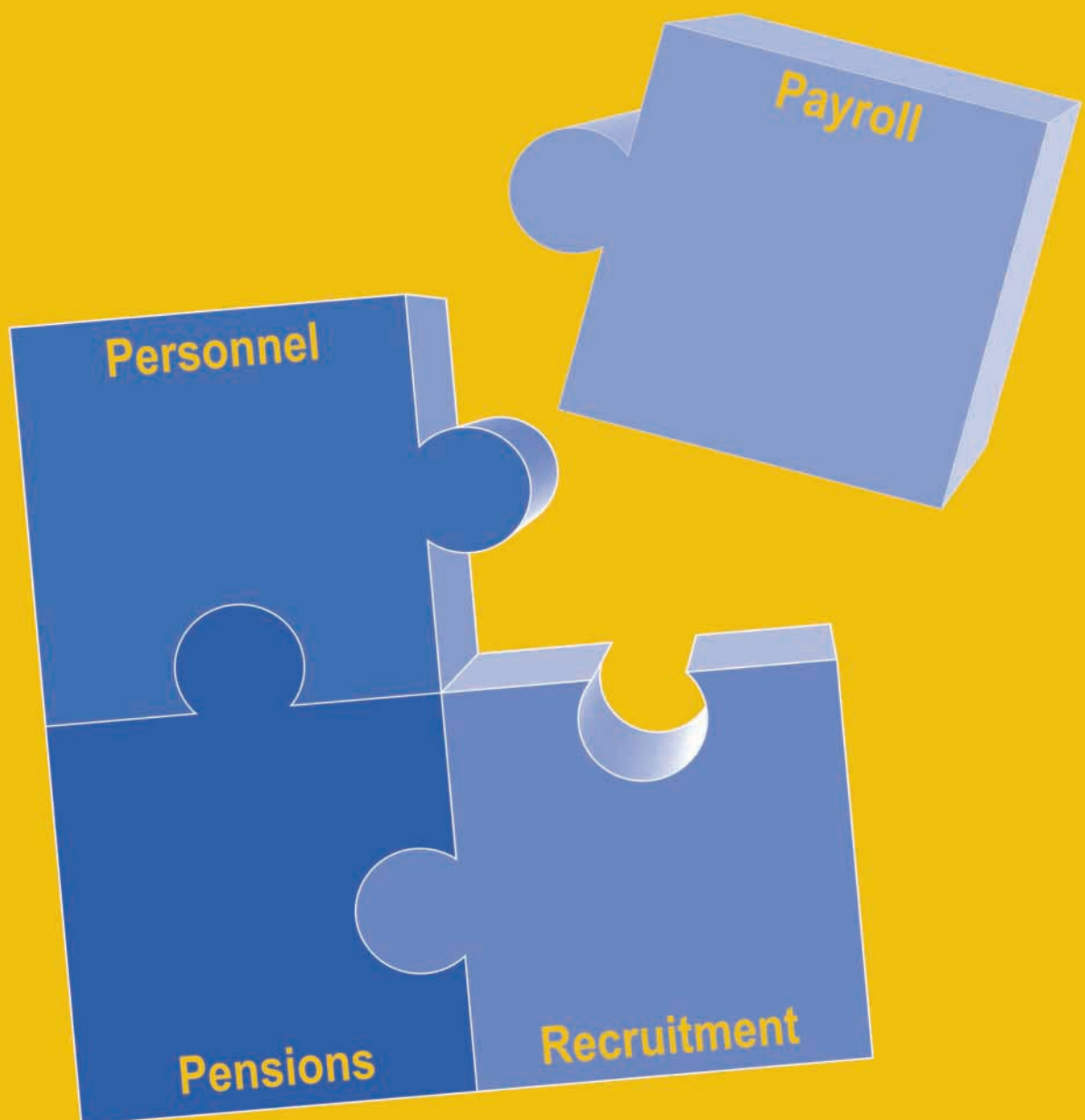


Civil Service Human Resource Management System: Cancellation of the Payroll Project

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
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Report by the Comptroller and Auditor General
for Northern Ireland

Civil Service Human Resource Management System: Cancellation of the Payroll Project

This report has been prepared under Article 8 of the Audit (Northern Ireland) Order 1987 for presentation to the Northern Ireland Assembly in accordance with Article 11 of the Order.

J M Dowdall CB
Comptroller and Auditor General

Northern Ireland Audit Office
9 November 2004

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For further information about the Northern Ireland Audit Office please contact:

Northern Ireland Audit Office
106 University Street
BELFAST
BT7 1EU
Tel: 028 9025 1100
email: info@niauditoffice.gov.uk
website: www.niauditoffice.gov.uk

List of Abbreviations

ASEOM	Assistant Secretary Establishment Officers' Meeting
BDS	Business Development Service
CCN	Change Control Note
CCTA	Central Computer and Telecommunications Agency
CFM	Computer Facilities Management
CISD	Central Information Systems Division
CRISP	Computerised Records and Information System for Personnel
DARD	Department of Agriculture and Rural Development
DENI	Department of Education for Northern Ireland
DETI	Department of Enterprise, Trade and Investment
DFP	Department of Finance and Personnel
DHSS	Department of Health and Social Services
DOE	Department of the Environment
DRD	Department for Regional Development
DSD	Department for Social Development
DSO	Departmental Solicitors' Office
EOM	Establishment Officers' Meeting
GPA	Government Purchasing Agency
HRMS	Human Resource Management System
ICL	International Computers Limited

CIVIL SERVICE HUMAN RESOURCE MANAGEMENT SYSTEM:
CANCELLATION OF THE PAYROLL PROJECT

IT	Information Technology
MDIS	McDonnell Douglas Information Systems (now Northgate Information Solutions)
NCC	National Computing Centre
NIAO	Northern Ireland Audit Office
NICS	Northern Ireland Civil Service
OGC	Office of Government Commerce
PDG	Personnel Directors' Group
PIR	Post Implementation Review
PRAMIS	Personnel Records Administration and Management Information System
PRINCE	Projects In Controlled Environments
PROMPT	Project Resource Organisation Management and Planning Technique
PSMB	Payroll Systems Management Branch
SRO	Single Responsible Owner
WELB	Western Education and Library Board

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Executive Summary

Civil Service Human Resource Management System: Cancellation of the Payroll Project

Background

1. The current Northern Ireland Civil Service (NICS) payroll system, which has been operational since 1986, was due to be replaced in 1993 as part of a wider integrated human resource management system (HRMS). The aim was to include all the main personnel functions and thus increase the efficiency of departmental personnel branches.
2. In December 1991, the Department of Finance and Personnel (DFP) entered into an agreement with McDonnell Douglas Information Systems (MDIS) to provide, by April 1993, the new computerised payroll system. However, over a period of more than nine years the payroll project experienced problems and delays, caused by deficiencies in the software and a range of contractual and management issues, and was terminated in May 2001 without having produced a workable system.
3. While HRMS has delivered benefits to the NICS from the successful implementation of the personnel and pensions systems, the additional improvements in efficiency and effectiveness which would have been achieved from a fully integrated human resource management system have not been delivered.
4. The direct costs of the unsuccessful payroll element come to £3.3 million; in addition, unrealised savings up to termination in 2001 amount to a further £6.1 million. The unrealised savings arose because NICS had to continue with the existing inefficient payroll system and was not able to achieve planned staff reductions. These will accumulate for several more years as NICS has renewed the contract for the existing payroll system until August 2006.

5. In accordance with good practice, DFP submitted the project to a retrospective review, called a Post Implementation Review (PIR), in June 2001. This was a thorough and in-depth assessment of the experience with this project. It identified a range of lessons which will prove valuable in the handling of future IT projects and its findings have been drawn on extensively in this report.
6. This report looks at the history of the payroll project from its origins in the late 1980s until its cancellation in May 2001 and examines the reasons why the project failed. We also reviewed how the project was managed and we have provided details of current best practice in project management.

Main Conclusions and Recommendations

On the Procurement of a Human Resource Management System (Part 2 of the Report)

7. DFP accepted the recommendations from a 1984 Feasibility Study of the need for a strategy to implement an integrated personnel system which would include payroll and pensions functions. However, in order to meet the immediate needs of departments, they approved the procurement of a replacement system for non-industrial personnel records and postponed a decision on integration. We consider that the absence of an overarching strategy for the development of central IT systems, not only at the starting point for the development of HRMS but throughout the long life of the project, was a significant weakness (paragraphs 2.1 to 2.4).
8. In February 1989, the Project Board endorsed the expansion of the personnel system (PRAMIS) to incorporate payroll and pensions functions. We have a number of concerns about the case which was made for this expansion including:
 - the high degree of emphasis placed on the investment already incurred in the MDIS system;
 - the limited investigation of alternative systems, then on the market, for the provision of a fully integrated human resource management system; and

- the pressure, again, for a solution to be implemented within a short timescale (paragraphs 2.11 to 2.15).
9. In our view, the Project Board could have done more to address the clear warning signs, regarding MDIS's capability to deliver the payroll project, which had appeared during the period prior to the signing of the agreement in December 1991. These warning signs included the difficulties experienced by MDIS in implementing payroll applications for other organisations and also the delays and difficulties encountered in introducing the HRMS pensions system. Given the extent of these warning signs we consider that there were grounds to commission an appraisal of all available options, including a proper assessment of the risks involved in continuing with MDIS, in order to establish whether continuation with the project was the most appropriate course of action (paragraphs 2.15 to 2.24).
 10. The method used to extend the original contract for the personnel system to cover the pensions and payroll systems, although recommended by the Government's computer specialists, created weaknesses which came to the fore when the payroll project started to run into difficulties. These weaknesses, which related to the ownership of equipment and the absence of a provision for liquidated damages, meant that DFP's room for manoeuvre was severely restricted. In our view, this case underlines how important it is to get the contract right in such projects. The contract must not only be unambiguous but it also needs to address the financial consequences if the supplier fails to deliver (paragraphs 2.26 to 2.30).

On Development of the Payroll System (Part 3 of the Report)

11. It seems clear that the difficulties experienced with the MDIS software stemmed from a mismatch between the standard package offered by the company and the much more complex requirements of the NICS payroll system. As a result their standard package had to be tailored to a more significant level than had been envisaged when the project started and some elements had to be developed from scratch. This amount of software tailoring substantially increased the risk of project failure (paragraphs 3.4 to 3.8).

12. By January 1995, the project time-scale had exceeded the tolerance set in DFP guidance and the Project Board agreed that a revised economic appraisal should be prepared. In our view, the economic appraisal, which recommended continuing with the HRMS payroll project, did not adequately cover the range of possible options for securing the delivery of NICS's objectives. It is clear, in hindsight, that undue emphasis was given to the resources already invested in the project and the time that would be required to implement an alternative solution (paragraphs 3.10 to 3.13).
13. Although economic appraisals were carried out by the Project Manager in 1995, 1997 and 1999, we consider that an independent appraisal, as recommended by DFP's Economics Division in 1997, would have provided an opportunity for a fundamental examination of the objectives of the project and might have helped to ensure that better decisions were made as to the way forward. As it was, the opportunity was missed and a further three years of continuing difficulties and delays were to be experienced before the payroll project was finally terminated (paragraphs 3.23 to 3.25).

On Management of the HRMS Payroll Project (Part 4 of the Report)

14. An interdepartmental committee of senior civil servants known as the Assistant Secretary Establishment Officers' Meeting (ASEOM) had overall strategic responsibility for the project. We consider that ASEOM was too far removed from the project to operate effectively as a Steering Group and that, as a result, it failed to provide effective strategic management of the HRMS payroll project (paragraphs 4.1 to 4.5).
15. During the 13 years of the project, nine different individuals held the chairmanship of the Project Board which was the main decision-making and monitoring body for the project. Current best practice in managing large projects of this nature is that one individual at a senior level (known as the Single Responsible Owner or SRO) should assume personal responsibility for the project. In our view, the payroll project would have benefited from the appointment of a senior manager with sufficient authority to properly undertake the role of SRO throughout the life of the project. We consider that such an appointment is essential for all future NICS projects of this scale and complexity (paragraphs 4.10 to 4.12).

16. We concur with the view expressed in the PIR that where major risks were identified, particularly the potential loss of live systems if payroll were to be terminated, these risks were avoided rather than managed. In our view, a more thorough evaluation of some of the key risks facing this project, such as is now accepted good practice, could have significantly improved decision-making at crucial stages in this project (paragraph 4.25).
17. Departments are now in the position of having a considerable amount of good practice guidance available to them in the management of large procurement projects. They also have the opportunity to benefit from the many lessons learned from the HRMS project, as identified in the PIR. Complex IT projects can succeed and it is essential that NICS secures the efficiency gains which they can deliver. It is, however, important that such projects are properly planned, resourced and managed in line with the guidance now available (paragraphs 4.26 to 4.30).

