

## TCAssociates Total Quality Commitment

TCAssociates key success factor can be attributed to its emphasis and commitment to quality. We enforce methodologies and processes based upon the fact that that IT management should define, document and maintain a quality philosophy, policies and objectives, which are consistent with the corporate philosophies and policies in this regard. The quality philosophy, policies and objectives should be understood, implemented and maintained at all levels of the IT function. TCAssociates' review procedures are an integral part of applying due professional care. Responsibility for a contract extends to every person who contributes to the final result; however, the Program Manager is fully accountable for each task order and contract that she oversees. We review each task order at different levels and document each review in the working papers. Reviewers for complex federal contracts are as ordered from lowest to highest level of review.

Task Order Lead (assigned to each task order and considered the in-charge manager of that task)

Project Manager (if required)

Quality Control Manager (Reviews and works with any appropriate individuals to improve project performance)

Before starting work on a task order, the Program Manager and Task Order Lead prepare checklists to be used for a program or review. They will begin with a TCAssociates template checklist used in similar types of program reviews, and then tailor it to the requirements of the task order at hand. In this way, the client gets the benefit of a proven quality control checklist tool modified to meet specific needs.

TCAssociates provides the following documentation for each level of review:

- a) Evidence of working paper review for assessment and audit contracts by completing the review checklist and by initialing or signing (in writing or electronically) individual audit programs and working papers.
- b) Evidence of report review signatures on the review checklist of the task order lead, program manager, contract partner or program director, and quality assurance partner.

### *Responsibility for Quality Assurance*

Management assigns the responsibility for the performance of the quality assurance function to staff members of the IT function and ensure that appropriate quality assurance, systems, controls and communications expertise exist in the IT function's quality assurance group. The organizational placement within the IT function and the responsibilities and the size of the quality assurance group should satisfy the requirements of the organization. The Quality Assurance Manager then reviews these

practices along with the work products. The Quality Assurance Manager is an integral part of the proposed team.

### *Quality Assurance Manager*

The Quality Control and Assurance Manager is important to the success of the program. The person taking the helm of QA must be technically proficient, a strong leader and capable of not only discovering lapses in quality but artful in teaching others how to correct the errors and prevent their reoccurrence. The TCAssociates team takes the filling of this vital position with seriousness and will endeavor to ensure the quality of the individual meets or exceeds the government customers' expectations.

### *How Do We Manage Quality?*

Control over the IT process of managing quality that satisfies the business requirement to meet the IT customer requirements is enabled by the planning, implementing and maintaining of quality management standards and systems providing for distinct development phases, clear deliverables and explicit responsibilities and takes into consideration:

Establishment of a quality culture

Quality plans

Quality assurance responsibilities

Quality control practices

System development life cycle methodology

Program and system testing and documentation

Quality assurance reviews and reporting

Training and involvement of end user and quality assurance personnel

Development of a quality assurance knowledge base

Benchmarking against industry norms

Quality Control Maturity and Reporting Structure

To implement quality assurance, the program and task order managers must first meet with the government task order manager and select Key Goal Indicators, Critical Success Factors and Key Performance Indicators. The following sections are illustrative of our initial selection lists.

### *Key Goal Indicators*

Number of IT processes and projects that satisfy stakeholder requirements

Increased rating for customer satisfaction with services rendered

Number of IT processes and projects formally signed off by quality assurance without significant rework

Decreased number of quality defects

Decreased number of non-compliance reports against quality standards

### Critical Success Factors

Critical success factors are clearly defined and agreed upon development process has been created to perform quality assurance. Quality is defined by the organization with clear roles for the quality assurance processes and quality control procedures

A quality assurance program has been implemented with well defined, measurable quality standards and quality control processes have been defined, resourced and aligned

There is continuous improvement and a defined knowledge base for processes and metrics

There is a quality education and training program

Stakeholders are involved in the quality assurance program

A positive quality culture is consistently promoted by all layers of management

Awareness exists that quality standards should equally apply to processes and projects where reliance is placed on third parties

