



**Ministry of Community Development and
Ministry of Tourism, Culture and the Arts**

Overview of ISB Responsibilities for Quality Assurance

Date: August 2006
Prepared By: Fredo Vanlierop
Project: CAWS Standards Documentation
Harvest Package Name:
Harvest Version:
Contract: N/A

Document Revision History

| Date: | Description of Change: | Issued By: | Version Number: |
|-------------|------------------------|-----------------|-----------------|
| August 2006 | Create document. | Fredo Vanlierop | 1.0 |
| | | | |
| | | | |
| | | | |
| | | | |

Table of Contents

| | |
|--|----|
| Executive Summary | 4 |
| Quality Assurance Expectations | 4 |
| The Quality Assurance Team | 5 |
| QA of Systems Development Life Cycle Deliverables | 6 |
| Appendix A: QA Schedule | 12 |

Executive Summary

Quality Assurance and the Quality Assurance Review of new application development is of critical importance as part of the Information Systems Branch's Software Development Life Cycle (SDLC).

The four main reasons for this are:

- Low quality work in one phase of a project predictably causes problems in later phases.
- If quality issues are not addressed at each stage of a project, a much less "usable" system may be implemented; that is, difficult to use, inefficient, unreliable and dissatisfied users.
- The later in the project a problem is found, the more it will cost to fix.
- System Maintenance demands are effected by the quality of the application.

This document explains the Quality Assurance roles in the Information Systems Branch and their related responsibilities. Frequent involvement of the Quality Assurance team assigned to a project during all phases of the system development will help to ensure a quality system.

Software quality assurance involves the reviewing and auditing of the software products and activities to verify that they comply with the applicable procedures and standards and to assure the production and operation of high quality products according to stated requirements. The results of these reviews and audits provide the project manager and other appropriate managers with appropriate visibility into the processes used. The software quality assurance is initiated at the beginning of a project and is conducted throughout the software engineering lifecycle.

Quality Assurance Expectations

- All Systems Development contractors must thoroughly review and abide by the Information Systems Branch Standards and Policies, and Corporate IM/IT standards and policies prior to beginning any development work as these documents will form the basis of the Quality Assurance Review. These documents also detail what deliverables are expected. A thorough understanding of these documents will greatly decrease the time required for Quality Assurance Review.
- The most common problems found in a Quality Assurance Review are insufficient descriptions, inadequately describing the current and proposed systems and modeling at the physical level when it should be at the logical level.
- It is not the intention of the Quality Assurance team to comment on an individual's style but rather to ensure that standards are adhered to.
- The Quality Assurance team is concerned with software reliability as well as maintainability, portability and readability.
- The Quality Assurance team must be involved during the Analysis Phase of the project beginning with the JAD Session(s) if applicable. This type of involvement will save much time in the Quality Assurance Review. At intervals where a system review is done with the users, the Quality Assurance analyst must be invited. All documentation that is sent for review to a user must be sent to the Quality Assurance team as well.
- Where the system can be broken into subsystems or components (possibly noted as separate ERD Diagrams) or at the end of a project phase, the deliverables should be sent to the Quality Assurance team as available.

- Quality Assurance Review time must be part of the original system development Project Plan and the Quality Assurance team must agree to the timeframe allotted for the Quality Assurance Reviews.
- The Quality Assurance team will provide feedback/review comments to the system development team within one week depending on the size of the deliverables provided for review.
- The Quality Assurance team will be available to answer contractor questions regarding ISB Standards.
- The System Development Project Plan must take into consideration an iterative approach for Quality Assurance Review. I.e. Quality Assurance Review is not complete until the Quality Assurance team has no further comments.

The Quality Assurance Team

Overall coordination of quality assurance is the responsibility of the Ministry Project Manager for most deliverables, except post production, where this responsibility lies with the Application Manager. All feedback and QA results should be delivered to the originator of the deliverable via this coordinator. The QA coordinator should communicate appropriately with all team members with respect to the QA of deliverables.

There are several roles associated with the various QA tasks. Individuals may assume multiple roles during the project, and roles may rotate when appropriate. This section provides a general description of the roles and responsibilities. Please refer to the appropriate QA document for the specifics associated with the QA.

