AMQ International

Strategic Asset Management

Issue 41, July 28 2000

**"If you want to do well, look to the best practice within your own industry
But If you want to *EXCEL* – look and *ADAPT* practices *OUTSIDE* your industry!"**

This issue on **Defence Estate Management** is the first in a new, occasional series looking at asset management practices within an individual industry. *Coming up in the next 12 months will be a round up of the practices in Education, Housing and Health amongst others.*

Industry Special:
Managing the Defence Estate

In this issue we look at the three top questions on any asset manager's list: - and how they are managed in a high profile, strategic and constantly changing environment. – together with a number of templates and proformas that you can adapt for your own use.

- **Efficiency**
  - the works prioritisation processes of Defence
- **Effectiveness**
  - the use of life cycle costing in forward budgeting
- **Economy**
  - *the Comprehensive Maintenance Contracts, part of a suite of contracts developed within Defence.*

Contributors and Review Panel for this Issue

Brian Lane,
Assistant Secretary
Estate Operations and Planning, DEO

Bob Baird,
Director
Business Practices, DEO

Owen Hammond,
Director of
Estate Operations, DEO

Kitty Marminidis,
Manager, DEO Victoria/ Tasmania

Brett Jorgensen,
Property Management, DEO

Researched and written by Dr Penny Burns, AMQ International.
Published fortnightly. Subscription, Comment, or Inquiries to

AMQ Intenational
PO Box 75 Salisbury South Australia
Tel 618 8258 4342 Fax 618 8281 5795
Email: sam@amqi.com

Background

Things are changing in Australian Defence. A current review of Defence is looking at such questions as "What do we want our armed forces to be able to do?" "Where do we want our forces to be able to operate?" " What is the best way to structure the Defence Force?" And "What is the best way to spend the Defence Budget?"

When the answers to the current inquiry are available, there may yet be more changes in store for the Defence Estate Organisation, which has the responsibility for ensuring the facility support for administration and training, and the infrastructure support for weapons and equipment.

"The Defence Estate Organisation (DEO) was established on 1 July 1997 and, apart from assets administered by the Defence Housing Authority, has responsibility for all Defence buildings, property and infrastructure assets.

The DEO has a simple two-level management structure consisting of a central office containing corporate co-ordination, acquisition, property management, strategic and operational estate planning and operations functions and nine (9) Defence Estate regional offices responsible for the management and delivery of estate services to the Defence establishments."

Considerable streamlining and downsizing has occurred in the past three years. While not all of the advantages foreseen from the amalgamation of the estate have yet been achieved, many of the techniques used by DEO will be of interest to asset managers in other industries.

Part 1: Works Prioritisation

Managing the Defence Estate is a big job.

The Department of Defence, through the Defence Estate Organisation (DEO), manages the largest Commonwealth property portfolio and the largest program of Commonwealth funded works. DEO plays a significant role in providing inputs to Commonwealth procurement policies as well as their subsequent implementation.

In general terms, the Defence Estate Organisation currently comprises:

- Almost 400 owned properties;
- 300 leased properties (113,606 sqm);
- 3 million hectares of land (primarily training areas);
- 25,000 facilities (166,262 sqm of office floor space); and
- $14.5 billion in assets based on a deprival value methodology.

The DEO currently operates an annual estate budget of around $556 million, comprising $350 million for capital facilities investment and $206 million for facilities operations functions. Facilities Operations (FACOPS) inclusive of maintenance funding levels have declined from $320 million per annum (in 1990/91) to $206 million (in 2000/1). With the dynamically changing organisational arrangements, the original design use of many assets has been superseded. The building amenity and utilisation of space requirements have changed and the technical complexity of many buildings has increased. The estate has continued to grow at approximately $300 million per annum.

Current budgets may reflect historical positions rather than real current need

In many cases, current FACOPS budgets have been developed over many years in a historical sense. These budgets do not reflect the real needs of the assets and equipment, but in fact reflect issues such as:

- the past viability of the business;
- the skill of Base Commanders to direct money into certain areas;
- the degree of interest shown in maintenance versus operations; and
- the degree to which key maintenance cost drivers has been addressed.

Real budget needs are driven by:

- capacity failure due to the increased demand or higher levels of service;
- system failures due to old age of assets;
- system failures due to reliability issues; and
- cost failures where expenditure can significantly reduce operations, maintenance and other associated costs or improve the value of the asset.

