Home Office

The Implementation of the National Probation Service Information Systems Strategy

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Comptroller and Auditor General   **4 April 2001**

The Comptroller and Auditor General is the head of the National Audit Office employing some 750 staff. He, and the National Audit Office, are totally independent of Government. He certifies the accounts of all Government departments and a wide range of other public sector bodies; and he has statutory authority to report to Parliament on the economy, efficiency and effectiveness with which departments and other bodies have used their resources.

executive summary

1 In 1993 the National Probation Service Information Systems Strategy (NPSISS) was established to achieve a common high quality information technology infrastructure across all of the probation services in England and Wales. The initial national programme was for the provision of a national computer infrastructure (comprising personal computers, operating software and a communications network supported by common servers) and a case recording and management system (CRAMS). The implementation programme was managed by the Home Office's Probation Unit. Bull Information Systems Limited, the main contractor, operates under an enabling agreement, signed in December 1994, to install the infrastructure and CRAMS, and provide a managed service. The agreement with Bull is due to end in December 2001. The cost of implementing the strategy over 10 years was projected to be £97 million. Roll out of the NPSISS infrastructure began in 1995 and was scheduled to be completed by March 1999.

2 Her Majesty's Inspectorate of Probation carried out a thematic inspection of probation services' use of information, including the progress made in the implementation of the NPSISS strategy. The Inspectorate's report - "Using Information and Technology to Improve Probation Service Performance" - was published in October 2000. The Inspectorate identified weaknesses in the information available to probation staff and in the IT systems and concluded that the Home Office needed to make very significant improvements to give probation services the IT systems and support they needed.

3 The National Audit Office collaborated with the Probation Inspectorate in its work. This report presents the results of the National Audit Office's further examination of what lessons could be learned from the Home Office's management of the NPSISS and CRAMS programme.

Key findings

■ By the end of March 2001 the NPSISS computer network covered 49 out of the 54 local probation services. From 1 April 2001 there is a new National Probation Service with 42 local areas of which 38 have access to the NPSISS network. Given that the network was introduced into autonomous and locally managed services, this was a notable achievement. The infrastructure has led to improved communication within and between probation services. Links with the Home Office and the systems of other criminal justice agencies have yet to be made.

■ The CRAMS case management system was introduced in 39 out of the 54 probation services, and is used substantially by 16 of these, representing only 20 per cent of the probation service budget. CRAMS has proved difficult to use, and its development, overseen by the Home Office, did not keep pace in all respects with changing business requirements. As a result of the limitations with CRAMS the Home Office has suspended its further development except for essential maintenance of the software.

■ The full economic cost of the NPSISS infrastructure, support and CRAMS is expected to be at least £118 million by the end of 2001, which would be 70 per cent at constant prices above the expenditure forecast in the Home Office's original business case for the same time period. The enabling agreement with Bull is largely open ended, with additional expenditure commitments being made as and when required. Poor specification of expected outputs, weaknesses in service monitoring and inadequate control by the Home Office over the issue of purchase orders contributed to the higher than expected cost of the programme. Since early 2000, the Home Office has held back its pursuit of IT development work because of concerns as to whether new purchase orders under its enabling agreement with Bull would meet European public procurement requirements.

■ The introduction of a national infrastructure and case management system was always likely to present a significant management challenge. However, the Home Office's programme management team suffered from a lack of continuity in its leadership and was not fully resourced to deal with the scale of the issues facing it. In its first seven years, for example, the programme team had seven programme directors. In terms of day to day project management, we found that responsibilities were not always clear, and that communication between the Home Office and the services was not always effective. The Home Office has already recognised some of these issues and the Information and Technology Group for the new National Probation Service is planned to have a complement of around 50 staff compared to the previous effective complement of 12.5.

The detailed findings and lessons learned from the study are set out below.

On installing NPSISS

4 By the end of 2000 the NPSISS network extended across 47 out of 54 probation services, covering 87 per cent of the premises within the networked areas; and it was rolled out to a further two services by the end of March 2001. The coverage of the network will become increasingly important with the creation of a unified National Probation Service for England and Wales in April 2001. The Home Office told us that it remained committed to extending NPSISS across all probation services but, as at February 2001, had yet to make the necessary arrangements.

5   Forty two of the 47 probation services on NPSISS by the end of 2000 reported to us that NPSISS had brought improvements in communications within their areas. NPSISS has not yet delivered the planned new links with other criminal justice information systems. This was partly because CRAMS had not been adopted by all services and partly because of delays in the development of information systems by other criminal justice organisations. NPSISS has not provided internet access and external e-mail services. The progress of these and other developments has been affected by the Home Office's decision not to let new purchase orders under the enabling agreement with Bull because of concerns as to whether this would be in compliance with European public procurement requirements.

6   The Home Office promoted but did not actively monitor other benefits from the NPSISS programme, including business change in the probation services. As a result, it is not possible to quantify the business benefits derived from the introduction of these systems. Costs and achievements have not been monitored against projections in the original business case.

For the future

7   At the end of 1999 the Home Office started reviewing the IT strategy for the probation service and in July 2000 it drew up a recovery programme to address challenges thrown up by the NPSISS programme. The new Information Systems Programme Board, which is responsible for defining the IT requirements of the new National Probation Service and overseeing their implementation, is taking this work forward. The new IT strategy work makes a commitment to develop further the national systems and to achieve links with other criminal justice agencies. We recommend:

■   the Home Office ensures that the national network is completed and extended to the national directorate to provide a backbone for the operation and accountability of the new National Probation Service;

■   the National Probation Service ensures that its new information strategy is firmly linked with the Service's business strategy and that performance on IT is reviewed at least annually, in full consultation with the services; and

■   the National Probation Service takes every opportunity, on future IT development, to re-engineer existing administrative systems to enable the full business benefits of IT to be achieved.

On the problems with CRAMS

8   Users have found CRAMS difficult to operate. Consultants commissioned by the board overseeing the programme reported that the user interface contained defects that compromised the ability of users to perform their work. The Home Office did not ensure that the development of CRAMS kept pace in all respects with changing business needs, for instance it does not provide local probation services with direct access to operational data held by other areas in order to help in the transfer of case information, nor does it provide a national database to support new local procedures to improve the management of high-risk offenders. Generally services were having to rely on paper files, card indexes and registers to retain and access information on offenders presenting a risk of harm to the public. The Chief Inspector of Probation has commented that this lack of IT had not compromised public safety or put staff at risk.

executive summary

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9 The development of CRAMS was based on software operating in some probation areas. The Home Office underestimated the technical risks associated with transferring an existing system onto the NPSISS network. The poor user interface of CRAMS was evident from an early stage, along with the other technical problems and faults which had not been resolved by initial testing. In July 1996, a review commissioned by the Home Office from an IT consultant from the Central Computer and Telecommunications Agency noted several risks. In the consultant's view, acceptance and pilot testing of CRAMS suffered from a lack of clear direction, criteria to measure success, and coordination. Even if formally accepted, the consultant thought that the system's acceptability and usability were unknown. The Home Office team sought to address these problems but did not prevent the roll out of poor quality software.

10 The requirement for CRAMS to produce reports for management purposes was not adequately specified at the start of the project, nor was a subsequent requirement from the Home Office for Bull to develop standard reports using specialist software, known as GQL, which extracts data from databases. The Probation Inspectorate found that services had to invest their own resources to make the GQL software work satisfactorily. GQL had been installed in 46 services by early 2000.

11 The Home Office initially expected that CRAMS would cost some £4 million but it now estimates it will have cost almost £11 million at constant prices by December 2001, including the costs of work to ensure year 2000 compliance and the costs of the additional reporting tool. During the course of the NPSISS programme probation services on the NPSISS network spent nearly £1.2 million on the purchase and development of supplementary software to record and manage cases. The five services still not on NPSISS have spent additional resources developing their alternative case management system. They estimate they have spent some £350,000 on development work and a further £30,000 a year supporting it. In total some 27 probation services are developing or using alternative computerised systems for recording or managing case details. This position has resulted in case records being held in a number of different formats, creating problems for the transfer of cases

between services. A major challenge for any new national case management system will be the need to manage the migration of information from existing systems.

For the future

12 Current plans propose a modular approach to addressing the needs for case management software, utilising systems developed by local services and introducing a new national case index. We recommend the National Probation Service:

- develops proper user specifications for case management systems to succeed CRAMS, building on current experience and reflecting clear statements of the business objectives and requirements for the new national service - in particular, it should address their usability and their ability to produce management information;

- ensures that proposals for any new national case management system, or any other major technical developments, are subject to a full evaluation of the likely technical risks before going ahead;

- ensures that the organisational implications of any future IT developments are properly evaluated and that there is full user involvement, with effective management arrangements to ensure that issues arising at local level can be fed back quickly to appropriate contacts within both the Home Office and the supplier;

- ensures that there are effective arrangements for keeping the service informed of progress against targets in the strategy;

- explores the best contractual options for developing software to succeed CRAMS and, in adopting a modular approach, to ensure that a strong overall design is developed so that the modules fit together well; and

- ensures that test plans, with clear objectives and criteria for determining success, are formally agreed with suppliers prior to starting the design and development of new software.

On the contract with Bull

13 The Home Office's contract with Bull was drawn up in the form of an enabling agreement. It provides for the Home Office and probation services to take out purchase orders from a specified range of products and services at prices set out in schedules to the agreement. The performance of Bull was not managed effectively. Monitoring of service levels against the enabling agreement was sporadic; and performance against the service level agreement, not agreed until 1998, was not monitored systematically.

14 The Home Office raised a total of 69 purchase orders between December 1994 and March 2000 and consultants commissioned by the Home Office concluded in 1998 that there were unnecessary orders, duplication and overlap, and a risk of overpayment. To rationalise the situation the Home Office negotiated with Bull a consolidated purchase order for support and maintenance at a cost of £5.4 million a year with effect from 1 April 2000. The Home Office Audit and Assurance Unit concluded that there had been significant inadequacies in the negotiation of the consolidated purchase order. The purchase order specifies the resources Bull is to use to support NPSISS rather than deliverables, leaving value for money at risk. In recognition of this the Home Office has introduced tighter service delivery management procedures.

15 Since November 1999 the Home Office has had concerns about whether letting new purchase orders under its enabling agreement with Bull would comply with the competition requirements under European Public Procurement Directives. Legal advice received by the Home Office suggests that any new purchase orders raised under the enabling agreement are unlawful. The Home Office has now concluded that over the remaining period of the Bull agreement, up to December 2001, any IT development work which is needed, and which cannot be delivered by Bull within the terms of the consolidated support and maintenance agreement, would have to be procured through separate legal agreements.

16 Failure by the Home Office to prioritise the necessary preparatory work has contributed to delay in establishing a new strategic partnership to follow the end of the enabling agreement with Bull in December 2001. As a result the Home Office is likely to have to bear additional costs from a proposed separate interim contract after the expiry of the current enabling agreement. The work to manage this interim contract is known as the first phase procurement project. On the other hand, the Home Office considers that this delay has brought the advantage of allowing the new national probation service business strategy and change programme to be specified more definitively before key decisions are taken on the strategic contract.

For the future

17 The plan being taken forward by the Information Systems Programme Board stresses the importance of tighter supplier management and sets expectations for the procurement of the first phase and subsequent strategic contracts to follow on from the enabling agreement with Bull. We recommend the National Probation Service:

■ agrees with Bull specific deliverables for the remainder of the contract to ensure that it gets value from the support and maintenance agreement;

- ■ ensures that its future IT contracts are not open ended and crucial elements not left to post-contract negotiations - they should be based on a clear specification of the expected outputs and quality of service and should ensure that appropriate contract risks are borne by the contractor; and

- ■ ensures that it effectively manages its suppliers, involving systematic and strategic monitoring of contract performance.

On the skills and resources of the management team:

18 Over the course of the project, from 1993 to the end of 2000 there have been seven programme directors in charge of the NPSISS programme, of whom only two had significant experience of managing major IT projects. The programme management team also suffered frequent changes of staff. Technical experts and specialists within the team tended to be consultants working on short term assignments.

19 From 1996 the project management controls and reporting arrangements were based on the PRINCE 2 project management methodology. But the management structure did not include a project assurance function. Furthermore, formal project management methods were not embedded firmly in working practices and they fell into disuse.

20 In January 2000 consultants reported to the Home Office that its Information Services capability was badly under-resourced with misaligned skills, and that this was exposing the Home Office and probation services to significant business risk.

For the future

21 The Home Office has recruited a new Head of IT for the National Probation Service. His management team will comprise a Head of IT Strategy, Head of Service Management and a Head of Programme Management and he will have a complement of some 50 staff. The Home Office has agreed that project assurance will be a priority, and has appointed an experienced consultant to provide quality assurance for the first phase procurement project. We recommend that the National Probation Service:

- ■ pays full regard to recent recommendations made by the Committee of Public Accounts and the Cabinet Office relating to the management of IT projects;

- ■ undertakes a full risk assessment of its new Information Systems Strategy and introduces proper risk management procedures;

- ■ provides for greater continuity of leadership for its IT programme and adequate staffing; and

- ■ ensures that the project management team reflects an appropriate balance between the advantages gained from using secondees and the need for project experience and continuity. Timely and appropriate training should be provided to project management staff when necessary.

Part 1

Background

1.1 In 1993, the Home Office and local probation services adopted the National Probation Service Information Systems Strategy (NPSISS) to provide for the creation of a national information technology infrastructure for local probation services. The initial programme was for the provision of a national computer infrastructure (comprising personal computers, operating software and a communications network supported by common servers) and a case recording and management system, CRAMS, to all probation services in England and Wales. This programme is managed by the Home Office's Probation Unit. The main contractor, Bull Information Systems Limited, operates under an enabling agreement, signed in December 1994, to install the infrastructure and CRAMS, and provide a managed service. The agreement with Bull is due to end in December 2001. The cost of implementing the strategy over 10 years was projected in 1994 to be £97 million. This figure includes the costs of purchasing and installing IT equipment, support and maintenance, software and staff training.