Several deliverables will require both a Business QA and a Technical QA.

Note: The person performing the QA should not be the person who developed the deliverable.

Application Manager (AM)

The Application Manager is the Ministry person responsible for the overall management of one or more applications. A key quality assurance role is to ensure the QA of an application by leading and conducting the User Acceptance Testing.

Where the Application Manager is responsible for overall management of the QA, duties will include the following:

- overall coordination of quality assurance of the specified deliverable;
- ensuring the deliverable is quality assured by the relevant program area staff;
- ensuring that a copy of the deliverable is forwarded to the Information Systems Branch BA;
- delivering the QA results to the author via email, phone or meeting.

Business Analyst (BA)

This description applies to the Information Systems Branch Business Analyst (ISB BA).

For most deliverables the ISB BA will be responsible for managing the technical QA. The QA duties will include the following:

- overall coordination of the technical QA for the deliverable;
- ensuring the deliverable is quality assured by the relevant technical staff (DBA, DA, TA, etc.);

- delivering the QA results to the Ministry Project Manager or Application Manager via email, phone or meeting.

Business Experts (BE)

The Business Experts are responsible for the QA of deliverables from a business perspective.

Data Administration (DA)

Data Administration group is responsible for QA of the Logical Data Model.

Database Administrator (DBA)

The Database Administrator is responsible for the QA of the physical database, designer repository, application delivery, scripts and process.

End Users

The End User will assist in the QA of specific deliverables from the user's perspective.

Ministry Project Manager (PM)

The Ministry Project Manager is responsible for overall coordination of the QA for all deliverables, except those in the maintenance phase, which are usually managed by the Application Manager. The duties are as follows:

- overall coordination of the QA for the deliverable;
- ensuring the deliverable is quality assured by the relevant program and staff (from the business perspective);
- ensuring that a copy of the deliverable is forwarded to the IMB, BA (for the technical QA);
- delivering the QA results to the originator via email, phone or meeting.

Technical Architect (TA)

The Technical Architect provides advice and QA applications from a technical perspective.

Quality Assurance Analyst (QAA)

The Quality Assurance Analyst provides QA from a technical perspective for SDLC deliverables

Vendor (V)

The contractor is often referred to as the Vendor. The Vendor is responsible for ensuring the deliverable meets the Ministry standards prior to submitting it to the Ministry Project Manager or Application Manager. The Vendor will also review QA results as performed by the Ministry staff and make changes to the deliverable where required.

QA of Systems Development Life Cycle Deliverables

INITIATE PHASE

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|--------------------------|-------------------|------------------------|-------------|
| Request For Change (RFC) | | | |
| Detailed Description | | | |

| | | | |
|--|--|--|--|
| of Requirements | | | |
| Business Case Report | | | |
| Formal Project Request Estimate Request(s) | | | |

**SYSTEM
REQUIREMENTS
PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|---|-------------------|------------------------|-------------|
| System Requirements Development Estimate | PM | Email | |
| System Requirements Development Decision Document | | | |
| System Requirements Documentation | BA | Email | |
| Data Requirements Review Report | | | |
| Estimate For System Analysis & Design / Design Effort | PM | Email | |
| Project Charter | | | |
| Next Phase Decision | | | |
| External Vendor Contract | | | |

**SYSTEM ANALYSIS &
DESIGN PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|---|-------------------|------------------------|---|
| New/Enhanced Logical Data Architecture | DA | Email | |
| New/Enhanced Screen Prototypes / Design | QAA | Email | Compliance with Ministry standards, fit with Ministry infrastructure, meets business needs as described in Systems Analysis Document, model soundness, appropriate data mapping (where data conversion is required), content, appropriate testing strategy, technical feasibility, technical language |
| New/Enhanced Report Prototype(s) / Design | QAA | Email | Compliance with Ministry standards, fit with Ministry infrastructure, meets business |

