

PROGRAMME INITIATION DOCUMENT

**Programme
name**

SEAMLESS FLOW

Release

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PRINCE2

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| Seamless Flow Programme Board | | | |

Purpose

To define the Seamless Flow Programme (SFP), to form the basis for its management and the assessment of overall success.

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Background

Over the next few years, the National Archives (TNA) will gradually move from an institution whose main medium of operation is paper to one whose main medium is electronic records. Three imperatives of the Government's strategy for e-Government will drive this:

- The adoption of Electronic Document Records Management (EDRM) systems in Government Departments as a result of the Prime Minister's 2004 target for implementing such systems which will ensure that most Government records are generated electronically
- The more general adoption of IT systems in Government as a result of the 2005 target for electronic service delivery
- The implementation of the access provisions of Freedom of Information Act (FOIA) in January 2005 which may lead to the earlier transfer of records to the National Archives and earlier public access to them.

Our experience over the past two years has been that increasing numbers of records are being created in electronic form. So far, the electronic records we have taken in have mainly come from public inquiries of various sorts, but these have included some important collections. We have also begun to acquire Government web sites. Our current legislation means that the bulk of records are not transferred until they are thirty years old. However there will be changes with Freedom of Information: 'closed until 30' disappeared in January 2005; there will be enormous impetus from Departments to transfer records at an early date rather than go through costly migration processes and there will be increased public demand for access to such records. In any event, we need to make arrangements to select, preserve and ensure their survival soon after their creation since, unlike paper, they are very vulnerable.

In anticipation of the impact of these developments, The National Archives (TNA) commissioned a Fundamental Review of IT which reported in February 2004 and its findings were endorsed by the Management Board. The review recommended that TNA adopt a process-oriented approach to content production and a common data model and architectural approach across the organization, but accepted that this needed to be done incrementally and in an iterative way. It also recommended that TNA focus on its end-to-end processes, data and technology architecture to achieve seamless flow of content and information between all players.

This programme is TNA's response to this recommendation. It involves the creation of a seamless flow of digital records from creation in Departments to preservation in the archives through to delivery on the web. The programme is about linking together existing components and automating manual processes. The process of developing the seamless flow approach will allow us to review and streamline other aspects of our architecture – notably catalogues and web searching. The development of an Internet-based delivery system for digital records is a key component of our response to the Government's 2005 target.

The approach adopted in this programme – browser and XML based where appropriate, using the e-GMS standard and common off the shelf software – is in line with the Government's e-GIF standard.

Programme Definition

Project objectives

The seamless flow programme is intended to ensure a seamless flow of electronic records from creation in Government Departments through their eventual preservation at the National Archives and delivery to the public over the Internet.

Programme scope

The Seamless Flow programme is based on a number of existing components – the digital archive, the PRONOM (file format database) technology watch and the current digital archive delivery system. It is intended to join up those components and to automate manual procedures. Seamless Flow will cover the following activities:

- Appraisal and selection of records through Departmental file plans
- Creation of appropriate metadata in Departments
- Identification of exemptions and redaction if required
- Agreeing transfer dates for electronic records and to promote best practice processes / procedures (including Custody Policy) necessary to ensure their survival before transfer to TNA
- Transfer of records and metadata to TNA
- Loading records and metadata into the preservation system (the Digital Archive)
- Preservation of digital records by the appropriate methods
- Redaction of exempt pieces and other FOI activities
- Allocating appropriate metadata to records
- Provision of metadata, archival description and resource discovery
- Delivery of records to users through online services and if appropriate other media
- Management and Security

Defined method of approach

The programme will be divided into a number of projects. Initially these are planned to cover joining up existing components and automation of the following activities:

- Appraisal and selection of records and related Departmental FOI activities
- Public Web Search and Resource discovery
- Metadata and cataloguing
- Management of the survival of semi-current records in the Departments
- Transfer to TNA of records and metadata
- Preservation and maintenance (enhancements to digital archive)
- Technology watch (enhancements to PRONOM), covering
 - Technology changes in Departments
 - Readability of files within the Digital Archive
 - Delivery technology
- Delivery and presentation to users

and ensure successful delivery of the programme by addressing:

- Management and security issues
- Business change and training (both TNA and other Government Departments)

as they apply to the proposed automation of Seamless Flow stages.