1.2 Roll-out of NPSISS began in 1995 and was scheduled to be completed by March 1999. By the end of 1999 the NPSISS infrastructure had been installed in 47 out of 54 probation services and further development of CRAMS, except for essential maintenance of the software, had been stopped. Against this background Her Majesty's Inspectorate of Probation carried out a thematic inspection of probation services' use of information, including the progress made in the implementation of the NPSISS strategy; and the National Audit Office examined what lessons could be learned from the Home Office's management of the NPSISS and CRAMS programme. The inspection and audit were carried out collaboratively with joint visits to probation services, joint interviews with Home Office officials and sharing of information. The Inspectorate's report - "Using Information and Technology to Improve Probation Service Performance" - was published in October 2000. Its findings and recommendations are presented in summarised form in Appendix 1.

Background to the probation services in England and Wales

The probation services serve the courts and the public

1.3 The probation services are an integral part of the criminal justice system. Until 1 April 2001, their main responsibilities were to:

■ serve the courts and the public, principally by providing reports on offenders for the courts;

■ supervise offenders in the community (both those offenders given community sentences by the courts and those requiring supervision following release from prison);

■ manage offender programmes to ensure that offenders lead law-abiding lives in a way which minimises risk to the public; and

■ safeguard the welfare of children in family proceedings.

The Services' objectives and activities are set out in more detail in **Figure 1**.

The probation services in England and Wales are managed locally by probation committees

1.4 At the time of our examination, the probation services were organised into 54 autonomous and locally managed services in England and Wales. Each service was headed by a chief probation officer, appointed by and accountable to a local probation committee. Local services received 80 per cent of their funding from the Home Office and 20 per cent from local authorities. Though locally managed, the probation services worked within a common statutory framework to key performance indicators and national standards, determined by the Home Secretary.

1 | **Probation Services' objectives and activity levels**

Before April 2001, the probation services had four key areas of work: to serve the courts, supervise offenders in the community, manage offender programmes and safeguard the welfare of children in family proceedings. Since April 2001 the Children and Family Court Advisory Support Service has assumed responsibility for the welfare of children in family proceedings.

Serve the courts

Pre-sentence reports provide an analysis of the offence and the offender and conclusions on the suitability of a community sentence.

Bail information reports include an assessment of the risk the offender represents to the community.

Other reports, including means inquiries, parole reports and inquiries for institutions.

237,000 pre-sentence reports

16,000 bail information reports

46,000 other reports

Supervise offenders in the community

Set and monitor a supervision plan and goals for individual offenders.

Monitor offenders' compliance with the terms of their community sentence.

Work with prison staff to help make decisions on the release of prisoners.

126,000 offenders started criminal supervision following court orders

Average number of offenders under supervision, 218,000

Probation Service

Manage offender programmes

Management of offender programmes and counselling to ensure that offenders can attend appropriate courses.

Enhanced level of residential supervision in approved probation and bail hostels including support to tackle offending behaviour.

Over 2,000 bedspaces available in approved probation and bail hostels

14,000 admissions to hostels, of which bail accounts for around 60 per cent

Safeguard the welfare of children in family proceedings

Assist courts with decisions about the care and welfare of children.

Mediation cases to assist separated parents to agree arrangements for their children.

Supervision of minors.

34,000 welfare reports

7,000 mediation cases

38,000 direction appointments

300 people aged under 18 began family court supervision orders

Source: Probation Statistics England and Wales 1999

2 The probation service for England and Wales - roles and responsibilites prior to April 2001

Up until April 2001, probation services were locally managed organisations but ultimately responsible to the Home Secretary for their performance.

Home Secretary

The Home Secretary sets policy aims, prorities and standards for local probation services.

HM Chief Inspector, Probation

Permanent Under-Secretary of State, Home Office

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BUILDING A SAFE, JUST AND TOLERANT SOCIETY

HM ip

Sentencing and Correctional Policy Directorate

Other Home Office Directorates

Her Majesty's Inspectorate of Probation, which is an independent statutory body, inspects the outputs and performance of probation service areas

Probation Unit

The Home Secretary is advised by the Probation Unit on probation policy matters. It has a funding role, but no management role. The Unit was responsible for managing the implementation of the NPSISS programme.
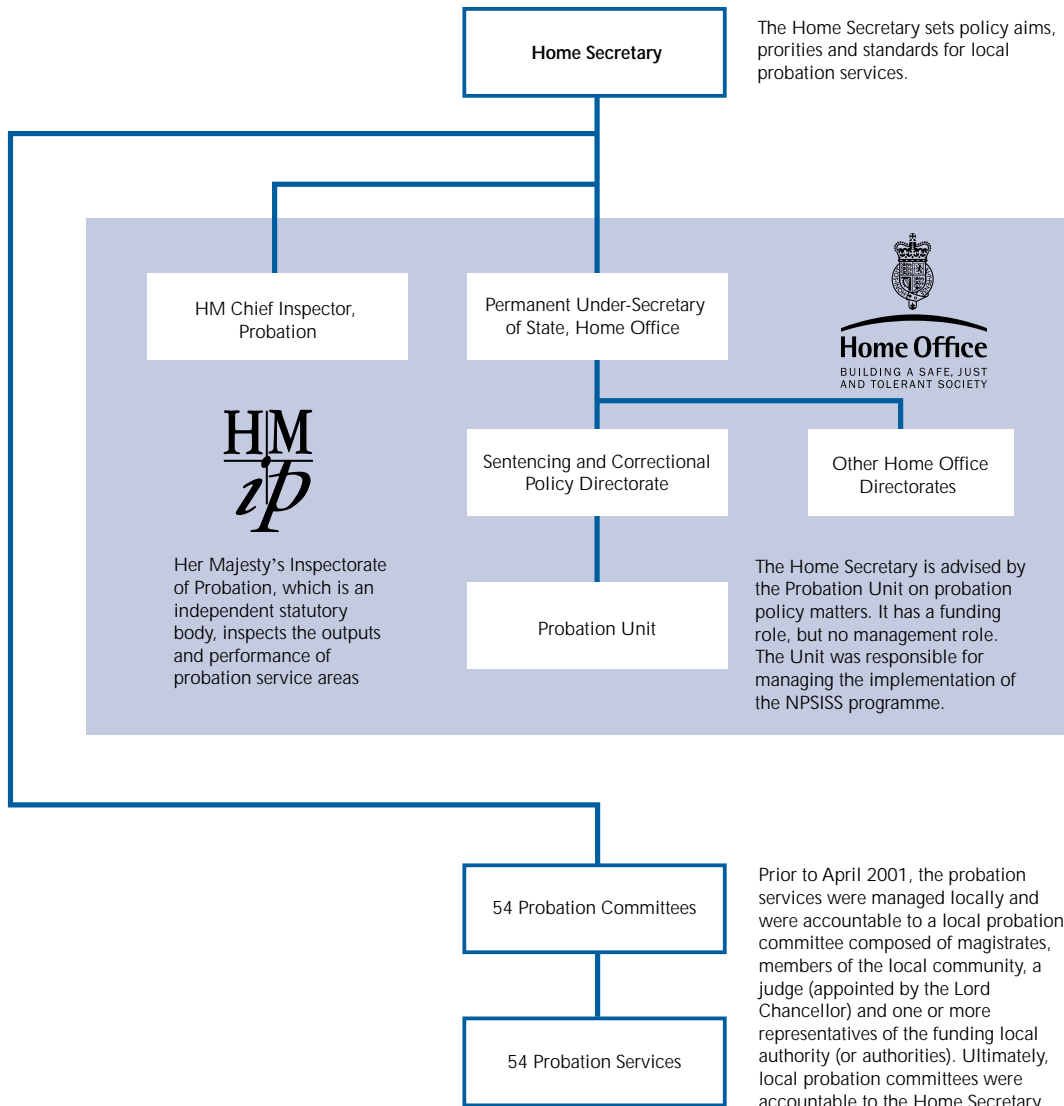
54 Probation Committees

54 Probation Services

Prior to April 2001, the probation services were managed locally and were accountable to a local probation committee composed of magistrates, members of the local community, a judge (appointed by the Lord Chancellor) and one or more representatives of the funding local authority (or authorities). Ultimately, local probation committees were accountable to the Home Secretary.

Source: Home Office

1.5 The Home Office's Probation Unit exercised the Home Secretary's responsibilities for the probation services. The Unit's role was to advise on policy and monitor the performance of the local probation services and to assist local probation services through research and evaluation of best practice. **Figure 2** outlines the responsibilities of the various parties.

1.6 Together the probation services employ the equivalent of some 15,600 full-time equivalent staff. The probation services vary widely in terms of size and expenditure. The Inner London Probation Service employs around 1,200 people and had budgeted to spend around £43 million in 2000-01. The smallest service, Powys Probation Service, employs around 40 people and its budget for the same year was around £1 million.

The probation services are to be reorganised into a new national service

1.7 The Criminal Justice and Court Services Act 2000 created a unified National Probation Service for England and Wales with effect from April 2001. The new National Probation Service is led by a National Director, supported by a directorate operating within the Home Office. It is directly accountable to the Home Secretary for its contribution to Home Office aims and its performance. The new aims for the National Probation Service, the Home Secretary's priorities, national standards and the new performance measures are detailed in Appendix 2.

1.8 The day to day running and management of services in each area is, as before, in the hands of chief probation officers. Chief probation officers are appointed by the Home Secretary. They are members of local probation boards which supervise the work of the service in each area within the national framework. There are 42 local probation boards with the areas coterminous with police force and Crown Prosecution Service areas, in place of the 54 areas which existed before. The new national service is entirely funded by central Government.

Background to the National Probation Service Information Systems Strategy

The national information systems strategy was formulated in 1993

1.9 In the early 1990s, all probation services employed information technology to some extent but there was no national strategy for probation service information systems. As a consequence there were wide differences in approach to probation service computerisation and in the extent of computerisation between probation services. Many systems had been developed by individual services or consortia. The systems differed in their coverage, were generally stand alone and employed different definitions for the data they used. This meant there was limited scope for integration of systems and linking with other agencies.

1.10 In 1992, the Home Office together with probation services set up the Information Strategy Steering Committee to consider the future use of information and information technology. The Committee approved the National Probation Service Information Systems Strategy (NPSISS) in November 1993. The NPSISS strategy set a vision that "relevant, accurate, timely information should be accessible to all staff, where appropriate, at any location from a single source as an integral part of their working environment". It envisaged probation services working together to develop a national information technology framework and to deliver nationally strategic projects, within which local decisions could be taken to address local needs and priorities. Over the period of the strategy this would result in the migration of probation service information systems onto a common, high quality infrastructure.

1.11 Alongside development of the Strategy, the Information Strategy Steering Committee developed proposals for the national case management system. They decided that the case recording and management system, CRAMS, would be an enhanced version of an existing case management system developed and used by Northumbria Probation Service. The aim was to have a system which probation officers would use to record the details of offenders, sentences, supervision plans and actions taken; to produce some of the reports required on offenders by the courts and others; to produce progress reports to assist in the supervision of offenders; and to produce management information.

1.12 In October 1994, following competition to select a supplier, the Home Office submitted a business case to Treasury seeking approval for the NPSISS programme to proceed. The cost of implementing the programme over 10 years was projected to be £97 million at 1994 prices. Forecast financial benefits from the implementation of NPSISS and CRAMS were around £240 million over the period; and the cumulative net present value of the benefits was almost £95 million (using a six per cent discount rate[1]).

The Home Office's Probation Unit has managed the implementation of both NPSISS and CRAMS. The main supplier and service manager is Bull Information Systems Limited

1.13 The Information Strategy Steering Committee retained responsibility for overseeing the NPSISS strategy. A project management board was established to exercise management control on a more regular basis. Day-to-day management of the programme was the responsibility of the Home Office's Probation Unit.

1.14 In December 1994 the Home Office appointed Bull Information Systems Limited, supported by a number of sub-contractors, as the prime NPSISS contractor under an enabling agreement. The agreement was for seven years, and is due to end in December 2001. It provides for:

- the installation and support of computer facilities and systems in individual probation services;

- local and national communications facilities;

- the migration of CRAMS onto the NPSISS operating system;

- support services at local and national levels, including the operation of a national help desk; and

- training for trainers.

The enabling agreement with Bull specified in broad terms the service to be provided and made provision for particular equipment and more detailed service requirements to be established in purchase orders.

1.15 Funding for the NPSISS programme was provided by withholding part of the capital funds normally allocated to the probation services each year. This money was used to fund the purchase and installation of IT infrastructure by probation services (up to approximately one computer for every three probation officers and one computer for every member of support staff and management) and to finance central NPSISS developments such as CRAMS. Probation services which wanted to purchase additional infrastructure (for example, to increase the numbers of computers) had to fund this expenditure from their own budgets.

1　*The discount rate of six per cent is the rate recommended by H M Treasury for translating the expected benefits and costs in future years into present value terms in the appraisal of public sector investment projects.*

1.16 By March 2001, 49 out of 54 probation services had access to the NPSISS infrastructure. It is planned that all 42 local service areas in the new National Probation Service will be on the NPSISS network by March 2002. But further development and rollout of CRAMS was halted in 1999 because of dissatisfaction with it and the need for new national applications to meet the changing business requirements of the National Probation Service. In September 1999, work had begun on the design and development of a successor, known as COPERNICUS. However, work on this project was stopped in February 2000 and was subsequently overtaken by the development of a new strategy. A chronology of key events in the development and implementation of NPSISS and CRAMS is provided in Appendix 3.

The Home Office is in the process of designing a new information systems strategy for the new National Probation Service

1.17 At the end of 1999 the Home Office began a review of the information systems strategy and business requirements for the probation service. In July 2000, the Home Office drew up a "recovery plan" to address the challenges thrown up by the NPSISS programme. A new Information Systems Programme Board has taken the strategy and the recovery plan forward in its Information Systems and Technology Programme for the National Probation Service. The main strands of this programme are: development of IT strategies, policies, architectures and standards; a service management plan to provide for controlled management of local IT solutions to support the delivery of probation service functions; provision of continuing support and maintenance of the current infrastructure and systems from the expiry of the enabling agreement with Bull at the end of 2001 until strategic arrangements are in place, including some development of selected case management applications; and procurement of strategic systems to support the National Probation Service, including a replacement for the CRAMS case index, from 2003.