Part 1

Introduction and Scope

- 1.1 The Payroll Project was one element of a wider Human Resource Management System (HRMS) which evolved from the development of a new personnel system, starting in 1987, and which would go on to include pensions and recruitment systems. The objective was to provide an integrated system, covering all the main personnel functions, which would increase the operational efficiency of Northern Ireland Civil Service (NICS) Personnel Branches. The new personnel, pensions and recruitment systems were successfully introduced between September 1989 and September 1992. However, the payroll project faced continuous delays caused by deficiencies in the software and a range of contractual and management issues. A chronology of the main stages in the development of the HRMS project is provided at Appendix 1.
- 1.2 In December 1991, the Department of Finance and Personnel (DFP), signed an agreement with McDonnell Douglas Information Systems (MDIS) to provide, by November 1993, a new computerised payroll system for NICS. MDIS was the same supplier who had implemented the other HRMS systems. The payroll project continued until May 2001 when it was terminated without having produced a workable system.
- 1.3 The existing payroll system (the ICL system) was introduced in 1986 and was due to be replaced in 1993. Although this system has proved to be robust, it is very out-dated. There is no on-line access, and no link to information held on the personnel and pensions systems. It is also manually intensive, relying on personnel staff preparing over 30,000 payroll input forms every month. While

HRMS has delivered benefits to NICS from the successful implementation of the personnel and pensions systems, the additional improvements in efficiency and effectiveness which would have been achieved from the intended on-line, integrated human resource management system have not been delivered.

Financial Implications of the Project

- 1.4 The economic cost of the project is comprised of two separate elements; firstly, direct payments made during the course of the project and, secondly, the value of the savings the project was intended to bring, but which were not achieved. The total value of these direct costs and unrealised savings is £9,340,000. DFP told NIAO that: "To put this in context, the other, successful elements of the HRMS programme have fully met business needs, and have enabled Departments to enhance the NI Civil Service's Human Resources function, responding to significant business and organisational changes such as agentisation, delegated pay and grading, early retirement schemes, devolution restructuring, and equal opportunity monitoring obligations, and have delivered net benefits of over £20 million."
- 1.5 A detailed breakdown of the direct costs of the payroll project is provided at Figure 1 below. The direct costs of £3.3 million represent actual payments, mainly the salaries of NICS staff directly involved in trying to implement the HRMS payroll system, as well as payments to the supplier of the failed system (MDIS). Direct costs exclude computer hardware costs as the hardware involved was common to all the elements of HRMS. However, DFP estimates that the payroll system's share (33 per cent) of the total hardware costs would be an additional £803,000.

Figure 1: Direct Costs of the HRMS Payroll Project

Item	Description	£000
Payments to MDIS	£348,000 in respect of software fees less £170,000 rebated to end of March 2004.	178
HRMS Team Staff Costs	Salaries of NICS staff involved in introducing and testing the HRMS system (April 1989 to March 2001).	2,763
Management, Legal and Consultancy Costs	Includes Assistant Secretary Establishment Officers' Meeting (ASEOM) and Project Board costs.	310
Total		3,251

Source: DFP, NIAO

- 1.6 The unrealised savings of £6.1 million, shown in Figure 2 below, represent the savings foregone by NICS because the payroll project was not implemented. They arose because NICS was forced to continue with the existing inefficient payroll system, and because NICS was not able to achieve the relatively small reduction in staffing planned under the payroll project.

Figure 2: Payroll Project - Unrealised Savings at Termination in May 2001

Item	Description	£000
Running Costs of Current System	Additional costs of ICL system - from April 1994 when the HRMS implementation date was missed.	2,544
Unrealised Savings in Departmental Personnel Branches	HRMS was expected to reduce the number of posts by 16.5 from April 1994.	2,404
Unrealised Savings in the central payroll support team	HRMS was expected to reduce the number of central payroll posts by 6.3 from April 1994.	1,141
Total		6,089

Source: DFP, NIAO

- 1.7 The cost consequences of the project have continued, even after the contract for the payroll project was terminated, and will continue to do so for several years. In May 2001, NICS renewed the contract for the existing ICL payroll system until August 2006, by which time a further five years of expected savings will have been foregone.

Roles and Responsibilities

- 1.8 An interdepartmental group of senior civil servants known as the Assistant Secretary Establishment Officers' Meeting (ASEOM) had overall responsibility for reviewing and monitoring the progress of the project, approving its direction and endorsing project appraisals. The Chairman of ASEOM also chaired the Project Board which was the main decision-making and monitoring body for the project. The Project Team (led by the Project Manager) managed the implementation of the project on a day-to-day basis, reporting to the Project

Board each month. DFP also had a role in ensuring that the project was properly managed, firstly because it had a central responsibility for the general management and control of NICS, and secondly because DFP also had line management responsibility for the Project Team. In addition, many of the key players in the project were DFP staff.

Post Implementation Review

- 1.9 In accordance with good practice, DFP submitted the project to a retrospective review in June 2001. This was a thorough and in-depth assessment of the experience with this project. It identified a range of lessons which will certainly prove valuable in the handling of future IT projects of this nature and its findings have been drawn on extensively in this report. The key findings on the payroll system are summarised in Figure 3 below. A complete list of the lessons to be learned from the HRMS project is included at Appendix 2.

Figure 3: Key Findings of the Post Implementation Review

“The payroll module has delivered no benefits over its lengthy gestation period. Apart from the obvious comment that the project should have been terminated a long time ago, the following problems were also apparent:

- the supplier found the task of producing a complex, fully tested and high quality software product and integrating it with other modules technically difficult and resource consuming
- project and supplier management was not as rigorous as the situation demanded
- all of the development at the application and technical levels should have been carried out within the broader context of a Human Resources (HR) and an Information Systems (IS)/Information Communications Technology (ICT) Strategy

- there was insufficient ownership and support by senior management with an inadequate reporting chain upwards and control downwards
- the contract did not allow for easy termination
- risk management principles were not applied during the lifetime of the project.

These problems have been easily identified with the advantage of hindsight and most of them are easy to overcome with improved management and control procedures.”

Source: PIR Volume 1

Scope of NIAO's Report

1.10 The personnel, pensions and recruitment systems within HRMS were all implemented successfully and have achieved what they set out to achieve. This report deals with the failure of the payroll element. However, it is essential for a full understanding of the payroll project, and the reasons why it failed, to include a review of the origins of HRMS. These date back to a feasibility study report in 1985 and the decision taken in 1987 to implement a new personnel system (the Personnel Records Administration and Management Information System or PRAMIS) which was to set the course for subsequent events. Decisions made about the supplier, and the terms of the contract with that supplier, would have major implications for the payroll project, and these are described in **Part 2** of the report. **Part 3** deals with the development of the payroll project from the signing of the contract in December 1991 until its cancellation in May 2001. **Part 4** looks at the how the project was managed and provides details of current best practice in project management.



Part 2

Procurement of a Human Resource Management System - 1985 to 1991

Procurement of a Replacement Personnel System

- 2.1 By the mid 1980s, Northern Ireland Departments had become dissatisfied with the centralised personnel system which had been in place since 1976. In November 1984, DFP commissioned a feasibility study to “examine the present personnel records system used by the Northern Ireland Civil Service, to identify and consider the additional requirements of Departments and to make recommendations”.
- 2.2 The Feasibility Study recommended its replacement by a standard commercial software package. It also recommended the formulation of a NICS strategy for implementing a revised system which should include consideration of “how best to minimise the overlap of information across the Personnel, Payroll and[financial management].... computer based systems”.
- 2.3 DFP accepted the recommendations of the study, recognising the wider need for an integrated system which would also include payroll and pensions functions. However, in order to meet the immediate needs of departments, they approved the procurement of a replacement system for non-industrial personnel records, to be known as the Personnel Records Administration and Management Information System (PRAMIS). A decision on integration was postponed in the interests of making progress on the personnel system front.

- 2.4 This ad hoc approach to developing IT systems, i.e. simply replacing an old system with a more up-to-date version, is now unlikely to occur in the public sector. Current practice (see paragraph 4.28) emphasises the need to manage the whole process of change and its impact on the culture and organisation of a body, and not to examine IT needs in isolation. The absence of an overarching strategy for the development of central IT systems, not only at the starting point for the development of HRMS but throughout the long life of the project, was a significant weakness.
- 2.5 NICS appointed the Central Computer and Telecommunications Agency (CCTA), then an agency within HM Treasury and now part of the Office of Government Commerce (OGC), to assist with the procurement of the PRAMIS system.
- 2.6 In developing the Operational Requirement (of October 1985) for PRAMIS, the Project Team examined a number of commercial personnel software packages. At this stage, the package supplied by McDonnell Douglas Information Systems (MDIS) was identified as having a very close degree of fit. The final Operational Requirement was approved by CCTA and accepted by representatives from each department in September 1986.
- 2.7 To reflect the overall requirements of NICS personnel branches and also to acknowledge that PRAMIS was the first step in the long-term objective to provide an integrated system, the Operational Requirement included the 'desirable' requirement that: "The system should be capable of expansion in terms of providing new facilities, for example, accommodation, payroll, pension or other personnel related functions. It should be possible to achieve this type of expansion by integrating other software packages with the proposed solution put forward by the supplier." DFP told us that the "goal of expansion, and integration, across the entire portfolio of HR systems was ambitious for its time, and with the exception of payroll was achieved". However, as DFP had indicated that an integrated human resources system was the way ahead, expandability should have been a mandatory requirement. Its inclusion as a 'desirable'

requirement only was therefore surprising (see paragraph 2.9).

Procurement Process

- 2.8 In September 1986, an advertisement was placed in the Official Journal of the European Communities for the provision of the Personnel System. Three proposals were selected at the short listing stage. Two of these did not proceed to tender evaluation, as one could not be implemented without significant technical modification by NICS and the other did not meet all the mandatory requirements. The remaining proposal was from MDIS, to whom the contract was awarded in July 1987.
- 2.9 In NIAO's view, the selection process should also have included an assessment of the suppliers' responses to the 'desirable' requirement that the system be capable of expansion to include payroll and pensions functions. DFP has, however, been unable to locate the related tender evaluation papers. We also found no reference to this requirement in other evaluation papers, including the Project Team's report to the Project Board on the results of the short-listing exercise. This suggests that, despite integration being central to NICS's future direction in human resources, this aspect may not have been adequately assessed in the award of the personnel contract.
- 2.10 CCTA negotiated the contract for the provision and maintenance of PRAMIS, based on its 'Standard Conditions of Contract Relating to the Provision of Data Processing Systems' and MDIS was awarded the contract on 5 August 1987. The system was fully implemented in all departments by September 1989, at a cost of £1.2 million. The Post Implementation Review (PIR) states that PRAMIS was "a successful project that had met all of its original objectives". However, NIAO notes that PRAMIS was introduced over a year later than originally intended, with no apparent ill-effects on the project. In NIAO's view, this suggests that the need for the new personnel system was less urgent than had been supposed and that time could have been spent on developing an IT strategy and an integrated approach to human resources computer systems.

Decision to Expand PRAMIS

- 2.11 In January 1988, and just four months after the award of the contract to MDIS, DFP submitted a paper to the Assistant Secretary Establishment Officers' Meeting (ASEOM) outlining proposals to build on the work undertaken in connection with PRAMIS. ASEOM approved a further Feasibility Study to examine the viability of developing an integrated Human Resource Management System (HRMS) which would support the functions of personnel, payroll and pensions in NICS. In April 1988, a Project Board was established to control and monitor the study and a Project Team was set up to undertake the work.
- 2.12 The Feasibility Study, which was completed in February 1989, concluded that it was both technically and economically feasible to develop integrated systems. It also confirmed that the development of an integrated human resource management system would increase the operational efficiency and effectiveness of Personnel Branches.
- 2.13 The study then considered the following options for the non-industrial sector:
- Option 1:** the development of an all new on-line integrated human resource management system costing £8.25 million over 10 years.
- Option 2:** the retention of the existing PRAMIS personnel system and its connection to replacement pensions and payroll system software packages, maintained on existing ICL hardware. This solution was estimated to cost £7.62 million over 10 years.
- Option 3:** the evolution of the existing PRAMIS personnel system through the addition of payroll and pensions software packages from the same supplier into a fully integrated system, with an estimated cost of £6.49 million over 10 years. This was considered to be the most straightforward, practical and cost effective solution as it would:

- maximise the investment in the existing payroll system given that the timescales for the project would coincide with the end of the current payroll system's accepted life cycle of seven years;
- maximise the investment in the existing PRAMIS personnel system;
- reduce the costs of implementation through the utilisation of existing terminals and hardware; and
- utilise software products already proven in the UK.