**Programme deliverables/
desired outcomes**

The programme is intended to provide a secure process which will be automated as far as possible. The programme comprises two phases.

**Phase one – high level design development, and
Phase two – build through projects****The products from Phase one will be:**

A critical path study for high level processes
An information flow model
Requirements analysis
A high-level system design

Confirmation of constituent projects for phase 2 and the products and processes relating to each
A detailed description of the work required in Phase two
A full cost estimate, resource need and timescale for each project build

Phase two will comprise : project delivery and project integration

The individual projects will implement automation in the following processes:

- Appraisal and selection/Departmental FOI activities
- Resource discovery
- Metadata and Cataloguing
- Management of survival of semi-current records in the Departments
- Transfer to TNA
- Preservation and maintenance (enhancements to Digital Archive to allow file migration)
- Technology watch, covering
 - Technology changes in Departments
 - Readability of files within the Digital Archive to trigger file migration
 - Delivery technology
- Delivery and presentation

and all the process automation projects will be supported by two additional projects:

- Management procedures and processes, and security
- Business change, communications and Training (both TNA staff and staff in other Government Departments)

with integration overseen by the Programme Manager and the Programme Team to ensure a coherent system of Seamless Flow.

Exclusions

The Programme will focus on Departmental born digital records and not consider the continuing flow of paper or hybrid records. Places of deposit outside TNA will not be within scope.

Constraints

All confidential communications between Government Departments will have to be made through use of the Government Secure Intranet (GSI).

Interfaces The Programme interfaces with a large range of current internal and external programmes, work packages and services. It will build upon these existing initiatives to create a seamless flow process. These are:

Internal programmes/work packages

- Selection and appraisal – Records Management Department (RMD)
- Identification of exemptions and redaction if required - RMD
- Access Regulation System (SAR) - RMD
- Transfer of records to TNA - RMD/Digital Preservation (DPD)
- Loading records into preservation system - DPD
- Redaction of exempt pieces – SAR, DPD
- Technology watch (PRONOM) - DPD
- Metadata (e-GIF) - RMD
- Resource description and discovery (Catalogue/*PROCAT*, Web Site Search, Metadata, CMS, Digital Asset Management System) – RMD, Online Content & Partnership Development Department (OCPD)
- Preservation and migration (PRONOM) – DPD
- Infrastructure Enhancement programme – Information Communication & Technology Department (ICTD)
- High Availability programme (24 x 7 project)
- Digital Archive/Online Catalogue (*PROCAT*) interfacing
- Digital Archive large accessions project
- TRIM/e-Accessioning
- Digital Archive Presentation System (DAP)
- Record Copying Workflow
- Public Services Development Programme
- Consumer focus programme
- Business continuity plan

Government Programmes and Initiatives

- Freedom of Information and Legislation
- Government Secure Intranet
- Central Government Infrastructure, e-GIF and e-GMS