Previous examinations by the Committee of Public Accounts and the National Audit Office

1.18 In January 2000, the Committee of Public Accounts in their report on "Improving the Delivery of Government IT Projects" (First Report, Session 1999-2000) drew together lessons to be learned from a wide range of projects previously examined by the Committee. In May 2000, as part of the Modernising Government initiative, the Cabinet Office published good practice guidance for Government on how to deliver "Successful IT". It made detailed recommendations covering all aspects of the management of such projects from

leadership and project management to the learning of lessons after completion of a project. To ensure that change would be delivered, it introduced a "gateway" independent pre-contract review by the Office of Government Commerce for major projects involving IT, and placed a requirement on all Accounting Officers to make an annual statement of compliance with the principal recommendations in the review. The procurement arrangements covering continuing support and maintenance of the NPSISS infrastructure and systems, and the subsequent strategic systems to support the National Probation Service are being subject to review by the Office of Government Commerce.

Study scope and methods

1.19 This examination focused on the Home Office's management and delivery of the NPSISS strategy under its enabling agreement with Bull, with a view to drawing lessons from a programme seeking to install a complex new system and new national software into 54 largely autonomous probation services. These lessons are of relevance to the Home Office and the new National Probation Service in considering the next phase of the probation service information strategy and to other public services seeking to implement systems across organisational boundaries. The award of the agreement to Bull, which was made over six years ago, was not examined in detail except insofar as the initial terms affect current decisions.

1.20 This report addresses:

- the lessons that can be learned from the introduction of NPSISS and CRAMS (Part 2); and

- the cost of the programme (Part 3).

The examination included a survey of chief probation officers; visits to 11 probation services, including eight with the Probation Inspectorate; interviews with key personnel in the Home Office, Bull and various IT consultants; and a review of project management documentation and other information. Further details on the methods employed and the survey results are set out in Appendices 4 and 5.

Part 2

What lessons can be learned from this programme?

2.1 This part of the report examines the lessons which can be learned from this programme, in particular:

■ Whether NPSISS has delivered all the expected benefits?

■ Why the CRAMS case management system failed to deliver the envisaged business benefits?

■ Whether the Home Office's project management team was fully equipped to manage a programme of this type?

Whether NPSISS has delivered all the expected benefits?

Given that the network was introduced into an autonomous and locally managed service, the extent of NPSISS coverage, 49 out of 54 services by March 2001, is a notable achievement

2.2 Whilst the initial business case prepared by the Home Office in 1994 had assumed that all local probation services would be connected to the new national network by March 1999, in practice the Home Office was reliant on persuading each of the independent local services to take up the system. By the end of December 2000, 47 of the 54 probation services had installed the NPSISS hardware and were connected to the network. Two further installations, in Kent and Cornwall Probation Services, were completed by the end of March 2001.

2.3 In those areas where the NPSISS infrastructure has been installed, the network is more extensive than envisaged at the planning stage but less extensive than allowed for in the enabling agreement. Probation officers work from probation service offices, but also from courts, prisons, probation service hostels and some other premises. The business case had envisaged that 900 of the then 1,280 locations would be connected to the network, representing 70 percent of the probation service estate. The enabling agreement provided for 1,200 connections. By September 2000 our figures suggest that there were 973 locations connected to the network, covering 87 per cent of premises within the 47 networked areas and that on average there were four computers for every five probation service employees. This represents almost 100 percent of offices and hostels and close to 75 per cent of courts and prisons within these probation services. This coverage level reflects expenditure on information technology systems and equipment made by local services in addition to the central funding from the Home Office.

2.4 In November 1999, following the decision to suspend further work on CRAMS, the Home Office wrote to those services not on the network encouraging them to install NPSISS but without CRAMS. The five probation services who have not had NPSISS installed (Bedfordshire, Cambridgeshire, East Sussex, Norfolk, and Suffolk) all operate a common case management system, the Integrated Case Management System, ICMS. They consider their system to be critical to their operations and of higher quality than the national system, and for this reason have sought to keep it and work on their existing local area networks. The Home Office told us that it remained committed to extending NPSISS across all probation services but as at February 2001 had not established the necessary arrangements.

2.5 The Home Office's original business case in support of NPSISS and CRAMS anticipated productivity gains arising from reduced non-productive work by professional staff and a reduced requirement for support staff. Both systems were expected to generate savings amounting to seven per cent of running costs, amounting to £240 million over 10 years at 1994 prices. Most of these gains were expected to arise from the introduction of CRAMS. Before introducing the new systems, local probation services were expected by the Home Office to review and re-engineer their existing business processes. Our visits to probation services suggested that not all services had undertaken the expected reviews or had implemented the resulting findings. Over the period of the introduction of NPSISS and CRAMS productivity within the service has increased by some 18 per cent, equivalent to about £16 million a year. However, it is not possible to say what proportion of this gain is attributable to the new systems.

2.6 The NPSISS strategy and business case did not make provision for extending the network to the Home Office Probation Unit or the Probation Inspectorate. At the end of 2000 there was one NPSISS terminal in the Home Office to facilitate communication with probation services. The Home Office now has in hand a project which aims to link the NPSISS network with the National Probation Directorate via an existing secure network.

Local probation services report improved communication both within and between probation services as a result of NPSISS. Anticipated gains through better communication with other agencies in the criminal justice system have yet to materialise

2.7 Forty two of the 47 probation services on the NPSISS network by the end of 2000 reported to us that the network had brought improvements in communication within their probation service **(Figure 3)**. Those areas that did not have any e-mail facilities prior to NPSISS particularly valued the improvement in communications brought by NPSISS. The five services reporting no benefit in terms of internal communication had all had internal e-mail systems prior to NPSISS.
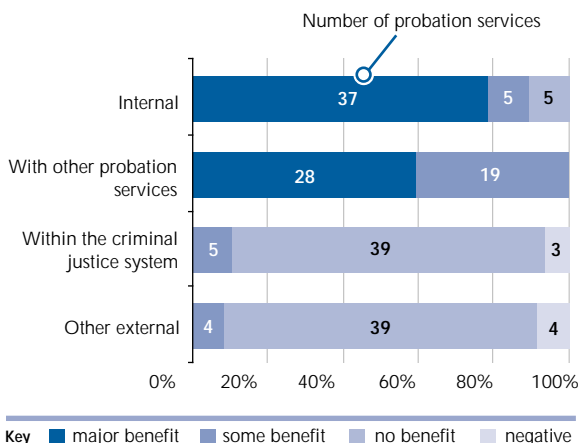
2.8 Where offenders transfer between areas there is a need, in the absence of a national case management system, to inform the supervising officer of any particular needs or risks associated with the offender. The majority of probation services with NPSISS reported that it had provided at least some benefit with regard to communication with other probation services. The Probation Inspectorate believe that additional benefits could be achieved in the future if a national intranet were incorporated into the NPSISS network to enable information and good practice to be shared more easily.

2.9 The original NPSISS Strategy aimed to develop a system that could be linked to new information technology networks being developed by other criminal justice agencies. The business case in support of NPSISS forecast savings of £15.3 million as a result of these links. To date, NPSISS has provided no new national links to other criminal justice information systems. This is partly because CRAMS has not been adopted by all services, and partly because of delays in the development of information systems by other criminal justice agencies. The primary savings were expected from a link between CRAMS and the Magistrates' courts' system to enable the probation service to receive details of the results of hearings. The Magistrates' courts' system, LIBRA, is now due to be rolled out between 2001 and 2004 and the link will need to be made with the successor system to CRAMS. Work to make a link between the police service national criminal records database, Phoenix, and the probation service was completed by the police in September 2000 but work on the CRAMS link has been postponed.

2.10 Five of the probation services reported that they have nonetheless derived some benefit from NPSISS from improved communication within the Criminal Justice System. This was based on e-mail links having been established locally between the five London probation services and the Metropolitan Police. Otherwise, the NPSISS network is a closed network without access to the Internet, reducing the potential for other external communication. Most services have funded their own very limited access to the Internet through stand-alone computers.

Consultants employed by the Home Office have concluded that, with further work, NPSISS should provide a satisfactory infrastructure for the development of information systems within the new National Probation Service

2.11 In February 2000, as part of work being undertaken to review the IT strategy, consultants commissioned by the Home Office concluded that the current NPSISS infrastructure provided a satisfactory basis for meeting the immediate needs of the probation service. The consultants, AMTEC, suggested however that the capacity of the network was inadequate for the levels of electronic traffic taking place in some areas and the additional software that some services were operating. The effects of insufficient capacity included poor screen quality, and slowing of the applications being used. In their view, this capacity problem would get worse as a result of increased electronic traffic in the future. The probation services we visited told us that non-availability of the network was sometimes unacceptably high. However, additional capacity and functionality, such as Internet access, could be supplied through on-going investment in the current infrastructure.

| **3** | **Improved communication as a result of NPSISS** |

The majority of probation services which have received the NPSISS infrastructure reported that there had been benefits to internal communication and communication with other probation services, but that wider communication benefits had not materialised

Number of probation services

	major benefit	some benefit	no benefit	negative
Internal	37		5	5
With other probation services	28		19	
Within the criminal justice system	5	39		3
Other external	4	39		4

Key ■ major benefit ■ some benefit ■ no benefit ☐ negative

Source: National Audit Office questionnaire survey of probation services

Why did the CRAMS case management system fail to deliver the expected business benefits?

The CRAMS case management system was introduced in only 39 out of the 54 former probation services. CRAMS proved difficult for probation services to use and it failed to meet some important operational needs

2.12 By March 2000, 36 of the 54 former local probation services had received a complete rollout of CRAMS and three other probation services had partial or incomplete rollouts, some 12 months later than planned. The remaining 10 probation services which are connected to NPSISS decided not to install CRAMS. **Figure 4** provides details of where CRAMS has been installed.

2.13 Users have found CRAMS difficult to operate. Two recent independent ergonomic assessments of CRAMS have pointed to a poor user interface.

■ A team from University College, London, commissioned by the Information Systems Strategy Board, reported in February 1999 that the CRAMS user interface contained "defects" that "compromised the ability of users to perform their work". In their view, the software made "excessive demands on using and learning to use the system". In addition, CRAMS failed to provide adequate access for users with special needs. The team recommended that the user interface be "extensively redesigned".

■ A team from Amey Vectra Limited, commissioned by Lancashire and Merseyside Probation Services, reported in April 2000 that there was a potentially high risk of stress to users; that the CRAMS user interface was illogical, inflexible and unforgiving of user error; and that probation services should consider not using CRAMS if the problems could not be rectified.

2.14 Some services we contacted had persevered with CRAMS despite the concerns about its quality, as noted by the comment from South Glamorgan Probation Service quoted below. The Home Office found in March 2000 that 32 services reported that the CRAMS case index was critical to their work, although most did not use five of the specific functional modules in CRAMS because they did not work properly or did not meet services' needs. Based on further contact with probation services, however, the Probation Inspectorate has reported that only 16 of the services with CRAMS were

making substantial use of CRAMS, that is, they were using both the contact log for supervision cases and the community service module. These services were generally small, accounting for 20 per cent of the overall budget for probation services, and did not include the three largest services, Inner London, Greater Manchester and West Midlands. The remaining services with CRAMS made limited use of it.

> "We have taken a very positive attitude to CRAMS and used it extensively in many service areas. This is despite its very evident limitations and operational problems. The Service has benefited greatly from the on-line case record. However, this has been at the expense of operating a difficult to use system. The anticipated benefits have not been as great as expected because of the poor quality of CRAMS."
>
> *Source: South Glamorgan Probation Service - National Audit Office questionnaire survey response.*

2.15 The Home Office has not ensured that the development of CRAMS has kept pace in all respects with the changing business requirements of the probation service. For instance CRAMS does not provide local probation services with direct access to operational data held by other areas, in order to help in the transfer of case information. Nor has a national database been developed on NPSISS to support the Early Warning System which was introduced in April 1999 to improve the management of potentially dangerous offenders in the community. Instead, local probation services have had to develop local solutions to managing the information needed to oversee high-risk offenders. The Probation Inspectorate reported that there was evidence of good practice in public protection work in some services, using risk registers they had developed in database software supplied on NPSISS. However generally services were having to rely on paper files, card indexes and registers to retain and access information on offenders presenting a risk of harm to the public. The Chief Inspector of Probation has commented that this lack of IT had not compromised public safety or put staff at risk.

2.16 In addition, the Probation Inspectorate has reported that CRAMS cannot produce all of the information needed by local services to enable them to monitor their compliance with national probation standards or monitor their performance against key performance indicators. As a result services had to extract information manually from the electronic database and then enter it into another piece of software.

4   **The extent of coverage of NPSISS technical infrastructure and the CRAMS case management system in the probation services**

By March 2001, 49 probation services had NPSISS technical infrastructure installed in their service. Ten of those services had not had the CRAMS case management system installed.

