## Quality Assurance Quality Control

1. **Purpose**

The purpose of this policy is to outline the quality assurance and quality control program to be utilized for all projects and work performed by the Company to provide quality cost effective services to our clients.

1. **Scope**

We are committed to providing our customers with services that comply with the specifications and expectations of our clients. Therefore, it is our policy to adhere strictly to this quality control program and to ensure this program and the requirements of our customers are met on each and every project we execute.

1. **Responsibility**

Quality Control Manager (QCM)

Full authority for the implementation and administration of the quality controls described in this policy has been delegated to the Quality Control Manager (QCM). The QCM has the responsibility and organizational freedom to identify quality control problems, stop work, recommend solutions, and verify resolution of such problems.

All Employees

All employees have the responsibility and authority for implementation of established QA/QC activities. It is the responsibility of any employee that manages, performs, or verifies work affecting quality to:

* Initiate action to prevent the occurrence of work or services of nonconformity
* Identify and record any quality problems
* Initiate, recommend, or provide solutions through designated channels
* Verify the implementation of solutions
* Control further processing, delivery, or installation of non-conforming work until the deficiency or unsatisfactory condition has been corrected.

Project Managers

Project Managers are responsible for their assigned project’s QA/QC activities. They may delegate the performance of their assigned duties to qualified individuals, but they shall retain full responsibility for completing their projects in strict accordance with established quality control policies and the client’s specifications. The quality of all subcontractors and vendors shall be the joint responsibility of the QCM and the applicable Project Manager. All projects will be executed in a manner that emphasizes safety, quality, schedule and maximum cost effectiveness.

Management

Management has the responsibility to define and document its policy and objectives for, and commitment to, quality. Management will ensure that its policy is understood, implemented, and maintained at all levels of the organization.

1. **Procedure**

Management shall identify in-house requirements and provide adequate resources and trained personnel as needed to support required QA/QC verification activities. At a minimum, verification activities shall include inspection, testing and monitoring of all project related processes and audits of the quality system. These activities shall be carried out by personnel independent of those having direct responsibility for the project being executive.

The established QA/QC policies and procedures shall be reviewed at appropriate intervals by management to ensure continuing sustainability and effectiveness. These reviews will include assessment of the results of internal audits and shall assess overall conformance to client’s requirements and expectations. Records of such reviews and audits shall be maintained.

1. **Project Review and Set Up**

Upon receipt of Request for Proposal (RFQ) from a client, management will review the requirements of RFQ and determine if a proposal will be submitted to perform the work. If management decides to submit a proposal for the work, a project manager is assigned the responsibility of generating the proposal to perform the work. The proposal must include all costs related to completing the work in accordance with the clients’ specifications.

The project manager shall review the contract documents contained in the RFQ and establish and maintain procedures to ensure that:

* The requirements and acceptance specifications of the client are adequately defined and documented.
* Any requirements differing from those included in the proposal are resolved or clarified in the proposal.
* That the Company has the capability to meet all contractual requirements of the RFQ Records of such contract reviews shall be maintained for future reference.
* The RFQ and contract review activities, interfaces, and communication shall be coordinate with the client as required to clarify all issues and to ensure that the responsibilities of both parties are well defined and documented.

The Project Manager shall set up the project structure as the proposal for the work is generated. The project manager shall ensure that all costs related to executing the work is in accordance with established QA/QC procedures and the contract requirements are included. The process of identifying all material and subcontractor requirements shall be in accordance with established QA/QC procedures. Once all costs have been identified and an execution / staffing plan has been developed, the Project Manager shall schedule a meeting with management to review the proposals risks and contingencies. Final decision concerning proposal pricing and clarifications shall be management’s responsibility.

Upon award, the Project Manager shall immediately set up the project in accordance with the execution and staffing plan established during the proposal. All key staff members shall be notified and sent as much information concerning their responsibilities to the project as soon as possible. The Project Manager shall develop a project QA/QC file containing the basic QA/QC policy and all related specific activities’ QA/QC procedures and instructions. The project QA/QC manual shall be reviewed and approved by the QCM.

1. **Document Control**

Control of QAQC Procedures and Instructions for individual activities are maintained by the QCM and issued to Project Managers as control documents. It is the Project Manager's responsibility to ensure specific activity QA/QC procedures and instructions are conveyed to the individuals or subcontractors performing the specific activities. The QCM shall ensure that:

* All appropriate QA/QC documents are available at all occasions where operations essential to the effective functioning of the quality system are performed.
* All obsolete documents are promptly removed from all points of issue or use.