TNA Services

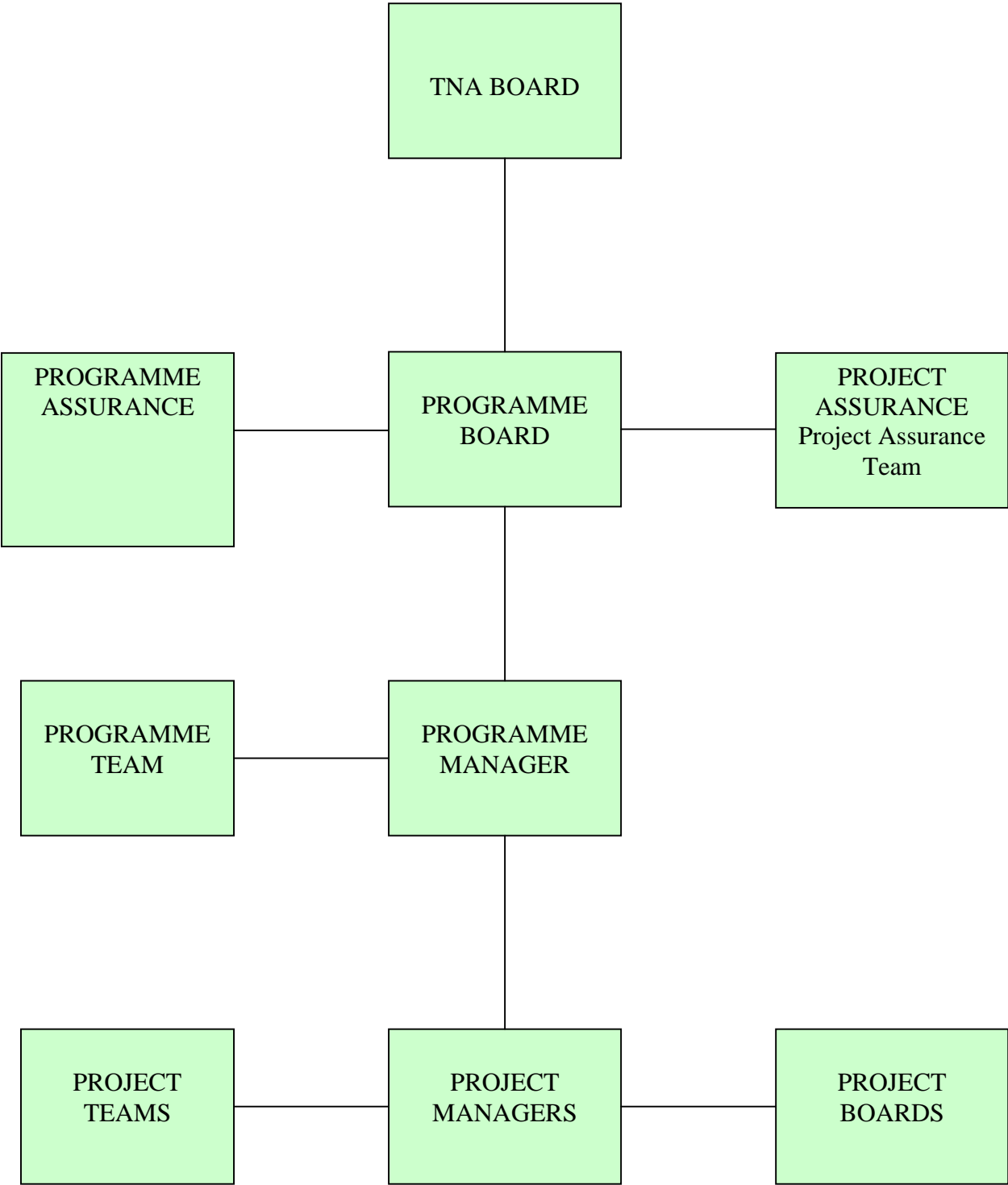
- Documents on line
- Access to Archives (A2A) / Linking Arms

External Programmes/Services

- National Digital Archive of Datasets (NDAD)
- Internet Archive/JISC, Wellcome, National Libraries project

Assumptions All TNA departments will be resourced to provide appropriate knowledge, experience, information and dedicated staffing for the individual projects. There will be active participation by other Government Departments in the programme.

Programme organisation structure



The programme and the individual projects will be managed according to PRINCE 2 methodology. There will be a Programme Board chaired by the Chief Executive (The Keeper). The Board will report to an appropriate executive board within TNA's new management structure. The Programme Board will comprise key users and suppliers.

Phase One: Development

A programme is established to achieve the targets in phase 1.

Phase Two: Projects

This phase will be divided into a number of projects, each of which will have its own project manager, board and team and will report to the Programme Board through the Programme Manager

The scope of the projects are as follows:

**Central
Programme
Direction**

The responsibilities of this team will be to manage the overall programme, programme level activities, the planning process, development of critical path, programme assurance, high level system design and coordinate project systems development.