The study recognised that Option 3 would result in a single company acting as the prime contractor for both the hardware and software and stated that "in order to reduce the level of risk it is imperative that a proper contractual and working relationship with the supplier is established and maintained".

2.14 In February 1989, the Project Board endorsed the expansion of PRAMIS to incorporate payroll and pensions functionality and approved the preparation of a Business Case. The Business Case, which was completed in June 1989, costed two further options, i.e. a 'do nothing' option and the development of a new integrated system by in-house staff. However, it reiterated that the expansion of PRAMIS represented the most straightforward, practical and cost-effective solution and considered "that the project would have to go radically off course to produce a negative NPV". The cost of the chosen option was now estimated at £7.3 million. The Business Case was approved by DFP.

2.15 NIAO has a number of concerns about the case for the expansion of PRAMIS. These include:

- the high degree of emphasis placed on the investment already incurred in the McDonnell Douglas system;
- the limited investigation of alternative systems, then on the market, for the provision of a fully integrated human resource management system;

- the pressure, again, for a solution to be implemented within a short timescale. By April 1988, the pension payments system was 15 years old and in urgent need of replacement. It was also based on an obsolete programming language and ICL had indicated that it would be withdrawing support for the system after October 1990;
- the lack of evidence to indicate that the Project Team and Project Board had properly scrutinised or taken sufficient account of the following factors:
 - the difficulties involved in attempting to integrate three separate packages;
 - MDIS's capability to deliver an integrated human resource management system for NICS;
 - In October 1988, DFP's 'IT Standards Branch' informed the Project Team undertaking the Feasibility Study that two Northern Ireland public sector organisations (the Department of Education for Northern Ireland (DENI) and the Western Education and Library Board (WELB)) were reported as having encountered difficulties with payroll applications on MDIS equipment. It advised that, if true, these reported problems would argue against a payroll procurement from the firm and also against a staged procurement with pensions as the first stage. As part of the evaluation of MDIS's proposal dated October 1990, site visits were made to WELB and DENI which were both then running the ISIS core payroll package. The Project Board minutes of 6 February 1991 reported that both "expressed general satisfaction at the progress of the Payroll package but also concern over certain ongoing problems". Project Team members were told that WELB's difficulties were caused by its unusual staffing structure (some employees were multiple job holders and had multiple terms and conditions of employment) which would not apply to the

NICS payroll. The problems encountered by WELB resulted in their Payroll and Personnel System, which had been scheduled for completion by December 1987, finally being implemented almost four years behind schedule in October 1991. In 1993 the Public Accounts Committee at Westminster¹ reported on the Education and Library Boards Technology Strategy, highlighting the failure of MDIS to appreciate the complexity of integrating the payroll and personnel software packages, the poor quality of the software and poor resource allocation by MDIS;

- NIAO has also established that, in 1989, the Northern Ireland Prison Service eliminated a tender by MDIS for an integrated human resource system due to its dissatisfaction with the firm's ability to provide an integrated payroll and personnel system and to address 'retrospection', an important feature of payroll.

2.16 In retrospect, there must be a concern that, even at this early stage NICS may have perceived itself as being locked into a solution based on developing PRAMIS because of the extent of its existing investment in the system.

Expansion of the PRAMIS System

2.17 The expansion of the PRAMIS system was to proceed in two phases:

- **Pensions** - integration of a NICS Pensions System with PRAMIS, to be completed by the end of March 1991 (paragraph 2.18); and
- **Payroll** - integration of a NICS Payroll System with the PRAMIS and Pensions systems, initially planned to be completed by 1 April 1992 (paragraph 2.21).

1. Committee of Public Accounts, Session 1992 - 1993, Fiftieth Report, 23 June 1993, HC 543

Implementation of the Pensions System Raises Concerns

2.18 A Statement of User Requirements for the pensions system, which had been developed concurrently with the Feasibility Study (paragraph 2.11), was issued to MDIS in January 1989. MDIS subsequently submitted its proposal which suggested making use of ISIS software. During negotiations, the Project Board and Project Team raised three concerns with MDIS:

- the impact of a recent major organisational restructuring of the firm;
- contractual problems with other users (notably WELB and DENI); and
- the loss of key staff in both MDIS and the software development company ISIS.

The Project Board sought and received assurances from MDIS, that it retained the capability to undertake the contract and that these issues would not affect delivery of the PRAMIS system. The Board then signed the contract for the delivery of a pensions system by 31 March 1991 at a capital cost of £308,000. The system was finally accepted on 30 September 1992, capital costs having risen by that stage to £322,500. The PIR explains that the delay of 18 months was mainly due to the contractor's underestimation of the complexities of the project and its lack of expertise in the pensions' field.

2.19 The PIR also concluded that, in the case of the pensions system, MDIS "illustrated an inability to meet what on the surface appeared to be relatively straightforward targets or at the very least, the targets they had been contracted to meet". NIAO concurs with the view expressed in the PIR that the delays and difficulties in introducing the pensions system should have been "important warning bells for subsequent developments".

2.20 In addition, the PIR found that there had been no proper review of the pensions' project following its implementation, and as a result any lessons to be learned

were not able to be applied to the payroll project. The PIR states that “...the absence of formal project management closure products (Project Management Evaluation and Project Benefit Evaluation reports) for the pensions project is in direct contravention of the guidance in force at the time and the completion of these evaluations may have materially changed the approach to the payroll project”.

Implementation of the Payroll System

- 2.21 In August 1990, the Payroll Statement of User Requirements, prepared by the Project Team in conjunction with a Departmental User Group and Central User Group, was issued to MDIS. This required the firm to quote for the supply of a complete system and to take prime contractual responsibility for the provision and maintenance of the necessary hardware, software and support services. It also stated that “the system must be based on an established and proven package with a minimum of tailoring”.
- 2.22 The software costs submitted by MDIS at £205,000 were more than double the estimate of £100,000. The same Project Board minutes stated that this was due “mainly to the complexity of Civil Service payroll when compared with other payroll systems and allows for 700 man days work to develop the standard package to bring it into line with the existing payroll. The size of the development work also means a later implementation date for the payroll system of April 1993.” The amount of software development involved conflicted with the user requirement which, as noted in paragraph 2.21, had specified a “package with a minimum of tailoring”.
- 2.23 Negotiations then took place with MDIS in an effort to reduce costs. During this stage, the option of purchasing an alternative operating system which required different computer hardware was considered. This was with a view to bringing the project into line with departmental strategies and providing better compatibility between systems. As a result of this development, the Project

Board agreed that the Project Team should undertake a revised economic appraisal. This appraisal, which was completed in September 1991, compared two different MDIS hardware options and considered the costs and benefits of a 'Do Nothing' option, which would result in the HRMS Project being ended when the Pensions module was fully operational. The appraisal concluded that the 'Do Nothing' option was neither appropriate nor viable because it did not satisfy the users need for on-line access to payroll information. It recommended that the project should proceed as before, but with additional resources being obtained to procure the new computer hardware. The payroll project at this appraisal was estimated to have a net present cost of £20,913,000.

2.24 It seems clear that the Project Board could have done more to address the clear warning signs regarding MDIS's capability to deliver this project, highlighted at paragraphs 2.15, 2.19 and 2.22. Given the extent of these warning signs there were grounds to commission an appraisal of all available options, including a proper assessment of the risks involved in continuing with MDIS, in order to establish whether continuation with the project was the most appropriate course of action. In these circumstances, more independent and comprehensive analyses at key stages, such as the 1989 Business Case and the 1991 Economic Appraisal, could have led to better decisions at key points in the project.

2.25 The agreement between the HRMS Project Board (on behalf of DFP) and MDIS for the new payroll system was signed in December 1991. The agreed timetable was for the first department to go live in April 1993, and for all departments to be operating the system by November 1993.

Payroll: Contractual Arrangements

2.26 DFP, following good practice, used a standard contract drawn-up by CCTA for the provision of PRAMIS in 1987. In 1989, CCTA advised the Project Board that the pensions and payroll systems could be purchased by extending this 1987

contract through the use of a 'Change Control Note'(CCN). This is a separate document which extends or amends the terms of an existing contract without invalidating that contract.

Weaknesses Resulting from the Use of the CCN Procedure

2.27 NIAO notes that the use of the CCN procedure to extend the 1987 contract created two major weaknesses in DFP's position which came to the fore when the payroll project started to run into difficulties:

(i) Ownership of equipment

The 1987 contract (a standard CCTA contract known as Form Con 84) included the following special condition:

"In the event of termination of the contract....through default of the contractor, title in any equipment which has passed to the Authority shall revert to the Contractor."

No express wording was included in the pensions or payroll CCNs to apply this 'special condition' on a 'stage-by-stage' basis. In November 1994 CCTA's legal advisors told DFP that, as a result, it was unclear (without obtaining a court ruling) whether a decision to terminate payroll would result in the equipment for the entire project, or the payroll element only, reverting to MDIS. The situation was further complicated by a lack of clarity over whether the term equipment included hardware and/or specially written software and/or licensed software. This general ambiguity had ramifications when the implementation of the payroll module ran into difficulties.

(ii) Absence of Liquidated Damages

The standard contract used made no provision for the payment of liquidated damages in the event of the contractor failing to meet their contractual obligations. This was not rectified in the CCN of 1991, despite the concerns,

which were by then apparent, relating to MDIS's ability to deliver. In 1993, when difficulties clearly began to surface in the software, the Project Board investigated the possibility of introducing damages clauses into a revised CCN in order to cover any failures by MDIS to meet revised deadlines. CCTA advised that such clauses could only be introduced at that late stage by agreement with MDIS who would be unlikely to agree since they had already missed contractual deadlines. As discussed in paragraph 3.16, this proved to be the case. As a result, throughout the life of the project, NICS's legal redress was restricted to invoking the 'breach of contract' clauses and seeking resolution through the courts.

2.28 These two weaknesses in the CCTA Con 84 contract used meant that DFP's hands were tied when the project ran into difficulties and its room for manoeuvre was severely restricted. We accept that DFP was not aware, at the time, of the deficiencies in its contractual arrangements with MDIS and that it was following the advice given by CCTA. The PIR felt that, as the scope and cost of the project grew, the repeated use of CCNs - particularly when the underlying form of contract was being overtaken by subsequent generations of standard model agreements - may not have been the most appropriate approach. In particular, it considered that the extent of change that was permitted using CCNs for the payroll project, as this developed over a number of years, may have left NICS and its advisors open to challenge.

2.29 In its report on the Cancellation of the Benefit Payment Card Project in November 2001² the Public Accounts Committee at Westminster recommended that government departments address the "need for a high degree of professionalism in the definition, negotiation and management of IT contracts. Any lack of clarity or debatable interpretation in a contract can lead to expensive misunderstandings that might have to be resolved through the courts....Departments should ensure that the business implications of late delivery are reflected in contractual incentives."

2. Committee of Public Accounts, Session 2001-2002, Third Report, HC 358 (282-i (2000-01))

2.30 In our view, this case underlines how important it is to get the contract right in such projects. The contract must not only be unambiguous but it also needs to address the financial consequences if the supplier should fail to deliver. NIAO notes that provision for liquidated damages was only included by CCTA in later versions of their standard terms of contract, and is part of the model contract terms now provided by the Office of Government Commerce.

Part 3

Development of the Payroll System

The First Change Control Note - December 1991

- 3.1 The first key stage in the agreed timetable for the implementation of the payroll project, as set out in the CCN of December 1991, was to draw-up a system specification by 17 January 1992. However, it was not actually completed until January 1993. DFP attributed the delay to McDonnell Douglas Information Systems' (MDIS) underestimation of the complexity of NICS Payroll Requirements. The Department considered legal action against MDIS in order to recover some of the additional costs incurred by the delay but this was not pursued because of the cost of litigation and the risk that it would further delay the project. The HRMS Project Team also felt that their original timetable had been unrealistic and that MDIS could make a case that the Project Team had contributed to the delay by their attempts to ensure that a clear and unambiguous system design had been achieved.