Key
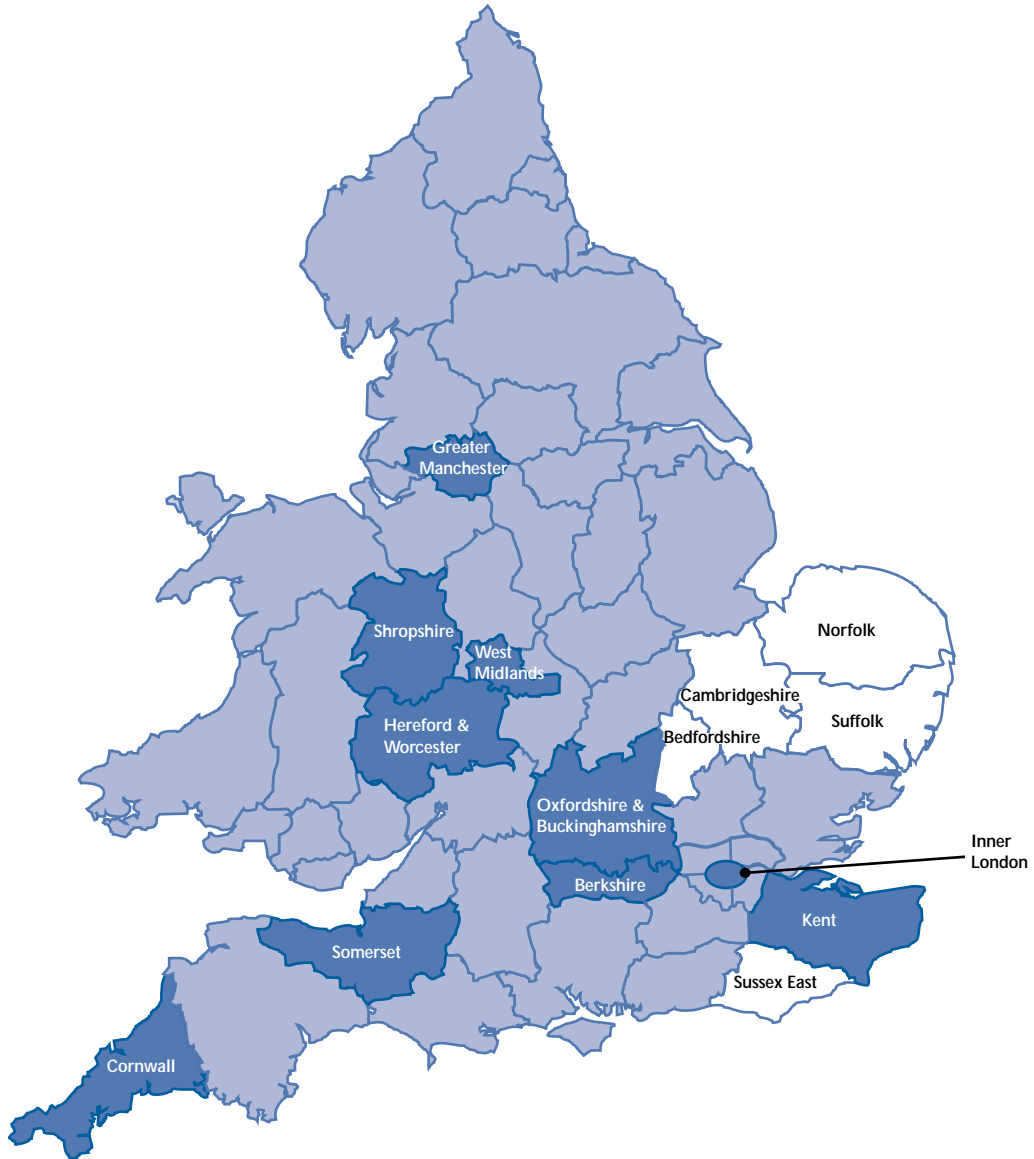
- ☐ (light blue) NPSISS technical infrastructure and CRAMS installed
- ☐ (dark blue) NPSISS technical infrastructure installed, CRAMS not installed
- ☐ (white) Neither NPSISS technical infrastructure nor CRAMS installed

Source: Home Office, Her Majesty's Inspectorate of Probation

2.17 As a result of the problems with CRAMS, 27 services have continued either to use alternative case management systems (12) or have developed systems to supplement the facilities available on CRAMS (15). This position has resulted in case records being held in a number of different formats, creating problems for the transfer of cases between services. A major challenge for any new national case management system will be the need to manage the migration of information from existing systems.
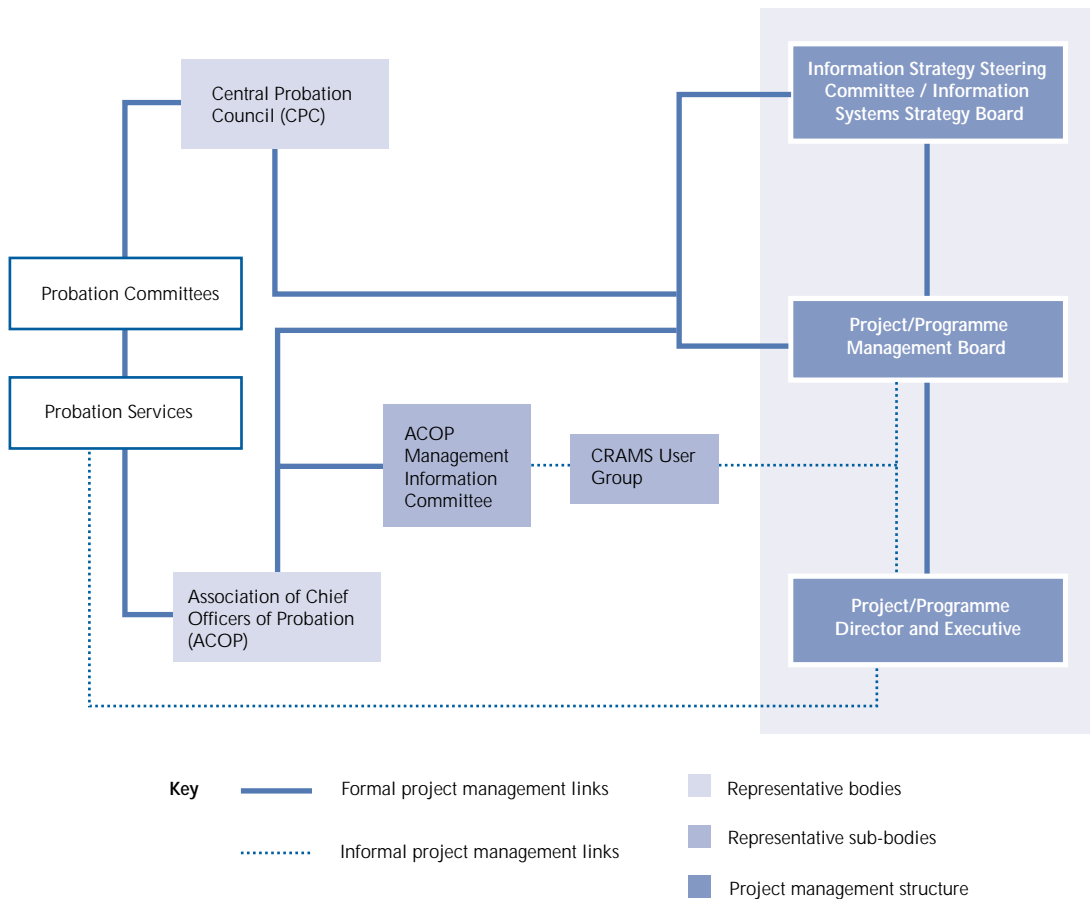
The introduction of a national case management system into a devolved local service was always likely to present a significant management challenge. In practice, programme responsibilities were not always clear, and communication between the Home Office and local services was not always effective

2.18 The overall IT strategy recognised that clear ownership and commitment to NPSISS and CRAMS from all probation services would be essential for the full benefits of the strategy to be realised. The Information Strategy Steering Committee, which was the body responsible for overseeing the development of the NPSISS strategy and its adoption, was established by the Home Office and had representation from chief probation officers and probation committees. Chief probation officers endorsed the Strategy and were also represented on the other main programme committees (Figure 5). The Information Systems Strategy Board, when it took over responsibility from the Information Strategy Steering Committee in 1997, was intended to be a probation service committee. It was chaired by a chief probation officer and like its predecessor had representation from chief probation officers and probation committees. The Home Office attended only as an observer, despite its responsibility for managing the contract with Bull. Outside the formal committees there were no other mechanisms for securing acceptance to the management of the programme by all probation services.

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5 | **User involvement in the NPSISS programme**

Representatives from the probation services sat on the main committees and boards responsible for the management of the NPSISS programme; and user views were conveyed through the CRAMS User Group.

Key — Formal project management links

.... Informal project management links

Representative bodies

Representative sub-bodies

Project management structure

Source: National Audit Office

2.19 Neither the Home Office nor the various project boards had direct control over local implementation. Local probation services were expected to take their own decisions about how both NPSISS and CRAMS should be implemented in their local areas, including establishing their own implementation teams and liaising directly with Bull and its sub-contractors. In practice, the 54 probation services, although conducting the same business activities, had differing management structures, priorities, methods of working and differing experience of managing IT. The success of the overall project was therefore particularly dependent on appropriate management and coordination between the various parties.

2.20 The Information Strategy Steering Committee (and its successor the Information Systems Strategy Board) met about five to six times a year and approved most initial decisions, including the assessment of initial options for a national case management system, the selection of a supplier, the preparation of the business case, and various proposals to upgrade the systems. The Project Management Board (and its successor the Programme Management Board) met monthly. As early as July 1996, a report commissioned by the Home Office from a consultant working for the Central Computer and Telecommunications Agency (CCTA), found that the then management structure and communication lines had not always proved adequate at addressing problems. The consultant had found that fairly minor problems had been escalated to fairly senior levels within both the Home Office and Bull. In response to the report, the Home Office restructured its main programme committees to bring them more into line with accepted practice for projects of this scale and complexity (PRINCE 2). Despite these changes, we identified examples where the Strategy Board was seemingly not involved in key decisions, for example the decision in March 1998 to purchase a third-party reporting tool GQL for CRAMS; and the decision in September 1999 to suspend further development of CRAMS. Both decisions were taken by Home Office officials.

2.21 The Home Office used a variety of means to provide updates on progress with NPSISS and CRAMS and to consult directly with probation services. For example:

■ by issuing probation circulars addressed to probation service managers;

■ by distributing newsletters to the services, up until November 1998;

■ through ad hoc direct contacts with chief probation officers and other probation service staff ; and

■ through correspondence and meetings of specialist information technology groups and user groups (for example, the System Managers' Group, and the Management Information Committee of the Association of Chief Officers of Probation).

2.22 The 1996 review by a consultant from CCTA of the programme management arrangements drew attention to the need to do more to communicate with probation services. It reported that in the absence of effective communication channels, stories and rumours about CRAMS and infrastructure problems were being allowed to circulate between the services. The NPSISS Programme Management Board agreed in June 1996 that a communications strategy was needed to get the right information at the right level to the right people. However, no further action was taken to introduce a communications strategy.

2.23 During audit visits, probation service staff reported that communication had been good in the early stages of the NPSISS and CRAMS programme. However, services perceived that, as the programme progressed, there had been a deterioration in the level and quality of information provided by the Home Office and the programme management team about the programme's progress.

2.24 The Home Office informed the National Audit Office that communication had deteriorated because of the heavy workload the programme management team was confronted with during a period in which it had to deal with rolling out NPSISS technical infrastructure as well as rolling out CRAMS. The Home Office is now providing regular updates to the probation services in the form of probation circulars summarising decisions at the monthly Information Systems Programme Board meetings. The Home Office intends that better communications will be an important component of the Information Systems and Technology Programme, within an overarching communications strategy for the new National Probation Service.

The development of CRAMS was based on software already operating in some probation areas. The Home Office underestimated the technical risks associated with updating and developing the package for the national system

2.25 The decision to go ahead with CRAMS, building on an existing case management system, was crucial to subsequent events. Whilst the key technical risks were correctly identified, these risks were not fully evaluated.

2.26 In 1993, the Information Strategy Steering Committee decided that the new national case management system should be based on software developed and already being used by the Northumbria Probation Service. Their decision followed an appraisal by representatives from the Probation Unit and probation services of three existing case management systems and a "build from scratch option". The three existing systems were the Northumbia Probation Information Management System (NPIMS), the Integrated Case Management System (ICMS) operated by Cambridgeshire; and the Integrated Operational Support System (IOSS) operated by Hereford and Worcester. The review team concluded that the system operated by Northumbria scored the highest of the three existing systems, meeting just over two-thirds of probation services' evaluative criteria, which included a proven ability to share data across two or more probation services. In the team's view, the Northumbrian system was "tried and tested" and had a "proven record in accommodating change". In addition, the team believed that the system could be enhanced to meet fully services' needs.

2.27 The review team, however, underestimated the technical risks associated with this decision. To operate and develop the Northumbrian system for use as a national casework management system required the software to be enhanced to meet the probation services' requirements and transferred from a mainframe to a Microsoft Windows-based technical environment. The review team had judged that to make the move was "technically possible" but that "this would be unknown territory until actually tackled". In their view, this would be no more hazardous than the risks associated with developing a new system from scratch. Whilst the team had identified this key technical risk, we could find no evidence of a technical evaluation to assess the seriousness of this risk.

2.28 During the contract letting procedure Bull recommended that the Home Office should pursue the design and development of a bespoke system rather than the Northumbrian option. In their view, the Northumbrian system was the lowest risk option for meeting the requirements of the probation service but would be expensive to maintain; whereas a bespoke system would have a number of advantages including being more acceptable to users, more flexible, integrating with other software better, and with lower development and maintenance costs. Nevertheless, both the Home Office and Bull agreed to go ahead with the Northumbrian system as originally planned. Bull told us that through the course of the contract it became clear that the initial functionality, level of documentation and design material had been exaggerated and that as a result the technical difficulties of transferring the system onto NPSISS had been underestimated.

The poor user interface of CRAMS was evident at an early stage, along with other technical problems and faults which had not been resolved by initial testing. The Home Office team sought to address these problems but despite delays did not prevent the roll out of poor quality software

2.29 The Home Office's plans for testing the new software had envisaged a programme of acceptance testing, using test data to check the system against the original definition of requirements, followed by pilot testing in two probation service areas to test the system in an operational environment. The Home Office and Bull expected that pilot testing would last about two months and the Home Office planned that roll-out of CRAMS would start in March 1996. In practice Bull completed the migration of the Northumbrian software onto NPSISS by March 1995, pilot work began in November 1995, but problems with the software resulted in it being withdrawn in February 1996. Further versions of CRAMS were introduced for piloting, before another was released in Surrey in January 1997 for roll-out to probation services. By this time, the second pilot service, West Midlands, had withdrawn from the programme because of its concerns about the quality of the software being released for pilot testing. The software was installed in three further services by the end of March 1997 to seek their feedback.