With this understanding, the Facilities Operations budget is developed with key inputs from clients, stakeholders and regulatory requirements. These inputs are constrained by the capabilities of the assets concerned; the organisational capability including the degree of management expertise; and the economic viability of Defence Estate and its ability to meet the costs of an appropriate works program.

Prioritisation as a whole involves four central steps:

1) information acquisition;
2) processing and interpretation;
3) determination of current needs and future needs; and
4) priority analysis and results.

1. Information acquisition

For works over $6,000 detailed proposal proformas cover

1) Description of the project including an estimate of the cost of works (also includes submission level, eg unit/ base, or DEO office, proposing officer, and supporting comments)
2) Identification of legislative requirements eg. Occupational Health and Safety, Environmental, Fire etc.;
3) Operational Effectiveness ie. impact on base/unit performance and criticality to base/unit capability;
4) Assessment of contribution to Asset Rationalisation (major/minor/no effect/negative effect)
5) Assessment of infrastructure inclusive of hydraulics, electrical, mechanical, civil and communications; (major/medium/minor/nil)
6) Relationship to Asset Master Plan; (complies/does not comply/no master plan/no effect)
7) Assessment of Asset Capability Impact; (To what extent will the proposal improve the performance and life of the asset – 1 low, 2 medium, 3 high)
8) Identification of Defence Capability Output; (see box 1)
9) Identification of anticipated annual cost savings (Indicate level of estimated annual cost saving *and explain how this is achieved.)*

(See also : Part 2 of this issue: Life Cycle Cost Budgeting)

Approval and "Sign Off" Process

Each proforma includes appropriate approval and authoritisation. This includes appropriate delegation levels and client sign off procedures have been developed to align with the overall organisational requirements of clients. These procedures are agreed by the Base Commanders of respective sites and are endorsed at the Regional Facilities Committee meeting held on an annual basis.

2. Processing and Interpretation

Each project is assessed by Defence Estate and rated in accordance with the proformas. This information is loaded into a computer program, which records priorities of the works in order of criticality. Each region may have in the order of 1500 projects listed of which only in the order of 300 projects are endorsed from a regional perspective. Hence there is considerable effort by staff to ensure all works are investigated with on site meetings and in consultation with the clients.

4. Priority Analysis and Results

The prime focus of asset management within Defence facilities is the maintenance and improvement of Defence capability outputs, in other words, an output focus. With a great many outputs to consider, across a wide geographic area, Defence needs a set of tools for analysis.

You could adapt the tool in Box 1 to suit your own needs. Amongst its many benefits:

- An opportunity to express all your agency functions in terms of their output capabilities
- Ability to analyse the current budget (and budgets over a period of time) to determine the trends in allocation of expenditure to different capabilities

Box 1: Capability Outputs

Instructions to Proposers: Link at least one of the Defence Capability Outputs by inserting the relevant reference number from the table below. Estimate the significance of this project's impact on the selected capability and mark the score – 1 low, 3 high.

Primary, Most Relevant Output No ☐			
Impact on Defence Capability Output			
Unit/Base	1	2	3
PLO	1	2	3
DEO-VT	1	2	3

Secondary, Most Relevant Output No ☐			
Impact on Defence Capability Output			
Unit/Base	1	2	3
PLO	1	2	3
DEO-VT	1	2	3

Defence Capability Outputs Table

1 Capability for command of operations
2 ADF Military operations
3 Capability for major surface combatant operations
4 Capability for naval aviation operations
5 Capability for patrol boat operations
6 Capability for submarine operations
7 Capability for afloat support
8 Capability for mine warfare operations
9 Capability for amphibious lift
10 Capability for special forces operations
11 Capability for mechanised operations
12 Capability for light infantry operations
13 Capability for army aviation operations
14 Capability for combat support of land operations
15 Capability for motorised infantry operations
16 Capability for protective and security operations
17 Capability for airstrike/reconnaissance
18 Capability for tactical fighter operations
19 Capability for strategic surveillance
20 Capability for maritime patrol aircraft operations
21 Capability for airlift
22 Capability for combat support of air operations
23 Strategic intelligence
24 Military geographic information
25 International relationships and contributions to international activities
26 Contribution to national support tasks
27 Strategic policy and direction

Part 2: Life Cycle Cost Budgeting

DEO moves away from traditional appraisal methodology

Like many organisations, DEO had been using standard condition appraisal techniques that give a 1-5 rating, representing the assessor's view of the degree of urgency of attention needed. But it realised that these techniques

- do not take into account strategic information, and
- can not cope with funding shortfalls