The Second Change Control Note - April 1993

- 3.2 In April 1993, because of slippage in the specification phase, MDIS submitted a draft CCN revising the implementation timetable and the payment profile. The Project Board decided to proceed with the second CCN, which was signed in August 1993. Revised target dates were set for each of eight new phases. Payroll was now scheduled to go live in the first department in November 1994 and to be fully operational in all NI departments by June 1995. MDIS agreed to complete work within the original project costs in order to prevent further

protracted negotiations.

- 3.3 The second CCN introduced a query reporting system whereby any queries or faults raised by the HRMS Project Team during software testing would be categorised using a priority classification of 1 to 5. The most critical category was a Priority 1 query; if it was not resolved, the system would be inoperable. Testing of each module and each phase would be regarded as successful if no more than a total of 25 minor queries arose.

MDIS Placed in Breach of Contract - 1994

- 3.4 MDIS delivered the first software phase in September 1993 but failed to meet the acceptance criteria by the target date of 12 January 1994. The number of faults identified far exceeded the levels permitted under the CCN; in 1994 the average number of faults outstanding at the end of each month was 306³ against the target of 25.
- 3.5 The Project Team agreed an action plan with MDIS in January 1994, with the aim of accepting the first software phase by 8 February 1994. However, by that date the software still did not meet the acceptance criteria. On the Department's behalf the Central Computer and Telecommunications Agency (CCTA) placed MDIS in breach of contract in March 1994. The first software phase finally met the acceptance criteria in July 1994 but by then MDIS had failed to meet the dates for acceptance of later phases. Again, CCTA informed MDIS that they were in breach of contract.
- 3.6 MDIS did not accept that they had breached the terms of the contract in either March or July 1994. The company argued that the delay was due to DFP not accepting payroll software that had been delivered on time. DFP disputed this, arguing that two years slippage on the project was solely attributable to MDIS.

3. HRMS System Evaluation by CCTA in June 1997

- 3.7 In order to move the project forward, the HRMS Project Team agreed a further revised working timetable with MDIS in August 1994. This timetable allowed for amendments to the system made necessary by changes in NICS pay, such as the introduction of Performance Related Pay. Work was to proceed according to this timetable on a 'without prejudice' basis, with NICS reserving the right to claim damages for slippage even after completion of the project. The new target dates were that the first payroll would be generated by the new system by December 1995 and that the entire project would be completed by the end of July 1996.
- 3.8 It seems clear that the difficulties experienced with the software submitted by MDIS stemmed from a mismatch between the standard package offered by the company and the much more complex requirements of the NICS payroll system. As a result their standard package had to be tailored to a more significant level than had been envisaged when the project started. Indeed some elements, such as overtime calculations, had to be developed from scratch. This amount of software tailoring substantially increased the risk of project failure.

Legal Opinion on Terminating the HRMS Contract

- 3.9 Because of the continuing delays the Project Board considered the possibility of terminating the project but provisionally rejected this course of action on legal advice. In September 1994 CCTA informed the Project Team "if you decide to halt the Project with the agreement of MDISL it should not present a major problem. You would have to negotiate a settlement, e.g. full payment for the hardware and delivered software may satisfy them, plus foregoing any breach of contract damages." However, CCTA went on to say "if you are considering termination it is an entirely different matter as the long-term development of the current requirement will raise a number of contractual and practical issues termination cannot be initiated until you have given MDISL an opportunity to retrieve the situation." In November 1994 CCTA advised that, if the contract was terminated by DFP, there was a risk that MDIS might be entitled to recover their

‘equipment’ which could include the software for the personnel and pensions systems as well as the hardware (see paragraph 2.27). In May 1995 CCTA again highlighted the risk of a court ruling against the Department on this issue, this time adding that, in its opinion “the risk was relatively minor”. The HRMS Project Board had by this stage already decided not to move to initiate termination of the contract but instead to recommend a fresh re-appraisal of options.

Revised Economic Appraisal - January 1995

3.10 The project time-scale had by now exceeded the 10 per cent tolerance set in DFP Guidance (DAO (DFP) 8/94). The Project Board agreed that a revised economic appraisal should be prepared “to confirm that proceeding with the project is the best of the available options”. The appraisal was undertaken by the Project Manager, with input from DFP Economics Division. It was completed in January 1995.

3.11 The revised economic appraisal considered the costs and benefits of the following three options:

Option 1: Immediate termination of the payroll project, retaining HRMS systems for personnel and pensions and the existing ICL payroll system. This was estimated to cost £31.24 million (net present cost over seven years). The likelihood of litigation was seen as the main risk associated with this option, although the costs and possible monetary benefits of this were not evaluated.

Option 2: Proceed with the original project plan on the basis of the latest draft timetable agreed with MDIS. This option would cost £29.46 million (net present cost over seven years). The main risks associated with this option were the possibility of a cost or time overrun. MDIS’s capability to deliver an integrated system was not explicitly addressed and the Project Board considered that, despite difficulties to date, “MDIS have the technical ability to deliver the system”.

Option 3: Introduce HRMS payroll, but with a limited range of functions.

This was estimated to cost £29.45 million (net present cost over seven years) but was considered to carry a substantial risk of delivering an unworkable system.

3.12 NIAO notes that the 1995 revised economic appraisal did not address the following key issues:

- the possibility of a negotiated settlement;
- the possibility of using alternative suppliers for a replacement system;
- the recent discovery that the HRMS payroll system could not calculate retrospective payments (this point is covered in more detail at paragraph 3.14 below);
- the ability of MDIS to deliver an integrated system.

The appraisal recommended continuing with the HRMS payroll project (Option 2). Although slightly more expensive than Option 3, factors in its favour were that it would utilise the investment already made in the project and that it was seen as carrying significantly less risk than either of the other options.

3.13 In NIAO's view, the revised economic appraisal did not adequately cover the range of possible options for securing the delivery of NICS's objectives. It is clear, in hindsight, that undue emphasis was given to the resources already invested in the project and the time that would be required to implement an alternative solution.

Problems with the Calculation of Salaries due for Previous Periods (Retrospection)

3.14 At the December 1994 HRMS Project Board meeting, the Project Manager expressed concern about the system's ability to properly calculate retrospective

salary entitlement, an essential requirement for the Civil Service as pay settlements may be agreed months after the date on which they become effective. In response, MDIS advised that the system was capable of this function, pointing out that the ISIS payroll system operating in DENI and Tayside District Council contained retrospection software. Subsequent investigations by the HRMS Project Manager (the results of which were reported to the HRMS Project Board in March 1995) revealed that these bodies had similar difficulties with this function and consequently had resorted to calculating retrospective entitlement manually and inputting the calculated amount to the computer system. We are concerned that insufficient importance was placed on warnings about this significant flaw in the operation of the payroll system.

The Third (and Final) Change Control Note - December 1995

- 3.15 The target date for full implementation of the payroll system by 1 June 1995 as set out in the second CCN in 1993 was not achieved. The delays were attributed to MDIS's continuing failure to deliver software capable of passing acceptance tests and, on 4 August 1995, CCTA wrote to MDIS on behalf of the Project Board notifying the company of its further breach of contract. By October 1995 CCTA estimated that 90 per cent of the software had been delivered (although not all had been accepted). The supplier had by this stage been paid £216,000, which represented 60 per cent of the total payments that would be made (see Figure 4). The Project Team continued to believe that, given time, a workable system could be produced. Negotiations commenced for a third and final Change Control Note incorporating a new timetable and a revised payment profile.

Figure 4: Payments made to Supplier for Software

Year	Amount Paid £	Cumulative Percentage Paid
1991 - 1992	17,730	5
1992 - 1993	13,770	9
1993 - 1994	32,850	18
1994 - 1995	56,100	35
1995 - 1996	95,515	62
1996 - 1997	27,680	70
1997 - 1998	19,885	76
1998 - 1999	9,450	78
1999 - 2000	54,150	94
2000 - 2001	21,075	100
Total	348,205	-

Source: DFP

- 3.16 During these negotiations, unsuccessful attempts were made by the Project Board to introduce a liquidated (i.e. actual) damages clause into the third CCN. If this clause had been introduced, MDIS would have had to pay damages for each day that it exceeded the implementation date and this would clearly have been an incentive for MDIS to deliver on time. It proved impossible, however, to introduce such a clause at this late stage in the project as MDIS would not agree to its inclusion, knowing that they had already failed to meet contractual dates.
- 3.17 A key issue which had arisen, and which was not addressed in the 1995 CCN, was that of disputed additional work, known as change control work. Some change control work, such as that required because of the introduction of Performance Related Pay, was agreed between the Project Board and MDIS. However, there was a further amount of work, valued at £250,000, which the

Board believed was covered by the original contract and which, therefore, should be provided by MDIS without further charge, but which MDIS argued was not covered by the original contract. The Board decided that this issue would complicate negotiations on the third CCN and that pursuing it at that stage could adversely affect relations with MDIS. The Project Board, therefore, decided that the issue of disputed charges should be left to the end of the project.

- 3.18 We are concerned that the extent of disputed change control work (£250,000 according to the Project Team, although MDIS's last estimate was £500,000) suggests a fundamental misunderstanding between the Project Board and MDIS as to the project's specifications. The Department pointed out that MDIS abandoned their claim for any further payment for change control work, when the contract was terminated.
- 3.19 Following negotiations, the third Payroll CCN was signed in December 1995. The new timetable specified that the payroll module was to be fully operational in all NICS departments by September 1997. The target dates for the first and second CCNs had been November 1993 and June 1995 respectively. The third CCN in 1995 was the final contractual document signed between DFP and MDIS and stood from December 1995 until the payroll project was terminated in May 2001.
- 3.20 The third CCN in 1995 set out three levels of software acceptance criteria as follows:
- Individual Module Acceptance - as in the 1993 CCN, a software module (e.g. calculation of overtime) would be accepted if no more than 25 faults were outstanding at the end of the test period in July 1996;
 - System Testing - testing of the whole system would begin when all modules had been delivered and accepted. The system testing was to be considered successful if no more than 49 minor faults were outstanding at the end of the test period; and

- Parallel Runs - this stage would commence after the successful completion of system testing. Information would be input to both the existing ICL and the new HRMS payroll systems and payments generated by the two systems would be compared. This stage of testing was never reached.

3.21 MDIS continued to deliver software in phases but further slippage, caused by its failure to meet the delivery timetable and, more significantly, the time required to resolve queries arising from the poor quality of the software, resulted in the July 1996 target for the commencement of system testing being missed.

The 1996 Evaluation by CCTA

3.22 A further revised working timetable set a deadline for implementation of the system by November 1997. When it became clear that even this deadline would not be achieved, the HRMS Project Board and Assistant Secretary Establishment Officers' Meeting (ASEOM) commissioned an examination of the project by CCTA in July 1996. Its report was completed in December 1996 and was critical of MDIS concluding that:

- at best MDIS had failed to appreciate the significant differences between the requirements for the NICS payroll system (as set out in the 1990 Statement of Requirements) and what their ISIS payroll software could deliver; and
- at worst MDIS had assumed that NICS business processes would be amended to fit the ISIS package.

The report recommended that the project should continue in order to deliver the business benefits identified "bearing in mind the advanced state of the implementation and the relatively low level of faults then outstanding".

View of DFP Economics Division - January 1997

3.23 Following the CCTA report, the HRMS Project Board asked DFP Economics Division for a view on the way forward. The Division concluded, in January 1997, that the CCTA review on its own was not a sufficiently thorough re-appraisal of the project, indeed it considered that the “partial nature of the CCTA report makes it difficult to regard it as an adequate basis for a decision on whether to continue with the project”. As the last economic appraisal (paragraphs 3.10 to 3.13) was now over two years old, Economics Division strongly recommended that a new business case should be made. Its report highlighted the dangers of performing an appraisal that only covered the options for implementing the current project.

3.24 DFP Economics Division pointed out that, in view of the understandable commitment of the HRMS team to implementation of the current MDIS project, it was unfair to ask them to provide a dispassionate re-appraisal and suggested the appointment of independent economic consultants to lead the appraisal. It also warned that:

“the current risk of NIAO/PAC criticism may be compounded if DFP decides to carry on with a project which has given rise to such serious difficulties, and which appears certain to continue to do so, before conducting a genuine re-appraisal and business case”.

The case for a full re-appraisal of the project was considered on 25 February 1997, but it was decided not to commission it. The reason given was that “a thorough re-appraisal of the project would not be cost justifiable”. As recorded in paragraph 3.22 above, the recently completed CCTA review had recommended that the project should continue, and senior management accepted that recommendation notwithstanding DFP Economics Division's concerns about the adequacy of the CCTA review.

