
Quality Control Plan

MicroTech is committed to providing our clients with consistently high-quality products and services. Our commitment to quality performance is demonstrated by our development of, and rigorous adherence to, integrated Quality Assurance (QA) processes and standards. MicroTech will create a work environment that is compliant with Level 3 of the Software Engineering Institute's (SEI) Capability Maturity Model (CMM). This establishes a framework by which the planning, engineering, and managing of software development and maintenance becomes a disciplined, repeatable process. Our successful application of the 122 key practices and measures that comprise CMM Level 3 has provided project visibility, repeatable processes that form a baseline for continuous improvement, and a stable software development, maintenance, enhancement, and conversion environment that supports the technical staff in achieving specific, documented, and realistic goals.

Ability to Meet Performance Measures

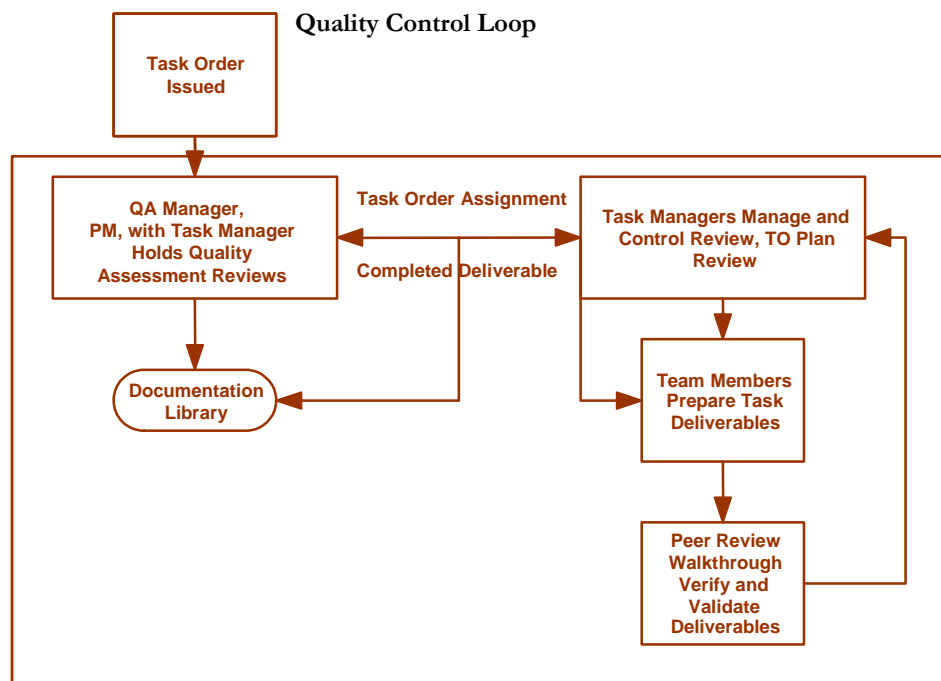
Our experience has shown that task performance management must be supported by measures and procedures that provide a standard approach to requirements management, project planning, and project tracking and oversight. Project planning, tracking and oversight procedures will be established at the start of the contract based upon MicroTech's successful past performance experience.

Requirements management (RM) involves establishing and maintaining an agreement with the customer regarding the requirements for the project. The agreement covers both the technical and non-technical (e.g., delivery dates) requirements. The agreement forms the basis for estimating, planning, performing, and tracking the project's activities through-out the life cycle.

After establishing baseline requirements, the challenge is to manage and control them. Since requirement changes are the reality on any IT project, MicroTech's RM approach will include a defined way of handling changes to requirements, and metrics, which track volatility. Requirements will be managed through strict configuration management (CM) controls.

A Project Plan will be developed for each Task Order (TO). The Management Approach will provide an issues and resolution approach, assumptions, risk and mitigations, and will describe the staff to be assigned to the project,

including roles and responsibilities. The Project Plan will serve as the basis for tracking the project activities, communicating status, and revising plans. Project activities will be monitored by the TO Manager, who will revise the Plan on a regular basis and provide it to the Project Manager and client team. Progress will be determined by comparing the actual size, effort, cost, and schedule to the plan as deliverables or milestones are completed. When it is determined that the project's plans are not being met, corrective actions will be



taken. These actions may include revising the Project Plan to reflect the actual accomplishments and re-planning the remaining work, or taking actions to improve the performance.