So it has chosen to move to …

Life Cycle Costing for Budgeting

DEO are replacing their current facilities appraisal model with a renewal and maintenance life cycle plan (RMP), initially, for all buildings valued at over $250,000. The RMP covers maintenance and renewal tasks associated with major building fabric components

- Exterior Walls (e.g. paint)
- Roofing (e.g.clay tiles, concrete tiles, galvanised iron)
- Interior Walls (e.g. plaster, paint)
- Flooring (e.g. carpet (high/low traffic), vinyl, wood floors, parquetry)
- Interior Ceiling (eg. plaster ceiling, acoustical tile ceiling)

Simple and Cost Effective

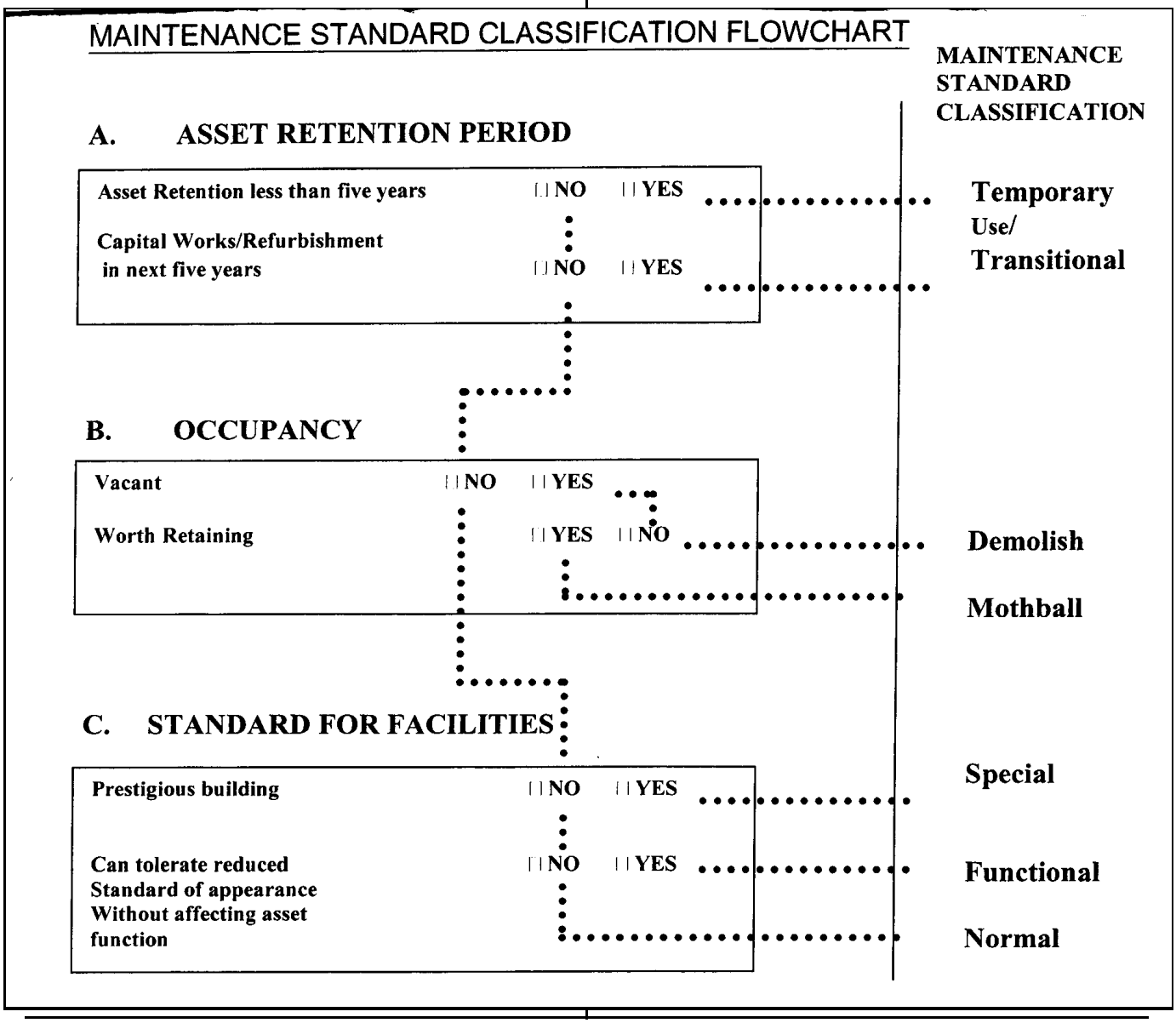
The essence of this model is that it picks up the *major* cost elements whilst keeping to a minimum the amount of data collection and modelling. *Minor* building components such as doors and windows are not addressed as they can be readily managed under a 'fix when fail' or 'breakdown' maintenance strategy. Fixed plant and equipment appraisal takes place as part of the Comprehensive Maintenance Contract (CMC).

