# ENABLING ACQUISITION CHANGE

**An examination of the Ministry of Defence's ability to undertake Through Life Capability Management**

June 2006

A report by the Enabling Acquisition Change Team Leader

## CONTENTS

# 1. Executive Summary and Recommendations

1.1 The Defence Industrial Strategy challenges the whole of the defence acquisition community, including industry, to make a step change in order to achieve the objective of improved performance in the delivery of capability to the Front Line and improved value for money for the tax-payer.

1.2 The subject has been studied a number of times in the last 40 years. The most recent review resulted in the launch of Smart Acquisition in the late 1990s. Previous findings remain relevant today, in spite of the progress made in recent years by all parts of the defence acquisition community.

1.3 The focus of previous studies has tended to be on the front end of the acquisition process - ensuring that the equipment procured for our Armed Forces is the right equipment, delivered at the right time and at an affordable price. Today, in an environment in which there is increasing emphasis on agility, Through Life Capability Management stresses, in addition, the need to ensure that military capability is built from the most cost-effective mix of components, and is both affordable to operate through life and readily adaptable.

1.4 This report was commissioned to advise whether changes should be made to the Ministry of Defence's (MOD) structures, organisation, process or culture and behaviours in order to facilitate good Through Life Capability Management. It focuses mainly on structure, organisation and processes. This is not to understate the paramount importance of skills, training, culture and behaviours. The MOD has already launched a new acquisition skills and training initiative and our recommendations for changes to processes and organisation are intended, in part, to help generate cultural and behavioural change.

1.5 There has been improvement in the delivery of projects to time and to cost, as represented in the most recent Major Projects Reports, and this must be sustained. At the same time we must ensure that the new equipment capability being brought into service can be supported in a cost effective and affordable way.

1.6 The UK's track record in delivering for its Armed Forces highly capable, battle winning equipment within the available resources is second to none. However, the MOD's acquisition system has a history of suffering from a conspiracy of optimism. Targets and incentives are poorly aligned. Behaviour is stove-piped and boundaries between organisations make the achievement of a through life approach more difficult. Necessary skills are in short supply and we need to concentrate more resources on training. We need to create greater unity of purpose in the acquisition arena, from the top of the Department to the bottom. As a result, despite the best endeavours of everyone involved and significant improvements in recent years, we are simply not doing as well as we could do.

## Recommended Improvements

1.7 The full list of our recommendations follows this summary.

1.8 The Department's planning system needs to be improved to enable Ministers and the Defence Management Board to take a more strategic view of the defence budget across 10 years and beyond. This involves the reintroduction of a 10 year view of defence spending, across the board, without returning to the nugatory detail of the Long Term Costing. This should include a view of expected trends in defence costs by commodity and a capability-based view, which could be created from a development of the Cost of Defence by Output planning tool introduced in 2005.

1.9 We recommend an increased emphasis on realism in the planning of defence capability. Experience tells us that the MOD and its suppliers are consistently optimistic about costs and timescales. This can produce sub-optimal results for the Armed Forces, industry and the tax payer. The solution lies in part in introducing greater realism into project planning but also an acceptance that we need to maintain, at the Departmental level, a contingency of unallocated funds, both to act as a reserve and also to give us the scope for a more agile response to short-notice changes in operational requirements.

1.10 The Department needs to programme equipment support costs over ten years, just as it does for new equipment capability and major infrastructure and other non-equipment investment. We recommend that the Front Line Commands should programme the costs of supporting in-service equipment over the first four years of the defence planning period, now that each Service is moving to a unified or collocated Command.

1.11 We recommend that the Equipment Capability Customer should be responsible for programming the support costs of new equipment over 10 years and of in-service equipment beyond the first four years. The Equipment Capability Customer should also assume responsibility for programming other significant net additional costs associated with new capability (such as infrastructure and training). Consistent with this, any investments in new capability which demonstrably result in reduced operating costs, whether manpower, training or infrastructure, should be recorded in the 10 year view of the defence budget as a whole, and redistributed in line with defence priorities.

1.12 New clarity should be given to the roles of the Deputy Chief of the Defence Staff (Equipment Capability) (DCDS (EC)), the Chiefs of Staff, the Front Line Commands and the Permanent Joint Headquarters (PJHQ) in exercising their customer responsibilities. We recommend changes to the current confusing 'customer' terminology to acknowledge that the Ministry of Defence is the customer of industry - a role which is shared by a number of different stakeholders, including the Integrated Project Team Leader as the commercial interface with industry. We also recommend that greater use is made of the Senior Responsible Owner (SRO) approach to programme management inside the Equipment Capability Customer, which should become more focussed on through life capability planning.

1.13 We recommend merging the Defence Procurement Agency and Defence Logistics Organisation to create an integrated procurement and support organisation, whose core function would be delivery of equipment and support for operations to the Front Line. It should be a centre for excellence in portfolio and project management, drawing on the private sector where relevant skills cannot be cost effectively maintained in-house. The new organisation would be the subject of more detailed work but we envisage that the heart of the new organisation would consist of clusters of through life project teams, arranged where appropriate on environmental (i.e. land, sea, air) lines but including groupings based on enabling capabilities, such as information and electronic systems and communications network systems. Such an organisation would break down the current barriers between procurement of equipment and its through life support.

1.14 We also recommend changes to the governance of the procurement process and the investment approvals process, which are designed to encourage collective ownership of acquisition issues at the top of the Department and a sharper focus on risk management. These include changes in the relationship between the Defence Management Board (DMB) and the Investment Approvals Board (IAB) and an improved, more focussed approach to scrutiny of major investment decisions.

1.15 Finally we recommend the adoption of new through life targets and adjustments to the planning of research designed to reinforce a through life capability approach to planning.

1.16 Our recommendations need to be considered as a package. Taken together, they should produce an acquisition system which is better fitted to meet the needs of the Armed Forces and to engage with industry in a manner consistent with the principles of Through Life Capability Management.

## Implementation

1.17 The Department has a record of being sound on analysis but less strong on sustaining implementation. The changes we recommend should be incorporated into a single coherent acquisition reform programme, led at Board level. The changes recommended will not be implemented successfully without investment of adequate resources. But there is no requirement for major investment in relocation of staff or creation of new real estate, beyond what is already envisaged for DLO/DPA collocation. A major effort will be needed, involving Ministers and all members of the Defence Management Board, to present the changes in a way that will bring them to life and encourage the sustained changes in behaviour and culture that are needed.

1.18 It should be possible to implement most of our recommendations by April 2007, though the full benefits will take longer to be realised.

# Recommendations

| Para | Recommendation |
|---|---|
| | **Culture, Behaviours, Skills & Training** |
| 5.14 | We recommend that the Department should:<br><br>• reinforce the message at every level of the acquisition system that improved skills are key to improving the MOD's TLCM performance.<br><br>• ensure that the skills agenda is given prominence in the programme of implementing the changes recommended elsewhere in this report. |
| | **Planning Process Issues** |
| 6.17 | We recommend that:<br><br>• a 10 year plan should be constructed for all defence costs and assumptions consisting in detail of new equipment, equipment support and non-equipment investment costs plus the costs of other Defence Lines of Development in detail over the first four years and in aggregate over years 5-10. Significant variances from the year 4 position, resulting from business cases tested in options across all Defence Lines of Development should be held in this plan.<br><br>• building on the Cost of Defence analysis of the defence budget a capability-based view of defence plans should be developed, as a complementary tool to assist strategic planning by the Defence Management Board.<br><br>• the cost of supporting in-service equipment over the Short Term Plan (STP) period should be programmed by the Front Line Commands. The Equipment Capability Customer (ECC) should programme support costs for all new equipment and in-service equipment beyond the STP years and any other net additional cost, such as infrastructure, associated with new capability above a materiality threshold. |
| 6.21 | We recommend that the Department should maintain a clear focus on committing sufficient resources to the early stages of new projects. |
| 6.25 | We recommend:<br><br>• the apparent imbalance between Capital Departmental Expenditure Limits (DEL) and Resource DEL is addressed in discussions with the Treasury.<br><br>• a mechanism be established by which Directors of Equipment Capability (DECs) and Integrated Project Team (IPT) Leaders could exchange Capital DEL for Resource DEL in the event that this is needed in order to adequately de-risk a project. |
| 6.30 | We recommend that the Department should develop options to:<br><br>• eliminate negative contingencies from the Equipment Plan.<br><br>• ensure, in the short term, that the Equipment Plan overall matches approval levels, by retaining a centrally held contingency, and continue to explore other options.<br><br>• introduce an uncommitted element into the Equipment Plan in order to respond to the increasing premium placed on agility and room for manoeuvre. |

| | Customer Roles and Responsibilities and the Role of the Senior Responsible Owner |
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| 7.5 | We recommend:<br><br>• the different roles and responsibilities of the various stakeholders, who together perform the MOD's role as a customer of industry, be clarified by the adoption of new nomenclature: 'customer' for the MOD as a whole; 'sponsor' for DCDS(EC)'s organisation; and 'user' for the Single Service Chiefs of Staff and the Front Line Commands ('Joint User' for Vice Chief of Defence Staff (VCDS) and PJHQ).<br><br>• the MOD's instructions be amended to reflect these changes and to reinforce the IPTL as the commercial interface between the MOD and industry. |
| 7.7 | We recommend that renewed efforts should be made to:<br><br>• reinvigorate and standardise the operation of the Capability Working Groups.<br><br>• review the effectiveness and application of Customer Supplier Agreements, Through Life Management Plans and Through Life Maturity Models. |
| 7.11 | We recommend that:<br><br>• every major new capability in the MOD's forward plans should be assigned a 2-star SRO residing in the Equipment Capability Customer.<br><br>• consideration be given to establishing Board level championship of the most significant new capabilities. |

| | An Integrated Procurement and Support Organisation |
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| 8.11 | We recommend the establishment of an integrated procurement and support organisation by merging the DPA and DLO, led at 4-star level (or equivalent). |
| 8.16 | We recommend that the head of the new organisation should be involved in determining its detailed structure, including which non-core functions should be transferred elsewhere. This work should be completed by April 2007. |
| 8.18 | We recommend that the new organisation should continue to identify areas where there are prospects of securing better value for money from buying in services from the private sector. |
| 8.19 | While we would not wish to lose the discipline imposed by the Key Target regime, on balance we recommend that the new organisation should not have agency status. |

| | Approvals and Scrutiny |
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| 9.4 | We recommend that:<br><br>• a strong commercial team should be built around the Defence Commercial Director to spread good commercial practice, developing a consistent and effective due diligence function.<br><br>• contract documents for all Category A projects should be subject to comprehensive legal due diligence and independent technical advice.<br><br>• the Department's acquisition performance could be improved by increasing the overall commercial awareness of all those involved in acquisition and that this should form a fundamental element of the training and qualification of procurement practitioners. |
| 9.6 | We recommend that further detailed consideration is given to the benefits of a one-stop shop and consolidated advice to the IAB on business cases. |
| 9.17 | We recommend that responsibility for approval of projects below Category B (i.e. Cat C & D) should be delegated to the Customer and Supplier. Delegations would need to flow from PUS to Top Level Budget holders, who would determine the levels at which approvals could take place. Assurance about the quality of decision taking would be obtained through independent post-project review. |
| 9.22 | We recommend that the Main Gate business cases for Category A projects should contain an independent cost estimate. |
| 9.24 | We recommend that Main Gate approvals should cover support costs, acknowledging that in some cases this will only cover the early years. |
| 9.26 | We recommend that Approvals Thresholds should be reviewed in discussion with the Treasury as soon as practicable. |

| | Governance |
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| 10.5 | We recommend that the DMB should be involved in the Initial and Main Gate decision for the highest value and strategic investment decisions, making recommendations to Ministers. |
| 10.6 | We recommend that the Defence Commercial Director should become a full member of the IAB when appointed, acting as a neutral, commercially aware authority. |
| 10.8 | We recommend that from 1 April 2007 the head of the new integrated procurement and support organisation (who will subsume the posts of Chief of Defence Procurement (CDP) and Chief of Defence Logistics (CDL)) should be 'in attendance' at IAB meetings, rather than acting as a full member. He would provide assurance to the Board on the procurement and support arrangements. In the interim, CDP and CDL should continue to act as full members of the IAB. |
| 10.9 | We recommend that consideration to be given to appointing the Finance Director to the IAB from 1 April 2007 in place of 2nd PUS. |

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| 10.11 | We recommend that the Department should seek to appoint one or more Non-Executive Directors to the IAB. A search should commence to allow appointment from 1 April 2007. |
| 10.12 | We recommend that the Defence Commercial Director should also become a member of the National Defence Industries Council allowing formal engagement with Industry at the strategic level. The Defence Commercial Director should take up membership of these committees upon appointment. |
| 10.17 | We recommend that the Defence Commercial Director should become the owner of the Procurement Process, also taking responsibility for the Commodity Procurement sub-process. The Defence Commercial Director should assume these roles upon appointment. |

## Incentives and Targets

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| 11.12 | We recommend the adoption of a target set which reinforces through life delivery by setting targets for the delivery of a defined level of project performance and its cost effective sustainment through life. |
| 11.19 | We recommend the development of a set of Acquisition System performance metrics, allowing management to address systemic acquisition issues and focus on Through Life Capability Management. |

## Research and Development

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| 12.9 | We recommend that:<br><br>• the DECs need to specify research goals.<br><br>• the new integrated acquisition organisation needs to assist the Research Acquisition Organisation to develop a detailed research plan, to agree exploitation mechanisms and to ensure pull through of research.<br><br>• there is a single research Output which supports technology development.<br><br>• there should be an explicit link between each DIS sector strategy and the strategy for commissioning and exploiting research. |
| 12.13 | It is recommended that work is undertaken to explore whether sufficient head-room could be created within the Department's R&D spend to make a Defense Advanced Research Projects Agency (DARPA) model a starter. |

## Implementation

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| 13.14 | We recommend the appointment of a senior official as programme manager charged with co-ordinating and driving overall implementation. He or she will require Board level SRO support. |

# 2. Introduction and Background

2.1 The Defence Industrial Strategy (DIS) announced a review of the MOD's arrangements for the acquisition of military capability[1]. At the direction of the Permanent Under Secretary, a small team was formed in January 2006 to review how the MOD's current structures, organisation, processes, cultures and behaviours support, encourage, hinder or obstruct its ability to deliver Through Life Capability Management (TLCM).

2.2 Following consultation with the Acquisition Policy Board, TLCM was defined as:

*TLCM is an approach to the acquisition[2] and in-service management of military capability in which every aspect of new and existing military capability is planned and managed coherently across all Defence Lines of Development (DLOD) from cradle to grave.*

## Terms of Reference & Methodology

2.3 Our Terms of Reference can be found at Annex A, which also provides details of the Review Team.

2.4 Annex B provides details of our methodology. We have sought to be as comprehensive as possible in compiling this report, engaging with a large number of stakeholders both internally and externally. An account of the main themes to emerge from discussions with representatives of companies outside the defence sector is at Annex C. We have attempted to gather hard data (evidence) to support this report wherever possible, though this has proved difficult in some areas.

2.5 We wish to thank all of those who have contributed to our work.

## Current Performance

2.6 In recent years the Department has made - and continues to make - progress in improving its acquisition performance. The National Audit Office (NAO) commented favourably last year, in its Major Projects Report 2005[3], on the performance of the Department observing that *"some defence projects compare favourably with our gold standard with a number at the forefront of good project control"*.

2.7 The UK's record in delivering highly capable, battle-winning equipment to the Armed Forces stands comparison with any other country. Many other countries suffer similar challenges when procuring defence equipment. For example, a recent US Government Accountability Office report[4] highlighted that the US *"DOD often exceeds development cost estimates by approximately 30 to 40 per cent and experiences cuts in planned quantities, missed deadlines, and performance shortfalls"*. Nor are cost and time over-runs in the delivery of large complex projects unique to the defence sector. The Channel Tunnel Rail Link, the Jubilee Line Extension and Wembley Stadium are proof of this.

2.8 However, we should aspire to match best private sector performance. In simple terms this means ensuring that we get the right capability for the right price at the right time; and that it is affordable to own. The NAO has observed[5] there is more to do and this was acknowledged by the Department in recent evidence to the House of Commons Defence Committee[6].

1 The Defence Industrial Strategy, Defence White Paper Cm 6697, December 2005.
2 Acquisition is defined in The Acquisition Handbook as "the activity of requirement setting, procurement management, support management and termination/disposal, implying a whole life approach to Defence capability".
3 Major Project Report, Report by the Comptroller and Auditor General, HC 595, Session 2005-2006, 25 November 2005.
4 "Assessment of Selected Major Weapons Programmes, US GAO Report 06-391, March 2006."
5 Major Projects Report 2005, para 1.1 "Although performance has improved, the Department recognises the continuing challenge of limiting further time slippage and sustaining control of costs".
6 Ministry of Defence Annual Report and Accounts 2004–05, Sixth Report of Session 2005–2006, 20 April 2006, para 35.