| | | | |
|--|-----|-------|---|
| | | | needs as described in Systems Analysis Document, model soundness, appropriate data mapping (where data conversion is required), content, appropriate testing strategy, technical feasibility, technical language |
| New/Enhanced “Data Architecture – Screen/Report” Cross Reference | DA | Email | |
| New/Enhanced Database Specifications/ Requirements | DBA | Email | |
| New/Enhanced System Program Modules/Functions Design/Specifications | QAA | Email | Compliance with Ministry standards, fit with Ministry infrastructure, meets business needs as described in Systems Analysis Document, model soundness, appropriate data mapping (where data conversion is required), content, appropriate testing strategy, technical feasibility, technical language |
| Data Conversion Cross Reference | DA | Email | Completeness, soundness of approach, content, data mapping |
| Data Conversion Strategy | DA | Email | Completeness, soundness of approach, content, data mapping, appropriate testing strategy |
| Temporary “Data Conversion” Database Architecture | DA | Email | Completeness, soundness of approach, content, data mapping |
| Intermediate Data Conversion Cross Reference-Specification | DA | Email | Completeness, soundness of approach, content, data mapping |
| Development Time / Cost Estimate | PM | Email | |
| Data Architecture QA Form | DA | Email | |
| System Development Decision | | | |

**DEVELOPMENT
PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|----------------------------|--------------------------|-------------------------------|--|
| Oracle Server Model | DBA | Email | Compliance with Ministry standards, business requirements, |

| | | | |
|--|-----|---------|--|
| | | | descriptions, completeness of repository, functional model soundness, data model soundness |
| Oracle Database | DBA | Email | |
| Temporary Data Conversion Database | DBA | Email | |
| System Functions (Programming Objects) | QAA | Email | Code structure conforms to Ministry standards, soundness, well commented, dead code, programming practices |
| System Function Unit Test Plan (new / enhancement) | QAA | Email | Compliance with Ministry standards, clear and comprehensive, completeness for testing all requirements as described in the System Requirements Document |
| System Function Unit Test Results | QAA | Harvest | Completeness of testing |
| System Installation Guide | QAA | Email | Clarity, content, completeness |
| Temporary Data Conversion Functions (Programming Objects) | QAA | Email | Code structure conforms to Ministry standards, soundness, well commented, dead code, programming practices |
| Integration System Testing Plan (new / enhancement) | QAA | Harvest | Compliance with Ministry standards, clear and comprehensive, completeness for testing all requirements as described in the System Requirements Document |
| User Acceptance Test Plan (new / enhancement) | BA | Email | Compliance with Ministry standards, must include plans for testing of Data Conversion Application (where required), clear and comprehensive, completeness for testing all requirements as described in the System Requirements Document, completeness for covering all business scenarios and Exceptions |
| Temporary Data Conversion System Functions | DBA | Email | Code structure conforms to Ministry standards, soundness, well commented, dead code, programming practices |
| User Procedures (new / enhancement) | BA | Email | Readability, clarity, content, format, |

**INTEGRATION
SYSTEM TESTING
(IST) PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|--------------------------------------|-------------------|------------------------|---|
| Release Note | DBA | Email | |
| System Code | QAA | Email | code structure conforms to Ministry standards, soundness, well commented, dead code, programming practices |
| Database Objects | DBA | Email | Compliance with Ministry standards, business requirements, descriptions, completeness of repository, functional model soundness, data model soundness |
| User Defined Set (UDS) | DBA | Email | |
| Integrated System Test (IST) Results | QAA | Harvest | Completeness of testing |
| Deficiency Notification | | | |

**USER ACCEPTANCE
TESTING (UAT)
PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|--------------------|-------------------|------------------------|-------------|
| Deficiency Package | | | |
| RFC | | | |

**IMPLEMENTATION
PHASE**

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|--------------------------------------|-------------------|------------------------|-------------|
| Implemented System Components | | | |
| Generated / Updated Database objects | | | |
| Harvest "Designer Package" | | | |
| Converted Data | | | |
| Harvest - System Release Snapshot | | | |

| | | | |
|----------------------|--|--|--|
| User Training | | | |
|----------------------|--|--|--|

PRODUCTION PHASE

| Deliverable | QA Responsibility | How the QA is returned | Scope of QA |
|--|--------------------------|-------------------------------|--------------------|
| User System Acceptance Signoff | | | |
| Post Implementation Review Report | | | |