Asset Life

"Useful life" is an estimate of the period of time over which a depreciable asset is expected to be able to be used, however Defence may not need the asset for this length of time, so it is important to define the "asset retention period" or how long the asset will be needed. It is the asset retention period that will define the action that needs to be taken (although thought needs to be given to possible alternative uses for a viable asset once the Defence need has passed – ie alternate use or disposal value.)

The flow chart below illustrates the options.

If the asset retention period is less than 5 years, life cycle costing will not be necessary. Or if the asset is to be 'mothballed' its future needs are minimal. So the first task is to determine the future likely use of the asset according to the following flow chart.



The flow chart determines the level to which the asset should be maintained, as described in Box 2 below.

Box 2: Maintenance Standard Classification

CLASSIFICATION	DETAILS
SPECIAL (Maintain in an 'excellent' condition)	Special rating applies to prestigious buildings where prominence demands a higher than normal standard.
NORMAL (Maintain to a minimum condition standard of 'good')	Normal rating range applies to most assets where acceptable community standards for commercial, industrial or domestic buildings are appropriate.
FUNCTIONAL (Maintain to a minimum condition standard of 'fair'	Functional rating applies to assets where a lower than normal standard of maintenance is acceptable although the buildings are in permanent use. The maintenance of these assets will be governed by economic and occupational health and safety considerations.
TEMPORARY USE/TRANSITION (Maintain to a minimum condition standard of 'poor'	Temporary rating applies to buildings or facilities that are in use but have a very limited future life in their present form because of planned site redevelopment, refurbishment or expected transfer of function. Limited programmed maintenance may be recommended to address legislative requirements.
MOTHBALL (Maintain to a minimum condition standard of 'deficient'	Mothball rating applies to buildings or facilities that are not in use but are retained because of expected use some years in the future. The maintenance applied is to secure the asset and preserve the integrity of the buildings main components.
DEMOLISH (Maintain to a minimum condition standard of 'deficient')	Demolish rating applies to assets which are to be demolished or disposed of without further use. Inspection should be confined to safety matters, which may arise up to the time of formal disposal or demolition.

Box 3: Condition Rating Table

CLASSIFICATION	DETAILS
Excellent	Relates to assets that are newly constructed or have recently undergone maintenance that has corrected any deterioration and returned the components to virtually new condition
Good	Relates to assets that have deteriorated to a limited extent that does not affect their use or integrity or where restoration has been performed to a limited sufficient degree
Fair	Relates to assets that have deteriorated to a degree where maintenance is obviously due but not to the extent where the function is significantly impaired of where the function IS impaired but the impairment can be accepted for the Retention Period assigned to the asset
Poor	Relates to assets that have deteriorated badly, structural problems, elements of the asset have failed or function significantly impaired
Deficient	Relates to assets that have failed, are no longer operational, or unfit for use

Operating the Model

To operate the life cycle costing model, records need to be kept of the size of the component (eg sq ft of interior wall finish to be plastered, from which can be derived an estimated renewal cost); the last time that the asset was renewed and the appropriate life cycle for the asset type (from which the budget timing can be derived.) At the beginning, the model requires conducting a dilapidation survey to determine the current position but after that, the procedure is simpler and only requires confirmation that those components that are on the renewal list do genuinely need renewal now. This greatly simplifies the facility condition appraisal process and saves both time and money, The cost of the initial survey is estimated to be about $500 per building, saving on current facilities appraisal costs. The survey is spread over 3 years, coincident with the revaluation process.

Infrastructure

Life cycle costing enables maintenance and repair costs to be estimated out ten years and more which gives DEO plenty of opportunity to know which large expenditures are coming up in the future and to be able to take steps to smooth the impact on the maintenance budget. This is particularly important for infrastructure assets that might otherwise be overlooked. Defence intend extending their life cycle costing budgeting approach to include both facilities and infrastructure.

