requests for advice on UXO matters from local governments and landowners/occupiers. As a result, the ANAO considers that Defence will need to allocate more resources to the UXO Project in Queensland just to maintain the current UXO site assessment rate into the future.

Memorandum of Understanding

5.18 Defence has been liaising with the QEPA to develop a Memorandum of Understanding on the management of UXO in Queensland. The draft Memorandum of Understanding outlines the roles and responsibilities of Defence and QEPA including, among other things, regular and mutual exchange of relevant information. Defence and QEPA indicated that the Memorandum of Understanding is close to finalisation. The ANAO considers that once it has been agreed, Defence will have implemented Recommendation No.7(c) from the original audit with respect to Queensland.

Defence resources allocated to UXO management

5.19 The original audit noted an estimate from Defence that at current resource levels it would take more than 20 years to complete assessment reports on all currently-known UXO sites in Queensland. At that time the ANAO concluded that Defence resources devoted to achieving the Commonwealth's UXO policy objectives were inadequate for this to be accomplished in a reasonable timeframe. The HoRSCERA Inquiry strongly supported the ANAO's position and recommended that Defence allocate more resources to carry out UXO site assessments.

Recommendation No.7(a) from the original audit: The ANAO *recommends* that the Department of Defence review the priority given to addressing UXO contamination on non-Commonwealth land.

Defence response: Agreed in principle.

5.20 To address Recommendation No.7(a) from the original audit, Defence assessed the resources it allocated to UXO contamination on non-Commonwealth land. In June 1997, the resource assessment recommended that Defence:

- increase manning in the Queensland UXO Project Office by two people (one Sergeant/Warrant Officer and one Administrative Service Officer Grade 3);
- engage consultants to develop a risk analysis strategy ($50 000 budget), and
- develop a National Public Relations Strategy to inform the public of the Commonwealth's policy and the dangers of handling UXO.

5.21 Defence could not provide the ANAO with documentation on Defence's agreement or otherwise to the resource assessment recommendations. However, the Queensland UXO Project Office indicated that the recommendations were not implemented. Nevertheless, in 1999 the Queensland UXO Project Officer gained the services of one full-time Staff Sergeant until the end of 1999–2000. Defence is currently considering appointing a contractor to act as full-time support to the Queensland UXO Project Office.

5.22 Since the original audit, Defence has increased the resources it allocates to contractors to conduct site assessments (from $15 000 to $50 000 per annum). With this level of resources, the ANAO estimates that it would still take Defence some 20 years to complete the Queensland UXO program. Annual contractor resources would need to more than double again in the future to meet the UXO Project Officer's goal of conducting 10 site assessments each year. (In the last four years, Defence has conducted an average of four site assessments per year). Even at this rate it will take another 10 years to finalise UXO site assessments in Queensland. Defence indicated that from 2000–01, funding to contractors will increase beyond the current level of $50 000 per annum. At the time of the audit a final allocation of resources had not been made.

5.23 Defence indicated that it has recently established accreditation of UXO contractors and consultants and intends to move to a panel arrangement for UXO services. Defence contends that this initiative, together with increased financial resources, will accelerate the program of assessments in Queensland.

5.24 In total, Defence resources allocated each year to UXO management in Queensland have increased by one temporary staff member and some $35 000 in contractor funding since the original audit. However, the temporary staffing increase in Queensland is countered by the closure of the NSW UXO Project Office—with the loss of one full-time Major. As was the case at the time of the original audit, management of UXO issues in the other States and Territories is still the responsibility of Central Office in Canberra. Overall, there has been a modest increase in Defence resources allocated to UXO management throughout Australia, with the prospect of an increase in contractor resources in Queensland from 2000–01. Although this satisfies the HoRSCERA Inquiry's recommendation, the ANAO estimates that it will still be at least 10 years before the UXO program is completed.

Information management

5.25 Defence indicated that no civilian deaths or injuries related to UXO contamination on Commonwealth or non-Commonwealth land have been reported since the original audit. Defence, however, is aware of a few potentially dangerous UXO incidents involving civilians from anecdotal evidence obtained primarily during site surveys.

5.26 Defence does not maintain a consolidated record of the assessment status (eg. complete/underway/planned, etc.) of each UXO site in Queensland. As a result, it is very difficult to get a complete picture as to the progress of UXO program in Queensland. It also creates inefficiencies when the occupant of the UXO Project Officer position changes. This occurs every 2–3 years. The current Queensland UXO Project Officer indicated that it took him many months to become familiar with UXO issues across Queensland. During the audit, Defence indicated that it will include in the UXO database a record of the assessment status of each site. The ANAO considers that this measure will improve the timeliness and overall management by Defence of UXO on non-Commonwealth land.

Performance reporting

5.27 In 1997, the HoRSCERA Inquiry recommended, and the Government agreed, that Defence would include in its annual report a statement of the progress made in implementing the UXO program. The ANAO considers that the statement included in Defence's 1996–97 Annual Report provided little real information on the progress made by Defence to implement the UXO program.

5.28 Progress towards implementing the UXO program has not been mentioned in subsequent Defence annual reports. Defence indicated that it considered that HoRSCERA's recommendation applied only to the next annual report and not to subsequent annual reports. The ANAO considers that Defence should report annually on the progress of implementing the UXO program along the lines recommended by the ANAO. This would enable Parliament to assess the rate of progress being made nationally by Defence in addressing the risks posed by UXO.