2.30 By this point, early 1997, problems had already been evident in the testing and roll-out of the new system. In July 1996, the consultant from the Central Computer and Telecommunications Agency had found that the availability and acceptability of CRAMS was rapidly becoming a major issue. He reported that there were conflicting views between the Home Office, Bull and the probation service about the criteria for the release of CRAMS for pilot running. The consultant's report noted that there was much pressure from the Home Office and probation services to implement CRAMS as soon as possible. However, the report noted several risks. In the consultant's view, acceptance and pilot operation of CRAMS suffered from a lack of clear direction, criteria to measure success and coordination. Even if formally accepted, the consultant thought that the system's acceptability and usability were unknown. The report noted that there were some stories about CRAMS within the service suggesting that it was less than a good system and that these stories were serving to set expectations and run the risk of rejection of CRAMS. In the consultant's view, each service would, as a result, be likely to wish to try the system itself, thereby running the risk of 54 separate forms of acceptance testing.

2.31 In November 1996, the Home Office wrote to Bull informing them of their dissatisfaction with the progress on the development of CRAMS. In response to assurances from Bull, including the reorganisation of its project management of CRAMS development work, the Home Office agreed in March 1997, after installation of the software in three further services to allow Bull to continue its work under the terms of the existing contract. However, in May 1997, the Home Office issued Bull with a formal warning that unless the acceptability of CRAMS in the service environment improved markedly, the whole programme and hence Bull's contract could be called into question. Amongst the issues the Home Office thought needed to be addressed were screen layout and the user interface. However, Bull questioned whether they had ever received any specifications for the changes then being sought by the Home Office, or had any contractual obligations to develop CRAMS in the manner suggested. Subsequently, both sides agreed a plan to take further development forward.

2.32 The first operating version of CRAMS was signed off by the Home Office for release in March 1997. A further version of CRAMS was signed off in October 1997 and this was rolled out across the service, as shown in **Figure 6**. This version was reviewed in March 1998 by the CRAMS User Group, which comprised representatives from various probation services. The Group concluded that significant progress had been made with CRAMS, that it was easier to use, and that it represented a "solid platform to support the majority of existing requirements and from which to develop the system to meet emerging requirements". Despite the CRAMS User Group's review, concerns within the service about the poor quality of the CRAMS user interface persisted, prompting the Information Systems Strategy Board to commission the ergonomic review by University College which reported in February 1999, as discussed above in paragraph 2.13. In August 1999, IT consultants - Beaumont Colson Limited - employed by the Home Office to carry out user acceptance testing of the Year 2000 compliant version of CRAMS identified 306 issues and faults in the software: 191 of these had been present in earlier versions of CRAMS; and 25 of these were classified as major. Most of the major faults were rectified before the software was released to the services in September 1999. In the same month, further development of CRAMS was suspended.

2.33 The project management arrangements adopted by the Home Office from 1996 onwards reflected recommendations from the 1996 consultant's review, but omitted the recommended project assurance function. This was a key omission. Project assurance provides a check, independent of the project manager, that the project continues to meet its specification, the required standards and its business case. The Home

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6 | **CRAMS rollout**

The rollout of the CRAMS case management system was initially delayed due to problems with development. Once the first operating version of CRAMS was released in March 1997, it was rolled out across the services. By March 2000, 36 services had complete rollouts of CRAMS[1].
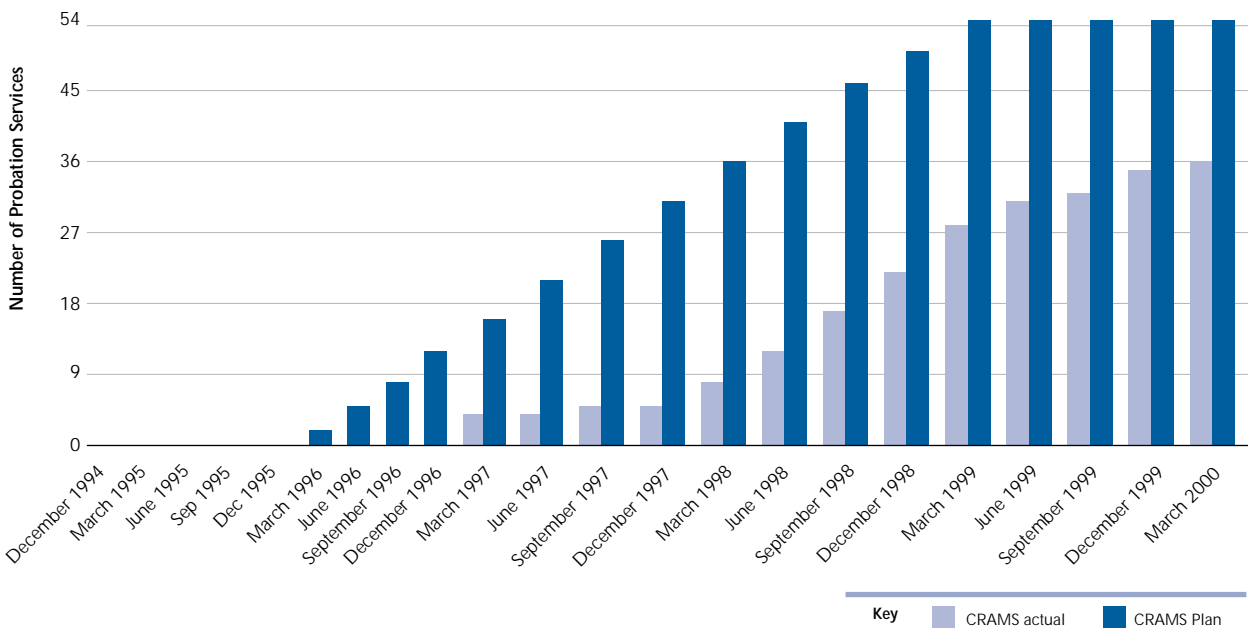
Note: 1. Three additional services only had partial rollouts of CRAMS.

Sources: Home Office.
National Audit Office questionnaire survey of probation services.

Office considered that project assurance work would be undertaken on an as-and-when basis by staff or consultants as needed. In practice the function was not introduced.

CRAMS' management information capability was not adequately specified and a supplementary reporting tool was not finally delivered until 2000

2.34 By March 1997, when the CRAMS case management system began to be rolled out to the probation services, it was clear that the Northumbrian system's ability to produce management reports did not work well in the technical environment in which CRAMS operated. Recognising that this aspect of CRAMS was deficient, the Home Office commissioned work from Bull in June 1997 to develop, validate and test 80 management reports as part of the development work on a new version of CRAMS. The value of this work was almost £40,000. No specification concerning what these reports should cover appears to have been provided by the Home Office. Very little work on the reports was in fact undertaken or completed. Bull refunded the money which they had been paid in advance for this work.

2.35 In March 1998, to address the shortcomings in CRAMS' reporting capabilities, the Home Office raised a purchase order with Bull for the development, delivery and deployment of GQL, specialist software designed to extract data from databases, to deliver 100 standard reports and provide probation services with the capability to specify their own reports. The total cost of purchasing this software, providing training to probation services staff and developing standard reports was £612,000. Though the Home Office appraised the usefulness of this software prior to its purchase, there is no evidence that it evaluated alternative third-party reporting tools.

2.36 The purchase order with Bull set no specifications for the reports to be developed as these were to be agreed through user groups. It stated that the relevant reporting capability should be delivered by March 2000. By the end of 1999 very few reports had been specified or delivered. The project was halted, and the Home Office agreed to pay for the work undertaken by Bull and its sub-contractors provided that 20 standard reports were delivered by the end of March 2000. These reports focused on the operational needs of probation officers. For example, reports on "my caseload" and "number of pre-sentence reports outstanding". The Home Office made training available for services installing GQL. But the Probation Inspectorate found that a comparatively small number of services were using the software in a significant way and that they had done so by making additional local investment to make the software work satisfactorily. By Summer 2000, 46 services had had the software and equipment required to use GQL installed.

2.37 With the view that GQL could provide a device whereby the Home Office (and from April 2001, the new national directorate) could obtain corporate information from the probation services, a new GQL project was established in January 2000 with its own project board to develop a set of standard reports for central monitoring purposes. Formal project management methods were used to initiate the project and to monitor its performance. However, in May 2000 the project was suspended because there was a lack of clarity about who the business owner for the project was; the business needs it was trying to meet; and who wanted it. There are no plans at present to take the project forward.

Whether the Home Office's programme management team was fully equipped to manage a programme of this type?

The Home Office sought to adopt recognised procedures for managing this IT project. However, the programme management team lacked continuity and was not fully resourced to deal with the scale of the issues facing it

2.38 The programme management team established by the Home Office to manage the NPSISS programme comprised a mix of Home Office officials, secondees from probation services and private sector consultants. Since 1996, following recommendations from the Central Computer and Telecommunications Agency, the programme team has sought to base its project management controls and reporting arrangements on the PRINCE 2 project management methodology, a widely accepted standard in government and industry.

2.39 Some of the problems associated with the management of this programme reflect a lack of continuity in its leadership. Over the course of the programme, from 1993 to the end of 2000, there have been seven Programme Directors, of whom only two have had significant experience of managing major IT projects. Six of the seven Directors departed between 1997 and 2000, the point at which the programme was intended to come to fruition. Initially the Programme Director, with previous experience of IT management at CCTA, was the Head of the Information Services Group within the Home Office Probation Unit. In 1997, as part of a major reorganisation of the Probation Unit, the post of Head of the Information Services Group was abolished

and the post-holder took early retirement. From 1997 to 1999 the role of Programme Director was taken by the Probation Unit's Head of Projects, a job which carried responsibility for other non-IT related projects. The three post holders had extensive knowledge of the probation service but had brought to the job little or no previous experience of managing major IT projects. From August 1999 to the end of 2000, the Programme Director role has been filled by three successive temporary appointments, one from within the programme management team. Since October 1999 the NPSISS group has split from the rest of the Projects Group to become, now, the Information and Technology Group of the National Probation Directorate.

2.40 Frequent changes of staff amongst the programme management team were cited by probation services and Bull as a major problem: for probation services, it led to a lack of continuity in dealing with local issues; for Bull it led to problems in identifying the appropriate person to talk to about contractual or technical issues. Most of the staff working on the NPSISS programme management team were secondees from the probation service. Whilst the programme team had a good knowledge of the service it lacked people with experience of managing a major information technology project. And the team it did have could not build up long-term experience of the project. Over the course of the programme, until September 2000, 21 secondees from probation services had been members of the programme management team with an average involvement of around 16 months. Eight secondees were members of the programme management team for less than one year.

2.41 There was also a lack of continuity amongst the technical staff. The technical experts and specialists on the team tended to be consultants working on short assignments. Those private sector consultants who contributed to the programme tended to be commissioned in an ad hoc way to carry out discrete tasks, often over a short period of time, and this contributed to the lack of continuity in programme management.

2.42 As the NPSISS programme progressed, very little, if any, project management training was provided to staff who joined the NPSISS team. And, the formal project management controls which had been established at the outset of the programme fell into disuse. For example,

project initiation and planning became ad hoc, documentation was inadequate, and there was a lack of reporting against the programme's planned products and outputs. Members of the Information Systems Strategy Board we interviewed commented particularly about the lack of reports to the Board detailing progress against the objectives set out in the strategy and business plan and deliverables, and felt that it undermined members' ability to do the jobs expected of them.

2.43 Recognising the problems, the Home Office asked PA Consulting in November 1999 to review the organisation and management of information services within the probation services. The consultant's report, in January 2000, identified a badly under-resourced Information Services capability with misaligned skills, and hence an under-performing information services function which was exposing the Home Office and probation services to some significant business risks. The report concluded that basic information services management processes had been neglected due to lack of resources, and the expected procedures for effective management of current investments in systems and infrastructure either did not exist or were not maintained. In the consultants' view, a plethora of decision-making committees and boards, and a lack of clear delegated authority and direction for the team had contributed to this situation, and had resulted in a culture of "fire fighting" rather than planned management.

2.44 In response to this, to the recommendations in "Successful IT: Modernising Government in Action" and to the findings of the Probation Inspectorate's thematic inspection reports, the Home Office has put in place its recovery programme. A new Head of Information and Technology for the National Probation Service has been appointed. He reports to the new National Director, and will take formal responsibility for probation information technology, chairing the Information Systems Programme Board which meets monthly. The new Information and Technology Group will have a staff complement of 50, compared to the effective complement of around 12.5 in the late 1990s. Training in the PRINCE 2 project management methodology is being provided, and a more structured approach is being developed to provide skills transfer, peer review and mentoring.

Due to lack of resources within the programme management team, the Home Office did not manage effectively all aspects of its service agreement with Bull

2.45 The NPSISS enabling agreement between the Home Office and Bull provided for the installation of a standard information technology infrastructure and the provision of a managed service. A national service level agreement, specifying in more detail what was to be provided was not agreed with Bull until 1998, almost four years after the signing of the enabling agreement. Furthermore, there was no dedicated resource within the NPSISS programme management team to monitor and manage the performance of Bull against agreed service levels. Monitoring of service levels was undertaken on an ad hoc basis by a number of programme management team members.

2.46 The managed service comprised a centrally funded telephone helpdesk staffed by Bull employees who would respond to requests for assistance from local probation service staff. Bull were contractually required to provide restoration of an equipment service within 8 to 30 hours, depending on the priority assigned to the problem by the Bull Helpdesk. A high priority, for example, would be the major loss of a critical system shared by several users and for which there was no alternative provision; a low priority might involve the loss of a piece of equipment, such as a personal computer or printer, where there is an acceptable alternative. If the downtime experienced exceeded the maximum time specified, service credits would become payable. Individual probation services were free to purchase additional support services, covering, for example, system availability, if they wished.

2.47 Until July 1998, the NPSISS Programme Management Board monitored centrally the performance of Bull's Helpdesk against targets agreed with Bull. Bull did not perform well against these service levels. Between April 1997 and July 1998, the percentage of "fixes" within contract varied between 69 per cent and 91 per cent. The target was 95 per cent. In response to concerns raised by the Programme Management Board in 1997, Bull re-organised its management of the Helpdesk and performance did improve over the remaining period in which performance reports were submitted to the

Management Board. Further information obtained from Bull for the first 10 months of 1999 indicated that performance varied between 76 per cent and 91 per cent, slightly better than reported over the previous period but still below the 95 per cent target.