Every delivery process needs to have proper quality assurance criteria

Emphasis is provided on training IT and end user staff in testing methods and techniques

### Key Performance Indicators

Number of IT processes and projects with active quality assurance management participation

Number of documented quality assurance monitoring and testing activities

Number of quality assurance peer reviews

Number of IT processes and projects that have been benchmarked

Number of meetings between stakeholders and developers

Average number of training days in quality management

Number of projects with documented and measured quality criteria

### *Maturity Model*

To review the process that is intended to be utilized for the task, a rating system is utilized based on the maturity model as illustrated below (this does not presuppose a government customer's maturity but is given for illustrative purposes):

0 Non-existent - The organization lacks a quality assurance planning process and a system development life cycle methodology. Senior management and IT staff do not recognize that a quality program is necessary. Projects and operations are never reviewed for quality.

1 Initial/Ad Hoc - There is a management awareness of the need for quality assurance. Individual expertise drives quality assurance, when it occurs. Quality assurance activities that do occur are focused on IT project and process-oriented initiatives, not on organization-wide processes. IT projects and operations are not generally measured for quality, but management makes informal judgments on quality.

2 Repeatable but Intuitive - Basic quality metrics have been defined and could be repeated from project to project within the IT organization. A program is being established for managing quality assurance activities within IT. IT management planning and monitoring practices are established over quality assurance activities, but are not broadly enforced. Common tools and practices for quality management are emerging. Quality satisfaction surveys are occasionally conducted.

3 Defined Process - IT management is building a knowledge base for quality metrics. There is a defined quality assurance process that has been communicated by management and involves both IT and end-user management. An education and training program has been instituted to teach all levels of the organization about quality. Quality awareness is high throughout the organization. Tools and practices are being standardized and root-cause analysis is occasionally applied. A standardized program for measuring quality is in place and well structured. Quality satisfaction surveys are consistently conducted.

4 Managed and Measurable - The organization continuously and consistently measures quality of processes, services, products and projects. Quality assurance is addressed in all processes, including

those processes with reliance on third parties. A standardized knowledge base is being established for quality metrics. Quality satisfaction surveying is an ongoing process and leads to root cause analysis. Cost/benefit analysis methods are used to justify quality assurance initiatives. Responsibilities and accountability are increasingly being defined for organization-wide business processes and not only for IT processes. Benchmarking against industry and competitor norms is increasingly being performed.

5 Optimized - Quality awareness is very high within the whole organization. Quality assurance is integrated and enforced in all IT activities. Quality assurance processes are flexible and adaptable to changes in the IT environment. All quality problems are analyzed for root causes. Quality satisfaction surveys are an essential part of a continuous improvement process. The knowledge base is enhanced with external best practices. Benchmarking against external standards is routinely being performed. The quality assurance of IT processes is fully integrated with the assurance over business processes to ensure that the products and services of the entire organization have a competitive advantage.

#### Status Codes for Ratings

To rate Detailed Control Objectives we can utilize the following status codes:

(U) Unacceptable;

(B) Unacceptable but improving;

(A) Acceptable;

(O) Outstanding;

(N) Not applicable

#### Candidate Rating Areas

The following areas are potential selections (areas) per each customized task order that can be rated.

General Quality Plan - Management should develop and regularly maintain an overall quality plan based on the organizational and IT long-range plans. The plan should promote the continuous improvement philosophy and answer the basic questions of what, who and how.

Quality Assurance Approach - Management should establish a standard approach regarding quality assurance which covers both general and project specific quality assurance activities. The approach should prescribe the type(s) of quality assurance activities (such as reviews, audits, inspections, etc.) to

be performed to achieve the objectives of the general quality plan. It should also require specific quality assurance reviews.

Quality Assurance Planning - Management should implement a quality assurance planning process to determine the scope and timing of the quality assurance activities.