3.25 It is NIAO's view that an independent re-appraisal, as recommended by Economics Division and as is now accepted good practice, would have provided an opportunity for a fundamental examination of the objectives of the project and might have helped to ensure that better decisions were made as to the way forward. As it was, the opportunity was missed and a further three years of continuing difficulties and delays were to be experienced before the payroll project was finally terminated.

Review of Testing Procedures

3.26 From September 1993 until August 1997 software delivered by MDIS was tested on a modular basis i.e. testing of individual components such as the calculation of basic pay or of statutory sick pay. While it was never envisaged that modular testing would last for this length of time, fundamental errors continued to be uncovered and the focus on error detection and correction continued. An independent review of the Project Team's testing process, carried out by the National Computer Centre in June 1998, found that: "Modular testing identified over 4,000 errors, an extraordinarily high number even for integrated payroll. It is a cause for some concern that the number of queries raised through the system tests continues to rise, highlighting deficiencies in the software." We consider that insufficient weight was given to the independent consultant's view of the seriousness of the high level of errors and its implications for the future of the project.

3.27 The independent review concluded that the quality and thoroughness of the Project Team's testing had been very high overall, although the following specific criticisms were made:

- there was an inconsistent approach to recording and tracking queries;
- in providing the supplier with advance warning of specific test functions, the Department was taking a risk that the supplier would provide only quick-fixes to the test area and not improve the overall quality of the software;

- there were no documented standards for software testing so staff were unsure of the standards they should be working to;
- there were insufficient IT resources available to the project team; specifically too few staff were involved in payroll testing and there was an absence of automated checking of test results, leading to high reliance on manual processes; and
- there was little management analysis of queries and errors in the tests, so that senior management did not have a clear picture of the progress, quality and likely outcome of testing and of the payroll system.

System Testing Resulted in an Unacceptable Level of Error

- 3.28 In March 1997, in order to break the spiral of testing software modules, query resolution and re-testing, the HRMS Project Board decided to move to full system testing as soon as possible. System testing involves testing processes from beginning to end and is concerned with the overall quality of the system. Four series of system tests were completed; the largest and most significant was the third test which began in March 1998.
- 3.29 This third System Test involved testing payments to 160 fictional employees. Testing concluded in August 1998 having raised 240 queries, of which 86 had resulted in a miscalculation of a salary payment in the test. The errors identified ranged from an overpayment of monthly salary of £1,358 to an underpayment of £1,049.
- 3.30 In July 1998, as a result of the number and the seriousness of the third System Test queries, the HRMS Project Board Executive wrote to MDIS advising them that “time was of the essence” and that they would be given “one last chance” to provide software that was “fit for purpose”. Serving notice that time was of the essence would have allowed DFP to legally terminate the contract with MDIS, if the supplier could not then deliver software within a specified time.

- 3.31 Following the installation of further revised software, the fourth System Test began in November 1998. The Project Manager reported to the HRMS Project Board that the quality of the software had shown a dramatic improvement although the failure threshold was still being exceeded. By May 1999, the total number of agreed faults at 32, had fallen below the threshold of 49, although a further 12 queries were either unresolved or disputed. None of the agreed faults would render the payroll inoperable, although seven of them could have had a high impact on the live running of the payroll. The HRMS Project Board, while accepting that the software was still not “fit for purpose”, concluded that it had reached a state where it was of sufficient quality and stability to move to the next stage of testing.

Ensuring NICS Payroll would be Year 2000 Compliant

- 3.32 In December 1997, while systems testing was still ongoing, the HRMS Project Board commissioned CCTA to look at ways of ensuring the payroll system would be Year 2000 compliant. The existing ICL system was not compliant but the HRMS system would be, if implemented in time. CCTA considered the following options:

- | | |
|-----------|---|
| Option 1: | To continue with the MDIS development. |
| Option 2: | To update and continue with the existing ICL system to make it Year 2000 compliant. |
| Option 3: | To contract for payroll with another service provider. |
| Option 4: | To procure and implement another payroll package. |

- 3.33 The CCTA report (produced in two parts in February and May 1998) concluded that:

- updating the existing ICL payroll system was the only viable short-term solution;

- while it was technically feasible to use another supplier, a new system could not be in place by the deadline;
- continuing with MDIS represented a viable medium-term solution; and
- the long-term solution was to re-evaluate the NICS human resources strategy and review the underpinning IT strategy for the next 7 to 10 years. The potential use of the Private Finance Initiative (PFI) was to be explored.

In April 1998, DFP paid £239,000 to the existing payroll provider (CFM) to upgrade the ICL system to be Year 2000 compliant. In other words, DFP incurred extra costs in necessarily maintaining the existing payroll system, instead of being able to reduce costs through the introduction of the HRMS payroll project.

The 1998 Exit Strategy - Deciding to Terminate the Payroll Project

- 3.34 In light of the continuing problems being encountered with regard to testing of the payroll system, DFP asked CCTA to update the legal position and to advise on how it should proceed in relation to the project. In April 1998, CCTA's legal advisors recommended consideration of an agreed termination and stated that "the Department should consider the possibility of achieving an agreed termination with MDIS. Such an approach could be attractive to MDIS as MDIS must be losing money on this project."
- 3.35 In May 1998, the HRMS Project Board asked the Project Manager to produce an Exit Strategy in preparation for a situation where a successful outcome for the project could no longer be reasonably expected. He concluded that, in the event termination was decided upon, DFP should endeavour to secure a negotiated settlement which minimised interference with operational HRMS modules, and should then re-examine its longer-term HR requirements and potential technical solutions.

The 1998 High Level Contingency Review - Could HRMS Payroll Operate as a “Stand-Alone” System?

- 3.36 In December 1998, the HRMS Project Board directed the Project Team to investigate possible alternative options to the MDIS payroll module. The High Level Contingency Review report, which was produced in February 1999, considered whether the HRMS system could operate on a stand-alone basis, without integrating it with the personnel and pension systems. The review rejected this option, although it was technically possible, because it was unlikely to reduce the cost and time-scale of the project. The review concluded that MDIS still represented the best option for meeting NICS’s requirements within an acceptable timescale. As the PIR makes clear, the Review had identified that new commercial payroll systems were now available but the Project Team and Project Board remained concerned that the legal, financial and operational risks involved in attempting to terminate the project and start afresh would outweigh the potential gains: “What was immediately apparent was the fact that the software world had moved on and there were a number of potential package products that could provide an integrated solution for all of the HRMS modules. With this information at hand the project could have been terminated: but the idea that the existing development would still ‘come good’ was still strong.”

The 1999 Economic Appraisal

- 3.37 In June 1999, the Project Board instructed the Project Manager to revise the January 1995 economic appraisal. As in 1995, the appraisal compared the relative costs, benefits and risks of terminating the procurement against continuing with it. It pointed out that the termination option carried a high degree of risk that DFP would be sued by MDIS and that the introduction of an integrated human resource management system would be delayed by at least five years. The appraisal concluded that continuation with the implementation of the MDIS solution still represented the most cost-effective way forward.

- 3.38 NIAO notes that, as in 1995, the 1999 economic appraisal only considered the termination and continuation options and that it was again performed by the Project Manager, when in the circumstances, an independent appraisal could have improved decision-making.

Conversion Testing

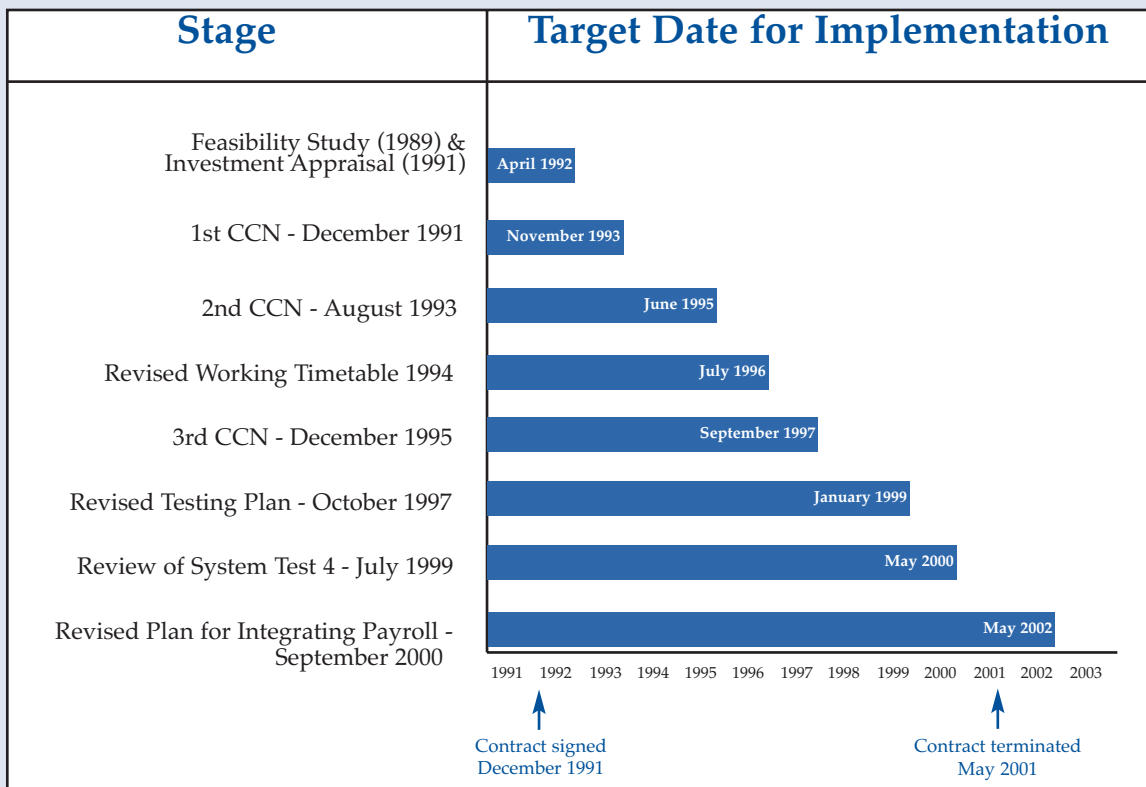
- 3.39 In April 2000, software was delivered for conversion testing. This involved the conversion of the existing personnel and pensions systems to a format where payroll data could be added. After testing, the software was considered unfit to introduce into a live environment. Although a second version of the conversion software, which was delivered in August 2000, showed some improvement it also failed testing, requiring further development in order to address significant issues. Records for new employees could be set up but it proved impossible to take employee details from the existing personnel records and carry them across to the new payroll system.

Termination of the Project

- 3.40 In September 2000, the Project Board considered a revised plan for integrating the payroll element of the HRMS system. This showed that the first Department would not now go live until at least May 2002. As Figure 5 shows this was ten years after the initial target date and was the latest in a series of revised target dates. This latest timetable assumed that there would be no further changes in requirements. However, two major changes in the form of a 'single pay agreement' and a new pensions scheme were already anticipated. The Project Board asked for a paper setting out the options, including termination of the payroll element. The paper, prepared by the Project Manager, showed that the net present cost of continuing with the HRMS system for the next seven years was now £41,938,937⁴. This exceeded the cost of terminating the payroll module and continuing with the ICL system, estimated at £41,778,309 (net present cost over seven years). No other options were evaluated.

4. The economic appraisals included all the departmental costs which are associated with providing personnel and payroll services. They therefore includes staff costs that would have been incurred even if a "do nothing" option had been pursued and should not be regarded as the costs of procuring the payroll system.

Figure 5: Slippage in HRMS Payroll Implementation Target Date



Source: DFP

3.41 After consideration of the options identified by the HRMS Project Manager, the HRMS Project Board agreed on 21 November 2000 to terminate the payroll module. The Personnel Directors' Group (PDG), which had replaced ASEOM, ratified this decision on 5 December 2000. Without prejudice discussions aimed at reaching a negotiated settlement were held with MDIS in November and December 2000. The Department's negotiating position was:

- (a) to secure rights to the personnel/pensions systems
- (b) to secure agreement to (i) suspend, and (ii) terminate the contract on payroll
- (c) to make no payment to MDIS (which had recently become Northgate Information Solutions) to secure termination

- (d) to secure compensation for non-delivery from 1997 to date of a satisfactory payroll system (figure to be based on (i) staff costs over the period, and (ii) change control costs over the period).

The Department's 'bottom-line position' was to achieve (a) to (c) above.

3.42 The Department made the following case for termination to MDIS/Northgate:

- (a) as over three years has passed since the September 1997 target date (which had been set in the third CCN - paragraph 3.19) for final system acceptance, this constituted an "undue delay" under the terms of the agreement;
- (b) the delays were caused by poor quality software, and testing of the latest conversion software showed the spiral of testing and retesting continuing; and
- (c) the overall delays in the project to date, together with the projected timescale for completion and the associated risks, meant that continuing with payroll was no longer economically viable.