2.48 In August 2000, the Home Office appointed a service delivery manager to lead a new team with specific responsibilities for managing the ongoing relationship with Bull and any other suppliers; to monitor performance against the agreed service levels; and to take the lead in resolving any issues that might arise. The new team includes a secondee from the Probation Service and a civil servant with procurement qualifications and experience.

The programme management team did not exercise adequate control over the issue of purchase orders. Because of concerns about the process for letting the enabling agreement, the Home Office decided in February 2000 that there should be no new purchase orders, thus restricting NPSISS developments

2.49 The contract with Bull was drawn up in the form of an enabling agreement which specified and allowed for purchase orders for additional products and services to be issued after the award of the main contract. The responsibility for placing purchase orders was shared by the Home Office Probation Unit, to meet core requirements and central developments, and individual probation services, who could take out their own contracts or purchase orders with Bull for the procurement of equipment and ongoing supply of associated services. Between December 1994 and March 2000, the Home Office raised a total of 69 purchase orders under the NPSISS enabling agreement.

2.50 The issue of purchase orders was not always well planned or coordinated. Concerned at the proliferation of purchase orders under the enabling agreement, the Home Office, in 1998, commissioned the Central Computer and Telecommunications Agency to review its current contractual arrangements. The Agency's report concluded that some unnecessary orders were still open, and that duplication and overlap were evident in others. As a consequence, the purchase orders were difficult to manage and the Agency considered that

scope existed for double charging. The Agency attributed these problems to the absence of a clearly stated business requirement which could inform the letting of purchase orders.

2.51 To rationalise the situation, the Home Office negotiated a new purchase order with Bull for central support and maintenance functions which consolidated those purchase orders which were the source of duplication and overlap. These negotiations were also prompted by Bull's concern that it was not being paid for all the services it was providing because the Home Office had not covered them all in the purchase orders it had raised under the NPSISS enabling agreement. It was threatening to withdraw those services not funded. The new purchase order for support and maintenance services was signed in March 2000 and covers the remaining 21 months of the NPSISS enabling agreement, April 2000 to December 2001. The purchase order, worth £5.4 million a year, provides for support of the national network and associated infrastructure; the support of CRAMS, including maintenance releases; the provision of a national Helpdesk; and payments to support Bull's NPSISS programme office.

2.52 Since 1999 the Home Office has had concerns about whether letting new purchase orders under its enabling agreement with Bull would comply with the competition requirements under European Public Procurement Directives. The agreement was originally put out to tender to the panel of three IT suppliers established under a wider Home Office framework contract for the supply and support of computer equipment, which itself expired in October 1998. Legal advice received by the Home Office suggests that any new purchase orders raised under the enabling agreement are unlawful. The advice suggests that the enabling agreement could be open to challenge as could any new purchase orders placed under it (by the Home Office or local probation services) because the Home Office framework contract had not allowed for the letting of other framework agreements to the suppliers on its selected panel. As a result of this advice, the Home Office decided in February 2000 not to let any new purchase orders under the enabling agreement beyond the consolidated support and maintenance purchase order. A number of intended developments to NPSISS, including extension of the network to the new National Probation Directorate based within the Home Office and the provision of access to the internet, could not then be pursued. The restriction on development also contributed to the decision in August 2000 not to progress work to provide a link between CRAMS and the police Phoenix system. More recently, the Home Office has concluded that in the remaining period of the Bull agreement, up to December 2001, any IT development work which is needed, and which cannot be delivered by Bull within the terms of the consolidated support and maintenance agreement, could be procured through separate legal agreements.

Failure to prioritise the necessary preparatory work has contributed to delay in establishing a new strategic partnership following the end of the enabling agreement with Bull at the end of 2001. This is likely to result in higher cost to the Home Office

2.53 The Home Office began its review of the information systems strategy and business requirements for the probation service in early 2000. The resulting strategy was completed in July 2000. Alongside this the Home Office reviewed its options for replacing the support service provided by Bull at the end of the NPSISS enabling agreement in December 2001. By the time the Home Office produced a statement on its procurement strategy options, in June 2000, it was clear that it would be difficult to complete the procurement process in time to allow a handover from Bull starting in September 2001 in the event that another supplier was chosen. The option of extending the existing NPSISS enabling agreement with Bull to give some time to develop plans for establishing a new strategic partnership, possibly under a private finance initiative deal, was ruled out because of the legal difficulties surrounding the enabling agreement. Instead the Home Office decided it would need to pursue an interim support contract of at least twelve months.

2.54 The Home Office told us that it had not started work on its procurement options sooner because its limited staff had been committed to other high priority work including ensuring completion of the necessary work to make NPSISS and CRAMS Year 2000 compliant, and the negotiation of the consolidated support and maintenance contract with Bull. In October 2000 the Home Office procured a senior consultant to help define the IT programme and analyse the procurement options. In January 2001 the Home Office procured a project team to manage the interim support contract to be known as the first phase procurement project.

2.55 The result of the Home Office's delay in progressing the procurement of a new IT supplier are that it will have to bear the additional costs of the separate procurement of the first phase support contract and may pay a higher price for this short-term contract. On the other hand the Home Office considers that this delay has brought the advantage of allowing the new national probation service business strategy and change programme to be specified more definitively before key decisions are taken on the strategic contract, enabling the IT strategy to align more closely with the business strategy. The Home Office hopes to manage IT developments in a phased programme across its current, interim and strategic contracts.

Part 3

What have NPSISS and CRAMS cost?

3.1 This part of the report examines the actual costs to the Home Office and probation services of implementing the NPSISS programme. In particular, we look at whether costs were within the forecast contained in the business case and the reasons for any additional costs incurred.

Were the costs of installing and supporting NPSISS networks and systems and developing CRAMS within the forecast contained in the business case?

The full cost of the NPSISS programme to the end of 2001 is expected to be at least 70 per cent greater than forecast

3.2 The Home Office estimates that expenditure on implementing and operating the standard NPSISS infrastructure and developing CRAMS, to the end of 2001, will be over £83 million (£75 million at 1994-95 prices) **(Figure 7)**. This is 34 percent above the forecast of £62 million for the first seven years of the business case (20 per cent at 1994-95 prices). This is based upon estimates of actual expenditure until March 2000 and forecast support and maintenance expenditure until December 2001, including provision for implementing NPSISS, but not for providing support and maintenance, in the five probation services not yet on the NPSISS network.

3.3 As shown in Figure 7, however, the full economic costs of the NPSISS infrastructure, support and CRAMS are expected to be at least £118 million by the end of 2001 (£105 million at 1994-95 prices). This includes costs not allowed for in the business case estimates, in particular the costs of ensuring Year 2000 compliance and Home Office and probation services' costs on project management, consultancy and local training. This full economic cost is 90 per cent above the forecast for the first seven years of the business case (70 per cent at 1994-95 prices).

3.4 In addition individual probation services have spent a further £7 million (£6.5 million at 1994-95 prices) purchasing, developing, installing and operating supplementary equipment and software, bringing total IT expenditure during the NPSISS programme to £125 million (£112 million at 1994-95 prices).

Why did the NPSISS programme cost more than forecast?

The agreement with Bull is largely open ended, with the Home Office and probation services determining requirements in individual purchase orders at specified rates

3.5 The enabling agreement provides for the Home Office and probation services to take out purchase orders with Bull from a specified range of products and services. The prices to be charged are contained within the schedules of the agreement. Generally, the agreement does not guarantee any particular level of purchases. However, it does set some minimum levels, for example in respect of the number of connections to the wide-area network; and it includes some specific costed provisions, for example for the Bull programme office and support from the helpdesk.

Costs and achievements have not been monitored with reference to the projections contained in the business case

3.6 Before the start of this examination the Home Office had not reviewed the total costs and achievements of the NPSISS programme against the business case. There has been no overall reporting of expenditure and no comparison made against the budget in the business case. The Home Office did set individual budgets for elements within the NPSISS programme annually, based on an assessment of expected requirements for the forthcoming year. Monitoring of expenditure within these budgets was the responsibility of members of the project management team but did not result in routine

reports to senior managers within the Home Office, the Project Management Board or to the Information Systems Strategy Board.

3.7 During the early years of the project there had been weaknesses in controls over payments. In 1998, the Home Office's Audit and Assurance Unit carried out an investigation to verify all payments from the Home Office Probation Unit to Bull Information Systems Limited from 1996-97 onwards, prompted by concerns raised by the National Audit Office during their financial audit of the Home Office accounts. The Audit and Assurance Unit identified an overpayment to Bull of £395,000 for NPSISS related goods and services. The

funds were repaid by Bull. The Unit concluded that the processing and monitoring controls had been inadequate, but that improvements had been made.

The consolidated purchase order to cover the last 21 months of the contract with Bull will cost £9.4 million. The Home Office has sought to address the risk of poor value for money from this purchase order through introducing tighter management of service delivery

3.8 The cost of providing the standard infrastructure (computers, printers and network equipment) and the IT support provided by the Bull helpdesk is expected to be some £53 million (almost £48 million at 1994-95

| 7 | Total cost of the NPSISS programme[1,2] |

The NPSISS programme will cost at least £118 million to manage, install and support over the seven years to end December 2001, 70 per cent more than the original forecast cost at 1994-95 prices.

Expenditure category	Business case estimated cost over 10 years	Projected costs over 7 years to end 2001	Actual costs over 7 years to end 2001 (current prices)	Actual costs over 7 years to end 2001 (1994-95 prices)
	(£000)	(£000)	(£000)	(£000)
NPSISS business case costs				
Standard infrastructure	77,150	47,860	52,569	47,531
Standard software	9,260	7,350	10,356	9,130
Train-the-trainers	1,030	1,030	1,430	1,296
Local support and maintenance	9,200	5,900	18,979	16,558
Total NPSISS business case costs	**96,640**	**62,140**	**83,334**	**74,515**
Other NPSISS costs not estimated in the business case				
Year 2000 - Infrastructure [3]			14,697	12,852
Year 2000 - Software			1,645	1,439
Home Office project management and consultancy			8,904	8,018
Local project management and consultancy			2,469	2,223
Local training			6,989	6,299
Full cost of NPSISS			**118,038**	**105,346**

Notes: 1. Projected costs over seven years to end 2001 are based on estimates provided by the Home Office and probation services responding to our questionnaire survey for actual and forecast expenditure. Probation services only provided estimates to March 2001. For the remaining 9 months of the contract with Bull, local support and maintenance costs are projected using forecast costs for 2000-01. No additional adjustment is made, however, for other costs, for example, local project management and consultancy.

2. Four of the 47 probation services surveyed were unable to provide estimates of their expenditure on the NPSISS programme. Using average expenditure for those probation services which provided cost information, and weighting the non-respondents by budget size, would indicate further current expenditure, not included above of standard infrastructure, £0.3 million; support costs, £1.2 million; project management and consultancy, £0.2 million; additional training, £0.4 million; and supplementary expenditure, £0.4 million.

3. Includes £837,000 on Year 2000 compliant infrastructure for probation services not yet on NPSISS.

Sources: National Audit Office questionnaire survey; Home Office Probation Unit; and revised Home Office business case for NPSISS, October 1994

prices). This will be largely as forecast within the business case. This includes expenditure of some £2 million in full and final settlement of a claim from Bull in respect of a shortfall in the number of wide-area network connections compared with the minimum specified in the agreement. And it includes a commitment to expenditure totalling £9.4 million (£5.4 million a year) under the consolidated purchase order for support and maintenance services from Bull in the last 21 months of its contract with the Home Office.

3.9 After agreement of the consolidated purchase order the Home Office's Audit and Assurance Unit reviewed its negotiation and its cost. It reported that the negotiation team had lacked experience of negotiation and suffered from a lack of continuity of staff. It had no written brief and no financial cap on its negotiation. The negotiation had also been inadequately supervised: there was no evidence of reporting to senior management on value for money and contractual issues during the course of the negotiation nor of any review of proposals by senior management.

3.10 The resulting agreement leaves the Home Office at risk of poor value for money because it specifies the resource that Bull is to provide on defined activities, rather than specifying the outputs and the levels of service to be delivered. We found that during the negotiation the Home Office had not undertaken appropriate comparison of the proposed cost of support and maintenance with external comparators, although compared to the original enabling agreement the cost per staff day was some 12 per cent less.

3.11 The Home Office told us that the negotiation had had to be completed under severe time pressure because Bull was withdrawing resources from support functions which it considered were not covered by existing purchase orders. The Home Office had also found it was difficult at that time to specify output requirements because of changing business needs in the light of the then pending legislation on the new National Probation Service.

3.12 In recognition of the inherent risk of the consolidated purchase order the Home Office has tightened its management of service delivery. A new service delivery team has been established, headed since September 2000 by a consultant with service management experience. By December 2000 the Home Office told us it was holding Bull to account at regular performance review meetings; new systems for prioritising Bull's support and maintenance work had been established; and lines of communication between the Home Office, probation services and Bull had been improved. In addition the Home Office told us it has been reviewing its service requirement to ensure that as much as possible is provided by Bull within the terms of the consolidated contract.

Measures to ensure that NPSISS hardware and software were Year 2000 compliant and to upgrade the infrastructure cost an additional £15.5 million

3.13 The Home Office estimates that it incurred additional costs of some £15.5 million to make NPSISS and CRAMS Year 2000 compliant and to upgrade NPSISS. The Home Office took the opportunity afforded by the need to deal with the Year 2000 problem to review what further remedial and development work might be carried out on NPSISS systems. The option of a "quick fix" short-term replacement of obsolescent hardware and software was rejected in favour of a longer term re-development of the network, involving new and improved technology.

3.14 The Probation Inspectorate reported that the upgrading undoubtedly improved the NPSISS infrastructure. In particular, it enabled older computers to be retained as terminals whilst the installation of new servers made maintenance of systems easier. The capacity of the system was improved and new software was installed across the system both for word processing and e-mail.