Projects within the Programme:

Appraisal and selection /Departmental FOI activities

This team will manage the programme to enable as far as possible automatic application of selection criteria to electronic records. This will involve close liaison with Government Departments and the development of methods to select files at creation time using file plans and ERM systems.

This project will address the following areas:

- Statement of principles identifying what will constrain and influence the content of the digital archive
- A set of processes and rules for a product that enables the transfer process to harvest what has been selected for the archive and that can verify that the correct items have been harvested.
- Procedures to select archival material from Business Classification Systems and disposal schedules created in managed environments
- Procedures to appraise 'datasets'
- Procedures to appraise digital records from unmanaged environments
- Procedures for recording selection decisions
- Procedures for identifying and recording FOI exemptions

This team will also manage the development of processes concerned with the application of FOI exemptions to information contained in records both in Departments and in the digital archive. It will also provide advice and guidance for Departments, and cover the actual processes at TNA.

Public Web Search and Resource discovery

This team will lead on the developments of resource discovery systems. It will relate closely to the work which is being done on the development of a search engine for TNA's website.

This project will include the following areas:

- Sufficiency of data for resource discovery within the meta data
 - Sufficiency of data for archival description within the meta data
 - Definition of requirements to meet resource discovery needs
 - Investigate, propose and implement solutions for resource discovery
 - Identify, specify and implement search engine to satisfy resource discovery as part of broader TNA search project to include a search service on the private side
-

Management of semi-current records in the Departments

This project will be responsible for ensuring the survival of records in Government Departments between the time they cease to be of immediate business use and the time they are transferred to TNA. It will work closely with the preservation and metadata projects.

This project will include the following areas:

- Identification of the needs of other Government Departments in respect of technology watch
 - Liaison and interfacing with the Technology Watch project to ensure compatibility of approach
 - Develop and agree Custody Policy for electronic records held by Government Departments covering the survival of electronic records in departments and their date of transfer to the archives
 - Develop a series of options for the survival of records held in departments to cover the period from when they fall out of use to the date they are transferred to TNA
 - Identify the most appropriate option or options
 - Undertake any necessary developments to implement those options
 - Secure bilateral agreement with other government departments on how they are to ensure the survival of electronic records
 - Ensure stakeholders in other Government Departments are aware of issues and receptive to action
 - Have a watching brief to ensure records marked for preservation are kept current and accessible.
-

**Transfer to
TNA**

This project, which is at the heart of the programme, will develop processes for the automation of the transfer of electronic records from Departments to TNA.

This project will include the following areas:

- Specifying, developing and implementing a product that enables the transfer process to harvest records, and related meta data, that have been marked as selected
 - Receiving notification of imminent transfer and agree dates
 - Receipt of electronic records and related meta data into TNA environment
 - Loading of all data into a pre-accessioning area for validation purposes
 - Allocation of any referencing label as necessary
 - Checking of closure status of records (SAR)
 - Checking of sufficiency of meta data and augmenting as necessary
 - Ensuring strong link between record and meta data
 - Provision of a metadata editing facility
-

**Management
and security**

This project will be responsible for management and security issues associated with the records and the processes of seamless flow.

This project will include the following activities:

- Ensuring records are de-classified as necessary
 - Defining the security classification level of records that can be accepted by TNA
 - Ensuring archive can accept security classification level of records
 - Ensuring provision of suitable access control system for users of applications
 - Ensuring data transfer mechanisms meet security requirements for level of security classification of records.
 - Provision of good assurance as to the authenticity of a digital record.
-

**Preservation
and
Maintenance**

This project will continue and enhance the work of the existing Digital Archive and will cover all aspects of the preservation of electronic records – loading into digital archive, storage and back-ups, preservation of original media and migration to newer file formats.