## Context

2.9 The DIS explained how the context for TLCM has evolved since the launch of Smart Acquisition at the end of the last decade:

- today's strategic context is characterised by unpredictability, instability and shifting threat scenarios. This places an increased premium on agility and adaptability in our Armed Forces and the equipment they operate.

- there has been further consolidation of the defence industrial base and growing proportion of defence activity is accessible to industry.

- the pace of technological change is increasing. New equipment platforms are expected to remain in service for several decades. We must therefore plan for more frequent technology upgrade than has been the norm.

## Why Through Life Capability Management?

2.10 TLCM needs to produce an improvement in our assessment of the affordability of future programmes, a reduction in the number of 'surprises' encountered by a project and better delivery of integrated military capability (rather than individual items of equipment) across all Defence Lines of Development. The need to adopt a whole life approach has been a consistent theme of reports on defence acquisition, most recently in a report by the NAO[7] which stated that *"Through Life Management involves major change as it is of strategic importance to the success of Smart Acquisition and affects culture, processes, systems and relationships across the Department"*.

2.11 Failure to plan across all Defence Lines of Development has led to a number of high profile problems which have impacted on the ability to bring equipment into service. The training package for Apache attack helicopters, the collective training package and field trials for Bowman and secure garaging for the Cormorant communications system are examples. Implementation of a TLCM approach should help to prevent such incidents, as well as encouraging an improved focus on in-service operating costs.

7 "Through-Life Management", Report by the Comptroller and Auditor General, HC698, Session 2002-2003: 21 May 2003.

# 3. Current Arrangements

## The Acquisition Process

3.1 This Section describes the process laid down by the Department for translating defence policy into the delivery of military capability to the Front Line Commands.

3.2 The policy baseline for future requirements for military capability is the *Defence Strategic Guidance* (DSG). This incorporates an analysis of the likely global and regional trends across all dimensions of the strategic landscape, and the likely impact of the developing security environment on future capability requirements with a 15-year time horizon. As part of the same process, the Department develops *Defence Planning Assumptions*, which look out five years. These set out what the Armed Forces should be capable of doing and provide the parameters within which the force structure and capability is resourced. The DSG also encompasses *Future Capability Development* which translates policy requirements into capability guidance for programming staff and those responsible for delivering capability.

3.3 *Biennial Financial Planning* is the process for allocating funds to programmes that will deliver the required defence capability. The output of this process is the *Defence Programme*, consisting of three elements:

- the Short Term Plan.
- the Equipment Plan.
- the Non-Equipment Investment Plan.

3.4 The *Short Term Plan*, extending over a four-year period, covers areas of spending such as military and civilian pay, support to in-service equipment and running costs (for example, fuel and utilities). In practice, it is a plan for the delivery of current military capability. The *Equipment Plan*, with a 10-year planning horizon, sets out how we plan to spend the resources allocated to new equipment, to support the delivery of future military capability. The Non-Equipment Investment Plan is a 10-year plan of expenditure on major infrastructure projects.

3.5 The Finance Director, as owner of the planning process, and his staff (in the Resources and Plans directorates) are responsible for setting force structure, and for balancing elements of the Short Term Plan, Equipment Plan and Non-Equipment Investment Plan into a coherent *Defence Programme*. This includes advising on the share of the defence budget to be allocated to future equipment capability, though DCDS(EC) and his staff advise how the Equipment Plan should be programmed.

3.6 The Department has *two Customers* for military capability:

- *Customer 1* identifies the equipment capability required to meet Defence Strategic Guidance and translates those requirements into a balanced and affordable equipment programme. Customer 1 is organised by capability area, each managed by a Director of Equipment Capability (DEC). Each DEC acts as a *Single Point of Accountability* responsible for co-ordinating the delivery of new and enhanced military capability across all Defence Lines of Development. In addition, each DEC has delegated authority from the Chief Scientific Adviser to define the need for research to capture capability requirements and to explore and de-risk possible technology solutions.

- *Customer 2* is responsible for the delivery of operational military capability through properly trained and equipped force elements, managing equipment once it is in-service, and providing advice and expertise to Customer 1. There are two dimensions to the Customer 2 role, *Core Leadership*, providing overall strategic management of the three Services and their professional direction (undertaken by the Single Service Chiefs), and *Pivotal Management*, providing the user perspective and managing allocated resources to achieve the required output (undertaken by the Front Line Commands).

3.7 New funded acquisition programmes needed to support a new or upgraded equipment capability requirement will be allocated to a new *Integrated Project Team* (IPT) formed for the purpose, or an existing IPT either in the *Defence Procurement Agency* (DPA), which is responsible for buying military capability, or the *Defence Logistics Organisation* (DLO), which is chiefly responsible for supporting equipment that is in-service. The decision whether to form a new IPT, or to place the additional work with existing IPTs, whether hosted by the DPA or the DLO, is made jointly between the DEC and the DPA Future Business Group.

3.8 The DEC, as Single Point of Accountability, manages the capability requirement from concept to disposal and is responsible for the conduct of the Concept Phase. After Initial Gate (Figure 3.1) the

DPA IPT manages the delivery of the capability from assessment, though Main Gate, to the end of the Manufacturing Phase, generally handing over to a DLO IPT for in-service management. Each IPT is headed by an empowered IPT leader who is answerable to the Customer, through Customer Supplier Agreements, for meeting agreed performance, cost and time targets and milestones. The IPT leader is also accountable to both the Chief of Defence Procurement and the Chief of Defence Logistics for the propriety and professionalism of the IPT, and the efficient and effective use of resources. Increasingly, IPTs are designed to operate 'though life'. The IPTs are multi-skilled groups which can also call on specialist advice from a number of support groups. The IPT will follow the CADMID acquisition cycle through the life of the capability.

3.9 The CADMID cycle has been used since 1999, when it was devised as part of the 'Smart Procurement' initiative to deliver equipment capability within agreed performance, cost and time parameters.

Its stages are:

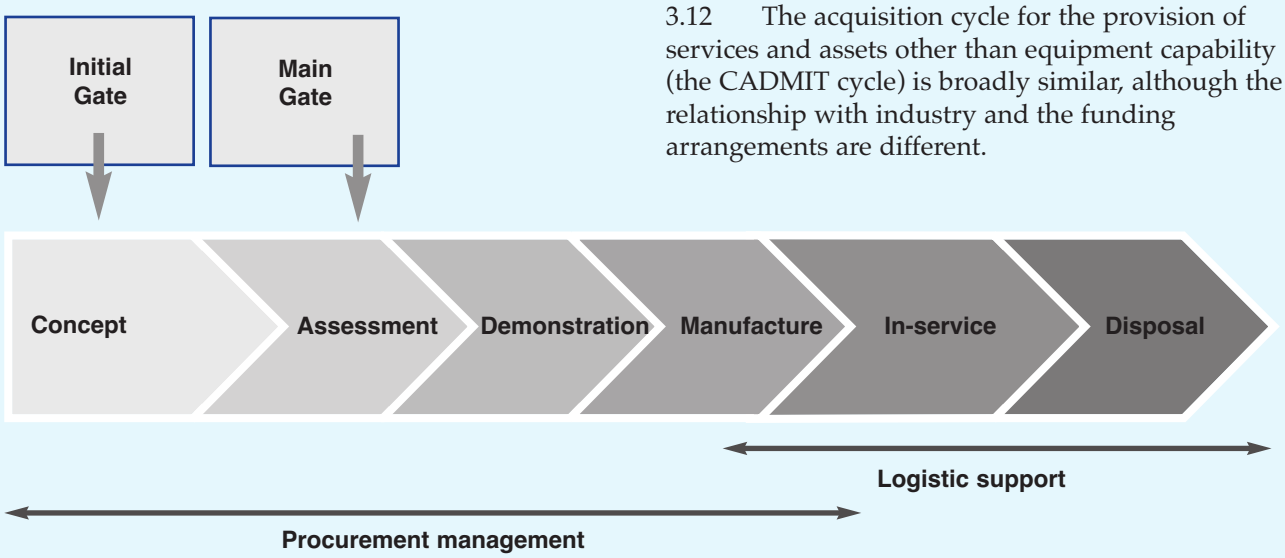
- **Concept:** a statement of the military customer's requirement.
- **Assessment:** identification of an acceptable balance of time, cost and performance, (including commercial and technical factors); risk defined and quantified to a level consistent with delivering an acceptable level of system performance to tightly controlled time and cost parameters, and selection of the most appropriate procurement strategy.
- **Demonstration:** progressive reduction of development risk; performance targets fixed for manufacture.
- **Manufacture:** delivery and acceptance of the solution to meet the military requirement.
- **In-Service:** provision of effective support to the Front Line; delivery of any agreed upgrades.
- **Disposal:** efficient, effective and safe disposal of the equipment.

3.10 The cycle is punctuated by Initial Gate and Main Gate, at either end of the Assessment phase, when the Department's Investment Approvals Board (IAB) (or subordinate approving authorities in the case of lower value projects) formally assesses the project, and makes recommendations to Ministers on the appropriateness of the proposed investment of major funding.

3.11 Industry is engaged throughout the acquisition cycle and is represented in the IPT, subject to commercial considerations. The major contractual commitment is made subsequent to Main Gate approval, although the preferred contractor(s) may be identified before that point.

3.12 The acquisition cycle for the provision of services and assets other than equipment capability (the CADMIT cycle) is broadly similar, although the relationship with industry and the funding arrangements are different.

## Figure 3.1 – The CADMID Cycle



# 4. Is there a Problem?

## Previous Reviews

4.1 The acquisition of defence equipment has been subject to a series of reviews over the course of the last 40 years including the Downey[8], Rayner[9], Jordan, Lee & Cawsey[10] and McKinsey reports[11]. More recently, both the DPA and the DLO have commissioned studies to review the progress made against the McKinsey reports which included the 2003 DPA Stocktake and the 2004 DLO Change Programme. We have also drawn from recent NAO reports[12].

4.2 These reports contain a number of themes which, despite efforts to address them at the time, consistently re-emerge. These are summarised below:

- Insufficient application of resources during the early stages of a project's life.
- The fixing of performance, time and cost parameters before technical and financial risks are adequately understood.
- The need to improve time and cost estimating and eliminate requirements creep and the "conspiracy of optimism".
- The need to adopt programme management in order to ensure coherent planning and delivery of military capability.
- Weaknesses within the MOD's contracting strategies.
- The need for greater emphasis on incremental acquisition.
- The need to avoid an 'over heated' equipment programme and retain programme flexibility.
- The need to embrace Whole Life Costs and link Through Life Support to acquisition decisions.
- The requirement to manage staff resources to benefit the MOD and the individual.
- The importance of soft factors such as skills, training, culture and behaviours.

## Acquisition Performance Today

4.3 The majority of equipment projects routinely meet their performance time and cost criteria. However, some projects, amongst them some of the largest and most complex, still experience problems. Figure 4.1 illustrates the situation (reported in MPR 05) with regard to the 20 largest projects managed by the DPA.

4.4 The Department's record has improved in each of the last two years. Time and cost over-runs are chiefly confined to projects which were initiated before the most recent reforms. Analysis undertaken as part of the 2003 DPA Stocktake, demonstrated that whilst 'Smart' projects were performing better than legacy projects, the cumulative declared slippage for all projects at the time of their originally declared In Service Date was 27% and for 'Smart' projects was 7%. The situation today shows an improvement, with equivalent figures of 12% and 6%. This is illustrated at Figure 4.2. However, because historically slippage tends to be declared close to In-Service Date, it is too early to say whether this improvement will be sustained.

4.5 The Department's performance with regard to cost over-runs has similarly improved. During the DPA Stocktake, legacy and 'Smart' projects showed cost over-runs of 16% and 2% respectively. Current cumulative cost increases amount to 10%, whilst projects approved since April 2003 have delivered a cumulative reduction in costs of 2.7%. This is illustrated at Figure 4.3. However:

- Major changes to the MPR and DPA Key Target population, including the absence of Typhoon from the current data makes a meaningful comparison difficult.

8 Report of the Steering Group on Development Cost Estimating, Ministry of Technology dated December 1966.
9 Government Organisation for Defence Procurement and Civil Aerospace dated April 1971.
10 A Report on the Arrangements For Managing Major Projects in The Procurement Executive dated 1988.
11 Transforming the UK's Procurement System dated February 1998.
12 Notably "Driving the successful Delivery of Major Defence Projects", a Report by the Comptroller and Auditor General, HC 30 Session 2005 – 2006 dated 20 May 2006, and "Through Life Management", a Report by the Comptroller and Auditor General, HC Session 2002 – 2003 dated 21 May 2003.

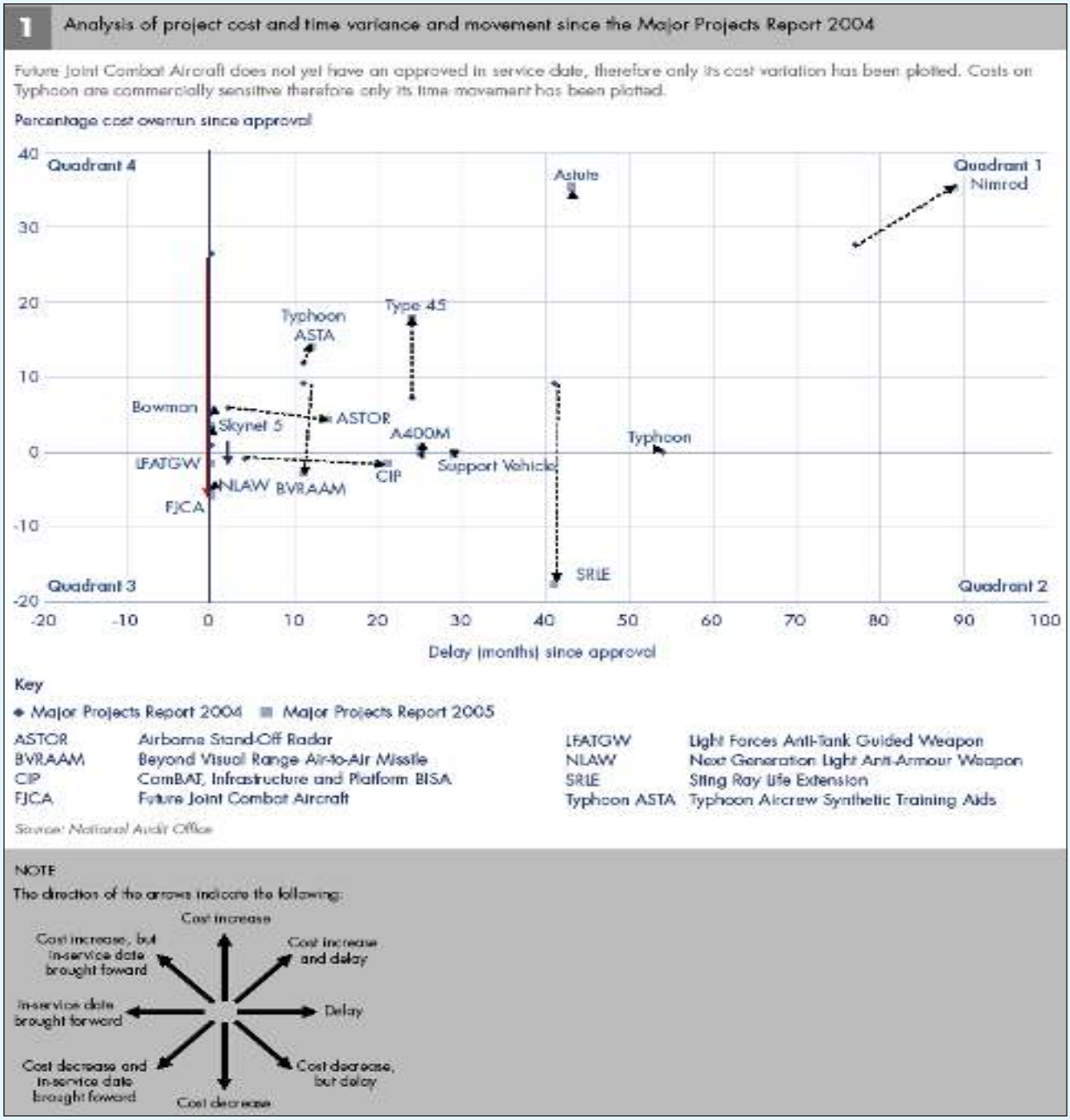



**Figure 4.1 Analysis of project time and cost variance since MPR 2004, Source: NAO MPR 2005.**

- We have been unable to compare current 'risk differential '[13] consumption with the 2003 assessments.
- Post-Stocktake projects are predominantly Cat B or below.
- There remains a tendency for cost increases to be declared after the In-Service Date.

Therefore, it is too early to say whether the improved performance will be sustained.

13 Risk differential is defined as the diference between the budgeted and the highest acceptable cost or time estimates approved at Main Gate.