3.15 Before signing the purchase order for the Year 2000 work in 1998, the Home Office sought advice from its legal advisers as to whether Bull was liable for the cost of ensuring that NPSISS was Year 2000 compliant. The advisers recommended that the Home Office should seek a satisfactory settlement with Bull by way of a reduction in price. In their view, although the Home Office had no clear right to require Bull to carry out the Year 2000 compliance work at no cost, Bull would be liable in respect of any breach of contractual service levels as a result of Year 2000 problems and for the extent to which it had fallen short of its contractual obligation to comply with best industry practice. The Home Office was told that although the enabling agreement was entered into in 1994 and general awareness of the Year 2000 problem did not emerge until around March 1996, Bull had failed to meet industry best practice by continuing to provide non-compliant equipment and had failed to provide an assessment of the extent of the Year 2000 problem before January 1998.

3.16 Though the Home Office sought to negotiate the balance of liability for the costs of making NPSISS systems Year 2000 compliant, Bull did not accept any liability. As part of the negotiations for this work, the Home Office did secure reductions in price from Bull. Bull's initial estimate was that the work required would cost some £18 million but this estimate was reduced to £14 million in the course of negotiations. The Home Office has identified further expenditure on the Year 2000 compliant version of CRAMS of £1.6 million, bringing total expenditure on making NPSISS and CRAMS Year 2000 compliant and upgrading the system to £15.5 million.

CRAMS has cost more than twice the expected amount as a result of repeated efforts to improve its quality

3.17 When the business case for the NPSISS programme was being formulated, the Home Office estimated that the overall cost of developing and implementing CRAMS across the probation services would be in the region of £4.3 million for the database and development of the application. Once the cost of other planned software applications for finance, personnel, work management, management information and business planning and annual costs for licenses were included the total estimated cost of the software came to £15 million. Following contract negotiations with Bull this estimated cost was reduced to £9.3 million over the ten years of the business case, although we could not determine from the documentation available to us which of the applications were expected to be delivered for this price.

3.18 The Home Office estimates that the total actual cost of providing the standard software within the NPSISS programme (CRAMS and standard wordprocessing, e-mail and database software) will be £10.4 million (£9.1 million at 1994-95 prices) by the end of 2001, or £12 million including the cost of making CRAMS Year 2000 compliant. This is 63 per cent higher than the revised business case forecast for the seven years to December 2001 of £7.4 million (44 percent at 1994-95 prices), despite the fact that the finance, personnel, work management and business planning software expected in the original business case have not been included. The higher than expected cost resulted from the repeated efforts to improve the quality of the CRAMS software.

The Home Office underestimated the cost of local implementation, support and maintenance

3.19 Probation services have locally spent a total of £28.5 million implementing and managing the standard NPSISS infrastructure and CRAMS. Of this:

- support and maintenance costs incurred by probation services until December 2001 are expected to be £19 million (£16.5 million at 1994-95 prices), compared to the forecast cost of £5.9 million contained in the business case;

- project management, consultancy and other costs amount to almost £2.5 million (£2.3 million at 1994-95 prices); and

- local training costs amount to almost £7 million (£6.3 million at 1994-95 prices).

3.20 It is unclear as to whether the higher than expected local support and maintenance costs reflect individual services requesting higher than expected levels of support or higher than expected charge-out rates. Individual probation services specified their local support and maintenance arrangements in purchase orders with Bull in accordance with the overall NPSISS enabling agreement. Until 2000, the Home Office had not undertaken any central monitoring of local probation service expenditure on implementation or support and maintenance, but in October 2000 it began to do so by means of a survey of local probation services' IT expenditure and assets. Probation services told us that expenditure on training had been higher than expected because of the problems with the quality and timing of rollout of CRAMS. Excessive delays, for example, meant that in some cases the skills developed as a result of training were lost, and training was repeated.

Probation services committed their own resources to supplement the standard products provided under NPSISS with some resulting proliferation and duplication of software

3.21 The NPSISS strategy sought to strike a balance between aiming for migration of local systems onto common infrastructure and allowing local IT solutions to local problems. Probation services were allowed to use their own resources to supplement the NPSISS infrastructure. In response to the National Audit Office survey, probation services estimated that they had spent over £4 million (£3.8 million at 1994-95 prices) on additional hardware, such as personal computers and remote access capability, to improve the coverage of the network.

3.22 For some years, the Home Office sought to prevent probation services duplicating IT developments. From April 1998 onwards the Home Office placed a restriction on probation committee expenditure on computer equipment without the authority of the Secretary of State. In practice, this restriction was not applied. However, by March 1999, the Home Office considered that the network and coverage of CRAMS was sufficiently extensive that further local investment would not provide value for money. It reminded local services about the need to obtain the Secretary of State's approval for expenditure on IT developments. From that date, services were required to avoid any local developments which duplicated provision already made, or due to be made, under NPSISS; and to seek the approval of the Home Office for expenditure on developments costing £20,000 or more. In response to the National Audit Office survey, probation services with NPSISS estimated that they will have spent £2.2 million to supplement NPSISS software by the end of March 2001, including some £800,000 after March 1999. They will have spent:

■ £1 million on software originally anticipated but not provided under NPSISS, such as finance and payroll systems; and

■ £1.2 million on additional case management software, such as the development of local case record and management systems or registers of high-risk offenders. The functionality and quality of these local developments varies considerably. Some provide basic case information while others provide significant case management facilities. Many of these developments use the database software provided on the NPSISS infrastructure. The Home Office did not seek to coordinate these developments to minimise their cost or maximise their use across probation services.

3.23 The seven probation services which have not implemented NPSISS were also spending money on similar developments and operating their local information systems. The five services not connected to NPSISS spent approximately £350,000 developing their case management system and £30,000 per year providing on-going support and maintenance, in addition to the cost of providing their local IT infrastructure and other software.

Appendix 1

Summary of Her Majesty's Inspectorate of Probation's Thematic Inspection Report: "Using Information and Technology to Improve Probation Service Performance" (published October 2000)

Aims of the inspection

The aims of the inspection were to examine how probation services make informed decisions in order to reduce crime and protect the public; examine the adequacy of systems developed nationally to support the use of information; and to highlight and promote good practice in the management of knowledge and use of information.

Key findings of the inspection

The findings of the Inspectorate's report in relation to the National Probation Service Information Systems Strategy are summarised below:

■ Although NPSISS was described as national, it was of necessity designed for 54 individual services that were independent and autonomous. This created difficulties throughout the project. The Home Office lacked control over local IT developments.

■ The national infrastructure covered 47 out of the 54 probation services. Although no timetable had been agreed for its completion, this still represented a major achievement.

■ The absence of a single body with clear authority to manage the overall project had created problems.

■ The identification of business needs was inadequate in probation services and within the Home Office probation unit.

■ The Probation Unit had failed to link the changing requirements of the probation service in relation to risk assessment with NPSISS and it had been left to individual probation areas to seek local solutions to the need for a computerised system for the registration and management of high-risk offenders. As a result, the needs of Ministers for accurate information and assurance that sound IS were in place to support services in their supervision of high-risk offenders were not being met sufficiently.

■ The original business case submitted to the Treasury had not been subjected to a detailed review until the National Audit Office began its investigation in late 1999.

■ The focus of NPSISS shifted from the improved use of information to further the work of the probation service to a concentration on the installation of hardware/software applications. This meant that the original business objectives were obscured.

■ There had been insufficient direction and coordination on key aspects of NPSISS.

■ A number of services had reduced the size of their information units.

■ NPSISS had been unable to provide the full range of information that was needed to demonstrate value for money.

■ CRAMS had not provided a case management system of acceptable quality to probation services and this had been a major weakness. Only 16 services were using CRAMS substantially. At the time of the inspection, there were at least 10 case management systems in operation or development in local services and this must be a matter of concern as steps are taken to create a National Probation Service.

■ The reporting tool, initially known as GQL, had not provided the rapid and effective solution for interrogating data held in CRAMS that had been promised by the Home Office and anticipated by probation services. Those services that had used it effectively had spent considerable local resources in the process.

■ EASI had been developed by the National Association for the Care and Resettlement of Offenders to provide probation staff with information on facilities for use by offenders. Its installation on NPSISS had been successful but no detailed scrutiny had taken place on its use or cost-effectiveness.

■ There had been serious problems with the technical interface with the existing resource management information system (RMIS) that had resulted in serious delays in the provision of information on unit costs.

■ Lotus Notes had been of great value as an e-mail system but there had been insufficient co-ordination of the development of specific applications and this had meant that local services had unnecessarily duplicated work.

■ There had been no thorough evaluation of the impact of new technology on the business of the service and there was little evidence of the anticipated improvements in productivity.

■ There was evidence that there had been insufficient strategic appreciation within the Home Office probation unit of the importance of ensuring integration of operational and IT developments.

In addition the inspection made further references to NPSISS and CRAMS in its findings on the availability and use of information and on information and knowledge management, as set out below:

■ Information was not available to staff at all levels of the service to improve individual and corporate performance. However, the Integrated Case Management System (ICMS) areas were able to access data on levels of compliance with national standards achieved by individual members of staff.

■ Effective systems did not exist in most areas to provide operational information, although some services had taken local initiatives that were valuable. Despite the Home Office investment in technology, there was no national computer system to assist in the management of dangerous offenders. Services were generally having to rely on paper files, card indexes and registers to retain and access information on offenders presenting a risk of harm to the public.

■ Services varied considerably in their reliability in providing regular statistical information to the Home Office. No work had been conducted nationally or locally on the cost of collating and submitting the data.

■ The provision of information to stakeholders and other interested parties posed major difficulties to services. Evidence from crime and disorder audits indicated that services made considerable efforts to meet the requirements on them for information. However, the absence of an effective reporting tool meant that the process was time consuming and inefficient.

■ There was there was no effective national computerised system to monitor national standards and this reduced the capacity of probation committees and managers to ensure that national standards were applied appropriately;

■ in most services senior probation officers (SPOs) read case records to examine levels of compliance with national standards and some had devised their own "ad hoc" systems to obtain further information. There was also evidence that senior managers did not always use "hard information" when supervising middle managers;

■ The Case Record Administration and Management System (CRAMS) was not "user-friendly" and could not provide a clear overview of an individual case in relation to the requirements of national standards.

■ The inspection identified shortcomings in the management of information and knowledge not just within probation services but also in the Home Office probation unit. It was positive that probation services and very senior staff within the Home Office acknowledged this issue.

■ No probation service information strategy had been issued at the time of the inspection. NPSISS had represented an IS strategy and the probation unit had produced a document in late 1999 A Developing Probation Service National Information Strategy which made a significant number of recommendations about the steps required for a strategic approach. NPSISS was not reviewed until late 1999. Considerable work had then taken place to develop the basis of a new strategy and the new Information Systems Programme Board accepted this in September 2000. It provided a sound basis for future decisions.

■ There were significant but limited examples of local probation services promoting the sharing of knowledge and information through NPSISS. There was a clear demand amongst many probation staff at all grades for a national probation intranet to share information and assist in the development of good practice.

■ No probation service inspected had examined the business benefits/costs of e-mail or undertaken any review of its use. Nor had there been a systematic audit of the skills and experience of staff as a way of capturing and managing the knowledge that this represented.

■ The "Modernising Government" agenda had made only a limited impact on probation services, although there was willingness by a number of services to engage with new technology very positively.

Key recommendations

The report's main recommendations in relation to the National Probation Service Information Systems Strategy were:

■ The Home Office should, within the framework of the Information Strategy Review give priority to the establishment of a national risk of harm register to be available on the NPSISS infrastructure.

■ The Home Office should develop an effective case management system which:

❏ supports staff in complying with national standards and in working to What Works principles;

❑ provides management information on compliance with national standards and other aspects of service performance;

❑ is integrated into the development of the systems to support the Offender Assessment System (OASys) and accredited programmes;

❑ provides and receives from others information key to the work of probation staff.

■ The Home Office should, in future IT development within the probation service, make appropriate organisational arrangements to ensure that policy, operational and information requirements are integrated and that IT developments are determined by policy and business needs.

■ The Home Office should:

❑ ensure that NPSISS includes all local probation services, the national directorate, HMIP and the Home Office Research, Development and Statistics Directorate;

❑ examine the potential to establish a national probation intranet to share information and assist in the development of good practice.

appendix one

Appendix 2

National Probation Service aims, priorities, National Standards and performance measures

The new National Probation Service which came into existence in April 2001 has five statutory aims:

- the protection of the public;

- the reduction of re-offending;

- the proper punishment of offenders;

- ensuring offenders' awareness of the effects of crime on the victims of crime and the public; and

- the rehabilitation of offenders.

Its work will support Home Office aims:

- Aim 2 - Delivery of justice through effective and efficient investigation, prosecution, trial and sentencing, and through support for victims.

- Aim 4 - Effective execution of the sentences of the courts so as to reduce re-offending and protect the public.

The Home Secretary's Priorities and Action Plan for the National Probation Service are for it to base its work on the What Works strategy, to comply with National Standards (Box 1), work jointly with the police and other agencies, provide information to the courts promptly, ensure that its work is free from race discrimination, and deliver high quality, fairness and value for money.

The National Probation Service is also accountable for performance against performance measures (Box 2). These relate to the Home Office's Service Delivery Agreement, and replace the previous probation service Key Performance Indicators.

Box 1: The National Standards 2000

The standards specify how probation services must supervise offenders and provide services, in relation to:

- Bail information reports

- Pre-sentence reports

- Specific sentence reports

- Custodial sentences

- Community sentences and supervision in the community

- Required levels of contact

- Achieving compliance and ensuring enforcement

- Approved hostels

The standards also specify how the probation services should carry out their work, in particular they should:

- Supervise Offenders in accordance with the principles of effective practice;

- Work effectively with others in the criminal justice system;

- Monitor their performance regularly and take action to improve it;

- Respond fully and promptly to Home Office requests for information;

- Require partners to operate in accordance with the National Standards;

- Keep full and accurate records;

- Depart from National Standards for supervision and services only in exceptional circumstances;

- Provide continuity of contact and supervision where an offender moves between probation service areas;

- Keep local protocols, policies and guidelines; and

- Provide offenders or their families with interpreters or other appropriate assistance to avoid discrimination.

In addition probation services are required to:

- Report to the Home Office where an offender under supervision commits a serious offence;

- Inform sentencers and the general public about their work and the service they provide; and

- Provide notification of the forthcoming release of potentially dangerous offenders.