Financial Effects of Deferral

Finally, the life cycle costing is combined with condition assessment and the year's priorities established by considering the financial impacts of deferral. See example below

Box 4: Year 1 Works Priorities

Building	Work	Cost Estimate	Financial Impact of Deferral for 1 year	Operational Impact	Explanation of Deferral Cost
Female Accommodation	Carpet, Roof, Vinyl	$242,500	$468,000	Nil	Deferral will result in accommodation being downgraded with rent being reduced by $20 per fortnight. 900 rooms by $20 by 26 fortnights – $468K
MI Block	Roof	$411,000	$50,000	Nil	Patch and repair costs
Harts Range Transmitting Station	Generator replacement	$560,000	Likely failure of generators	Capability loss	The Harts Range site has no mains power or redundant power capability. The generators have been overloaded since recent site expansion. The site would be not able to function if the current generators fail.
Building 52	Remove asbestos.	$90,000	nil	nil	Brown asbestos fibres have been found throughout the building. Deferral is a legislative breach.
Trinity Inlet	dredge	$1.2M	large	No access to Cairns	Siltation of Trinity Inlet is removed annually. Failure to do so will result in loss of access for RAN ships to HMAS CAIRNS.

Part 3: The Comprehensive Maintenance Contract

Rationale: With work increasing and revenues declining, DEO has looked to cost containment through outsourcing. But not just any outsourcing. The Comprehensive Maintenance Contract (CMC) is part of a Suite of Contracts that Defence has introduced over the past eight to ten years. Their innovation in this area has been well documented

FMA to bring out
Facility Guidelines for Contracting Out

Bob Baird is currently working with the Facilities Management Association, using experience gained through these contracts, to develop a set of facilities guidelines for contracting out. **The guidelines are expected to be available in December.**

Main Features of the Comprehensive Maintenance Contract.

The Comprehensive Maintenance Contract (CMC) is used by DEO regions to engage a Contractor to manage and coordinate General Building and Facilities Maintenance (GB&FM) works and to manage and action performance-based and schedulised Fixed Plant and Equipment Maintenance (FP&EM) work for a tendered lump sum. The Contractor provides all necessary personnel and resources to meet its contractual obligations detailed in the Maintenance Specification.

Aside from the obvious broad goal of sound facilities maintenance, the intent of the CMC is to:

a. provide value for money for the Commonwealth,
b. optimise the performance of all equipment while being cognisant of the equipment's criticality,
c. achieve the optimum life of the equipment, if not extending its life,
d. assist in the evaluation of equipment life cycle costs,
e. improve working environmental conditions for DEO clients,
f. improve the client focus of the DEO and the contractor,
g. transfer a proportion of the risk from Defence to the Contractor under an agreed risk sharing approach,
h. develop a strong long term working relationship in the form of a strategic alliance between the Contractor and DEO, and
i. to improve tactical-level planning regarding facilities and assets on Defence Establishments.

Simultaneously, the CMC intends to provide the following benefits to the contractor:

a. a reasonable profit margin,
b. good will and publicity from the contract,
c. provide incentives for the Contractor to carry out the required work in a timely and effective manner and establish a continuous improvement cycle,
d. provide incentives for achieving and exceeding performance requirements, and
e. the possibility of contract extensions or the award of further Defence contracts.

The working philosophy of the CMC is one of mutual support. The DEO intention is that the Contractor will form part of the regional team and, where possible, is co-located within the Regional Offices. A sound DEO-Contractor working relationship is essential in the development of a contract which operates smoothly and fosters the spirit of both organisations in a bid to achieve each other's goals and meet the contract intent.

The focus of the Contractor is on **continuous improvement** of services and the taking into account of alternatives and other options in meeting client requirements. Predictive fixed plant and equipment maintenance is at the forefront of the FP&EM component of CMC work and the Contractor initiates proposals to the Contract Administrator that will reduce maintenance costs over the long term. Management of GB&FM works requires the examination of each work request in terms of other options and non-facilities solutions. The Contractor is able to question directions in a way that adds value to the provision of services.

The benefits of a single maintenance contract spring largely from the economy of scale generated by the amalgamation of contracts over a number of sites within a geographic region. These advantages include:

- improved planning of maintenance activities and further Establishment development.
- the possibility of importing expertise to deliver the facilities maintenance,
- lower Contractor management overheads through the restructuring of management structures,
- lower contract prices generated by the use of larger contracts delivering services over a number of sites, and
- reduced DEO staff management requirements, allowing more resources to be applied to longer term strategic maintenance planning.

More Information on the

Comprehensive Maintenance Contract can be found on the Asset Management Website www.amqi.com