This project will include the following activities:

- Ensuring sufficient meta data is linked to record on transfer
 - Provision of solutions to store records and meta data in digital archive
 - Notifying other Government Departments of formal accessioning of records
 - Ensuring correct allocation of closure status to records including redaction requirements
 - Maintenance of currency of all manifestations of records
-

**Technology
watch**

This will, in part, be based on PRONOM and will cover:

- Technology changes in Departments
- Readability of files within the Digital Archive
- Delivery technology
- Production of presentation manifestations

This project will include the following areas:

PRONOM currently delivers:

- identification of the most common formats in use
- provision of utility to monitor currency of formats, application versions, operating systems etc.
- provision of a utility to identify formats of received records

It will be enhanced to provide

- recommendations on preservation formats within the archive
 - provision and maintenance of a migration map for required formats
 - utilities to migrate obsolete formats to a current format
 - automation of processes where possible
-

Delivery and presentation

This will cover the delivery of electronic records on site, over the Internet or by other appropriate means, **including consultation with users**. Initially, it will focus on enhancing the existing digital archive presentation system.

This project will include the following areas:

- identification of all possible presentation formats and specification of recommendations for presentation systems
- provision of presentations systems to meet different audiences – internet; in-house; staff administration and other Government Departments
- development of results presentation format
- specify, develop and implement a web presentation system
- specify, develop and implement other presentations systems
- define standards for presentation
- undertake usability studies to establish user acceptable presentation processes.

Business Change and Training: TNA staff; staff in other Government Departments; users

This will cover changes in business practices arising from the programme. and all training needs associated with business change affecting the Office.

Metadata and cataloguing

The objectives of this project are as follows:

i. to define the range of metadata elements required for cataloguing and editorial work in Seamless Flow;

ii. to address the need for metadata enhancement and editorial intervention in a number of the projects in SFP: this incorporates:

- *identifying* the needs of constituent projects,
- *establishing and developing* the technical and editorial processes for the provision of that editorial function and for the creation of good archival metadata, and
- *ensuring* the facilities to undertake such work in other SF Projects

and

iii. to define the requirements for a TNA aggregated catalogue which will receive metadata from SFP, PROCAT and elsewhere

Communication Plan**Managing expectations**

A communications manager will be appointed once all the constituent projects have commenced.

An initial communications plan is presented below.

| Audience | Information | Owner | Frequency | Method |
|-------------------------------|---|-----------------------|------------------|--|
| Stakeholders (Advisory Group) | Programme scope, impact and progress | Programme Board (SRO) | As required | Website, email and presentations and meetings |
| Programme Board | Progress against time, quality and budget; risks and issues | Programme Manager | Every two months | Presentation; highlight report, risk and issues logs, plan |
| Project Board | Progress against time, quality and budget; risks | Project Manager | Every two months | Presentation; highlight report, risk and issues logs, plan |

| | | | | |
|------------------------------|-------------------------------------|------------------------|--|---|
| | and issues | | | |
| Programme Manager | Progress, impacts, issues and risks | Project Managers | Monthly | Meeting; highlight reports, issues and risk logs for projects and integration |
| Team members | Progress | Project Manager | Weekly | Meeting |
| Project Assurance Team | Progress, impacts, issues and risks | Project Boards | Every two months | Meeting; highlight reports, issues and risk logs |
| Internal staff | Programme scope and progress | Communications manager | Monthly or more frequently if required | Intranet, email |
| Other Government Departments | Programme scope and progress | Communications manager | As required | Website, email, presentation/meeting, user groups |
| Public | Programme scope and progress | Communications manager | As required | Website, email, presentation/meeting, user groups |

Programme Quality Plan

Introduction To define the quality techniques and standards to be applied, and the various responsibilities for achieving the required quality levels, during the programme.