Agreement to Terminate Payroll

3.43 The final agreement between the Department and MDIS/Northgate, ending the payroll element of the project, was signed on 10 May 2001. This was a full and final settlement of all claims by each party against the other. As part of the agreement, the Department secured the continued provision of rights over the non-payroll elements of the system, including maintenance and support services until June 2008. The legal aspects of the agreement negotiations were overseen by representatives of the Departmental Solicitors Office and CCTA's legal advisors.

3.44 The main terms of the agreement with Northgate were as follows:

- (a) the payroll module to be terminated on a no fault basis

- (b) no further payments would be made to Northgate for the payroll module, including any payment for the disputed change control work totalling £250,000, and which Northgate had valued at £500,000
- (c) all other terms and conditions of the 1987 contract, concerned with the personnel and pensions systems would remain unaffected
- (d) Northgate would provide a 33 per cent discount on its charges for the personnel, and pensions modules, up to a maximum of £348,205, for a period of seven years ending 31 May 2008. This figure represents the total amount paid to Northgate for the payroll module software. The company was adamant that it would not actually repay any money because this could be regarded as an admission of liability. By 31 March 2004, DFP had recovered £170,075 of the £348,205 discount agreed with Northgate under the Termination Agreement, leaving a balance of £178,130 to be received
- (e) Northgate and the Department agreed the following joint press statement:

“Northgate and the Department of Finance and Personnel have agreed not to proceed with the roll out of the Civil Service Payroll and integration phase of the HRMS Project. The Recruitment, Personnel and Pensions systems that also formed part of the HRMS Project have been running successfully for a number of years and both parties have agreed to continue this service. This agreement has been reached with goodwill on both sides.”

- 3.45 The terms of the agreed settlement were prepared with the benefit of legal advice, which included specialists in IT and contract law appointed through CCTA, and were recommended by the Government Purchasing Agency’s Chief Executive in January 2001. His view was that the terms agreed were “the best that can be achieved without recourse to litigation”.

Negotiation of New Contract with ICL

- 3.46 The Department negotiated a new contract with ICL to continue to provide a payroll system for NICS. The contract was put in place from September 2001 for a maximum of five years, at a total cost of £2,216,000. By 2006 the current payroll system will have been in operation for 20 years and a period of 14 years will have passed from the first target date for replacement (the target of April 1992 as set out in the 1989 Feasibility Study). The ICL (now Fujitsu) payroll system is planned to be replaced as part of the Department's current e-HR programme, which involves procuring a new suite of personnel systems and services by means of a Public Private Partnership.

Why did the Department continue with the Project until 2000?

- 3.47 While the HRMS Project Board considered terminating the project on a number of occasions during the life of the project, management's decision to continue was always influenced by:
- the belief that the existing ICL payroll system could not continue indefinitely;
 - consistent legal advice that, on the basis of the CCTA's CON 84 contract's terms, any case against MDIS was not strong and that there was a risk to the Department's ownership of 'equipment' required to operate the personnel and pensions systems;
 - the cost of litigation and the risk of failure because MDIS might argue that the Department had contributed to delays in the project;
 - the fact that successive economic appraisals showed continuing with the project to be the lowest cost option. However, the range of options considered by these appraisals was restricted and the risks to the project were not adequately addressed; and

- a belief among those involved in the project that, as time went on and project costs increased, they had to show a result for the money already spent and that, given time, the project would eventually succeed.



Part 4

Was the HRMS Payroll Project Managed Effectively?

Who was Responsible for Managing the Project?

- 4.1 Management of the HRMS Payroll Project was undertaken at three different levels. At the highest level and providing a strategic overview, was the Assistant Secretary Establishment Officers' Meeting (ASEOM), an inter-departmental committee of senior staff with direct responsibility for human resources issues. The next level of management was the Project Board (led by the Project Executive) which was the main decision-making and monitoring body for the project. Finally, there was the Project Team (led by the Project Manager) which managed the actual implementation of the project on a day-to-day basis, and reported to the Project Board each month.
- 4.2 The project was planned and controlled using the then standard PROMPT⁵ project management method. PROMPT was replaced by the PRINCE⁶ methodology from 1989. However, it was not until the introduction of the PRINCE 2 methodology in 1996 that risk management became a formal component of the standard civil service project management approach. NIAO notes that DFP issued guidance to all Departmental Accounting Officers in August 1994 (DAO (DFP) 8/94) stating that the PRINCE methodology should be applied to all IT Projects. As DFP acknowledged in its Post Implementation Review (PIR) “....the focus on risk management which is central to the PRINCE 2 methodology was not a major feature of the project management adopted for HRMS which was conceived under the predecessor PROMPT method.”

5. Project Resource Organisation Management and Planning Technique

6. Projects in Controlled Environments

The Assistant Secretary Establishment Officers' Meeting

- 4.3 The Assistant Secretary Establishment Officers' Meeting (ASEOM) group agreed that it would collectively own and control the development and future direction of, firstly the Personnel Records Administration and Management Information System (PRAMIS), and subsequently the entire HRMS system.⁷ It had overall responsibility for reviewing and monitoring progress, approving its direction and endorsing project appraisals. In December 1992, ASEOM delegated the Steering Group role to the lower level Establishment Officers' Meeting (EOM) forum but re-adopted the role in October 1994. The PIR concluded that there was a lack of clarity regarding responsibilities and accountability for the project, particularly as the project developed. The PIR states that "....the responsibilities assigned to the Project Board, EOM and ASEOM and the accountability for successful completion of development work remains unclear".
- 4.4 ASEOM included representatives from each of the six Northern Ireland Departments as well as the Northern Ireland Office and the larger Executive Agencies; some 13 individuals in total. The HRMS project formed only a part of the remit of the group and was, in the early years of the project, often not discussed at all at ASEOM meetings. As Figure 6 shows, in the three-year period from November 1992 to December 1995 the HRMS Project was discussed on only four occasions by ASEOM. Excluding the period in which responsibility was devolved to the EOM forum, the project was discussed by ASEOM on average every nine-and-a-half weeks.

7. This was as a reaction against the management of the previous Personnel System (which PRAMIS replaced) which had been controlled entirely within DFP and had been perceived as not meeting the needs of other users.

Figure 6: ASEOM review of progress on the HRMS Project

Year	ASEOM Meetings in Year	Meetings at which HRMS was discussed	Extent of ASEOM Review of HRMS Project
2000	8	7	At one meeting the Progress Report from the Project Board was noted but not discussed.
1999	8	7	At one meeting the Progress Report was noted but not discussed.
1998	11	7	At four meetings Progress Reports were noted but not discussed.
1997	10	3	At seven meetings Progress Reports were noted but not discussed.
1996	7	6	No reference to HRMS at one meeting.
1995	2	2	ASEOM files for August - December missing.
1994	6	2	No reference to HRMS at four meetings. Responsibility devolved to EOM until October.
1993	5	0	No reference to HRMS at any meeting. Responsibility devolved to EOM.

Source: ASEOM/PDG Minutes

4.5 We consider that ASEOM/PDG was too far removed from the project to operate effectively as a Steering Group and that, as a result, it failed to provide effective strategic management of the HRMS Payroll Project. We agree with the view expressed in the PIR which reported that: "ASEOM had failed to take sufficient ownership or maintain adequate oversight of the project. It has been too large a forum, with too broad an agenda and diffused accountability to adequately fulfil its responsibilities in this regard."

DFP's Role

4.6 DFP has a central responsibility for the general management and control of NICS⁸ but it also had line management responsibility for the HRMS Project Team⁹. The Department, therefore, also had a role in ensuring that the project was properly

8. Now codified in the Civil Service (NI) Order 1999

9. Initially as part of Central Information Systems Department (CISD) and subsequent under the aegis of the Business Development Service (BDS).

managed. Senior management from DFP, including its IT Division, became involved in the HRMS payroll procurement between 1994 and 1997 when consistently poor quality software was being delivered and MDIS had been placed in breach of contract. During this period senior management met with the Project Executive, the Project Team and the MDIS management team in an attempt to progress the project. While the option of terminating the project was discussed at these meetings DFP, though concerned at the project's situation, in general supported the Project Board's efforts. This desire to bring the project to a successful conclusion was influenced by specialist legal and technical advice, including CCTA's, on the constraints imposed by the contractual position.

The Project Board

Remit and Chairmanship

- 4.7 The HRMS Project Board was responsible for managing the operation of the HRMS Personnel and Pensions systems as well as the implementation of the payroll project. The Project Board was an inter-departmental group chaired at Assistant Secretary level until June 1996, when this became the responsibility of the Under Secretary in DFP's Central Personnel Group. This was a move which reflected senior management's concerns at the delays in the implementation of the payroll system.

Composition of the Project Board

- 4.8 The Project Board included staff with financial and technical expertise as well as users' representatives from the major departments. The Government Purchasing Agency (GPA) and the Departmental Solicitors' Office (DSO) were represented on the Project Board with effect from June 1996 and January 1998 respectively, although both organisations had previously provided advice and guidance to the Project Board. Representatives of CCTA, which provided contractual and legal advice, attended Project Board meetings where appropriate. From November 1993 onwards, technical and managerial staff from MDIS attended relevant parts

of Project Board meetings to provide progress reports and to respond to the concerns of the Board Members.

Other Bodies Advising and Guiding the Board

4.9 The Project Board also sought advice and guidance from other bodies including:

- DFP Supply Division, who approved the various Economic Appraisals;
- DFP Economics Division, who reviewed and evaluated the various Economic Appraisals;
- DFP Payroll Systems Management Branch (PSMB), who were responsible for the management of the existing payroll system; and
- The National Computing Centre (NCC), who reviewed the HRMS Project Team's testing strategy.

The Project Board Chairman (known as the Project Executive)

4.10 The Chairmanship of the Project Board was linked to an operational post in DFP's Central Personnel Group. This link weakened continuity within the project; for example, if an individual were promoted, or moved to another post, they would leave the Project Board. The chair of the Project Board was also the chair of ASEOM, a clash of responsibilities which the PIR report regarded as 'invidious'. At the very least it represented, in our view, a confusion of roles as he was, effectively, reporting to himself.

4.11 During the thirteen years of the project, nine individuals held the chairmanship of the Project Board. The Board did not meet for a period of seven months in 1994 - as Figure 7 demonstrates - because of doubts raised as to which Command within DFP should chair the Project Board.

Figure 7: Project Board Chairman/Executive - 1988 to 2001

Project Board Chairman/Executive	Grade	Period	Number of Months	Meetings Chaired
Executive 1	Assistant Secretary	May 1988 - January 1991	33	7
Executive 2	Assistant Secretary	February 1991 - May 1993	29	5
Executive 3	Assistant Secretary	June 1993 - December 1993	10	2
Executive 4	Assistant Secretary	January 1994 - July 1994	7	0
Executive 5	Assistant Secretary	August 1994 - January 1996	18	7
Executive 6	Assistant Secretary	February 1996 - May 1996	4	2
Executive 7	Under Secretary	June 1996 - February 1997	9	4
Executive 8	Under Secretary	March 1997 - December 1999	34	25
Executive 9	Under Secretary	January 2000 - June 2001	18	12
Total			162	64

Source: Project Board Minutes

4.12 Current best practice in managing large projects of this nature is that one individual at a senior level (known as the Single Responsible Owner or SRO) should assume personal responsibility for the project. The May 2000 Cabinet Office Review of Major IT Projects (paragraph 4.29 and Appendix 4) recommended that "... a single Senior Responsible Owner is appointed for all projects, including those that cut across more than one department or agency, and that personal objectives set for these individuals include the responsibilities of this role". DFP's PIR concluded that the projects' problems were aggravated by "a lack of clarity regarding responsibility and accountability and, critically the level of authority required to fill the SRO role effectively". In our view, the payroll project would have benefited from the appointment of a senior manager with sufficient authority to properly undertake this role throughout the life of the project. We consider that such an appointment is essential for all future NICS projects of this scale and complexity.

Frequency of Project Board Meetings

- 4.13 Between 1988 and 2001, the Project Board met 64 times, an average of one meeting every two-and-a-half months. The frequency of meetings was particularly low during the period between April 1992 and March 1996 when the Project Board met on only 11 occasions, and it did not meet at all between November 1993 and August 1994. The period when meetings were held most frequently (13 meetings in 1998-99) was when Year 2000 compliance concerns were at their height.
- 4.14 In our view the high turnover of Project Board Chairmen and, at certain periods, the infrequency of Project Board Meetings had an adverse effect on the management of the project.