Source: National Standards 2000 - Home Office.

Box 2: National Probation Service Performance Measures 2001-2004 (abridged)

Performance Measure	**Home Office Public Service Agreement Target 8: To reduce by 2004 the time from arrest to sentence or other disposal**
1	To improve the timeliness of probation service reports to the courts by:
1 (a)	Increasing the proportion of Pre-Sentence Reports completed within the 15 day National Standard to 90 per cent
1 (b)	Increasing the proportion of reports to the court (Pre-Sentence Reports and Specific Sentence Reports) that are Specific Sentence Reports to 20 per cent in 2001-02 and 25 per cent in 2003-04
	Home Office Public Service Agreement Target 10: Reduce the rate of reconvictions of all offenders punished by imprisonment or by community supervision by 5 per cent by 2004 compared to the predicted rate
2	Increase the educational and vocational qualifications of offenders with 6,000 completions of level 2 basic skills awards in the probation service in 2002-03 and 12,000 completions in 2003-04
3	Increase the number of offenders going through accredited offending behaviour programmes
4	Breach action to be taken in accordance with the National Standard - Target 90 per cent
5	Improve access to employment and accommodation for offenders: programme to be developed by December 2000 with implementation thereafter
	Home Office Public Service Agreement Target 11: Reduce the levels of repeat offending amongst problem drugs-misusing offenders by 25 per cent by 2005 (and by 50 per cent by 2008)
6	Ensure that the number of referrals to treatment through Drug Treatment and Testing Orders increases to 6,000 in 2001-02 and is maintained thereafter
	Home Office Public Service Agreement Target 14: Promote race equality, particularly in the provision of public services...And achieve representative workforces in the Home Office and its police, fire, probation, and prison services
7	Progress against the Home Secretary's race equality employment targets for representation, retention and career progression
	Other
8	To reduce sickness absence in the probation service to an average of 9 days per member of staff
9	To meet targets to be specified in due course to reduce variations in performance within the probation service
10	To achieve 3 per cent efficiency/productivity improvements

Source: Home Office

Appendix 3

NPSISS and CRAMS: Chronology of key events

Date	Event
July 1993	The Information Strategy Steering Committee, a committee established jointly by the Home Office and probation services, approved the recommendation to adopt a system, known as NPIMS, which was developed and used by Northumbria Probation Service, as the national case record and management system for the probation service.
November 1993	The Information Strategy Steering Committee approved the National Probation Services Information Systems Strategy (NPSISS) which includes the installation of a national network and the development and implementation of a national case record and management system.
February-October 1994	Enhancements to NPIMS functionality, so that it more closely met the needs of the probation services, were carried out by contract programmers managed by Northumbria Probation Service.
October 1994	The Home Office put forward a business case to the Treasury, projecting costs for the NPSISS programme of £97 million over 10 years and business benefits of £240 million over the same period.
December 1994	Bull Information Systems Limited was awarded the NPSISS contract for a seven year period. Bull is the prime contractor supported by a number of sub-contractors.
March 1995	Installation of the national IT infrastructure began.
November 1995	The first version of CRAMS was installed in two probation services - Surrey and West Midlands - on a pilot basis. Following technical problems, CRAMS was withdrawn by joint agreement in February 1996.
July 1996	A consultant from the Central Communications and Technology Agency concluded that there were problems with the project management structure for the NPSISS programme, the communication between the Home Office and the probation services, and the arrangements for acceptance testing and piloting of CRAMS.
November 1996	In a letter the Home Office informed Bull of its dissatisfaction with Bull's performance and its intention to seek alternative suppliers for the development and maintenance of the CRAMS software. In response to assurances from Bull, the Home Office agreed in March 1997 to allow Bull to continue its work under the terms of the existing enabling agreement.
April 1997	CRAMS (Version 2.5) was released. It was considered by the Information Systems Strategy Board to be the first operational version of CRAMS.
May 1997	The Home Office issued Bull with a formal warning that unless the screen layout and user interface of CRAMS, and other aspects of the software, improved markedly, the whole programme and hence Bull's contract would be called into question. Bull questioned this and the Home Office agreed with Bull a proposal to develop CRAMS to address the issues raised.
March 1998	The third-party reporting tool software - Andyne General Query Language (GQL) - was purchased to provide standard reports from CRAMS; and to enable probation services to extract ad hoc reports.
March 1998	Bull reported the results of its audit of Year 2000 compliance. The audit identified problems affecting equipment and systems installed throughout the probation services.
August 1998	The installation of NPSISS technical infrastructure to those probation service areas not yet installed on the NPSISS network was postponed to enable the rollout of Year 2000 compliant equipment and systems to those areas already on the network.
February 1999	University College London reported that the CRAMS user interface contained defects and should be extensively redesigned.

Date	Event
September 1999	The Home Office announced that further work on the development of the CRAMS case management system was to be stopped. Any further work on CRAMS was to be confined to the support and maintenance of the latest version of CRAMS. Work began on the design and development of a successor, known as COPERNICUS.
January 2000	PA Consulting reported to the Home Office that it had a badly under-resourced information services capability with misaligned skills, which was exposing the Home Office and probation services to some significant business risks.
February 2000	Following an assessment of progress on the COPERNICUS project, the Home Office halted further work on its development. The Home Office Probation Unit initiated a project to take forward its review of strategy with a view to formulating a new information systems strategy for the new National Probation Service, and to assess possible tactical solutions for the short term.
March 2000	36 probation services had complete installations of CRAMS, and 3 had partial installations.
March 2000	The Home Office signed a consolidated purchase order for the central support and maintenance of NPSISS and CRAMS by Bull for the remaining 21 months of the enabling agreement.
September 2000	A new Information Systems Programme Board was convened to define a programme to deliver information technology systems to meet the probation service's business requirements in the short, medium and long term.
March 2001	Installation of the NPSISS technical infrastructure was completed in a further two probation services - Kent and Cornwall - taking the total number of services on the NPSISS network to 49.
December 2001	The enabling agreement between the Home Office and Bull is due to come to an end.

Appendix 4 Methodology

To carry out the examination we:

Carried out a questionnaire survey of chief probation officers in those 47 probation services which in 2000 had NPSISS systems and networks installed to establish the benefits gained from NPSISS and the additional costs incurred.

Visited 11 probation services, eight with HM Inspectorate of Probation. The aims of the visits were to determine users' involvement in the design, development and implementation of the NPSISS programme; and to establish users' views of NPSISS and CRAMS and the extent to which the programme has delivered business benefits.

Probation Services visited	NPSISS installed?	CRAMS installed?
Cambridgeshire Probation Service	No	No
Cheshire Probation Service	Yes	Yes
Hereford and Worcester Probation Service	Yes	No
Kent Probation Service	Underway	No
Middlesex Probation Service	Yes	Yes
Northumbria Probation Service	Yes	Yes
Oxfordshire and Buckinghamshire Probation Service	Yes	No
Powys Probation Service	Yes	Yes
Somerset Probation Service	Yes	No
South East London Probation Service	Yes	Yes
Surrey Probation Service	Yes	Yes

Reviewed project management and other documentary information. We collected evidence from the following main sources:

■ the minutes and reports of the Information Strategy Steering Committee, Information Systems Strategy Board, and the Programme Management Board;

■ the NPSISS Strategy Report and subsequent business case;

■ programme office files recording details of the design, development and implementation of the NPSISS programme and CRAMS;

■ probation circulars and other information issued to the probation services during the programme; and

■ external reports on different aspects of the NPSISS programme.

Interviewed key personnel in the management of the NPSISS programme and other staff from the Home Office Probation Unit.

Interviewed the main supplier, Bull Information Systems Limited, and other suppliers and contractors who have contributed to the NPSISS programme.

Interviewed key stakeholders in the probation services including the Association of Chief Officers of Probation, the Central Probation Council and the National Association of Probation Officers.

Liaised with other auditors and inspectors. We worked closely with HM Inspectorate of Probation, undertaking joint visits to probation services and jointly interviewing key personnel and stakeholders. We also liaised with a District Audit team in the north-west of England who were carrying out a review of information systems in three probation services; and with the Home Office's Audit and Assurance Unit who were carrying out a review of NPSISS payments and the consolidated purchase order signed with Bull in March 2000.

Assessed the management of the NPSISS programme against good practice principles. The principles were based on CCTA guidance, the recommendations of the Committee of Public Accounts on information technology projects "Improving the Delivery of Government IT Projects" (1st Report 1999-2000), and the recent Cabinet Office report "Successful IT: Modernising Government in Action".

Appendix 5 Questionnaire Survey Results

The National Audit Office carried out a survey of the 47 probation services in England and Wales that operated on the NPSISS network in 2000. The survey assessed the costs and benefits derived from NPSISS to local probation services. The questionnaire was divided into three sections: NPSISS coverage; local expenditure; and business benefits.

Section 1: NPSISS Coverage

1   How many NPSISS users are there in your service?

15,321

2   How many NPSISS terminals does your service have?

12,702

The 47 probation services which have received the NPSISS network and systems have a ratio of terminals to users of 83 per cent, equivalent to four terminals for every five users.

3   At how many of each of the following locations do your staff operate? At how many of these locations is the NPSISS infrastructure installed?

Location	Number of locations	Number of locations with NPSISS	Coverage (%)
Offices	566	562	99.3
Courts	269	196	72.9
Hostels	86	86	100.0
Prisons	115	91	79.1
Other[1]	86	38	44.2
Total	**1,122**	**973**	**86.7**

4   Does your Service have remote access capability into NPSISS (for example to enable officers to work from home)?

Yes   33   No   14

The probation services have provided remote access for the following grades of staff:

Staff Group	Number of Probation Services
Senior Management Team	26
Information/Research Units	11
Other Staff Groups (limited availability)	10
Other Staff Groups (substantial availability)	9

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1   *Examples of other locations connected to the network include Youth Offending Teams and voluntary hostels.*

Section 2: Local expenditure

5 **What initial start up costs did your service pay from its own revenue budget (excluding direct Home Office IT funding) when planning for and installing the standard NPSISS infrastructure and CRAMS (if applicable)?**

Initial start-up costs (standard infrastructure only)

Cost category	(£000)
Staff training (the cost of staff time and the cost of external trainers)	2,492
IT consultancy	114
Internal staff costs (for example, to plan and manage the NPSISS installation)	1,383
Other costs (for example fixtures and fittings, cabling)	960
Total	**4,949**

6 **What initial start up costs did your service pay from its own revenue budget to *supplement* IT systems over and above the standard NPSISS infrastructure provision, for example an increased PC-user ratio?**

Initial start-up costs (supplementary expenditure)

Cost category	(£000)
Hardware & network infrastructure	3,456
Software	447
Staff training (the cost of staff time and the cost of external trainers)	333
IT consultancy	35
Internal staff costs (incurred to plan and manage the installation of additional IT)	368
Procedural change review and re-organisation of the local service.	452
Other costs (for example additional electrical work)	168
Total	**5,259**

7   What *additional* on-going running costs has your service incurred in order to operate and maintain the NPSISS infrastructure? By 'additional', we mean any extra costs compared to the costs of the systems you operated prior to installing NPSISS (Please complete the table below with the relevant expenditure amounts, including the costs of staff time.)

Additional on-going running costs

Cost category	1994-95 (£000)	1995-96 (£000)	1996-97 (£000)	1997-98 (£000)	1998-99 (plan)	1999-00 (£000)	2000-01 (£000)	Total (£000)
Increased maintenance	31	171	878	1,720	2,212	3,080	3,371	**11,463**
Replacement of hardware	(8)	120	457	850	739	801	729	**3,688**
Software licences	0	11	14	111	188	307	256	**887**
Staff training (cost of staff time, training new staff and external trainers)	8	170	422	632	845	1,114	746	**3,937**
IT consultancy	0	9	74	77	85	124	86	**455**
Additional staff costs (e.g. in-house help desk, technical support and system administration)	5	118	367	665	778	1,008	1,171	**4,112**
Other additional costs (for example additional telecommunication costs)	0	157	383	448	570	711	688	**2,957**
Total	**36**	**756**	**2,595**	**4,503**	**5,417**	**7,145**	**7,047**	**27,499**

Additional service expenditure outside of the NPSISS framework

8   Has your Service incurred, or does it plan to incur, any other extra costs outside of the NPSISS framework, such as the development of a local case recording and management system, or risk register, or development of additional manual procedures?

Yes | 31 | No | 16 |

31 probation services incurred costs on systems outside of the NPSISS framework.

Additional service expenditure outside of the NPSISS framework

Area Of Expenditure/Development	Number of Services	Estimated Expenditure (£000)
Case Management	9	**448**
Public Protection Database / Risk Register	10	**83**
PSR Tracker	6	**25**
Breach Tracker	6	**36**
National Standards Database / Monitoring	6	**149**
Assessment, Case-recording and Evaluation (ACE) Database	4	**77**
Hostels Database	2	**20**
Unspecified/Other Databases	12	**350**
Additional Manual Procedures	1	**10**
Finance/Payroll	5	**432**
Personnel / HR	5	**207**
Training	3	**68**
Other	14	**291**
Total		**2,196**

Section 3 - Business Benefits

9 **Can you indicate those areas where business benefits have been achieved as a result of installing NPSISS (including CRAMS where applicable)?**

Category	Negative impact	No benefit	Some benefit	Major benefit
Quality of service to offenders, courts and other agencies	1	16	26	4
Communication within your probation service	0	5	5	37
Communication with other probation services	0	0	19	28
External communication within the Criminal Justice System	3	39	5	0
Other external communication	4	39	4	0
Operational information (e.g. case management, high risk offenders)	6	7	28	6
Management information (e.g. National Standards, KPIs and local monitoring)	15	13	15	4
Financial information (e.g. unit cost data)	8	36	3	0
Probation officer productivity	12	17	17	1
Reduced IT support staff	30	16	1	0
Reduced administrative support staff	9	21	15	2
Reduced externally provided IT support	15	23	9	0
Reduced postage/fax/telephone	0	9	32	6
Reduced research and information costs	15	27	5	0
Reduced accommodation costs	5	40	2	0
Introduced IT culture	3	4	20	20