Contents

This plan contains the following topics:

- Customer Quality Requirements
 - Acceptance Criteria
 - Quality responsibilities
 - Use of standards
 - Quality Control and Audit Procedures
 - Configuration Management Plan
 - Change Management Procedures
 - Programme Tolerances
 - Programme Controls
 - Initial Risk Log
-

**Customer
Quality
Requirements**

TNA would expect that:

- All digital records which have been selected for permanent preservation would be protected until transfer time, transferred to TNA automatically, all closed material to be redacted, the records to be preserved permanently and a reading copy based on current technology to be available. Copies to be normally delivered over the Internet.
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**Acceptance
criteria**

- Cost of operations compared with current semi-manual process
 - Integrity of transferred records
 - Satisfactory migration and technology watch procedures
 - Redaction of closed records
 - Web delivery
-

**Quality
responsibilities**

Programme manager to be responsible for overall quality. Individual project managers to have responsibility for quality in their areas

Standards The programme will conform to appropriate Government and internal TNA standards to cover project management (Prince 2), system design (UML, RUP), system development (TNA software development standards), security (ISO 17799), data exchange (eGMS) and web interfaces (eGIF), as well as conforming to the emerging Trusted *Digital Repositories Standard* (Research Libraries Group RLG)

Quality Control and Audit Procedures The programme and projects will be subject to the following controls:

- TNA to be audited by auditors appointed under RLG scheme
- Process to include rigorous integrity test for electronic records.
- All products will undergo peer review and formal sign off.
- The programme will be subject to the Gateway Review process.
- TNA internal audit will review the programme at appropriate stages.
- Project Assurance Teams as detailed in Programme and Project Terms of Reference

Configuration Management Plan Software version will be controlled by a proprietary management tool.

All products created by the Programme will be treated as configuration items. They will have a version number and a date. Version numbers for formal issue of products will be numbered as version 1.0 onwards. Products which are at a draft stage will be identified by sub number as 0.1, 1.2 etc.

All project documentation will be stored in the Objective Electronic Records Management System at:

*Preservation
Projects*

Or

*Access Management
Projects*

Within this area each project should identify a separate folder.

Change management procedures

A formal process for managing change will be identified so that interaction between projects can be monitored appropriately.

All changes will be raised as Request for Change (RFCs), reviewed by originating project team and its board. This will be passed to the Programme Manager to assess cross project impact and to take to Programme Board for acceptance as necessary.

Programme tolerances

Tolerances will be set for the individual projects within the programme.

Programme controls

In view of the complexity of what is being proposed, it is planned to use a formal systems development methodology, such as SSADM or UML to ensure that all issues are captured. We will start with a clean piece of paper and develop a series of views of what we wish to achieve, including a formal requirements catalogue and some form of process modelling. The programme will be managed in accordance with PRINCE 2 methodology.

A programme board has been established. We have appointed existing members of staff to manage the individual projects.

Scope, cost, time, quality and risk issues will be controlled through the use of a formal PRINCE 2 approach with regular meetings of teams and boards reporting according to the PRINCE methodology. A central project assurance team led by a Project Assurance Coordinator will form a vital role in ensuring appropriate controls are in place. Programme Assurance will be provided by a representative from our Advisory Group reporting into the Programme Board.

Project Managers will hold regular Checkpoint briefings with their team to review progress against plans, address or raise issues and agree future work. The Project Managers will produce a monthly Highlight report for the Programme Manager.

The Programme Manager will hold monthly meetings with the project managers to review progress to date, future work and potential issues etc.

The Programme Manager will provide monthly highlight reports to the Programme Board.

The Programme Board will meet approximately every two months to review progress, timetable, costs and issues.

Initial Risk Log A formal programme risk register will be developed and reviewed at each programme board meeting. The risk log will consider the following aspects:

- Complexity [mitigated by phased implementation and rigorous application of project management techniques]
- Technology risks [mitigated by detailed systems design and rigorous testing]
- Involvement/co-operation from transferring Departments [mitigated by proactive communications strategy]
- Cost
- Level of business change

Each project will be subject to its own issues and risk logs which will be aggregated and reported upwards for review by the Programme Board, as necessary.

Attachments Several separate documents are used in the management of the Programme. These are listed below and should be read in conjunction with this document.