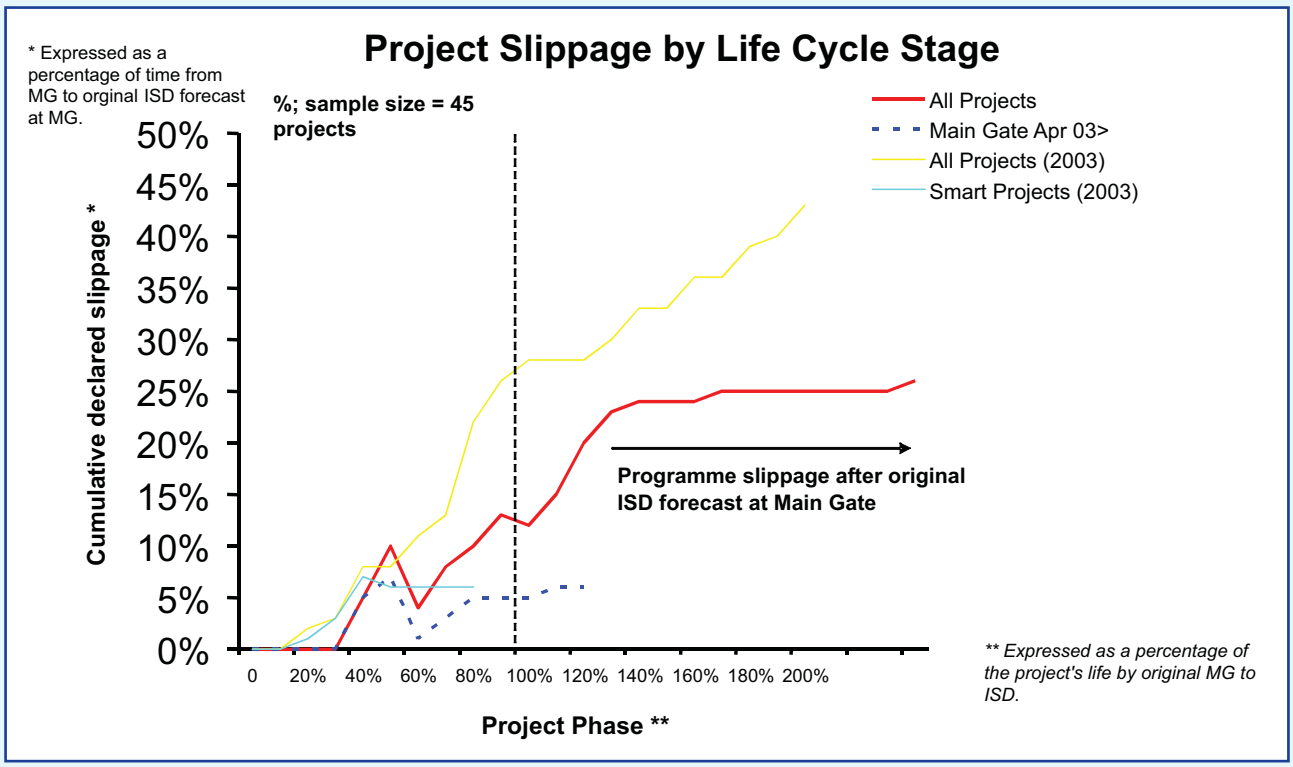



**Figure 4.2: Project Slippage by Life Cycle Stage – A comparison of the current situation with findings during the 2003 DPA Stocktake. Source DPA.**

4.6 The DPA Stocktake found that in excess of 90% of Key User Requirements (KURs) were satisfied. Currently, 97% of the KURs will be satisfied; only 2 projects are reporting a failure to meet any KURs.

4.7 The importance of TLCM was recognised formally by the MOD in 2001. Despite significant effort, the NAO have observed[14] that the underlying problems remain. They included the different planning horizons for the Equipment Plan and the Short Term Plan, the interface between the DPA and the DLO, incompatible IT and financial systems together with a short-term focus on in-year financial management and outputs, rather than Through-Life issues. Furthermore, there were no targets against which to assess progress, and all elements of the acquisition community use different maturity models to assess their own TLCM performance.

4.8 Failure to address these issues fully has led to a number of support funding issues which include:

- the DLO attempting to support new, more capable, equipment with the same STP funding provision as the previous equipment. Recent examples include Type 45 destroyers and Watchkeeper unmanned aerial vehicles.

14 MOD Through Life Management, A report by the Comptroller and Auditor General, HC 698 Session 2002 – 2003: May 2003.

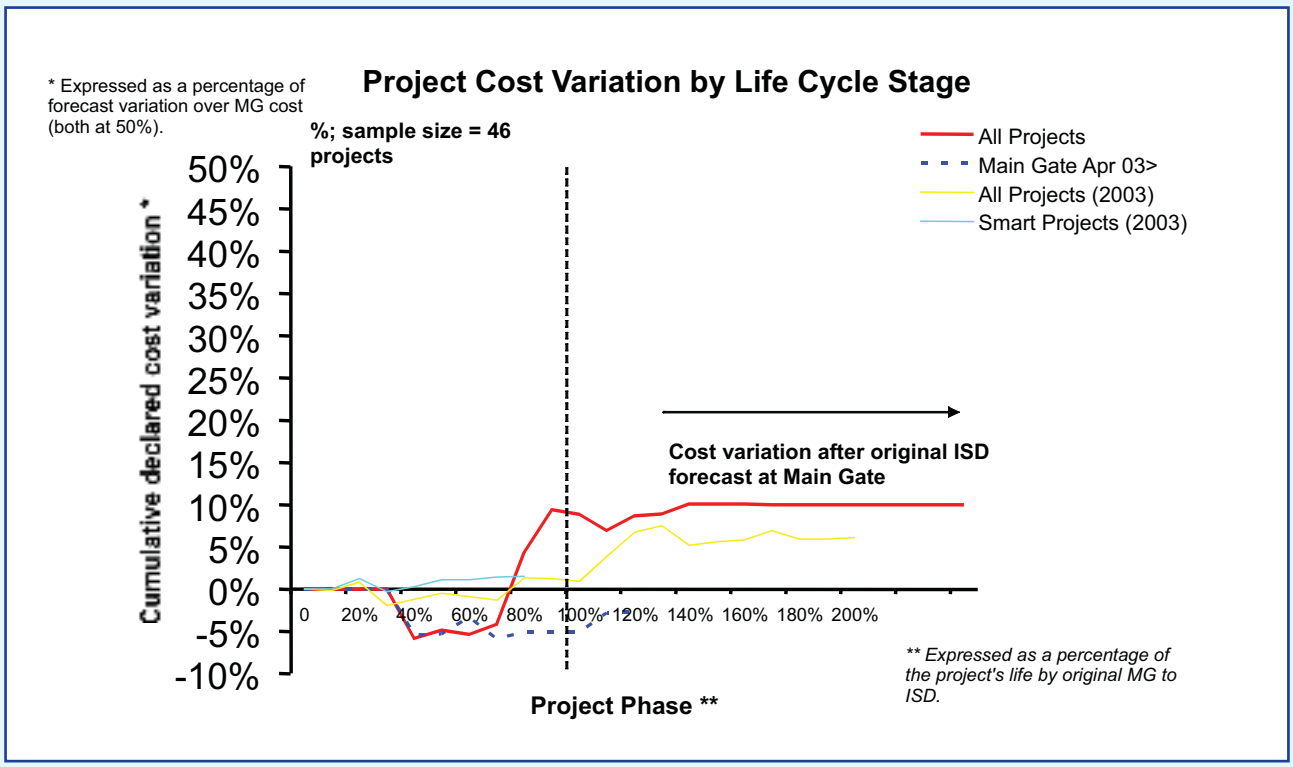



**Figure 4.3: Project Cost Variation by Life Cycle Stage – A comparison of the current situation with findings during the 2003 DPA Stocktake. Source DPA.**

- problems matching available DLO funds to the requirement to support in-service equipment and invest in the support of its replacement - for example, Nimrod Maritime Patrol Aircraft.

- equipment passed to the DLO without the appropriate funding to address outstanding issues.

## What Does Good Look Like?

4.9 We sought to establish the key characteristics of a high performing acquisition system in order to identify the strengths and weakness of the current arrangements and any improvements necessary.

4.10 The results which are set out at Figure 4.4, were used as the benchmark against which to compare the performance of the current acquisition system.

## Gap Analysis

4.11 We have conducted an analysis of the extent to which the MOD's current acquisition arrangements and practice match the Key Characteristics set out above. The results are set out at Annex D. The key points relating to TLCM are:

- a unifying culture for defence acquisition has yet to be achieved.

- lack of unified planning process aligned to the requirements of TLCM.

- lack of fully embedded incremental approach.
- insufficient understanding of risk and over-optimism.
- lack of agility in the defence programme.
- Equipment Capability Customer does not plan on TLCM basis to a sufficient degree. The Department risks failing to appreciate fully through-life costs.
- absence of TLCM targets.
- inconsistency in relations with Industry.
- shortage of sufficient acquisition skills.

4.12 The 'gaps', and recommended solutions, are addressed in subsequent Sections.

## Key Characteristics of a High Performing Acquisition System

- unity of purpose with corporate goals and objectives, clearly understood and shared by everyone.
- clear individual roles, responsibilities and accountabilities.
- a unified planning process which take into account the external commercial environment and technological developments.
- investment of sufficient time and resources during the early stages of a project, with a view to rapid execution thereafter.
- robust data, mature estimating processes and comprehensive assessment of technical and financial risks before commencement of a project's execution phase.
- plans which are prudent and contain adequate contingency.
- a strong focus on in-service operating costs.
- close engagement of the user in new investment decisions and project development.
- an agile R&D programme that understands associated technical risks.
- early identification of acceptable performance trade-offs to deliver projects to time and cost.
- willingness and ability to cancel failing projects.
- a financial system that is fit for purpose and understood by all that use it.
- a governance and performance management system with targets which are quantifiable and include in-service operating costs.
- a management information system which is capable of providing accurate and timely information particularly financial, project, time and risk related issues.
- an efficient approvals process that incorporates detailed, accurate and non-advocate advice and due diligence appropriate to the scale of the proposed investment.
- appropriately experienced and qualified people who are rewarded and incentivised to meet corporate objectives.
- a strong relationship with industry partners to deliver long term value for money based on trust, openness and a clear alignment of incentives.

**Figure 4.4: Key Characteristics of a High Performing Acquisition System**

# 5. Culture, Behaviours, Skills and Training

5.1 It is people who plan, procure and support the equipment, infrastructure and training which contribute to defence capability. Previous reforms have focused on changes to organisation and process but lacked sufficient sustained commitment to produce the desired culture and behaviours. Considerable effort is already underway in the Department, intended to address skills and training. We do not intend to duplicate this work, but we highlight below the people issues that need to be addressed, drawing out the changes in cultural and behavioural outcomes which our recommendations on process and organisation are designed to achieve.

## Culture & Behaviours

5.2 Culture and behaviours are central to good TLCM. The Department has recognised this and the Defence Values for Acquisition embody what this means for everyone involved in acquisition, both in the MOD and in industry.

5.3 At their best the culture and behaviours of the defence acquisition community are excellent, for example in the Special Projects area. The characteristics of this area are:

- close working relationships between the Equipment Capability Customer, the user, the IPTs, the Research and Technology staff and industry, which is enhanced by movement of personnel between the different organisations.
- a sense of urgency - time matters.
- shared ownership of problems and risks.
- a willingness to put into practice the maxim that the best is the enemy of the good.
- rapid pull-through of commercial off-the-shelf technology, suitably adapted for the user.

5.4 Admittedly, most special projects are much smaller in scale and cost than major projects and many are procured as Urgent Operational Requirements. Even so, the fundamental behaviours associated with these projects are applicable more generally. The challenge is to find ways of translating the essence of what is good about this area into the wider acquisition community.

5.5 The nature, skills and experience of the staff in the Front Line, the Equipment Capability Customer, DPA, DLO and Defence Estates are quite different and it would be difficult to create a common culture. However, breaking down the barriers to TLCM and ensuring that the Department as a whole owns the acquisition problem should be the aim.

## Skills

5.6 Finding people with the right professional skills and experience is increasingly difficult. Programme project managers and commercial experts, amongst others, are all in short supply across the economy. Developing these skills in-house is an expensive and time-consuming process, which can produce conscientious individuals who lack the hard-nosed experience of their counterparts in the commercial world. The Department must, therefore, invest in providing its people with skills both through training and through greater exposure to commercial practice by secondments to industry. The aim should be to have a much higher proportion of staff than today with some experience of working in industry or commerce. If this is to happen, it will require a joint commitment and programme of activity by the Department and Industry. In the short term the Department needs to import more skills from outside. It will be important for the Department to maximise the benefits by ensuring that knowledge transfer occurs.

## Training in Acquisition

5.7 The MOD's approach to acquisition training is fragmented. The DPA provides a focus for acquisition training across the DLO/DPA; but it has limited opportunity to influence development of people operating within the Head Office acquisition community or in Defence Estates. This leads to a disjointed acquisition community without a common training and education development philosophy or esprit de corps, making it difficult to achieve a consistent and unified approach to TLCM. To address this problem, the Department needs to ensure that a pan-Defence approach is taken, involving Industry where necessary.

5.8 We believe the Defence Academy should take a greater role in ensuring coherent delivery of acquisition training across the Department. This would help ensure a greater consistency in approach to acquisition training, promote a

common culture and help to introduce unity of purpose in the acquisition community. The Defence Academy Policy Board recently agreed that the Defence College of Management & Technology should develop its role in this manner and we welcome this decision.

## Specialists in Acquisition

5.9 We believe the MOD's current career management, pay and rewards structure does not do enough to encourage people to develop specialist skills. The movement of staff around the Department, in the search for wider experience, and hence improved chances of promotion, can result in the limited stock of specialist knowledge not being employed to best effect. Mechanisms need to be put in place to incentivise more individuals to become and remain a specialist. This does not just mean additional bonuses, but could include specialist pay and promotion within a professional career spine. The return to cadres of specialists with strong externally recognised qualifications and professional affiliations should be considered. These issues apply to both military and civilian personnel.

5.10 The geographical separation of the DPA and DLO from the Head Office and Front Line Commands places a premium on adequate interchange of personnel between these organisations. There is a danger that a lack of interchange could lead to reduced understanding of each others' perspectives. Whilst recognising the need to employ people with previous acquisition experience, we need to make it possible for high quality individuals to provide fresh blood to the acquisition community. Likewise, acquisition specialists with the potential to fill top management roles need to be encouraged to obtain Head Office experience.

## HR Management

5.11 Managing the Civil Service human resource involved in acquisition is not easy. Unlike the military, a central database of individuals' skills, competencies and professional qualifications by age and experience for all personnel is not currently available. This makes it difficult to plan strategically the workforce as a whole. Moreover, the move within the Civil Service to filling vacant appointments by advertisement has made it more difficult to post personnel either into, or out of, specific posts. Work is underway with the nominated Skills Champions for each professional specialism to establish a database of specialists needed in acquisition and the competences of those in the acquisition community; the forthcoming introduction of the skills capability package on the Human Resource Management Service should assist.

5.12 The short tenure of IPT leaders has attracted criticism, both internally and externally, with particular concern about military personnel. Previous reports have commented adversely on the relatively high turn over of military staff involved in project management. Continuity in post of IPT leaders minimises disruption and ensures consistency of approach. During the DPA Stocktake in 2003, it was noted that the average IPT leader's tour length was 3.5 years, compared with the recommended 4 to 5 years. Today's average is 3 years. This churn rate compares unfavourably with industry, where individuals stay with a programme for considerably longer and are professionally associated with its success or otherwise.

5.13 In recognition of this problem it has recently been agreed that all future DLO/DPA IPT leader job advertisements will specify that individuals are willing and available to serve for a period based on key project milestones. We believe that similar action is needed in the case of the Directors of Equipment Capability in the Equipment Capable Customer organisation to ensure that they have at least a two-year posting cycle as the norm.

**5.14 We recommend that the Department should:**

- **reinforce the message at every level of the acquisition system that improved skills are key to improving the MOD's TLCM performance.**
- **ensure that the skills agenda is given prominence in the programme of implementing the changes recommended elsewhere in this report.**

# 6. Planning Process Issues

## The Equipment Plan and Short Term Plan Process

6.1 The MOD's current financial planning process is based on:

- there being two separate customers for existing and future capability.
- an assumption that a four year planning horizon is sufficient for all components of the defence budget except for new equipment and upgrades to existing equipment which is planned in detail over 10 years (though since 2005 a 10-year planning horizon has also been adopted for major non-equipment investment, mainly infrastructure). These arrangements are illustrated in Figure 6.1.

6.2 The strengths of the current arrangements are:

- recognition of the Front Line Commands as the integrators of current military capability.
- recognition that there is a need to plan future military capability along defence capability rather than Single Service lines.
- acknowledgement that planning most parts of the defence budget in minute detail over the long term involves unnecessary and wasteful effort.