The Project Plan will also include a Work Breakdown Structure (WBS) for the project, summarizing the Technical Approach to be taken. Each of the major elements of the WBS will result in a product. From experience, we find that a well-designed structure provides checkpoints for evaluating progress and frequent opportunities to see success. A standard life cycle methodology will be defined and adopted for use across the contract.

Requirements volatility will be monitored and reported to the PM and COTR on a regular basis. The more volatile the requirements, the more risk a project assumes to its schedule and resources. By measuring and reporting requirements volatility, management can identify at-risk projects and take appropriate measures to reduce the risk.

Performance metrics captured for each TO and the aggregate metrics for the contract as a whole will be gathered, analyzed, and used to continually improve the Task Order Management Process. Lessons learned will be shared with all members of the Team.

Enhance the quality of service and deliverables

It is MicroTech’s philosophy to provide our clients with high quality products and services. We encourage a strong commitment to quality performance through the development of, and rigorous adherence to, quality control standards. MicroTech will monitor and enforce conformance with QC plans for all deliverables we produce. Our QC plan ensures that deliverables satisfy contractual agreements, meet or exceed quality standards, and are developed in accordance with approved processes. We will use a closed-loop corrective activity procedure that compares our actual deliverable generation process against predefined MicroTech standards. Additionally, all documents will be maintained in a project deliverable library under strict CM version control.

The baseline MicroTech Task Order Performance QC Plan includes three quality review steps. Team member deliverables are first reviewed in peer walkthroughs, then in management control reviews scheduled by the TO Manager. Finally, the PM team performs quality assessment reviews to ensure adherence to all policies, procedures, and standards. These methods verify that a project is progressing in step-by-step tasks, and validates that all products are being delivered in accordance with acceptance criteria. MicroTech has developed detailed QC procedures that specify use of our methods for deliverable products, and include a summary of the quality factors to be assessed, the specific methods used, and the participants involved in each activity.

The PM and TO Manager oversee the implementation of each QC Plan to ensure that all deliverables submitted comply with established policies, procedures, standards and guidelines, and all TO-specific acceptance and schedule criteria.

MicroTech will conduct QC and technical oversight reviews to ensure the quality of deliverables. We will develop monthly Progress Reports and fiscal tracking. We will also conduct periodic progress conversations with the client. MicroTech PM will:

- Ensure timely and accurate completion of deliverables
- Manage the budget and hours to ensure accurate and effective financial tracking

QA/QC Procedures

Activity/Product	Quality Factors	QA/QC Methods Used	Participants
Deliverable Development			
Test Plan, Implementation Plan, and Analysis or Evaluation Reports	Correctness, Integrity, Testability, Maintainability	Walkthroughs Quality Assessment Reviews	PM, TO Mgr, Analysts, Client Representatives
Briefings	Correctness, Efficiency	Walkthroughs Management Control Reviews	PM, TO Mgr, Government Participants

Activity/Product	Quality Factors	QA/QC Methods Used	Participants
System or Work Flow Design Specifications	Correctness, Maintainability	Walkthroughs Quality Assessment Reviews	Users, Analysts, Designers, Independent Government Reviewers
Management Oversight			
Walk-through Reports	Maintainability	Management Control Reviews	PM
Work Plans	Correctness	Management Control Reviews Quality Assessment Reviews	PM, TO Mgr
Status Reports	Maintainability	Management Control Reviews	PM, TO Mgr
Application of Standards	Correctness, Testability	Quality Assessment Reviews	PM, TO Mgr

- Conduct internal meetings, as necessary, with the project team
- Perform a thorough quality assurance review of all contract and non-contract draft and final deliverables
- Draft monthly progress reports that accurately record the following:
 - Task description and number
 - Narrative describing work completed
 - Narrative describing problems addressed or needing to be addressed
 - Number of hours worked by the MicroTech personnel and all associated costs incurred
 - Status of personnel and projected staffing plans
 - Statement of progress made
 - Total accumulated hours and costs on the contract to date
- Maintain copies of all deliverables and submit and record signed receipts to document receipt and acceptance of deliverables by the client

MicroTech's highest priority is customer satisfaction and being responsive to the customer's needs. It is MicroTech's practice to consistently provide our clients with high quality products and services. We emphasize communication to ensure that the client is apprised of progress made and that the client's needs are met.