The Project Manager and Project Team

- 4.15 A Project Manager at the Senior Systems Analyst grade (equivalent to Deputy Principal) undertook the day-to-day management of the payroll project. We agree with the assessment of DFP's PIR that this post may have been pitched at too low a level. The PIR states "...for a project/programme of the size and complexity of HRMS, the Project Managers may have been under-graded and lacked the level of business understanding that contributed to the success of PRAMIS".
- 4.16 There were four Project Managers during the life of the project; the longest-serving being in post between 1991 and 1997. The individuals appointed were, until the latter stages of the project, IT specialists and were not experienced Project Managers. The Cabinet Office Review of Major Government IT Projects (paragraph 4.29 and Appendix 4) states that: "The value of applied experience in the field of project management cannot be overstated." We consider that expertise in project management is an essential requirement for a post of this nature.

- 4.17 The Project Manager was supported by a Project Team, whose members included both administrative staff, some of whom were seconded from departmental personnel branches, and IT specialists. There was a high degree of continuity within the Project Team, especially during the critical 1992 to 1996 period, and the low staff turnover appears to indicate a high degree of commitment to the successful completion of the project. NIAO recognises the considerable effort and dedication shown by the various Project Managers and their Project Teams throughout this difficult project.

Managing the Relationship with the Supplier

- 4.18 DFP has indicated that the initial relationship with MDIS in developing the PRAMIS system was productive and successful. However, MDIS's failure to grasp the complexity of NICS payroll requirements, the resulting mismatch with the supplier's standard package and the need for extensive customisation of this software did have an adverse effect on the customer/supplier relationship. DFP has acknowledged in the PIR that: "This misunderstanding on both sides led to sustained conflict between MDIS and the NICS Project Team about what the requirement was and these arguments dogged the project from the start." The PIR confirms that the relationship between NICS and MDIS "was not good" and that the project was managed in an "atmosphere of conflict".
- 4.19 The earlier PRAMIS development had been successful in part because:
- a standard software package was employed with little adaptation required for NICS's purposes;
 - a significant amount of development work was carried out on site; and
 - the software development company ISIS had considerable expertise in the personnel field.

All of these advantages were lost in the case of the Payroll Project. DFP considered that, because of the pressure of other work, MDIS were not using staff familiar with the design of the original programme code. As a result, further problems were introduced when the software was amended to correct already identified faults. The extremely high level of software errors also led to the Project Team becoming increasingly doubtful that MDIS were carrying out sufficient testing prior to delivery. Little, if any, development was carried out on-site, even though the Project Team made this facility available to MDIS. The PIR confirms that "...having the development team situated adjacent to the test team would have assisted in the reduction of queries and consequent misinterpretation of requirements.....or at the very least, it would have improved the turnaround times for the software development and fault correction cycle. The remote teams led to situations where each side was blaming the other for either the quality of the software or the rigour of the testing. Any dispute is more rapidly resolved by regular face to face discussions: in this case the two sides met only when the problems were serious. However, MDIS representatives did attend Project Board meetings."

- 4.20 The PIR was also critical of the decision taken by DFP to dispense with the supplier's project management role, on the grounds that this service did not offer value for money. The PIR concluded that: "This further diluted the common identity of interests between MDIS and NICS in securing a satisfactory result and may have reinforced MDIS's inclination to abdicate responsibility for the outcome."

Involvement of Central Computer & Telecommunications Agency (CCTA)

- 4.21 CCTA was involved throughout the life of the HRMS project. In our view, the HRMS Project Board was prudent in consulting CCTA and in seeking additional advice from the relevant specialists.

Involvement of Departmental Users in the Project

- 4.22 The departmental users of the proposed human resource management system were heavily involved throughout all phases of the project, from the procurement of the replacement personnel system through to testing of the software.
- 4.23 Establishment Officers from four central government departments (DETI, DOE/DRD, DHSS/DSD and DARD) were permanently represented on the HRMS Project Board. A high degree of continuity was maintained with, for example, the same official representing DETI on the Project Board from June 1989 through to termination of the project. Staff from departmental personnel branches were involved in agreeing system specifications and defining additional user requirements.
- 4.24 We recognise that a high degree of user involvement was both necessary and desirable in this type of project. The PIR considered that: "HRMS was necessarily regarded from the start as a collaborative project and generally represents a good example of the way that NICS Departments are able to work together effectively in areas of common interest and where there is a generic requirement." It is apparent, however, from the failure of ASEOM to properly oversee the HRMS payroll project that there can be real problems in determining accountability in such inter-departmental projects. NIAO notes and welcomes the issue in December 2003 of new guidance (DAO (DFP) 33/03: Information Communication Technology (ICT) - enabled business change: guidance on management, justification, evaluation and responsibilities) which covers accountability arrangements, including the appointment and role of SROs, in inter-departmental projects.

The Failure to Manage Risk

4.25 In our view, a more thorough evaluation of some of the key risks facing this project, such as is now accepted good practice, could have significantly improved decision-making at crucial stages in this project, in particular, as regards the risks posed by uncertainties about ownership of equipment, and the likelihood of MDIS being unable to deliver large-scale software tailoring in acceptable timescales. As DFP recognised in its PIR: “Proactive risk management would have played a very important part in determining how to proceed at crucial stages or milestones in this project.” We concur with the view expressed in the PIR that where major risks were identified, particularly the potential loss of live systems if payroll were to be terminated, “these risks were avoided rather than managed”. When the project was brought to an end in 2001 the risks associated with termination proved not to be insurmountable. The PIR states that: “The consequences of the risks which were identified at each stage materialising... have been shown by the recent decision to address these risks head-on in terminating payroll to be overstated.” The PIR also states that: “A more usual approach which deals with the probable likelihood of a risk being realised and the gravity of the risk.... may have enabled the project to have been turned around or abandoned earlier with a significant saving in effort and money.” NIAO agrees that, if a proper assessment of the probability of major risks being realised, and of the likely impacts, had been carried out, the outcome of the project could have been very different.

Recent Guidance on Managing IT Projects

4.26 In recent years a number of reports have been issued which deal with the procurement and management of large projects, and some of these have come about as a result of the failure of IT projects. These reports have provided a number of recommendations for improvements in the procurement and implementation of projects, which, in many cases, takes the form of good practice

guidance. Details of some of these reports are provided in the following paragraphs. In our view, if this good practice guidance had existed, and had been put in place in the case of the HRMS payroll project, it would have substantially reduced the risk of the project failing or at least prevented it from struggling along for so long.

- 4.27 A significant recent development in public sector procurement has been the implementation of the April 1999 Review of Civil Procurement in Central Government (the Gershon Review). In response to this review, the Office of Government Commerce introduced a structured approach (the Gateway Process) for reviewing new procurement projects, including IT projects. The process involves examining a project at critical stages in its lifecycle (known as gateways) to provide assurance that it can progress successfully to the next stage. An overview of the Gateway Process is provided at Appendix 3. A Gateway Review is conducted by a team of experienced people independent of the project team. In August 2002, the Public Accounts Committee at Westminster¹⁰, in its report on "Improving Public Services through E-Government", endorsed the use of this process and said that: "Gateway reviews are an important tool for improving the performance of IT projects and have identified a number of deficiencies common to many IT projects. These include the need for better business cases underpinning department's investment in IT and stronger project management." We welcome the decision by DFP to employ the Gateway Process in the procurement of the proposed new payroll system.
- 4.28 In recent years a number of high profile government IT Projects have failed in the UK. In January 2000, the Public Accounts Committee at Westminster published a report drawing lessons from such cases. The main recommendations and conclusions are summarised at Appendix 4, and a number are particularly relevant to this project.
- 4.29 In May 2000, the Cabinet Office completed a major study of IT Projects, both successful and unsuccessful, and in both the private and the public sectors¹¹. The

10. Committee of Public Accounts, Session 2001-02, Fifty-Fourth Report, 28 August 2002, HC 845

11. The report by Mr Ian McCartney, then Minister of State at the Cabinet Office, is entitled "Successful IT: Modernising Government in Action".

report recommended ways in which government could improve its approach to, and management of, IT projects. These recommendations are summarised at Appendix 5 and again many can be read across to the difficulties faced by the HRMS Payroll Project. DFP responded to this report by issuing a letter to Accounting Officers¹² drawing their attention to the report's findings and setting out a revised structure for managing the procurement and implementation of major IT projects. In December 2003, DFP issued replacement guidance¹³ setting out new procedures intended to improve the delivery of Information Communication Technology (ICT) - enabled projects and programmes. This latest guidance aligns the NICS approach with current GB practice.

- 4.30 Departments are now in the position of having a considerable amount of good practice guidance available to them in the management of large procurement projects. They also have the opportunity to benefit from the many lessons learned from the HRMS project, as identified in the PIR (paragraph 1.9 and Appendix 2). Complex IT projects can succeed and it is essential that NICS secures the efficiency gains which they can deliver. It is, however, important that such projects are properly planned, resourced and managed in line with the guidance now available.

12. DAO (DFP) 01/01

13. DAO (DFP) 33/03

Appendices

Appendix 1
(paragraph 1.1)

Chronology of the HRMS Project

Deciding to Procure a Human Resource Management System

June 1985	Feasibility Study recommends replacing the NICS personnel system with a new system, to be called PRAMIS.
August 1987	Following a public competition the PRAMIS contract is awarded to McDonnell Douglas Information Systems (MDIS).
January 1988	A proposal is made that PRAMIS be extended to include payroll and pensions systems as part of an integrated Human Resource Management System (HRMS).
November 1989	NICS purchase a pensions system from MDIS as the first step towards obtaining an integrated HRMS system.

Developing the Payroll System

December 1991	A payroll system is purchased from MDIS using a Change Control Note (CCN) to the 1987 PRAMIS contract. The contract target date for implementation is November 1993.
September 1992	The pensions system is fully implemented, eighteen months behind target.
August 1993	The second payroll CCN is signed with a revised target date for implementation of July 1995.
March and July 1994	MDIS is placed in breach of contract for failure to deliver acceptable software.
February 1995	A revised economic appraisal by the Project Manager recommends continuing with the Payroll Project.
August 1995	MDIS is notified of a further breach of contract for failing to deliver software by the agreed dates.
December 1995	A third and final payroll CCN is signed with a new target date for full implementation of August 1997.
December 1996	The Central Computer and Telecommunications Agency (CCTA) recommends that the payroll project should continue.

CIVIL SERVICE HUMAN RESOURCE MANAGEMENT SYSTEM: CANCELLATION OF THE PAYROLL PROJECT

January 1997	DFP Economics Division recommends a complete re-appraisal of the project.
February 1997	DFP Senior Management rejects the call for a complete re-appraisal and accepts CCTA's recommendation that the project continue.
August 1997	System testing begins and reveals a significant level of error in the software.
February 1998	CCTA again recommends continuation of the project.
April 1998	Existing ICL system upgraded to Year 2000 compliance at a cost of £239,000. CCTA's legal advisors recommend consideration of an agreed termination of the project.
May 1998	The Project Manager's Exit Strategy finds an agreed termination would be the best approach if the project could not continue.
July 1998	Project Board Chairman advises MDIS that "time was of the essence" and offers "one last chance."
February 1999	High Level Contingency Review concludes that continuing with MDIS is still the best option.
March 1999	System Testing ends with the failure threshold still being exceeded but the software is judged to be of sufficient quality to move to the next stage of testing.
June 1999	The Project Manager completes a revised economic appraisal, again recommending that the project continues.
May 2000	First delivery of conversion software fails testing. Although a second version, delivered in August 2000, showed some improvement it also fails testing.
September 2000	A Revised Plan suggests that full implementation cannot happen until at least May 2002.

Deciding to Terminate the Payroll Project

November 2000	The Board decides to suspend the project and open negotiations with MDIS/Northgate.
May 2001	A termination agreement is signed with MDIS/Northgate.
June 2001	The Post Implementation Review is completed. The HRMS Project Board is formally stood down.

Appendix 2
(paragraphs 1.9 and 4.30)

HRMS - Post Implementation Review - June 2001

Lessons Learned and Recommendations

Many of the lessons learned are general in nature and in many cases have been overtaken by the introduction of best practice: they are included for completeness.