6.3 The weaknesses are that the existing processes do not:

- provide sufficient assurance about the longer term affordability of the defence programme.
- facilitate coherent planning of equipment and equipment support.
- act as an effective barrier to 'entryism'.
- adequately incentivise those responsible for planning future capability to take full account of in-service running costs or other set-up costs essential to the delivery of capability.
- provide those responsible for integrating current capability with adequate control over all of the resources necessary to generate capability.
- encourage a cooperative approach to trade-offs between current and future capability.

6.4 The evidence for these findings is:

- uncertainty about whether the costs of supporting new equipment are affordable - manifested in some recent Main Gate business cases.

| | Planning Horizon (years) | Customer | Annual Spend £Bn (near cash) | Purchaser/Provider |
|---|---|---|---|---|
| **New Equipment Capability** | 10 | Equipment Capability Customer | 6 | Mainly DPA, but also DLO for some equipment upgrades |
| **Non-Equipment Investment** | 10 | Resources and Plans Staff/Front Line Commands | 2 | Mainly Defence Estates and Defence Communications Support Agency (DLO) |
| **Support of In-service and Future Equipment** | 4 | Resources and Plans Staff/Front Line Commands | 6 | Mainly Front Line Command and DLO |
| **Other Lines of Development (both current and future capability** | 4 | Resources and Plans Staff/Front Line Commands | 14 | All TLBs |

**Figure 6.1 Current Financial Planning Horizons.**

- the fact that most of the effort expended in equipment planning rounds is devoted to dealing with cost growth in the equipment programme. This inflicts damage to programmes to which there is no commitment, whether contractual or political in order to bail out cost growth in programmes where such commitment exists.

- failure to invest in spend to save measures because of the difficulty of making effective trades across the EP/STP boundary - for example on T55 helicopter engines.

- well-documented cases, such as Bowman, Apache and SSN jetties, where there has been failure to plan for the provision of training or infrastructure.

- difficulties experienced by DECs and in-service equipment IPTs in harmonising investment in capability upgrade and reduced operating costs, for example on C130J.

6.5 The DLO has made its own assessment of the split between the costs of supporting in-service and new equipment across the years 2005 - 2014 and this is represented at Figure 6.2.

6.6 In the DLO's view most of the support of new capability represents unfunded cost pressure, though this appears to take insufficient account of the reducing cost of supporting in-service equipment.

However, some support for the DLO perspective is provided by:

- work undertaken in 2005 which, contrary to previous assumptions, found no evidence that more modern platforms were cheaper to support than those they replaced.

- the fact that there are new equipment capabilities which add to rather than replace existing systems.

In any event, the fact that there is uncertainty about such potentially large sums underscores the need for the Department to programme equipment support funds, by equipment, over the same timescale as the Equipment Plan.

6.7 TLCM implies an approach to the planning and management of military capability which takes a holistic view of current and future capability, including all its components. This implies arrangements which enable those responsible for planning individual capabilities to trade between the present and the future. In the context of incremental acquisition, this applies in particular to the mix of expenditure on new equipment and on maintaining in-service equipment, though it could also apply to the other components of capability.

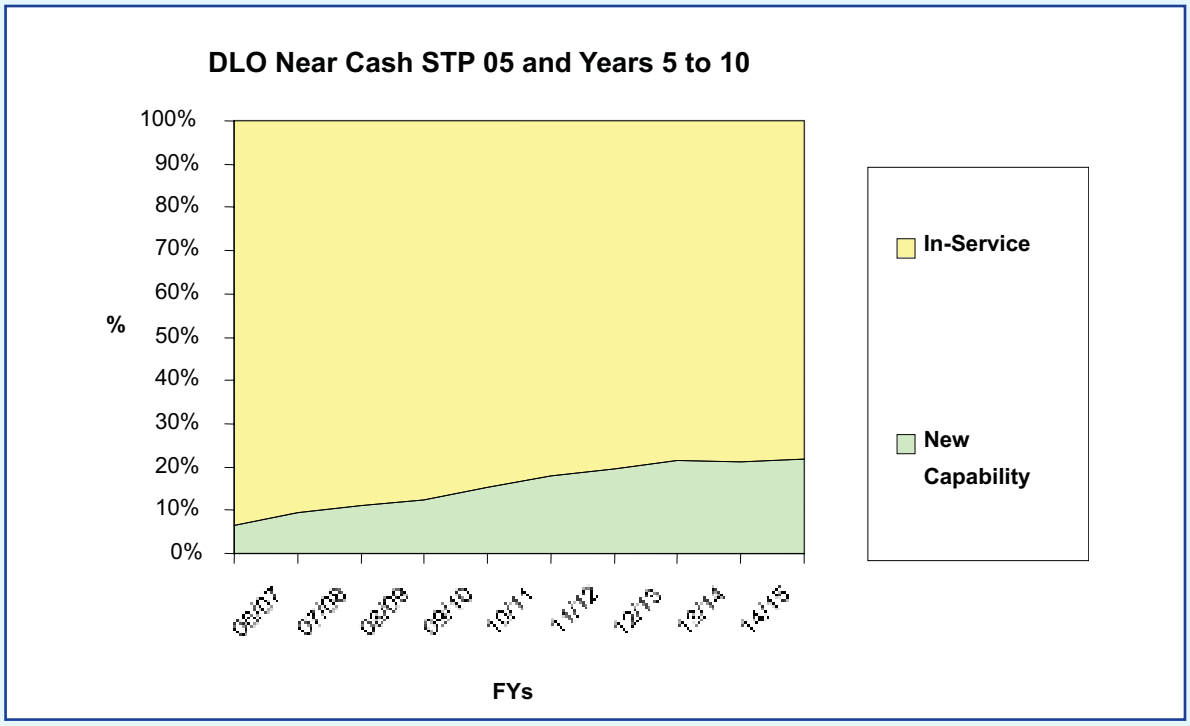



**Figure 6.2 DLO Near Cash STP 05 and Years 5 to 10.**

6.8 Such an approach might have the following advantages:

- it would provide one person with control of all the funds associated with a particular capability area thereby assisting him or her to ensure that all of the Defence Lines of Development associated with new capability are delivered in a coherent manner.

- it could facilitate a less equipment-centric approach to future capability, enabling trade off between Defence Lines of Development resulting in better value for money solutions.

- it could encourage up-front investment in new equipment capability to deliver downstream savings in support and operating costs.

- it could facilitate contracting for capability, as, for example, in the case of the Future Strategic Tanker Aircraft or the Military Flying Training System.

The adoption of such an 'End to End' approach to planning has yielded benefits in other areas, for example in the delivery of local government services and in the defence logistics process.

6.9 From a practical point of view, however, while it is possible to visualise how the defence budget as a whole might be constructed along capability lines, it would still be necessary to translate the individual capabilities into force elements at readiness. This might be manageable in the case of the Royal Navy and Royal Air Force, which are relatively platform-centric, but in the case of the Army it would be extremely, (possibly unmanageably), complicated because the Army is not organised along platform lines. In addition, for all three Services to align financial planning along capability lines in the manner described above would cut across the need to plan manpower and training, in particular, along a different axis. So, however attractive conceptually it might be to plan both current and future capability along essentially equipment-centric lines, we have concluded that, at least in the short term, the benefits of undertaking the MOD's financial planning wholly on a capability basis are outweighed by the disadvantages.

6.10 There are, however, a number of further questions:

- does the current difference in the planning horizons of the EP and STP, particularly in relation to equipment support costs, produce sub-optimal results?

- does the current arrangement under which the DLO owns the forward programme for equipment support, rather than simply managing it in-year, as is the case with the DPA, assist or hinder good TLCM?

- does the current division between the planning responsibilities of the Finance Director and DCDS (EC) best serve the needs of defence?

- does the current balance of Capital Departmental Expenditure Limits (DEL) and Resource DEL within the MOD's near-cash total create the wrong incentives from a value for money perspective?

- do the current planning arrangements contribute to a conspiracy of optimism and overheating of the defence programme?

6.11 The decision to plan only new equipment costs (now extended to include non-equipment major investment) over 10 years assumed that changes to the other elements of the defence budget could be made within a four year planning horizon, and that costs and the size of the defence budget beyond such a horizon were so uncertain as to be unplannable.

6.12 However, the fact that estimating of future costs has proved difficult is not a reason not to plan. Rather, it should be a spur to do better. Secondly, there has been a growth of long-term contracts, whether Private Finance, Public Private Partnering, Prime Contracting in the infrastructure area or other long term arrangements. The cost of these parts of the defence programme are both more predictable and less flexible. Thirdly, we know that manpower costs grow on average by 0.5% per year above the general rate of inflation. It would therefore be possible to produce a 10-year plan of the defence budget by commodity, within which it would be possible to programme significant variances not captured by the Equipment Plan or the Non Equipment Investment Plan. (An example of what we have in mind is at Figure 6.3). A 10-year capability-based view of the budget, which could be derived from the 'Cost of Defence by Output', could act as a complementary planning tool for the Defence Management Board and assist a strategic view of TLCM. There is also a case, which we have not sufficiently examined, for confining the detailed Short Term Plan to a two-year planning horizon.

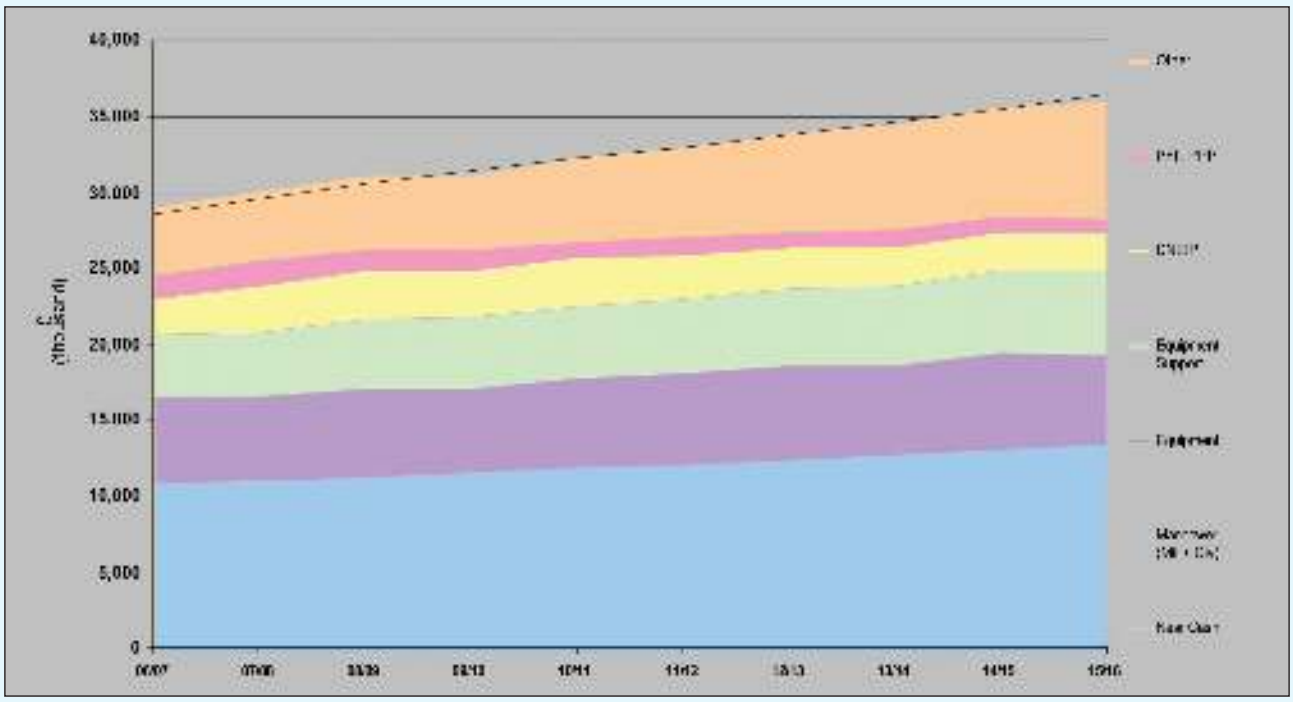



**Figure 6.3. A 10-Year View of the Defence Programme**

6.13 The current mismatch between EP and STP planning horizons can also create problems in assessing the affordability of the in-service support of new equipment projects at Main Gate. Recent examples include Bowman CIP and Falcon. These problems would be illuminated, if not alleviated, if a 10-year view of equipment support costs were to be adopted and the costs were programmed, as far as possible, by equipment type.

6.14 Who should programme equipment support costs? There are three potential candidates: the Directors of Equipment Capability (DECs), the Resources and Plans Directors or the Front Line Commands, or some combination of all three:

- the principal argument in favour of the DECs assuming this role is that, in the context of TLCM, it should facilitate a holistic view of investment in capability upgrades and in reducing operating costs, and also trade-offs between buying new versus upgrading equipment in-service. However, it would be necessary to ensure that the DECs did not concentrate on future capability at the expense of current capability or behave such that the planning of current capability across all Defence Lines of Development became incoherent.

- the Resources and Plans Directorates could undertake the task with least disruption to existing arrangements and they would certainly have to hold the ring in establishing any new arrangements. However, they are one step further removed from the integration of current and future capability than either of the other candidates.

- as the point at which the different elements contributing to military capability are integrated there is a strong case for assigning to the Front Line Commands, which already plan and account for stock consumption associated with equipment support, the task of programming in-service equipment support funds across the early years of the programme. However, there is no good case for inviting them to programme support for new equipment or even for in-service equipment beyond the early years. And splitting responsibility for programming equipment support introduces further complication.

6.15 The answer depends, to a large extent, on inter-related issues, including the organisation of the planning function, the 'customer' arrangements and the relationship between the DPA and the DLO. However, subject to that and further investigation of the practicalities, our conclusion is that:

- the DECs should programme the support costs of future equipment, as well as in-service equipment outside the STP period.

- the Front Line Commands, should programme the support costs of in-service equipment in the STP period. The two customers would work closely to ensure a smooth hand-over from one to the other. As at present the in-year budget and control would be the responsibility of the supplier organisation.

6.16 The Equipment Capability Customer should also programme any other net additional investment, for example in infrastructure, above a materiality threshold, which is integral to the new Capability.

**6.17 We recommend that:**

- **a 10 year plan should be constructed for all defence costs and assumptions consisting in detail of new equipment, equipment support and non-equipment investment costs plus the costs of other Defence Lines of Development in detail over the first four years and in aggregate over years 5-10. Significant variances from the year 4 position, resulting from business cases tested in options across all Defence Lines of Development should be held in this plan.**

- **building on the Cost of Defence analysis of the defence budget a capability-based view of defence plans should be developed, as a complementary tool to assist strategic planning by the Defence Management Board.**

- **the cost of supporting in-service equipment over the STP period should be programmed by the Front Line Commands. The Equipment Capability Customer should programme support costs for all new equipment and in-service equipment beyond the STP years, and any other net additional cost, such as infrastructure, associated with new capability above a materiality threshold.**

6.18 The advantages of such an approach would be that:

- the Defence Management Board could maintain a coherent view of cost trends beyond the 4 year point, and take a strategic view of capability planning.

- it would facilitate 'spend to save' in capability enhancement of existing equipment because it would be possible to reallocate systematically any down-stream support cost savings, resulting from investment by the DECs.

- it would facilitate incremental acquisition.

- it would better align financial and customer responsibilities for new and in-service capability.

- there would be a clearer customer-supplier relationship between the Front Line Commands, which have responsibility for capability integration, and the supplier organisation.

6.19 Taken together with the creation of unified or collocated Single Service Top Level Budget headquarters, the recommendations at paragraph 6.17 potentially have implications for the size of the Resources and Plans staff in the Ministry of Defence and its relationship with the Equipment Capability Customer. These will have to be worked through as part of the implementation programme.

## Managing Risk

6.20 In Section 4 we drew attention to the consistent message that successful procurement depends on devoting sufficient resources in the early stages of a project's life to understand and know how to manage technical risk. Received wisdom is that up to 15% of a project's costs should be spent before the decision to commit to Demonstration and Manufacture.

6.21 Obviously this is only a rule of thumb, and the precise figure will depend on the nature of the project. In 2005/06 the average spend of all Category A, B and C projects in the Concept and Assessment phase was 9% of the estimated cost. However, for Category A projects the figure averaged only 5%. Without wishing to criticise the decisions taken in individual cases, this figure appears low. **We recommend that the Department should maintain a clear focus on committing sufficient resources to the early stages of new projects.**

## Capital and Resource DEL

6.22 If on average, 15% of project costs should be spent in the early stages on risk reduction, then it follows that 15% of Equipment Plan funds should be available in a form which can be expensed rather than capitalised. Currently less than 15% of the Equipment Plan is Resource DEL available for expenditure in the Concept and Assessment phases. Consistent with this, there is anecdotal evidence that some projects are brought to the Main Gate decision point earlier than they should be because Capital DEL is easier to find than Resource DEL. This problem is likely to become more marked with the increased emphasis on incremental acquisition because of the need to maintain higher levels of investment in capability development.