MicroTech will initiate meetings or teleconferences with the client organization as needed to review progress and to flag any anticipated problems. Throughout each TO, MicroTech will maintain close contact with the client to ensure that work progresses in a timely and cost-efficient manner.

Implementation and Enforcement of Quality Assurance Measures

MicroTech's schedule and cost monitoring approach has been successfully implemented on multiple contracts with the Federal Government, and will be applied to this project as well. We will use such techniques as comprehensive internal financial reporting, careful validation of all reported costs, and regular review cycles. The PM and TO Manager develop task estimates based on Work Breakdown Structures (WBS) that clearly define the activities to be performed. The WBS, associated labor estimates, and external commitments required to complete those activities are independently reviewed by MicroTech Senior Managers to reduce the risk of over- or under-estimation of effort estimates, review schedules, and QA activities.

Identification of Deficiencies in Quality Services

The MicroTech Team will use the Microsoft project management tool to plan, manage, and monitor TO resources and schedules. The MicroTech Team will use a four-squared approach for reporting schedule and cost control management activities at the project level, involving all Team members in planning, monitoring, and performing work according to plan. At regular meetings of all TO staff (at least bi-weekly), participants identify, in matrix form, the work performed; the issues and resolutions made; future plans for work; and anticipated issues and budget requirements, dependencies, and action items for the next bi-weekly period. The four-squared approach will provide a standard roadmap that is easily referenced by managers and the customer on this contract.

Staffing Responsibilities for Methods of Identification of Deficiencies

The TO Manager will be responsible for tracking each major task activity during the task lifecycle. The TO Manager will determine the critical path, identifying by date each critical path checkpoint or deliverable. Critical path dates are reviewed in detail during task negotiations and at all subsequent meetings. Progress in terms of meeting each task's critical path will be closely monitored by the PM also, allowing for early detection and correction of any critical path issues. Scheduling problems may also occur when Government-provided resources—such as standards, reference manuals, technical documents, handbooks, directives, etc.—are not available in a timely fashion. If unavailability of a Government-provided resource results in a delay, the TO Manager and PM work with the COTR. If the delay cannot be avoided by taking corrective actions, the PM develops a problem report that identifies the problem, its impact, and a recommended resolution. The problem report is forwarded to the COTR/CO.

Demonstrate that the Quality Control Plan Complements the Governments Quality Assurance Surveillance Plan

The procedures developed will come together as an interconnected, quality system to manage and perform effectively and consistently on all task orders and the contract as a whole. Each process has normally been defined in the Government Quality Assurance Surveillance Plan. Our Quality Control Plan will use the defined performance requirements/metrics, and describe procedures to produce the desired results. Performance measures will be captured and compared to the requirements, taking corrective active action if a problem exists or is anticipated, and modifying or establishing new policies and procedures, enabling the process to be responsive to changing customer needs and improvement opportunities.

Lessons learned throughout each process will be captured and used to improve or processes. These are the major steps of the MicroTech Process Improvement Activity process:

- **Identify Improvement Opportunities.** Start with an established, institutionalized process, and identify opportunities for improvement.
- **Develop an Improvement Plan.** Develop a Process Improvement Plan for implementing and testing the improvement(s). Begin by selecting those improvement activities to be undertaken. Identify an approach for implementing and testing the improvement. Identify what will determine success.
- **Implement the Improvements.** The planned improvements are implemented. The PM, TO Manager, and QA staff will establish a baseline, and capture metrics in accordance with the plan to measure the effects of the improvement.
- **Monitor Improvements.** Evaluate the results of the improvement activity. Modify the approach if the anticipated results are not achieved, and test again. If improvement is not achieved, the improvement may be deferred or abandoned.
- **Standardize and Continue to Assess.** As process improvements are realized, standardize on the improved process. Return to the first procedure for additional improvements.

Less formal improvements will also be introduced on an ongoing basis, as required. This includes minor changes or enhancements to procedure documents or standards.

Process improvements may be presented by any member of the staff to the SEPG for discussion and adoption.