- Issues Log
 - Risk Register
 - Outline plan
 - Outline Business case
-
-

Initial Business Case

Our experience over the past two years has been that increasing numbers of records are being created in electronic form. So far, the electronic records we have taken in have mainly come from public inquiries of various sorts, but these have included some important collections. We have also begun to acquire Government web sites. Our current legislation means that the bulk of records are not transferred until they are thirty years old. However there will be changes with Freedom of Information: 'closed until 30' disappeared in January 2005; there will be enormous impetus from Departments to transfer records at an early date rather than go through costly migration processes. There is likely to be increased public demand for access to such records. Even if such records are not transferred to us at an early stage, we still need to make arrangements to select, preserve and enable access to them, soon after their creation since, unlike paper, they are very vulnerable and will not survive without active intervention.

Even before FOI there seems to be an exponential increase in the size of the Digital Archive. We loaded 18 accessions between June 2003 and May 2004 - a total of approximately 6.8GB. Individual accessions have ranged from approximately one MB to 1200MB with a typical range from 100MB to 500MB. Among the records to be loaded in 2005 are the Derbyshire and Gaul inquiries, which are likely to be between 100 and 150GB each and the Companies Registry database which is several terabytes. We anticipate the number of accessions increasing significantly over the next year and think we would load perhaps 15GB of these smaller accessions. In 2006, we anticipate loading the records of the Bloody Sunday Inquiry, which might dwarf any exiting individual collection.

As the volume of electronic records, which are created by government, increases over the next few years, we will need to automate as many of the processes involved in accession as possible. We need to agree transfer dates with departments and identify and put in place processes to ensure that records survive from the day they fall out of use in departments to the time they are transferred to the archives. We then need to automate as many processes as we can, including destruction of records according to schedules, transfer, cataloguing, managing redacted versions where exemptions apply, preservation and delivery and ensure others (selection, exemption identification, redaction) take place at creation or as soon as possible thereafter if we are to be able to cope without a huge increase in staff resources. We will need to handle the changes brought about by the Freedom of Information Act. We will also need to have the ability to automatically migrate electronic records to new formats as they become obsolete and the ability to handle an increased range of document types. In addition, we will have to be able to deliver digital records to users over the Internet.

In short, TNA would simply not be able to absorb the increased volume of electronic records by scaling up its existing semi-manual processes. Only a re-engineering of the work flows and a major investment in automation of the processes, as envisaged in the Seamless Flow programme, will provide a solution.

An outline business case has been produced and is presented in a separate document '*Seamless Flow: Outline Business Case*'

Stakeholder analysis

The main stakeholders in the initial phase of the programme are the Government records community – Departmental records officers and others – who are responsible for the management of records in Departments before transfer to TNA. A number of the leading members of that community, together with other Government experts are members of the ERM Sub Group which is responsible for overseeing the implementation of ERM in Government.

The following Departments are represented at a senior (usually SCS) level at such meetings: Treasury, Office of Government Commerce, Department for Works and Pensions, Department for Food and Rural Affairs, Department for Education and Skills, Department of Constitutional Affairs, Department of Trade and Industry, Inland Revenue, Office of Deputy Prime Minister, Cabinet Office, Home Office, Department of Health, Foreign and Commonwealth Office.

Members of the Sub Group reviewed the Seamless Flow Programme Brief at their meeting on 20 May 2004 and were very supportive of it as the most reasonable way forward. Following to that meeting, we have begun a series of discussions with Cabinet Departments all of whom have expressed enthusiasm for the programme. Representatives from all the main Government departments have agreed to sit on an Advisory Board. Terms of reference have been agreed and are available, along with the minutes, on the National Archives website
www.nationalarchives.gov.uk/electronicrecords/seamless_flow/programme.htm

Another area of stakeholders is the research community. Although not directly involved in the Programme, whatever we do will influence the nature of historical, family and academic research.

Funding

Phases I and II of the Seamless Flow Programme are fully funded up to March 2006.

Budgets for the subsequent two years have been identified and provisionally approved by the Executive Committee.