6.23 Analysis of the DLO budget shows an increasing demand for Resource DEL as the organisation contracts for availability. Even in the infrastructure area the trend is towards greater

consumption of Resource DEL - the Defence Non Equipment Investment Plan consists of around 70% Resource DEL and 30% Capital DEL, reflecting the increasing significance of PFI programmes.

6.24 In contrast, Resource DEL as a percentage of the defence budget is on a declining trend - from 79% in 2000/01 to 75% in 2007/08.

**6.25 We recommend that:**

- **the apparent imbalance between Capital DEL and Resource DEL is addressed in the Comprehensive Spending Review.**

- **a mechanism be established by which DECs and IPT leaders could exchange Capital DEL for Resource DEL in the event that this is needed in order to adequately de-risk a project.**

## Contingencies and Agility

6.26 Even if the Department increases its expenditure on risk reduction, investment in modern defence capability will continue to involve high levels of technical and, therefore, financial risk. In these circumstances we do not believe that the arguments in support of incorporating a negative contingency in the Equipment Plan are sustainable.

6.27 A particular weakness of the current equipment planning arrangements is that they do not incentivise DECs and IPT leaders to expose the full extent of the risk associated with projects at the Main Gate decision point. Furthermore, IAB approval levels can exceed the available financial resource. This arises from the fact that the Equipment Plan is in the main constructed on the basis of 50% confidence levels, yet the IAB can approve at higher level of confidence costs (anything from 60% to 80%) which exceeds the resources available in the Equipment Plan.

6.28 One solution would be to assign funds to individual projects only after the Main Gate point. Prior to that the funds would simply be allocated to capability areas at the 90% level. The advantage of such an approach would be that DECs would not feel under pressure to stick to an unrealistic estimate lest funding be lost to another capability area which would encourage a more incremental approach to acquisition. A more straightforward approach would be to ensure that the overall size of the Equipment Plan is planned on the basis of maximum approval levels.

6.29 Finally, in order to provide for greater agility, an uncommitted element should be introduced into the Equipment Plan.

**6.30 We recommend that the Department should develop options to:**

- **eliminate negative contingencies from the Equipment Plan.**

- **ensure, in the short term, that the Equipment Plan overall matches approval levels, by retaining a centrally held contingency, and continue to explore other options.**

- **introduce an uncommitted element into the Equipment Plan in order to respond to the increasing premium placed on agility and room for manoeuvre.**

6.31 None of these actions can be taken without adjustments to the programme, which will be difficult in the short term, though the net impact on spend with industry would be neutral, and on the delivery of military capability should be positive.

# 7. Customer Roles and Responsibilities and the Role of the Senior Responsible Owner

## Customer Roles & Responsibilities

7.1 The gap analysis at Annex D identified that there was lack of clarity about the roles and responsibilities of the various 'Customers'. The model of a strong Central Customer/Supplier arrangement which was part of the Smart Acquisition reforms, is fundamentally sound, and should remain the basis for future capability requirement setting and delivery. There are, however, a number of problems with the current Customer construct:

- Customer 1 feels insufficiently empowered vis à vis the DPA.
- Customer 1 is insufficiently incentivised to take into account in-service operating costs and other Defence Lines of Development.
- there is confusion about the roles of two Customer 2s and their relation to Customer 1.
- the end user is not sufficiently involved in the design of what is delivered.
- there is insufficient cross-boundary work between Customer 1 & 2 and the DLO & DPA.
- there is a failure to plan across project/equipment capability lines.

7.2 At the heart of many of the problems identified above is confusion, both in industry and the MOD, about the roles and responsibilities of the various stakeholders which are all described as customers. This could be reduced, if not eliminated, by adopting nomenclature which clearly indicates the different roles and responsibilities of these stakeholders.

7.3 Ultimately the customer for military capability is the Ministry of Defence, representing the Government. It would therefore make sense to acknowledge this by using the word 'customer' in relation to the Ministry of Defence as a whole. The Ministry of Defence discharges its function as a customer of industry through a number of internal stakeholders. These stakeholders need to act as a team in order to ensure that the Armed Forces and the tax-payer obtains the best possible value for money.

7.4 Within this team:

- DCDS(EC) is responsible for identifying the capability required to meet the UK's defence objectives, for translating these requirements into an approved programme and for acting as sponsor of the capability until it is delivered into service. He should be known as the 'sponsor'.
- the Single Service Chiefs of Staff are responsible for the overall strategic management of the individual Services and their professional direction. Together, they and the Front Line Commands, which are subordinate to them, are shareholders in DCDS(EC)'s organisation, agreeing from the outset with the 'sponsor' the full range of factors contributing to military capability. Collectively the Single Service Chiefs of Staff and the Front Line Commands should be known as the 'user'. (In exercising their role in relation to the definition of joint capabilities, VCDS and PJHQ should be known as the 'joint user').
- the IPT Leaders are the MOD's commercial interface with industry. In exercising this role they need to facilitate appropriate engagement with industry by the 'sponsor', the 'users' and other MOD stakeholders throughout the life of the capability. The objective should be to introduce greater discipline into the MOD's relationship with industry, while making clear that the IPT Leader is the agent of the Ministry of Defence."

**7.5 We recommend that:**

- **the different roles and responsibilities of the various stakeholders, who together perform the MOD's role as a customer of industry, be clarified by the adoption of new nomenclature: 'customer' for the Ministry of Defence as a whole; 'sponsor' for DCDS(EC)'s organisation; and 'user' for the Single Service Chiefs of Staff and the Front Line Commands ('Joint User' for VCDS and PJHQ).**
- **the MOD's instructions be amended to reflect these changes and to reinforce the IPTL as the commercial interface between the MOD and industry.**

7.6 The 2003 NAO report into Through Life Management[15] noted that the key enablers to through life management such as Capability Working Groups, Customer Supplier Agreements, Through Life Management Plans and Through Life Maturity Models had yet to be fully developed. We conducted a small sample of the DECs and discovered that whilst many of the key enablers had

15 "Through-Life Management", Report by the Comptroller and Auditor General, HC698, Session 2002-2003: 21 May 2003.

been developed, some continue to require attention. There are inconsistencies in the effectiveness, frequency, chairmanship and content of Capability Working Group meetings. Customer Supplier Agreements were of mixed utility. Furthermore, some plans and maturity models did not exist, or were not being used or updated.

**7.7 We recommend that renewed efforts should be made to:**

- **reinvigorate and standardise the operation of the Capability Working Groups.**

- **review the effectiveness and application of Customer Supplier Agreements, Through Life Management Plans and Through Life Maturity Models.**

## Role of Senior Responsible Owner

7.8 The successful delivery of TLCM requires the application of a programme management approach to ensure that all aspects of new capability are planned as a whole. The degree to which such an approach is used today varies across the Department. Various NAO reports have commented unfavourably[16] on the Department's ability to programme manage using the Senior Responsible Owner (SRO) approach - the underlying concern being that we have not adopted sufficient programme management disciplines and that our managerial and budgetary structures do not allow us readily to align SRO responsibilities.

7.9 Guidance issued in June 2005 clarified how the SRO concept would be operated in MOD. The concept is now well established in the Department, with some 22 SROs formally responsible for Defence Change Programmes and 6 SROs responsible for Equipment Programmes, all of whom are 2-star equivalents. Currently, only the Carrier Strike SRO has full time responsibilities for a single equipment programme. In considering where an SRO for an equipment capability should be placed there are a number of alternative approaches:

- The SRO inside the Equipment Capability Customer organisation and having direct control of large elements of the funds which make up a capability. This would bolster the role of Customer 1.

- The SRO outside the Equipment Capability Customer organisation but in the Head Office, thus providing a greater degree of independence, although with less direct control of funds. This approach cuts across the Customer/Supplier construct.

- The SRO inside the procurement organisation; this may be too distant from the Head Office to be effective and again would cut across the Customer/Supplier construct.

- The SRO at the Front Line Command; this approach allows the end-user and the organisation best suited to drawing together all of the Defence Lines of Development to have greater ownership for ensuring that the capability is delivered and operated effectively.

7.10 Regardless of where the SRO sits, there should not be too many SROs, since this would dilute their influence, but sufficient number to take responsibility for delivering and managing all major capabilities into, through and out of service. In addition, the programme management principles embodied in the SRO concept need to be adopted for every new capability by the Single Points of Accountability in the DECs, using through life capability plans. There may also be opportunities to bundle individual projects together as programmes and align the associated through life management and capability plans. The MOD's concept for SROs does not require them to have control of the funds of the programmes for which they are responsible. However, given that SROs need to be empowered to make hard choices, there are obvious advantages if a close alignment of responsibility and financial authority can be achieved. Equally important, there should be Board level championship of the most significant new capabilities and this might best be provided by individual Chiefs of Staff.

7.11 In line with DCDS(EC)'s responsibility for the delivery of new capability and the changes we recommend to the planning process, **we recommend that:**

- **every major new capability in the MOD's forward plans should be assigned a 2-star SRO residing in the Equipment Capability Customer.**

- **consideration be given to establishing Board level championship of the most significant new capabilities.**

It may be necessary to increase the number of 2-star Capability Managers to balance the workload across the Equipment Capability Customer organisation but in the Head Office, thus providing organisation and any new SRO responsibilities may need to be accompanied by a small increase in programme support staff.

16 For example, 'Building on Air Manoever Capability': The Introduction of the Apache Helicopter, HC1246, Session 2001-2002: 31 October 2002. 'Progress in Combat Identification', Report by the Comptroller and Auditor General, HC936, Session 2005-2006: 3 March 2006.

# 8. An Integrated Procurement and Support Organisation

8.1 Both the DPA and the DLO have made significant progress since the launch of Smart Acquisition to reform their respective contributions to the acquisition process. This includes real efforts to institutionalise a through life approach to acquisition. The question is whether these efforts would be assisted by further organisational change.

8.2 The gap analysis undertaken at Annex D identified the following weaknesses with regard to the current DLO/DPA construct:

- a unifying culture for Defence Acquisition has yet to be fully achieved.
- the different elements of the acquisition community operate in stovepipes; there are no TLCM targets or goals.
- inconsistency in relations with Industry.
- data upon which we base our decisions is not gathered, analysed and stored consistently. Risks are not fully appreciated at Main Gate.
- absence of a TLCM view, especially for equipment support costs.
- lack of a common MIS and IT system.

8.3 The DPA and the DLO have introduced changes designed to bridge the boundaries between them. These include the establishment of common support services, making all IPTs dual-accountable and more recently the establishment of a small number of through life IPTs and, in the case of nuclear submarines, a 2-star post responsible for ensuring a through life approach within a particular area. In the course of our study we encountered examples where cross-boundary working appears to be good. Equally, we received anecdotal evidence that the organisational divide makes a genuine through life approach difficult to achieve.

8.4 Dual accountability across Top Level Budget boundaries is unique to this area and in practice it has been difficult for both parties to enforce in a meaningful way. Faced with a choice, an IPT leader is bound to be guided by the priorities of his or her TLB Holder at the expense of the other. The move to appoint dual accountable 2-star officers is recognition of this difficulty and the indications are that it will help, but it is tackling the symptom rather than the root cause.

8.5 Previous efforts to move staff with projects transferring from the DPA to the DLO have been hampered by geography. The planned relocation of DLO IPTs currently based at Wyton and Andover to the Bath/Bristol area will help to resolve this. However, it will not of itself create a single culture and unity of purpose.

8.6 The planning process and customer changes recommended in Sections 6 and 7 will bind together the acquisition system at the customer end of the process. And the development of new acquisition targets as recommended in Section 11, will encourage a stronger focus on through life costs. However, neither set of changes will overcome the divide between the DPA and the DLO. It is simply not possible to create meaningful through life targets for the DPA because CDP is not accountable for in-service support costs. This is not a criticism of either the DPA or the DLO, but an observation on the way the current structure affects behaviour, and a reason for considering the creation of a new organisation, drawing from the best aspects of the DPA and the DLO.

8.7 The new organisation should:

- as far as possible, be focussed on 'decider' as opposed to 'transactional' functions.
- have an ethos of delivery of capability to the Front Line.
- be an executive arm of the Department, with policy being established in the Head Office.
- be as slim as possible, buying in professional expertise wherever this will contribute to value for money.
- be better skilled than at present, with a commitment to developing greater expertise in project delivery.
- be one in which interchange with industry is regarded as the norm and in which there are a larger number of personnel recruited externally.
- incentivise and reward people adequately, and encourage people to specialise and stay in post for longer where appropriate.
- achieve year on year improvements in performance against its business objectives.

8.8 The benefits of such a change would be:

- the establishment of a unified approach to procurement of equipment and its through life support.
- a single point of contact with industry and the MOD customers.
- a reduction in the number of internal boundaries across the MOD acquisition system, complementing the recommended changes to the planning process and customer organisation.
- it would encourage the defence industry, whose internal organisation is shaped in part by the way the MOD is structured, to bring together project and in-service support divisions, thereby facilitating TLCM and potentially reducing cost.
- reduction in overhead costs.

8.9 On the other hand, it would be a large organisation, responsible for a high proportion of the defence budget. However, on the basis of the current and projected future size of the DPA and DLO (summarised at Annex E) the combined strength of an integrated procurement and support organisation, in 2008, would be smaller than the DLO was in October 2004.

8.10 The combined budget of the DPA and the DLO would represent around 40% of the Defence budget, but provided adequate controls were put in place at the 2-star level, the financial risk to the defence budget should be no greater than today. In addition, there would be scope to transfer non-core elements such as parts of the supply chain and/or the naval bases, on the analogy of Strike Command's ownership of Main Operating Bases. The naval bases alone would remove 3,500 staff and more than £500M per annum from the new organisation's budget.

**8.11 We therefore recommend the establishment of an integrated procurement and support organisation by merging the DPA and DLO, led at 4-star level (or equivalent).**

## Structure of the New Organisation

8.12 The detailed structure would be for the Head of the new organisation to advise on. However, we have developed ideas on a possible structure for illustrative purposes in order to demonstrate feasibility.

8.13 The new organisation could be organised around a number of 2-star divisions organised on environmental lines where this would assist a through life approach to capability management. There would be separate divisions for the enabling services such as finance, HR and the Technical Enabling Services, though the numbers engaged in these services should be reviewed. There would need to be substantial changes to the financial reporting regime, particularly that operated within the DLO, if only to accommodate the proposed changes to the planning process.

8.14 We have not considered the size and structure of individual IPTs. Changes at this level should be considered a Line Management responsibility which will embrace on-going initiatives such as the creation of 'through life' IPTs and the impact of increased contractorised logistic support.

8.15 The recommendation to create a new organisation should not require changes to the already proposed DLO relocation plan. Indeed, the full benefits of the merger depend on the relocation plan.

**8.16 We recommend that the head of the new organisation should be involved in determining its detailed structure, including which non-core functions should be transferred elsewhere. This work should be completed by April 2007.**

8.17 We considered whether the MOD should completely out-source its procurement and in-service support function to a private sector independent project management company. However, there is insufficient evidence to demonstrate that out-sourcing would be more effective than keeping it in-house. Furthermore, evidence from the private sector suggests that the ability to manage projects should be considered a core competency and retained within the organisation.

**8.18 Nonetheless, consistent with the vision for the new organisation at paragraph 8.7, we recommend that the new organisation should continue to identify areas where there are prospects of securing better value for money from buying in services from the private sector.**

## Agency Status

8.19 The question of Agency status for the DPA has been raised in earlier reviews. Agency status does not provide the DPA, or the Agencies within the DLO, an additional lever with which to improve corporate performance. But it does oblige them to publish their accounts and performance against explicit targets which, in the case of the DPA Key Targets, are audited annually by the NAO. However, Agency status tends to encourage the development of cultural identity and objectives separate from those of Defence as a whole. **While we would not wish to lose the discipline imposed by the Key Target regime, on balance we recommend that the new organisation should not have agency status.**

8.20 We do not see the need for sub-divisions of the new organisation to have separate Agency status. They must have fully aligned and coherent performance and financial objectives and embrace the same cultural ethos as the whole organisation. Separate Agencies within would conflict with these objectives.

# 9. Approvals and Scrutiny

9.1 The approvals framework in the MOD is centred on the Investment Approvals Board (IAB) which enables Ministers and the Accounting Officer (PUS) to discharge their responsibilities to Parliament and the taxpayer. It also provides the Treasury, which scrutinises major MoD investment proposals, with the confidence to continue to delegate substantial responsibilities to the Department for internal approvals.

9.2 In spite of earlier reforms, the approvals process continues to be a source of dissatisfaction and there remain calls for change. We have heard complaints that the process is cumbersome and slow; that it does not adequately distinguish between complex and relatively straightforward cases; that it is too adversarial, fails to 'kill' projects which exhibit excessive risk, and takes inadequate account of in-service support costs.

9.3 The IAB has acknowledged that there are concerns about the scrutiny process. The Board has recently reminded those engaged in scrutiny:

- to confine comment to their area of expertise, focussing only on those aspects which are fundamental and not unnecessarily complicating business cases.