Quality Assurance Review of Adherence to IT Standards and Procedures - Management should ensure that the responsibilities assigned to the quality assurance personnel include a review of general adherence to IT standards and procedures.

System Development Life Cycle Methodology - The organization's management should define and implement IT standards and adopt a system development life cycle methodology governing the process of developing, acquiring, implementing and maintaining computerized information systems and related technology. The chosen system development life cycle methodology should be appropriate for the systems to be developed, acquired, implemented and maintained.

System Development Life Cycle Methodology for Major Changes to Existing Technology - In the event of major changes to existing technology, management should ensure that a system development life cycle methodology is observed, as in the case of the acquisition or development of new technology.

Updating of the System Development Life Cycle Methodology - Management should implement a periodic review of its system development life cycle methodology to ensure that its provisions reflect current generally accepted techniques and procedures.

Coordination and Communication - Management should establish a process for ensuring close coordination and communication between customers of the IT function and system implementers. This process should entail structured methods using the system development life cycle methodology to ensure the provision of quality IT solutions which meet the business demands. Management should promote an organization which is characterized by close cooperation and communication throughout the system development life cycle.

Acquisition and Maintenance Framework for the Technology Infrastructure - A general framework should be in place regarding the acquisition and maintenance of the technology infrastructure. The different steps to be followed regarding the technology infrastructure (such as acquiring; programming, documenting, and testing; parameter setting; maintaining and applying fixes) should be governed by, and in line with, the acquisition and maintenance framework for the technology infrastructure.

Third-Party Implementer Relationships - Management should implement a process to ensure good working relationships with third-party implementers. Such a process should provide that the user and implementer agree to acceptance criteria, handling of changes, problems during development, user roles, facilities, tools, software, standards and procedures.

Program Documentation Standards - The organization's system development life cycle methodology should incorporate standards for program documentation which have been communicated to the

concerned staff and enforced. The methodology should ensure that the documentation created during information system development or modification projects conforms to these standards.

**Program Testing Standards** - The organization's system development life cycle methodology should provide standards covering test requirements, verification, documentation and retention for testing individual software units and aggregated programs created as part of every information system development or modification project.

**System Testing Standards** - The organization's system development life cycle methodology should provide standards covering test requirements, verification, documentation, and retention for the testing of the total system as a part of every information system development or modification project.

**Parallel/Pilot Testing** - The organization's system development life cycle methodology should define the circumstances under which parallel or pilot testing of new and/or existing systems will be conducted.

**System Testing Documentation** - The organization's system development life cycle methodology should provide, as part of every information system development, implementation, or modification project, that the documented results of testing the system are retained.

**Quality Assurance Evaluation of Adherence to Development Standards** - The organization's quality assurance approach should require that a post-implementation review of an operational information system assess whether the project team adhered to the provisions of the system development life cycle methodology.

**Quality Assurance Review of the Achievement of IT Objectives** - The quality assurance approach should include a review of the extent to which particular systems and application development activities have achieved the objectives of the information services function.

**Quality Metrics** - Management should define and use metrics to measure the results of activities, thus assessing whether quality goals have been achieved.

**Reports of Quality Assurance Reviews** - Reports of quality assurance reviews should be prepared and submitted to management of user departments and the IT function.

#### **Quality Control Manager Review**

TCAssociates assigns a quality control reviewer who is independent from TCAssociates, especially on complex contracts. He will advise our Program Manager of concerns and problems he finds while reviewing IT documentation and work. His tasks are to:

Review the contract plan before the start of fieldwork

Discuss unusual or significant matters or concerns with the Program Manager

Discuss with TCAssociates a Task Order Team's procedures and conclusions concerning high-risk areas and security risks

Confirm with the Program Managers that there are no significant unresolved matters

Review documentation for the resolution of significant matters

Concur with the resolution proposed by a Task Order Team of any significant matters not previously identified by them but that has come to his reviewer's attention

Read reports to determine if they comply with professional standards and TCAssociates policies