1. Project/Programme Management and Control and Strategic Content

- user led projects can be highly effective;
- breaking projects/programmes into discrete modules makes each element easier to manage;
- using a software package reduces costs and normally leads to faster implementation;
- as HRMS was an inter-departmental project it was important to ensure that it met each department's broader needs;
- projects should have been identified within a clear strategy for Management Information Systems/Human Resources;
- IT projects should be carried forward as part of an Information Systems/Information Communications Technology strategy;
- senior managers should be involved in, and own , projects within their area of responsibility;
- reporting structures and an action taking philosophy are required for large projects;
- projects of this importance should be directed at senior level and the frequency of monitoring should increase during difficult periods;

- we **recommend** that strategies are produced for Management Information Systems (MIS), Human Resources (HR), Information Systems (IS) and Information Communications Technology (ICT) in those areas where strategies are necessary and where they are not already in place. These strategies should establish the functional requirements and business priorities in a clear and universally understood way and set down the ground rules and boundaries for IS/ICT developments. The strategies would establish the framework for all major project and programme work and facilitate a dialogue between strategic intentions between each of the areas covered to ensure that plans are aligned; and
- we also **recommend** that a senior manager sponsor is appointed for all projects which are assessed to be of relatively high complexity and/or risk.

If committees/boards are responsible for overseeing projects, they should properly fulfil that obligation.

2. Managing the Supply Side - Procurement and Partnership

- large and complex projects must utilise the best form of contract that provides the most appropriate protection and maximum flexibility;
- terms and conditions including penalties and liquidated damages should be commensurate with the size and type of project;
- contract management should be reviewed to provide an improved means of terminating contracts where the supplier has manifestly failed to meet a series of contractual targets;
- contracts should be avoided which allow the contractor to lock the customer into one source of supply for all elements of the contract;
- a greater level of mutual benefit for completing the project should have been set;

- assessment of the supplier's capability, adherence to quality methods and overall ability to meet commitments should be strengthened;
- a straightforward inter-organisation communication and control mechanism needs to be established including a problem escalation process;
- a formal relationship with suppliers should be established;
- from time to time in a lengthy programme the Project Team need to pause and take stock of the supplier's position;
- we **recommend** that a more rigorous approach should be taken to examine future project options ensuring that information is obtained on all possible alternatives to avoid the contractual difficulties that led to the lock-in situation that occurred in HRMS; and
- we **recommend** that this responsibility should fall to a contract manager.

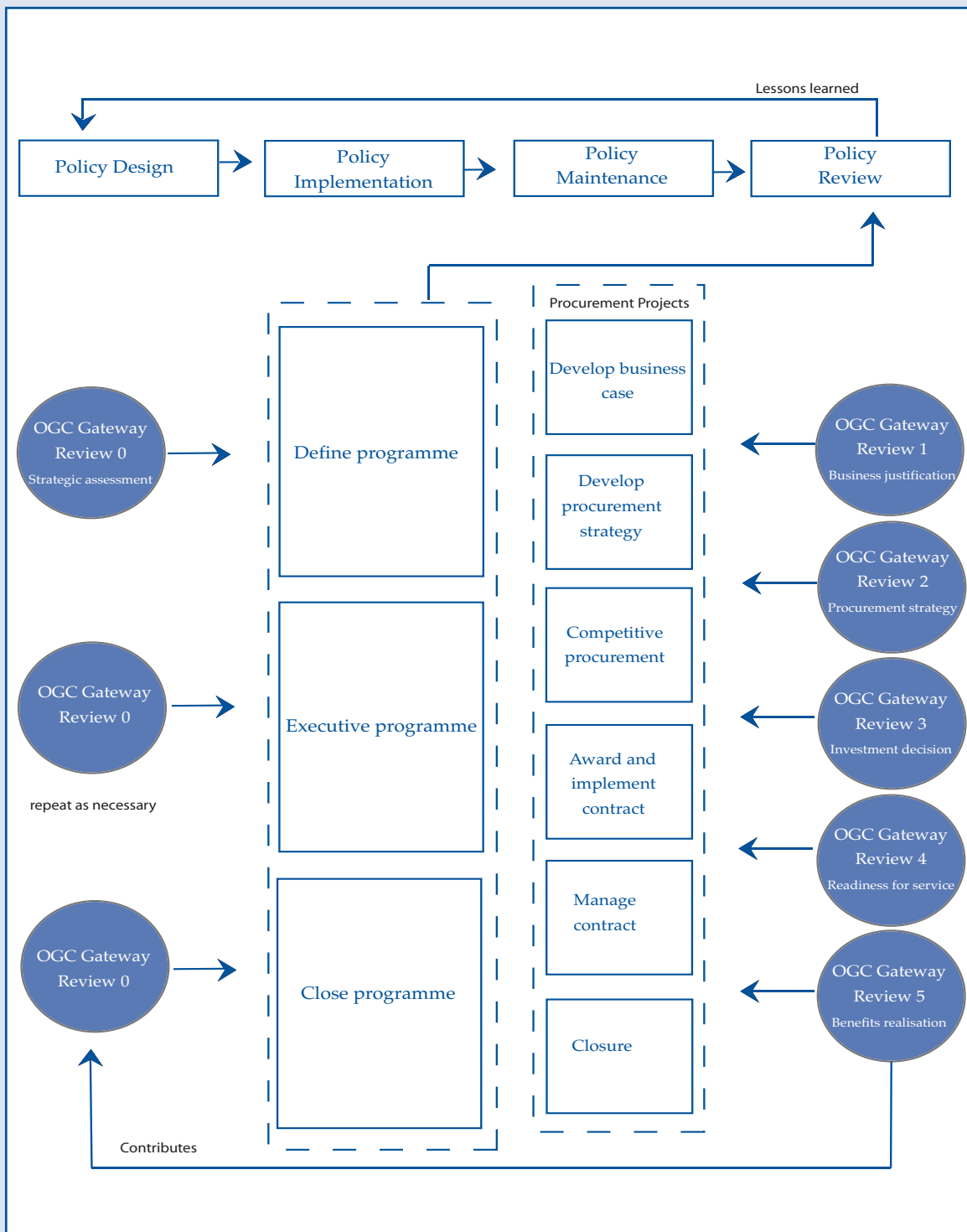
3. Isolating and Turning Around Difficult Projects

- all projects should be managed in a formal, disciplined manner by employing a project management methodology;
- projects should be refreshed in management and control at regular intervals;
- lengthy projects need to be organised so that everyone in the Project Team understands their roles and they are given the opportunity to move from one role to another;
- the Project Manager should report regularly to the Project Board, at least monthly;
- new recommendations for project management should be adopted where appropriate;
- from the outset of a project, the degree of difficulty should be assessed;

- the suitability of technology for a given application and all of the implications for its use should be carefully analysed;
- operational requirements should accurately reflect the customers needs and should where possible be stable;
- projects should not run beyond the stated tolerances for time and cost;
- assessment of both sides' capability to get the task completed should have been made;
- change at all levels must be properly managed and controlled;
- we **recommend** that a much stronger line over project audit should be adopted that would address identified weaknesses particularly in the area of risk management;
- we **recommend** that, as a general rule of thumb, no project exceeding the agreed tolerances for time and budget should be allowed to proceed without thorough examination and an authority to proceed by the project sponsor;
- we **recommend** that project management in general is tightened up. Projects should not last for sixteen years: but if they do, project discipline should be maintained and all documentation should be keep up-to-date; and
- we further **recommend** that the contract management role should include a supplier management responsibility. HRMS suffered from a major supplier problem and, despite the level of liaison carried out; more effort should have been made to find a way forward that provided benefits to both parties. This is an important and challenging role.

Appendix 3
(paragraph 4.27)

Overview of the Gateway Process



Source: Office of Government Commerce - Best Practice OGC Gateway Reviews

Committee of Public Accounts - First Report 1999-00

Improving the Delivery of Government IT Projects- January 2000

Summary of the main recommendations and conclusions¹⁴

1. **Decisions about IT are crucial to the development and success of the business of public bodies, and cannot be treated in isolation from other aspects of their work. Failure to deliver an IT system can have a profound effect on an organisation's ability to provide services to its customers. Key decisions on IT systems are, therefore, business decisions, not technical ones, and should involve senior management. And the commitment of senior management can be a critical factor in securing a successful outcome.**
2. Projects are conceived and grow from identified business needs. However, what seems a clear objective at the beginning can easily become blurred and confused as events progress. The end users must be identified before the project commences so that their needs are taken into account fully during design and development.
3. The scale and complexity of projects is a major influence on whether they succeed or fail. Departments should consider carefully whether projects are too ambitious to undertake in one go. This consideration is particularly important if a project connects with the business operations of other parties, or depends on the development of IT undertaken by other parties.
4. **The management and oversight of IT projects by skilled project managers is essential for ensuring that projects are delivered to time and budget. But the**

14. Whilst these points have relevance for all projects, NIAO consider that those in bold have particular relevance to the HRMS Payroll Project, and for any future NICS payroll system.

successful implementation of IT systems calls for imagination and well-conceived risk management, as well as sound project management methodologies.

5. The increasing use of complex external contracts for the delivery of major public sector IT projects and the supply of strategic IT services has highlighted the need for a high degree of professionalism in the definition, negotiation and management of IT contracts. It is essential that public sector bodies get the right contracts in place. With large sums of public money at stake, any lack of clarity, or debatable interpretation in a contract can lead to expensive misunderstandings that might have to be resolved in the courts.
6. The implementation of an IT system is not an end in itself. It is important that sufficient attention is paid to ensuring that staff know how to make full and proper use of it. Without this it is unlikely that the anticipated business benefits will be realised. Training of staff can take up considerable resources, often a significant proportion of the overall cost of the project. Training must address the needs of users, and of those operating and maintaining the system.
7. As well as wasting enormous sums of public money, failures in IT can have disabling impacts on public services and on citizens. These have included the failure to pay social security benefits to vulnerable people and major delays in issuing people their passports. In addition to planning and managing projects positively, Departments should therefore have contingency plans in place to maintain adequate levels of service in the event of project failures.
8. It is essential that organisations learn lessons from the projects undertaken. A post-implementation review is designed to establish the extent to which they have secured the business benefits anticipated. The review may encompass whether the project has met its business objectives, user expectations and technical requirements.

The Action Plan for Departments and Suppliers arising from the Cabinet Office Review of Major Government IT Projects, May 2000

Actions for Departments

Ensure that a single Senior Responsible Owner is appointed for all projects, including those that cut across more than one department or agency, and that personal objectives set for these individuals include the responsibilities of this role.

In all dealings with suppliers, both on new and existing projects ensure that activities aimed at co-operation and open communication are encouraged.

Nominate a contact point for contributions to the database of lessons learned and notify the Office of Government Commerce of all current and pending projects in order to benefit from lessons learnt and to contribute to the ongoing database.

Ensure that pre-contract review of supplier's plans is carried out for all major IT projects and that review continues through the life of the project. Ensure that own plans are in order as well.

Ensure that periodic reviews are carried out during the life of a project to monitor and capture the realisation of benefits.

Ensure that a post-implementation review is carried out for all projects.

Adopt a formal project management approach, such as PRINCE 2, for all new projects.

Provide audit of skills as part of Modernising Government action plan based on IS Skills framework.

Ensure that all major projects have a business case for business change, in line with the guidelines, and that this business case is monitored and updated throughout the life of the project.

Ensure that all projects follow the risk evaluation and reporting guidelines.

Liaise with the Office of Government Commerce and use the Project Profile Model to determine the complexity of new projects, to determine the required level of project management experience and conduct Peer Reviews of all new projects following guidelines supplied and feeding information back to the central review database.

Conduct a review of training provided to Project Managers and ensure that all Project Managers have the appropriate training in accordance with guidelines published by the Office of Government Commerce.

Ensure that all projects follow the revised procurement guidelines.

Ensure that all projects follow a modular approach unless for overwhelming and documented reasons.

Undertake on-going assessment and improvement of Information Systems skills.

Actions for Suppliers

Suppliers should work with departments and agencies to ensure their proposed solutions meet business needs not just technical or operational requirements.

Produce realistic plans, including financial, technical, personnel and

communication plans, through the lifecycle of the procurement to ensure continuing alignment of supplier activity with business need.

Share information about problems at the earliest opportunity to ensure small issues do not escalate.

Agree processes at the start of the procurement that will actively encourage co-operation and open dialogue between supplier and client.

Whilst Government has responsibility for the assessment and acceptance of bids, suppliers must ensure that they fully understand the requirements, that bids are realistically priced and the timescales proposed are achievable.

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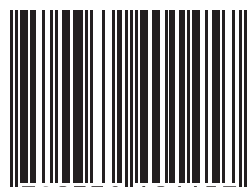
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