- that their role is not to act as the opposition to project sponsors but to assist them in mitigating risks.

9.4 The IAB has also commissioned work by the head of the Private Finance Unit that has focussed on the effectiveness of the commercial 'due diligence' applied to the evaluation of contracts. His findings are that, in comparison to the private sector, the level of commercial, legal and technical 'due diligence' applied to contract documents is poor. He highlights inconsistency in the application of the due diligence processes in IPTs, and a lack of independent and expert scrutiny advice in respect of commercial intentions, technical requirement and robustness of legal contracts. His recommendations, which we support, are that:

- **a strong commercial team should be built around the Defence Commercial Director to spread good commercial practice, developing a consistent and effective due diligence function.**

- **contract documents for all Category A projects should be subject to comprehensive legal due diligence and independent technical advice.**

- **the Department's acquisition performance could be improved by increasing the overall commercial awareness of all those involved in acquisition and that this should form a fundamental element of the training and qualification of procurement practitioners.**

## Too cumbersome and adversarial?

9.5 Smart Approvals guidance describes clearly both the approvals process and the evidence required within a Business Case, which is reinforced by training provided by IAB Secretariat[17]. We are satisfied that the requirements of the scrutiny community are clear and unambiguous, but in practice too many business cases are overloaded with irrelevant information and deficient in the information that really matters. It is, also important to ensure that the level of scrutiny is proportionate to the scale of the risk and we comment further on this at paragraphs 9.13 - 9.16.

9.6 We have considered the creation of a single scrutiny organisation, providing a 'one-stop' service. The main benefits would be elimination of the need for the project sponsors to deal with a number of different scrutiny communities and a greater degree of consistency and accountability. Under this arrangement the various elements of the scrutiny functions (technical, financial and commercial) would be brought under a suitably expert 2-star, who would provide leadership and direction to the scrutiny community. Collocating existing scrutiny staffs would not be essential. Whether or not a 'one-stop shop' approach to scrutiny is adopted, we see attraction in the IAB having one consolidated piece of independent and expert advice before them, providing a critique of the key issues of the business case - technical, financial and commercial. **We recommend that further detailed consideration is given to the benefits of a one-stop shop and consolidated advice to the IAB on business cases.**

## Use of Review/Information Notes

9.8 The Department moved to a two-stage approvals process (Initial and Main Gate), supplemented by Review Notes and Information Notes in 1999. Examination of approvals process performance for 2005/06 and earlier years shows that the number of Review and Information Notes is higher than originally foreseen. This may simply be a symptom of problems currently experienced by projects and should decrease as improvements are seen. However, in order to reduce the burden on the Approving Authorities, the use of Review Notes and Information Notes should be restricted only to

17 The Secretariat provided training for around 200 personnel last year.

those occasions where it is absolutely necessary. The advice of the IAB Secretariat should be sought in all cases.

## Initial Gate should be a low hurdle

9.9 When it was introduced, Initial Gate was intended to be a relatively low hurdle. We have heard anecdotal comment that the bar of Initial Gate has been progressively raised. Although we have been unable to corroborate this assertion, we believe that the concept of a low Initial Gate hurdle is sound, though there must be adequate focus on the requirement and realism. In our view there should be greater involvement of industry during the Concept Phase.

## Too slow?

9.10 IPTs, DECs and Industry have described to us their frustration at the length of time it takes to get projects approved. To industry 'time is money', and it should mean the same to us. It is easy to appreciate industry's frustration when it takes several times longer to evaluate a tender, and subsequently gain approval, than is allowed for the preparation of the bid. Clearly, if the Department requests large amounts of data to support a bid it all has to be carefully evaluated, and that takes time. But, the aim should be faster evaluation and consequent reduction in timescales which could outweigh any reductions to be achieved by changes to the approvals process. The 'Through Life Relationships with Industry' DIS Workstream is examining ways to speed up this process.

9.11 The IAB took 113 Category A cases[18] last year – an increase in workload of 20% on 2004/05. Smart Approvals guidance indicates that for a Category A project requiring Treasury approval, it can take up to 50 working days to gain approval from the point the Business Case is submitted to IAB Sec to gaining an approval note. Analysis of approvals process performance for 2005/06 shows that the average time taken for a decision by the IAB was just under four working weeks, whereas Category A projects requiring Treasury approval took around eleven weeks.

9.12 IAB members are aware of this and aim to deal with business as quickly as possible. Performance is improving, but they occupy heavily loaded posts. IAB membership forms one part of their wider responsibilities. One option might be to set more demanding targets. Revised target times could help to speed up the process, potentially saving up to two weeks on those projects requiring the highest level of approval. However, we accept that the aim of dealing with business as quickly as possible needs to be balanced against the need to make the right decision. Arguably, the more important area to focus on is the time the Department takes to assess bids, which we refer to above. If we can improve this, we should be able to make substantial savings on the overall timescales.

## Treatment of complex and simpler projects

9.13 The Review Team also considered the scope for introducing a two-tier system that would provide a 'fast track' for simpler or smaller projects. Apart from the level at which approval is given, the approvals system is the same for Category C projects (over £20M) as it is for those falling in Category A, i.e. anything over £400M.

9.14 The NAO in their report 'The Rapid Procurement of Capability to Support Operations'[19] commented on the manner in which the MOD can deliver capability at speed to the front line. They recommended that the Department apply lessons from the procurement of capabilities through Urgent Operational Requirements more widely, for example flexible procurement and rapid competition techniques. The DIS work stream examining Innovation, Agility and Flexibility is taking this work forward and any specific issues which could be related to the approvals process should be highlighted to IAB Sec.

9.15 Development of criteria to recognise less complex projects is not straight forward. A project which is low in value might carry high levels of technical risk. IAB Sec has commented that if a case is straight forward, by its nature it should pass through the system more quickly than complex ones.

9.16 We believe as a matter of principle that the Head Office should concentrate its resources on scrutiny of high value projects, given the evidence that it is in this group, relatively small in number but accounting for a high percentage of the total by value, that cost and time overruns mainly arise.

**9.17 We therefore recommend that responsibility for approval of projects below Category B (i.e. Cat C & D) should be delegated to the Customer and Supplier. Delegations would need to flow from PUS to TLB holders, who would determine the levels at which approvals could take place. Assurance about the quality of decision taking would be obtained through independent post-project review.**

18 Combined total of Business Cases, Review and Information Notes.
19 Report by the Comptroller and Auditor General, HC 1161, Session 2003-04, 19 November 2004.

## Fails to kill off projects?

9.18 There is some evidence that projects showing high levels of risk or those that do not present value for money are being cancelled, though not on the scale originally envisaged. Examples include 4.5KW Generator, Extended Range Ordnance/Modular Charge System and the Armoured Vehicle Training System (now being pursued as Enhanced Capability for Armoured Training System). Arguably, intervention by the scrutiny community on the direction of a project should mean that the number of projects reaching the IAB showing such symptoms should be rare. However, it would seem that when projects are failing, because the requirement gap remains, a project will be re-focussed, and elements of a project evolve into the successor programme. This may present better value for money, than starting from scratch. In which case, the case for programming at a higher level than likely available resources is weakened.

## Cost Estimating

9.19 Recent work commissioned by Director Equipment Programme, and undertaken by the Pricing and Forecasting Group, reviewed the robustness of the cost estimates included within the second and third decades of the Equipment Plan. This review identified that many of the estimates need to be significantly updated.

9.20 We examined the DPA Key Target Population costs of 46 post Main Gate Cat A, B and C projects. This indicated that, as at April 06, nearly 20% of projects had exceeded their Main Gate 90% confidence estimates. This lends weight to the views of many senior stakeholders who believe that the quality of price and time estimating within the Department is poor, and if left unchecked, leads to significant problems down stream.

9.21 Figure 9.1 illustrates how different behaviours can affect the quality of cost estimating. It has been suggested that typically, the MOD falls into the area circled.

9.22 The preparation and routine updating of detailed and accurate estimates is not only critical to improving the MOD's performance it must also be undertaken by appropriately skilled and experienced staff. Consistent with the findings of the Head of the Private Finance Unit's work, **we recommend that the Main Gate business cases for Category A projects should contain an independent cost estimate.**

## Adequate Treatment of Through-Life Costs

9.23 In broad order terms, initial procurement (Concept to Development & Manufacture) costs account for approximately 40% of the Whole Life Cost. The remaining 60% is spent on in-service running costs and disposal, as illustrated at Figure 9.2.

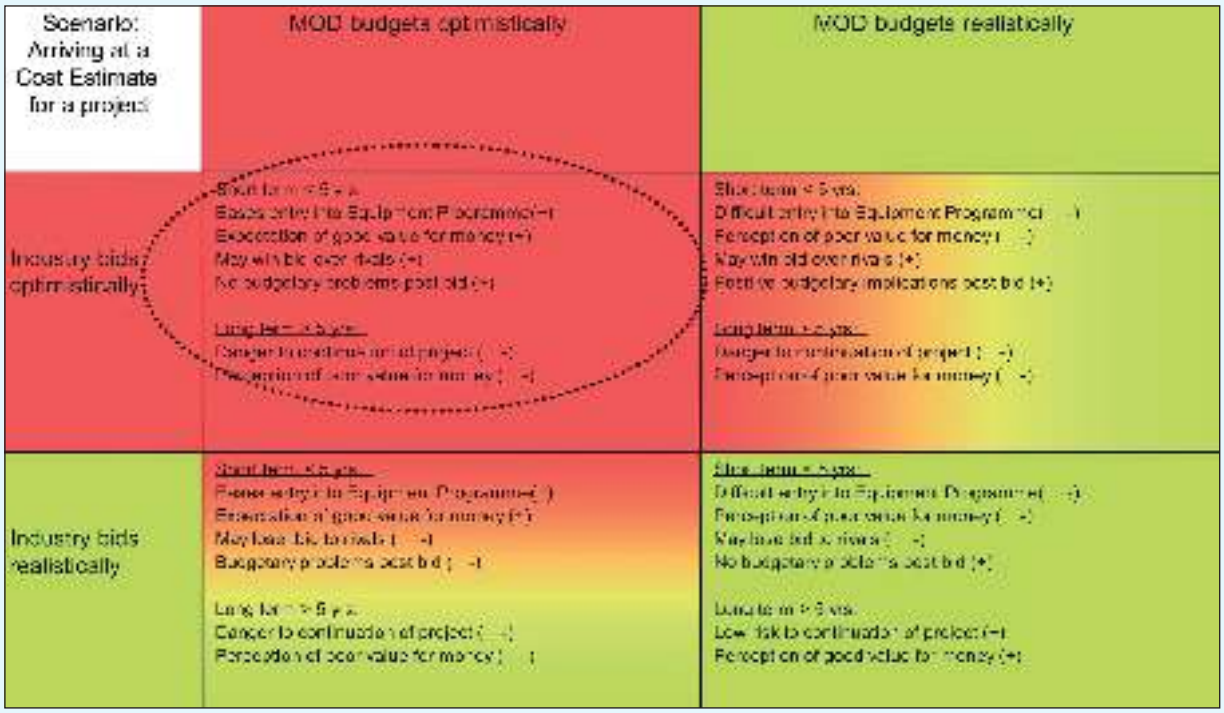



**Figure 9.1 - Acquisition Behaviours and Cost Estimating. Source[20]**

20 Chief Scientific Adviser presentation to MOD Scrutiny Conference, 20 March 2006.

| Comparison of initial acquisition costs against In-Service costs | | |
|---|---|---|
| **Equipment Type** | **Costs[A] in 'CADM' part of acquisition cycle** | **Costs [A] in 'ID part of acquisition cycle** |
| Surface Ship | 40% | 60% |
| Maritime Electronics | 40% | 60% |
| Rotary Wing | 20% | 80% |
| Submarine | 30-40% | 60-70% |

A Based on constant cash costs and excludes any indirect costs. Based on a 25 year life of the system, and includes crew/system operator/Front Line Command costs.
B Based on a variant of an existing helicopter. If this was a "new design", the development costs would be significantly higher and would push the costs well towards the CADM 40%, ID 60% split.

**Figure 9.2: Comparison of initial acquisition costs against In-Service Costs**

9.24 Despite the fact that Combined Operational Effectiveness and Investment Appraisals (COEIAs), which are the basis of determining value for money in investment business cases, include through life costs, it is generally the case that support costs are only 'noted' at Main Gate, rather than subjected to approval. In line with best commercial practice and the move towards contracting for availability **we recommend that Main Gate approvals should cover support costs, acknowledging that in some cases this will only cover the early years.**

## Approvals Thresholds

9.25 Equipment project approval thresholds have not been uplifted since December 1999. Figure 9.3 shows the effect of applying the GDP deflator to the 1999 equipment project thresholds (current thresholds are indicated in brackets).

**9.26 We recommend that Approvals Thresholds should be reviewed in discussion with the Treasury as soon as practicable.**

## Assurance

9.27 Assurance is central to the MOD's overall approach to the management of risk but anecdotal comment suggests that in recent years there has been substantial growth in the staff effort devoted to project assurance, with anecdotal evidence that the lines between assurance and scrutiny are becoming blurred. We do not recommend any reduction in the emphasis placed on adequate assurance, but it is important that assurance complements rather than duplicates the scrutiny process.

| Comparison of Equipment Project Approval Thresholds | | |
|---|---|---|
| **Category** | **Procurement Cost** | **Approving Authority** |
| A | **Above £470M** (£400M | IAB, MOD Ministers & Treasury |
| B | **£180M - £470M** (£100M - £400M) | 2-Star Approving Authorities |
| C | **£25M - £180M** (£20M - £100M) | 1-Star Approving Authorities |
| D | **Under £25M** (Under £20M | 1-Star Approving Authorities |

**Figure 9.3 Comparison of Equipment Project Approval Thresholds**

# 10. Governance

## Relationship between the Defence Management Board and Investment Approvals Board

10.1 The Investment Approvals Board (IAB) is technically a sub-committee of the Defence Management Board (DMB) but, other than a reference in the IAB's Terms of Reference, it is hard to see any formal relationship between them.

10.2 This is a key difference between how the Department operates compared to other private or public sector organisations, where the biggest investment decisions would be reserved for the Main Board, which would also reserve to itself the right to review the decisions of any subordinate body.

10.3 Although the IAB has in the past referred some investment matters to the DMB, this was not as a result of any formal arrangement. We believe that the lack of formal involvement by the DMB in major investment decisions represents an anomaly in our Governance arrangements.

10.4 While it would be unrealistic to expect the DMB to be involved in all Category A projects, we believe that the DMB should be involved in the Initial and Main Gate decisions of the highest value and strategic investment decisions (i.e. those seeking financial approval of £1Bn and over), making recommendations to Ministers. On average, since 2001 about three Initial Gate and Main Gate decisions per year fall into this category. IAB Sec would provide the necessary staffing to support the DMB on these occasions.

10.5 **We recommend that the DMB should be involved in the Initial and Main Gate decision for the highest value and strategic investment decisions, making recommendations to Ministers.**

## Composition of the IAB

10.6 The Defence Commercial Director (DCD) would bring a number of skills to bear and should play a part in our investment decisions. **We recommend that the Defence Commercial Director should become a full member of the IAB when appointed, acting as a neutral, commercially aware authority.**

10.7 The inclusion of CDP and CDL as full members of the IAB is not consistent with the non-advocate nature of the scrutiny of investment decisions. Although the IAB act as a collegiate group, CDP and CDL, as heads of the procurement and support organisations are both arguably placed in the position of having to opine on proposals emanating from their own organisations. Clearly, they bring knowledge and experience to the Board, but we do not see their full membership as essential.

10.8 **We recommend that from 1 April 2007 the head of the new integrated procurement and support organisation (who will subsume the posts of CDP and CDL) should be 'in attendance' at IAB meetings, rather than acting as a full member. He would provide assurance to the Board on the procurement and support arrangements. In the interim, CDP and CDL should continue to act as full members of the IAB.**

10.9 The lead on affordability and value for money considerations has historically been taken by 2nd PUS. This stems from his former position as the head of the Office of Management and Budget. However, in any commercial organisation, the Finance Director would expect to sit on the capital investment board. **Accordingly, we recommend consideration be given to appointing the Finance Director to the IAB from 1 April 2007 in place of 2nd PUS.**

10.10 We believe that the IAB would be enhanced by the inclusion of one or more Non-Executive Directors, which would be in line with best practice in commercial organisations. The Chief Scientific Adviser, as chair, provides a degree of independence as an external appointee, but he now forms part of the Executive, being a TLB holder in his own right.