Recommendation No.5

5.29 The ANAO *recommends* that to improve Defence's accountability for Commonwealth UXO policy and the management of UXO contamination on non-Commonwealth land, Defence:

(a) develop risk-based strategic and operational plans for the UXO site assessment program in consultation with the States/Territories;

(b) review the priority and the resources allocated to addressing UXO contamination on non-Commonwealth land with a view to a more timely completion of Defence's UXO site assessment program; and

(c) report annually to Parliament on the progress of implementing its UXO program against its strategic and operational plans including:

  (i) quantitative statistics on the number of significant UXO sites in each State/Territory;

  (ii) the number of sites assessed during the reporting period;

  (iii) on an exception basis, the number of civilian injuries from UXO during the reporting period; and

  (iv) an indication of when Defence is likely to complete its program of detailed assessments of significant sites.

Defence response

5.30 Agreed.

Canberra, A.C.T.
31 July 2000

P.J.Barrett
Auditor-General

Appendices

Appendix 1

Better practice environmental management

Industry better practice in environmental management has broadened its focus from quality standards on specific issues such as site contamination and pollution control to a more process orientated whole-of-organisation environmental management system (EMS) approach. The attainment of environmental performance goals, such as compliance with quality and regulatory environmental standards, is an EMS component although the focus is on the process of continually improving environmental performance and risk management.[36] Integration of the EMS with other business systems allows environmental performance to be achieved as part of the overall strategic direction and objectives of an organisation.

These above-mentioned trends in environmental management have been used and refined by some of the world's leading companies as well as codified into various guidelines and standards. For Australian organisations seeking to implement better practice, the most important of these include the International Organization for Standardization (ISO) 14000 series on EMS, the Global Reporting Initiative on Sustainability Reporting Guidelines and the Australian and New Zealand Risk Management Standard (AS/NZS 4360:1999).

The overall objectives of an ISO 14000-based EMS are to:

- increase the organisation's knowledge of its own sites and activities;
- monitor and improve environmental performance;
- assist better management;
- ensure compliance with legislation;
- assess compliance with corporate policy;
- identify and control a specific problem;
- educate and motivate the workforce;
- demonstrate commitment of management to environmental performance;
- reduce costs; and
- identify and minimise future potential liabilities.[37]

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[36] Tibor, *op. cit*.

[37] Renger M. and Nathanson N. (1992), *Environmental Audit*, The Institute of Chartered Accountants in England and Wales, p. 46.

The five key elements of an ISO 14000 EMS which underpin the continuous cycle of improvement are described below with a framework model illustrated at Figure 1 in Chapter 1 of this report.[38]

1. Management Commitment and Environmental Policy

The most senior level of the organisation should:

- commit to a specific level of environmental performance appropriate to its activities, products and services;
- issue a policy statement that includes a commitment to pollution prevention and continuous improvement; and
- set objectives and targets within its policy statement that commit it to meeting environmental legislative and regulatory requirements.

2. Planning

The organisation should establish and maintain processes which:

- identify, evaluate and manage environmental aspects and impacts;
- identify legal, regulatory and internal policy requirements;
- identify environmental performance objectives and targets; and
- identify EMPs and programs to achieve stated objectives and targets.

3. Implementation Operations

To effectively implement an EMS an organisation should:

- define, document, and communicate the organisational structure as well as the roles, responsibilities, and authority of all participants;
- supply adequate resources (human, technological and financial), training and skills including a senior manager overseeing implementation;
- establish a system to communicate both internally and externally the requirements and expectations imposed by the EMS, including a mechanism to receive and act on comments from outside parties;
- document and record performance expectations and operating procedures, with adequate control and archival procedures, which should also be available for inspection;

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[38] Nestel G.K et al (1996), *The Road to ISO 14000*, Times Mirror Higher Education Group, pp. 34–39.

- establish operational controls that identify, plan, implement, and maintain environmental requirements and procedures. The plan should integrate these activities into day-to-day business operations and expectations that are consistent with the company's environmental policies and objectives; and
- establish an adequate emergency preparedness and response program and periodically test it for effectiveness.

4. Checking and Corrective Action

The continuous improvement process requires measuring and evaluating implementation performance and effectiveness, which includes:

- monitoring the effectiveness of environmental management activities;
- correcting and preventing areas of non-conformance;
- maintaining training, auditing, and review records; and
- performing environmental management system audits.

5. Management Review

Senior management must periodically review the environmental management system to ensure its adequacy and effectiveness. Any non-conformance must be corrected and preventive action taken. Management review is an integral aspect of the continuous cycle of improving the EMS.

Appendix 2

Defence's environmental goals

- Manage the environment responsibly
- Conduct comprehensive environment impact assessments
- Comply with environment legislation and policy obligations
- Conserve and manage renewable and non-renewable resources
- Conserve Australia's natural and cultural resources
- Conserve energy
- Minimise waste
- Control pollution
- Minimise and remediate contaminated sites
- Consult effectively with the community
- Incorporate environmental considerations into purchase and procurement procedures
- Minimise environmental impacts associated with military operations and training
- Incorporate environmental assessment into land disposal procedures
- Conduct comprehensive environmental education and training for Defence personnel

Source: Defence (1998), *Defence Environment Policy Statement*, p. 5.

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