10.11 **We recommend that the Department should seek to appoint one or more Non-Executive Directors to the IAB. A search should commence to allow appointment from 1 April 2007.**

## Role of the Defence Commercial Director (DCD)

10.12 The DCD will need to be given sufficient authority and levers to effectively discharge the role. It has already been agreed that he or she should be a member of the Acquisition Policy Board, and co-chair the MOD/Industry Commercial Policy Group. **In addition to our earlier recommendation for IAB membership, we recommend the DCD should also become a member of the National Defence Industries Council allowing formal engagement with Industry at the strategic level. The DCD should take up membership of these committees upon appointment.**

## Head of the Commercial Function

10.13 It is currently envisaged that the DCD should act as the focal point in MOD HQ to influence, educate and champion the course of sound commercial deals, and assume the role of the head of the Defence Commercial function. The DCD should assume functional management of the Commercial Directors in the TLBs who would continue to be directly responsible to their TLB holder for the provision of commercial advice and the successful delivery of programmes, with the TLB holder acting as first reporting officer. The DCD would act as their countersigning officer.

## Process Owner

10.14 In the wider context of our review we were asked to offer a view on who should own the Procurement Process. Process owners are responsible to the Defence Management Board for ensuring that their process is applied consistently and operates as effectively and efficiently as possible.

10.15 The owner of the Procurement Process needs to be someone who is suitably senior in the Department to act as the Single Point of Accountability across Defence. The owner will require an understanding of the process and would also need to have an insight into how the process was being operated on a day-to-day basis. The owner should have authority, and the necessary levers to ensure compliance, and drive improvements.

10.16 Since the process owner should act across Defence, there is merit in the owner being part of Head Office. This is important in the context of our recommendations on Incentives and Targets, in Section 11 of the report. The Head Office needs to be in a position to test and challenge the procurement arm of the Department, setting its targets and assessing its performance. Head Office ownership of the process would allow this.

10.17 **We recommend that the Defence Commercial Director (DCD) should become the owner of the Procurement Process, also taking responsibility for the Commodity Procurement sub-process. The DCD should assume these roles upon appointment.**

10.18 We do not believe it is necessary to identify an owner of the acquisition cluster (New and Enhanced Military Capability, Procurement and Logistics). These form distinct elements of the acquisition process, and provided the Defence Management Board have identified an owner for each element, this should be sufficient. Consideration will be needed to determine who should own the Logistics process on the demise of the CDL post in April 2007.

## Supporting Structure

10.19 The DCD will need to have appropriate support. As this is under active consideration elsewhere, we have not offered any recommendations here.

# 11. Incentives and Targets

11.1 The selection of appropriate incentives and targets is vital to the development of an acquisition system which embeds TLCM.

## Best Practice in Performance Management

11.2 An effective performance management system, capable of contributing to systematic improvement and the embedding of TLCM, must be designed top-down. This requires:

- definition of the acquisition system in terms of business outcome.
- identification and understanding of system interactions.
- measurement and management of these interactions.

## Existing Targets in MOD - Do they encourage TLCM?

11.3 Current acquisition targets focus on a part of the Acquisition system, predominantly DPA activity, on the delivery of equipment projects post Main Gate at planned performance, cost and time. For example, Target 6 in our Public Service Agreement (PSA) was defined during Spending Review 2004 in the following terms:

- achieve at least 97% of Key User Requirements (KUR) for all Category A to C projects that have passed Main Gate approval, to be achieved throughout the PSA period.
- average In-Year variation of forecast In Service Dates, for all Category A to C projects that have passed Main Gate approval, to be no more than 0.7 months in FY05/06, 0.5 months in FY06/07 and 0.4 months in FY07/08.
- average In-Year variation of forecast costs for Design and Manufacture phase, for all Category A to C projects that have passed Main Gate approval, of less than 0.4% in FY05/06, 0.3% in FY06/07 and 0.2% in FY07/08.

11.4 This target informs the DPA target setting regime, and forms the basis of agency Key Targets 1-3, respectively. Performance against these targets is audited by the NAO drawing on the annual Major Projects Report. While a strong driver for the delivery of projects post-Main Gate, these targets have a number of shortcomings in that they do not address:

- pre-Main Gate activity (Concept or Assessment).
- post In Service Date delivery.
- through life support.
- programme or force element integration.
- delivery of military capability.

11.5 In DPA Key Target 1, Key User Requirements are used as a proxy measure for the desired business outcome of Acquisition. Whether this is defined as 'capability', or 'force elements' or even 'through-life project delivery', the resulting target-driven scrutiny is selective and aligns poorly with overall business outcome. As a result, because the Defence Procurement Agency cannot be held accountable for aspects of delivery which are beyond its control, there is an incentive to transfer risk elsewhere. In short, the current PSA target and associated DPA Key Targets drive behaviours which are not optimal for the acquisition system as a whole.

## Options for Improvement: Metrics for TLCM

11.6 In the pure sense of capability-based planning, the highest tiers of metric logically exist at the 'whole of force' and 'capability' levels. However, these are abstract and can be difficult to measure and communicate. We have therefore considered what alternatives there might be.

11.7 Option 1: Force Element Delivery. There is potential to define an uppermost tier of metrics which operates at the force element level and is, as a result, closely aligned to Departmental outputs. The aim of such a regime would be to drive a capability-based planning approach to acquisition by adopting targets on the delivery of future Force Elements at Readiness (FE@R) within budgeted resources over an extended period, possibly 10 years or longer. The FE@R concept is familiar outside the department, and already used as the basis of PSA Target 3 which is concerned with the generation of current forces which can be deployed, sustained and recovered at the scales of effort required to meet our strategic objectives.

11.8 Option 2: Equipment Programme Delivery. While project delivery targets are a strong and useful discipline, they fail to drive the overall delivery of an integrated equipment programme or to address the delivery of integrated programmes of projects. There is potential to develop a tier of metrics at the programme level where the Department defines a series of planned upgrades in equipment capability (e.g. future rotorcraft capability) to be achieved for a given level of funding. While this does address cross project integration issues, it does not bring support costs within scope and therefore fails to provide a whole life cost perspective.

11.9 A variation of this target regime might seek to incentivise the organisation to deliver integrated through life programmes by adopting targets based on the delivery, and maintenance, of a given level of equipment capability for a specified funding profile. This would bring support costs within the boundary of the target setting regime and would be a stronger driver for through life behaviours.

11.10 Option 3: Through Life Project Delivery. There is scope to extend the current target set to incentivise projects to deliver options which reduce whole life cost. This could be achieved through the inclusion of a number of years of support cost as part of the project cost estimates, linked to the tracking of actual support costs beyond the In Service Date. This would require a clear delineation of support costs attributable to each project.

11.11 While there is uncertainty over support costs at Main Gate, adoption of such a target would drive the Department and industry to pay greater attention to support cost estimation and the discipline of cost tracking. Adoption of such a target would underline our intention, signalled in the DIS, to move away from a narrow focus on procurement costs. A variant of this metric is used in the annual US Department of Defense Performance and Accountability Report.

11.12 Acquisition targets will continue to evolve over time, and we must be cautious about adoption of a target 'currency' which is ill defined and complex to communicate outside the Department. There is also a need to guard against targets which are viewed as abstract and insufficiently strong drivers for departmental delivery. **We therefore recommend the adoption of a target set which reinforces through life delivery by setting targets for the delivery of a defined level of project performance and its cost effective sustainment through life (i.e. Option 3).** However, we recognise that as a subset of these targets it will be necessary to retain the existing target set, at least for a limited period given the history of cost and time over-runs.

11.13 Further work should be commissioned to investigate the scope for moving towards targets at the programme capability or force element level. We look to the Pathfinder programmes to assist in this process in the areas of Maritime Surface Combatant and Armoured Vehicles.

11.14 While we believe our proposed target set will drive TLCM behaviours, this form of target cannot be readily mapped to our current procurement organisations, because no one organisation can be incentivised to adopt a through life perspective and to drive out associated cost savings and efficiency improvements.

## Broader Performance Management

11.15 It is unlikely that any one metric can adequately monitor the overall health of our Acquisition System. In addition, there is a need for metrics and targets that will provide a baseline against which improvements and benefits delivered by any acquisition change programme can be tracked.

11.16 We should, therefore, develop a set of metrics for internal use which focus management attention on aspects of the Acquisition System requiring improvement. Specific metrics will depend upon the nature of the system, but the following examples merit further development:

- portfolio risk – these metrics assess the balance and realism of the project portfolio and the extent of the flexibility to adapt to changing operational needs.

- processes & structures – these metrics drive organisational efficiency in the operation of acquisition processes. Acquisition cycle time, in particular, which is used by the US Department of Defense as a target, could be a major driver for adoption of incremental acquisition.

- people & skills – these metrics aim to ensure that the organisation has the skills and people to deliver.

11.17 Industrial capacity issues could also be addressed. Taken together, a sub-set of these metrics could provide the basis of a defence acquisition balanced scorecard which would allow the Acquisition Policy Board to monitor the overall health of the acquisition system, as well as providing assurance to the Office of Government Commerce, Treasury and others that we are adopting a portfolio management approach to key projects. This scorecard would link to entry O (future capabilities & infrastructure) in the defence balanced scorecard.

11.18 The selection of initial targets and metrics should be directly linked to our analysis of underlying issues within the acquisition system, and to the benefits we might expect to deliver through any reforms of defence acquisition. Such metrics would focus management attention, as well as contributing to the benefits tracking regime around our acquisition change programme.

**11.19 We therefore recommend the development of a set of Acquisition System performance metrics, allowing management to address systemic acquisition issues and focus on TLCM.**

# 12. Research and Development

12.1 The gap analysis at Annex D highlights the importance of ensuring that research and development (R&D) is sufficiently integrated and coordinated within the acquisition system. The MOD spends approximately £2.6Bn annually on R&D, of which some £640M is categorised as Research. R&D is planned and managed along the following lines.

## Research

12.2 The main portion of research spend (£480M) is controlled by the Chief Scientific Adviser (CSA). Other research funds are held mainly by the DPA & DLO.

12.3 The Research Programme controlled by the CSA is divided into seven research Outputs, each of which has a corporate owner who is a member of the Defence Science & Technology (D S&T) Board. This board determines overall strategic direction and priorities. The largest element within the Output structure is Output 3, Capability Solutions, which provides advice and analysis to support capability management by the Equipment Capability Customer. The Research Acquisition Organisation (RAO) at Shrivenham is responsible for management and delivery of a coherent research programme. The key suppliers for research are: Defence Science and Technology Laboratory (Dstl), QinetiQ and other commercial suppliers – industry and academia who obtain research work through competition.

## Development

12.4 The development element of R&D is part of the Equipment Plan. Approximately £450M is spent annually during the Concept and Assessment phases of the CADMID cycle, with the remaining £1.5Bn being spent in the Demonstration phase.

12.5 A key aspect of development in a project context is reduction of technical risk. Technology Readiness Levels and System Readiness Levels provide a framework to measure and communicate the maturity of technology during acquisition. If a suitably promising system level technology has too great a risk for immediate inclusion in projects, Technology Demonstrator Programmes may be identified and resourced.

## Advantages & Disadvantages of Current Approach

12.6 The current arrangements have introduced greater visibility of the research spend across Defence and a clearer link to strategic guidance. However, there is a need to improve coherence between the research programme and the equipment programme, including an improved linkage between industrial strategy and our commissioning of research in partnership with industry. The NAO in 2004 identified[21] that active management was required to reduce the 'Valley of Death' that can occur where research funding tails off prior to the Equipment Programme budget ramping up. Moreover, the DIS places increased emphasis on TLCM. The question is how can this approach best be delivered?

## Options for Improvement

12.7 There are a number of options for achieving a closer linkage between the element of the R&D budget concerned with technology development and the overall TLCM planning construct, these include:

• Lead responsibility with Customer organisation. Channel all technology development research spend through the customer organisation. This would place increased emphasis on customer requirements and promote alignment with DEC capability plans. The risks of this option include: fragmentation by DEC domain, lack of effective coordination of cross-cutting technology issues (such as sensor development), and a focus on shorter term imperatives at the cost of future investment.

• Lead responsibility with procurement organisation. This would strengthen linkages to IPTs and promote immediate exploitation and improved industry linkages. There would be risks that research funding would become focussed purely on equipment risk reduction, ignoring the potential for other lines of development to deliver improved capability and that long term research would be subordinated to a short term focus on project risk reduction.

• Lead responsibility with SIT organisation. This would ensure a coherent overall research programme, a drive for technical quality, and a balance of short to long term research. The risk here is that research would not be linked to end customer requirements and that insufficient emphasis would be placed on exploitation planning.

21 NAO Report: "The Management of Defence Research and Tecnology", HC360, 10 March 2004.

## Proposed Approach

12.8 No one option in isolation would provide a complete solution. Recent work undertaken at the Chief Scientific Adviser's request points towards streamlining the current seven Output structure, and a move to four categories of research focussed on outcomes: Technology Development, Development and Maintenance of Scientific and Technical Expertise, Support to Decision Making and Support to Operations. We support this view, and believe that a single research output should be created focussing on technology development bringing together elements of the current Output 3 and Output 6 programmes.

12.9 This should mean technology development spend being planned and directed as an integral part of through life capability planning. The Director of Equipment Capability would generate the requirement for such research in terms of through life capability goals, with the Defence Science & Technology Board endorsing such goals and adjudicating on overall research balance of investment on behalf of the Defence Management Board. The acquisition organisations would then have responsibility for assisting the RAO to agree detailed research programmes, exploitation plans and a procurement strategy which is coherent with the industry strategy in each sector. CSA would retain financial control, ensuring alignment with overall MOD requirements and the technical quality and coherence of the research undertaken. In line with this **we recommend that:**

- **the DECs need to specify research goals.**
- **the new integrated acquisition organisation needs to assist the Research Acquisition Organisation to develop a detailed research plan, to agree exploitation mechanisms and to ensure pull through of research.**
- **there is a single research Output which supports technology development.**
- **there should be an explicit link between each DIS sector strategy and the strategy for commissioning and exploiting research.**

## Innovation

12.10 There remains a risk that research and development is insufficiently focussed on fast-tracking new developments in technology through to the end-user, accepting that the higher risk involved will inevitably result in more write-offs.

12.11 The US Defence Advanced Research Projects Agency (DARPA) route is an example of an organisation designed to promote such innovative research. DARPA was introduced in the late 1950s to counteract military stove-piping and a 'no failure' attitude which stifled any innovation in equipment or process and to address a lack of procurement flexibility. DARPA takes on high risk, high return projects and has the capability of pursuing many parallel paths by virtue of a substantial budget. Individual programmes are run by high quality, empowered engineers and scientists with later customer involvement. A large number of speculative proposals are initiated - with ideas going nowhere killed off quickly and an accepted 'failure' rate of over 80%. More promising ideas are driven hard right through to prototype or demonstration stages.

12.12 While transplanting the entire DARPA model to the MOD is unlikely to be feasible given the relative sizes of the defence budgets, there are elements of the DARPA model which could be adopted. A separate R&D budget aimed at high risk, high benefit concepts merits further consideration. DARPA's annual budget of some US$ 3Bn equates to 25% of the US DoD spend on research. The UK equivalent percentage budget would be some £120M. Such an amount would allow work to be undertaken on a small number of targeted initiatives. Given that no new funds are likely to be available, it would require the reprioritising of the current £2.6Bn R&D spend in order to provide headroom for this capability.

12.13 **It is recommended that work is undertaken to explore whether sufficient head-room could be created within the Department's R&D spend to make a DARPA model a starter.**

# 13. Implementation

13.1 The Department has a record of being sound on analysis but less strong on implementation. The changes we have recommended should be incorporated into a single coherent DIS acquisition reform programme led at Departmental level and managed in accordance with Office of Government Commerce best practice, including a risk mitigation strategy. This programme should form part of the Defence Change Programme, but the governance arrangements will need to engage both the Acquisition Policy Board and the Defence Management Board. At the same time a major effort will be needed, involving Ministers and all members of the Defence Management Board, to present the changes in a way that will bring them to life and encourage the changes in behaviour and culture that are needed.

## Culture, Behaviours, Skills & Training

13.2 The culture, behaviour, skills and training, issues highlighted in our study are being taken forward by the DIS Skills and Behaviours Workstream. Whilst some issues can be addressed quickly, inevitably this area will take sustained effort and will incur costs associated with re-skilling our workforce. Implementation of the changes to behaviour and culture will require leadership at all levels to actively embrace the changes required.

## Planning Process Issues

13.3 The aim should be to implement the financial planning recommendations in EP/STP 08, though this will inevitably be a transitional planning round. This will entail sizable changes to the processes undertaken in Head Office, the Front Line Commands and the DLO/DPA. The task of disaggregating the DLO's equipment support funds will require substantial commitment of time by staffs in Head Office, DLO and the Front Line Commands and will need to start straightaway. A small re-location of finance staff is likely to be required which should be resource neutral. There will be a need for an implementation cell in the short term to develop revised processes and co-ordinate roll-out.

## Customers Roles and Responsibilities and the Role of the Senior Responsible Owner

13.4 The adoption of the new nomenclature to describe the roles of each of the 'customer' elements of the acquisition system should be implemented as soon as practicable. It will be necessary to advertise this change in approach internally and externally. No additional resources should be required.

13.5 We need to embed new ways of working within the Equipment Capability Customer; to re-invigorate the Capability Working Groups; and to produce revised Customer Supplier Agreements based on through life principles. The Pathfinder projects running in Maritime Surface Combatant and Armoured Fighting Vehicle areas should be regarded as a test-bed of best practice, and a means for trialling emerging thinking on TLCM.

13.6 The assignation of a 2-star SRO within the Equipment Capability Customer for every major new capability in the MOD's forward plans, should be done as soon as practicable. This may require a small number of additional staff resources.

## An Integrated Procurement and Support Organisation

13.7 The new organisation should form on 1 April 2007, although unified financial systems will not be fully in place before 1 April 2008. This recommendation should not require changes to the already proposed DLO/DPA collocation plan. Indeed, the full benefits from the merger depend on the implementation of that plan. There will be a need for a dedicated implementation team which should be responsible for the development of implementation options, implementation planning and associated consultation.

## Approvals and Scrutiny

13.8 Implementation of the Approvals and Scrutiny recommendations should not involve significant financial cost. Many can be implemented in the course of this financial year. There should be scope for modest savings in numbers of staff

engaged in scrutiny. On the other hand, the need to ensure adequate access to specialist expertise will generate additional costs in the short run. IAB Secretariat should be asked to lead the implementation.

## Governance

13.9 The majority of the recommendations relating to governance can all be implemented by April 2007. There should be no requirement for additional staff resources.

## Incentives and Targets

13.10 The recommendation to adopt a new target set which reinforces through life delivery by setting targets for the delivery of a defined level of project or programme performance and its cost effective sustainment can not be implemented immediately. Discussions with the Treasury and National Audit Office will be necessary prior to implementation. The aim should be to complete these in time for implementation from the beginning of calendar year 2007.

13.11 The recommendation to create a new set of metrics to monitor the health of our acquisition system should be implemented by April 2007. The Director of Defence Acquisition should be responsible for implementation.

## Research and Development

13.12 The recommendation to move to a model in which technology development spend is planned and directed as an integral part of through life capability planning could be implemented by April 2007 and should not require any increase in staff.

13.13 The recommendation to examine the potential for headroom in the Department's R&D spend should be implemented straightaway. This will help to inform the scope for establishing arrangements similar to the US Defense Advanced Research Projects Agency.

## Co-ordination

13.14 Given the scope and ambition of this programme, **we recommend the appointment of a senior official as programme manager charged with co-ordinating and driving overall implementation. He or she will require Board level SRO support.**

Tom McKane
Enabling Acquisition Change Team Leader

June 2006

# Annex A

## Terms of Reference

1. The Terms of Reference for the Enabling Acquisition Change Team Leader were:

"The Defence Industrial Strategy has signposted the need to review our pan-Departmental approach to acquisition. Building upon Smart Acquisition the Department needs to understand where our current structures, organisation, processes, cultures and behaviours support, encourage, hinder or obstruct our ability to deliver through-life capability management, and to address these obstacles where they are encountered.

You will review our current acquisition construct and make recommendations where changes are needed, reporting directly to the Permanent Under Secretary, and through him to the Acquisition Policy Board (APB). You will have a clear remit to range across the whole of the MOD's business and be encouraged to take a broad view of the acquisition process taking into account the Defence Values for Acquisition, reporting progress to the APB on an ongoing basis, with final recommendations by 26 May 2006 for early implementation.

***Main Duties/Responsibilities:***

- *To lead a review of how to optimise an acquisition system based on:*
  - *Primacy of through-life considerations; including the other lines of development (training, people, infrastructure, doctrine, organisation, information and logistics) which contribute to capability.*
  - *Coherence of defence research, development, procurement and support.*
  - *Concentration on successfully managing acquisition at the Departmental level.*
- *To consult widely, both inside and externally to the Department, to understand how the current acquisition construct supports, encourages, hinders or obstructs this, and to identify measures for improvement.*
- *To make practical recommendations, by 26 May 2006, of where changes are needed to remove obstacles to the successful delivery of through-life capability management, and an implementation plan to deliver the necessary change.*

*The team will be hosted and supported by the Directorate of Defence Acquisition."*

### Composition of the Review Team

2. The Team Leader, Mr Tom McKane took up appointment 9 January 2006, and a small team to support him was established soon after comprising 1x Band B1 officer (Mr Peter Hardisty), 1x OF5 (Gp Capt Chris Bushell),1 x Band B2 (Mr Rob Lingham), and 1x Band D Executive Assistant (Mrs Gerry Grattan and subsequently Mrs Toni Colasuono).

# Annex B

## Methodology

1. Our work was divided into three distinct phases. The ***data gathering*** phase was formed of two elements – firstly, looking at the history of defence acquisition, focussing on the earlier attempts by the Ministry of Defence to tackle perceived problems with defence procurement in order to see what lessons might be learned from those who have been down similar paths. Secondly, and a major focus of effort, was to interview stakeholders at a range of levels.

2. Internally, we interviewed all members of the Defence Management Board (including the Non Executive Directors), the Acquisition Policy Board, the Investment Approvals Board and others including the Chiefs of Staff, Front Line Commanders, those in the Centre, the Equipment Capability Customer, Defence Procurement Agency, Defence Logistics Organisation, Science Innovation and Technology community and Defence Estates. Further a field we have received input from some of our overseas missions (US, Australia, France and Germany) allowing us to make comparisons with acquisition practice and performance in those countries.

3. To gain a wider perspective we also interviewed external stakeholders including Other Government Departments, the Defence Industry, and with companies operating in other sectors and academia. We also spoke with a number of consultancy companies which had experience in this area. However, although we did not employ any external assistance for this review, a number of consultants have offered us their perspective. We have, between the Team, seen over 200 people.

4. We decided that we would not undertake a questionnaire based survey, and employed a framework (based on our Terms of Reference) that guided our interviews. Although qualitative in nature, we believe it provided a good indication of what areas people thought required attention in the acquisition process. There is, of course, a danger that this does not get to the heart of the problem but there was a remarkable consistency of the perceived ailments among those interviewed. We have, of course, attempted to gather hard data (evidence) to support this report wherever possible. However, we have found that this has proved difficult to achieve in some areas.

5. The second phase of activity was spent on ***analysis and formulation of options.*** The latter was supplemented by conducting five focussed workshops. Four were held internally (a dozen attendees on each), which included representation from the across the acquisition cycle. The fifth was facilitated by the Defence Industries Council. At our request this was attended by second and third tier suppliers so that we had a broader spectrum of industry views to complement those provided by the major Defence primes. These proved to be extremely worthwhile, allowing us to test some of our earlier thinking on what might be both desirable and importantly, practicable. Our third and final phase was getting to the main task of ***writing the report.*** This was guided by meetings of the Acquisition Policy Board and Defence Management Board at their meetings on 19 and 26 April respectively.

6. An open invitation was extended to the MOD as a whole to contribute to our work and also to the Defence Industry (through the Defence Industries Council Secretariat). As a result we were offered some useful contributions to our work. While the number of written contributions from within the Department was relatively low, we did receive a number of submissions from outside the Department, mainly from the Defence Industry, and wider. Finally, we held informal discussions with the MOD TU side (meeting them twice during the course of our work), and also a meeting with the TU representative on the National Defence Industries Council. We found this dialogue very constructive and helpful.

# Annex C

## Industrial Sector Best Practice

1. We discussed, with a number of leading non-defence sector industrialists, the way in which large and complex capital intensive projects are managed. There were a number of similar themes which we have included, as 'Best Practice', in our proposals. The principle themes raised by industry were:

- the importance of developing a single and focused high performing cultural identity within the company or organisation.

- particular attention to detailed planning based upon accurate data and a detailed knowledge of the 'external environment', the technologies used and the anticipated cost. 'Get it Right First Time' was a common theme alongside the need to have an exit strategy.

- the commercial sector is prudent and risk averse particularly with regard to new technology. There was a genuine reluctance to be 'first to market' with a new technology and in all cases, technology would be thoroughly tried and tested prior its adoption; there would always be a fallback plan. Most companies demonstrated a reluctance to change or update technology during a project.

- most large projects would have a risk contingency. It was considered part of the project cost and would vary over time as the project matured and risk reduced.

- some companies, particularly within the oil industry, would endeavour to spread the risk of a large and complex project by undertaking it in partnership with another company.

- all the companies used an approvals system which, in most cases was not dissimilar to that used by the MOD. Strategically important projects are approved at main Board level which would include participation of Non-Executive Directors. All companies endeavour to ensure that those vested with Approvals authority are not linked to the preparation or sponsorship of the business case. In all cases there was significant technical and financial scrutiny, often with those responsible for approving the scrutiny being required to endorse the proposal. Some companies also benchmarked their approach with that of their competitors.

- projects are completed as quickly as possible once the decision to go ahead is made. Some companies move wholesale from one technological level to the next quickly, decommissioning the old equipment promptly.

- the importance of maintaining a high degree of flexibility throughout the life of the project was emphasised. It was not unusual for projects to be accelerated, cancelled or postponed; at short notice should circumstances change.

- there was a common desire to reduce Whole Life Costs through improved processes. Those who run the equipment did not routinely procure it.

- project teams must demonstrate high levels of technical skill and sector knowledge. Similarly, project management was a career path in its own right. Large, complex and strategically important projects would be managed by experienced and senior project managers, typically commanding high salaries which reflected their performance as project managers rather than being aligned to managerial pay structures.

- an expectation that project teams would be fully engaged in the detailed aspects of the project and that they, and their suppliers, expected the client company's project team to intervene, where appropriate, on a regular basis.

- 'Event to Event' tenure of key staff was important to project success and importance of staff accountability.

- the approach taken when selecting suppliers is significantly different to that adopted by the MOD. All companies, to a greater or lesser extent, adopted some form of partnering arrangement which typically involves sophisticated supplier selection based on a variety of criteria. In some cases profits are ring-fenced so that all parties can make a determined effort to reduce costs; this avoids linking profit to turnover which can act as a disincentive to reducing costs.

- longer term partnering allows the supplier to better understand the nature and demands of the client's business and gives them the confidence and security to develop techniques and products which better, and more cost effectively, satisfy the client's needs.

# Annex D

## Acquisition System Key Characteristics Gap Analysis

| Key Characteristics | Assessment of Current Performance | Gap |
|---|---|---|
| Unity of purpose with corporate goals and objectives, understood and shared by everyone. | Well defined and understood identities and cultures exist within each element of the acquisition system. However, Defence Values for Acquisition intended to shape the behaviour of everyone in the acquisition community (including industry) are not yet fully embedded. | A unifying culture for Defence Acquisition has yet to be fully achieved. |
| Clear individual roles, responsibilities and accountabilities. | Individual roles, responsibilities and accountabilities are not clearly understood internally and externally. e.g. Multiple customer voices, scrutineers commenting outside areas of expertise etc. | Clarification and reinforcement of roles, responsibilities and accountabilities required. |
| A unified planning process which takes into account the external commercial environment and technological developments. | Separate planning functions in resource and equipment planning, using different time horizons. e.g. EP/STP. Incremental approach to acquisition is not fully embedded. | Lack of unified planning process. Needs to bind more closely together the EP and STP process so that changes in one are reflected in the other. Lack of fully embedded incremental approach. |
| Investment of sufficient time and resources during the early stages of a project, with a view to rapid execution thereafter. | Performance is improving and the IAB require evidence of early investment but there is still insufficient Concept and Assessment phase spend. e.g. Average spend for Concept & Assessment Phase for Cat A projects is about 5% | Insufficient investment of resources in early stages of a project. |
| Robust data, mature estimating processes and comprehensive assessment of technical and financial risks before commencement of a project's execution phase. | Performance has improved. However, continued experience of time and cost overruns on major projects and risk that many estimates are optimistic in terms of time and cost and technical challenges are not fully appreciated. Cost estimates not systematically subject to independent scrutiny. | Data upon which we base our decisions is not gathered, analysed and stored consistently. Risks are not fully appreciated at Main Gate. |
| Plans which are prudent and contain adequate contingency. | Situation improving, but planning rounds still characterised by efforts to deal with effects of cost growth at the expense of uncommitted programmes. | Lack of uncommitted funds restricts agility in the equipment programme. |
| A strong focus on in-service operating costs. | Customer 1 is not adequately incentivised to take full account of through life costs. Support costs are only 'noted' rather than subject to approval at Main Gate. | Customer 1 does not plan on TLCM basis across all DLOD to a sufficient degree. The Department risks failing to fully appreciate through life costs. |
| Close engagement of the user in new investment decisions and project development. | Customer 2 is too far removed from investment decision making and development of new capability. e.g. Inconsistent approach to Capability Working Groups. | Customer 2 insufficiently engaged in decision making and project development. |
| An agile R&D programme that rapidly understands associated technical risk. | Much of MOD's R&D is considered world class. However, there is some possible duplication of research and concerns about pull-through of technology to meet the customer's requirements and a tendency to specify high risk solutions before the technology is properly understand. | Process for directing research is not optimised for TLCM. Limited funds inhibit ability to rapidly develop technology. Insufficient focus on the maxim that the best is the enemy of the good. |

| Key Characteristics | Assessment of Current Performance | Gap |
|---|---|---|
| Early identification of acceptable performance trade-offs to deliver projects to time and cost. | Customer 1 regularly makes Performance and Time trade-offs. But, Customers are not incentivised to adopt incremental approach and without a full appreciation of the key cost drivers, scope for trade-offs are not identified sufficiently early to have a major impact on overall costs. | A combination of over optimism, incentives which discourage an incremental approach and insufficient information to support key performance, cost and time trade-offs early in the life of projects has a major impact on projects. |
| Willingness and ability to cancel failing projects. | Projects are cancelled at different stages of the acquisition cycle. e.g. 4.5 KW Generator, Armoured Vehicle Training System, MRAV. | Lack of wide visibility of project cancellations. |
| A financial system that is fit for purpose and understood by all that use it. | Current financial planning processes are not well understood by the acquisition community as a whole, and inhibit good TLCM. | Absence of a TLCM view, especially for equipment support costs. Also need to rectify disincentives to good value for money of current Resource DEL/Capital DEL split. |
| A governance and performance management system with targets which are quantifiable and include in-service operating costs. | The Department's overall governance arrangements treat acquisition of new equipment as separate from the delivery of current capability. Different elements of the Acquisition System have separate targets which can drive behaviours contrary to good TLCM. | The different elements of the acquisition community operate in stovepipes and there are no TLCM targets. Separate and potentially conflicting behaviours have emerged. |
| A management information system which is capable of providing accurate and timely information particularly financial, project, time and risk related issues. | The DPA and DLO do not use a common Management Information System and use different IT systems e.g. DPA use DAWN and the DLO/ECC use DII. | A common MIS and IT system is needed. |
| An efficient approvals process that incorporates detailed, accurate and non-advocate advice and due diligence appropriate to the scale of the proposed investment. | The current approvals system is time consuming, and does not apply levels of scrutiny appropriate to the level of investment. The lines between scrutiny and assurance are blurred. Non-Executive Directors are not used. | Approvals process which does not adequately differentiate between higher and lower risk projects and harnesses inadequate expertise to assess technical and commercial aspects of major projects. |
| Appropriately experienced and qualified people who are managed, rewarded and incentivised to meet corporate objectives. | The MOD possesses skilled and highly motivated staff. There are, however, differences between Military and Civilian approaches to management of the human resource. Training is fragmented and there is a low level of interchange with industry. Reward mechanisms are insufficient. | The Department lacks sufficient commercial expertise, has low levels of professionally qualified staff. Staff are not managed to maximise the performance of acquisition community. Reward mechanisms are not fully utilised. Lack of means to encourage specialists to develop areas of expertise. |
| A strong relationship with industry partners to deliver long term value for money based on trust, openness and a clear alignment of incentives. | Quality of relationships with industry vary. Transparency of forward equipment plans and partnering arrangements are comparatively immature. | Inconsistency in relations with Industry. |

# Annex E

## DLO/DPA Size and Spend

The current size, and spend (in Near Cash), of the DPA and DLO is summarised below:

| Comparative DLO/DPA Statistics | |
|---|---|
| Defence Logistics Organisation:<br>• 05/06 Operating Costs - £1.95Bn<br>• 05/06 Project/Eqpt spend - £3.65Bn<br>• Mar 06 – Staff No – 24,977 | Defence Procurement Agency:<br>• 05/06 Operating Costs - £0.5Bn<br>• 05/06 Project/Eqpt Spend - £5.3Bn<br>• Mar 06 – Staff No – 4,653 |

Both the DPA and the DLO plan to reduce their headcount as part of the MOD's efficiency drive. The plan is that the DLO head count will have reduced from 27,000 in October 2004 to 21,600 in March 2008. The DPA will similarly have reduced from 4,600 (October 2004) to 4,150 (March 2008). On this basis, and without reductions arising from rationalisation as a result of a merger, the headcount of the new organisation would be 26,000 people, smaller than the DLO was in 2004.