Document control procedures are as follows:

* Each project is assigned a project number and the Project Manager establishes a Project File. This file shall contain a complete set of all project related contract documents, specifications, drawings, etc.
* All information generated during the life of the project shall be maintained in this job file.
* Any revisions to the contract documents shall be date stamped on the date reviewed and reviewed by the Project Manager for any possible impact to the project.
* All changes after contract award shall be properly documented and any associated additions or deductions to the contract price shall be immediately identified and submitted to the client for review and approval.
* A complete set of all documents required for proper execution of the project shall be maintained at the project site.
* Any revisions received shall be immediately forwarded to the project site for use while executing the project.

1. **Purchasing and Material Control**

The Project Manager has the overall responsibility to ensure that all materials and services purchased are in accordance with the established QA/QC procedures, the project specifications, and drawings.

Subcontracting Requirements

All subcontractors shall be selected on the basis of the ability to meet subcontract requirements, including established quality requirements.

Award of a subcontract to a company not on the approved subcontractors list requires written approval of the QCM.

The selection of subcontractors, and the type and extent of control exercised by the Project Manager shall be dependent upon the type of service, client requirements, and, where appropriate, on records of subcontractors’ previously demonstrated capability and performance.

The project manager shall ensure that all subcontractors meet applicable client contract requirements and follow applicable QA/QC procedures.

All subcontractors shall agree upon liabilities in writing:

* Maintenance of Purchasing Data All purchasing documents shall contain data clearly describing the material or services, including where applicable:
* The type, class, style, grade, or other precise identification of items purchased;
* The title or other positive identification, and applicable issue dates of specifications, drawings, process requirements, inspection instructions, and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment and personnel;
* The title, number, and issue of the quality system standard to be applied to the product. The Project Manager shall review and approve purchase documents for adequacy of specified requirements prior to release.

Verification of Purchased Products

Where specified in the contract, the client or the client’s representative shall be afforded the right to verify at source or upon receipt the purchase materials or work conforms to specified requirements.

Verification by the client shall not absolve the Project Manager of the responsibility to ensure that acceptable materials are used in the performance of the work. The client’s verification at the vendor or subcontractor’s plant shall not be used by the Project Manager as evidence of effective control of quality by the vendor or subcontractor.

1. **Material Certification and Traceability**

The Project Manager shall ensure that all materials and equipment furnished by the client are verified, stored, and maintained until incorporation into the work. Any such items that are damaged or otherwise unsuitable for use shall be recorded and reported to the client immediately. Proper notification to the client of receipt of any unusable materials or equipment must be made in order to ensure that the client retains the possibility for providing usable material or equipment.

Where appropriate, the Project Manager shall establish and maintain procedures for identifying materials and equipment from applicable drawings, specifications, or other documents, during all stages of the project. Where, and to the extent that, traceability is a specified requirement of the contract, individual product or product batches shall have a unique identification. This identification shall be recorded in the Job File and issued to the client with specified “As Built” data.

1. **Process Controls**

During the project setup the Project Manager develops the project QA/QC plan covering all project activities and applicable processes, which directly affect quality. The Project Manager shall ensure that these processes are carried out under controlled conditions. The controlled conditions shall include the following:

* Documented work instructions defining the manner of executing the work to ensure that an acceptable level of quality is maintained at all times. The instructions shall also specify equipment, materials, skills and working environments required to comply with applicable standards, codes, and quality plans;
* Monitoring and control of suitable process and work characteristics during execution of the project;
* Clear identification of the required approval of processes.

Specific Activity Process Controls are for activities where the results cannot be fully verified by subsequent inspection and testing. Accordingly, continuous monitoring and / or compliance with documented procedures are required to ensure that the specific requirements are met. Management shall continue review of established QA/Q C procedures to ensure ongoing suitability and effectiveness. As the need for new activity Q A/Q C process procedures is identified they will be created and implemented. Records shall be maintained for qualified processes, equipment, and personnel, as appropriate.

1. **Inspection and Testing**

All materials and equipment shall be inspected and tested to ensure conformance with the project requirements before it is released for use. Verification that all items conform to specified requirements of the quality plan shall be documented and filed in the project Q A/QC file. In determining the amount and nature of inspections, consideration should be given to the control exercised at the manufacturing source and documented evidence of quality performance provided from the supply. Where incoming materials are released for urgent project purposes, it shall be positively identified and recorded in order to permit immediate recall and replacement in the event of nonconformance to specified requirements.

During actual project execution, the project manager shall ensure that:

* All inspection and testing activities are performed in accordance with the quality plan and documented procedures;
* Ensure specifications and drawing conformance by the use of established process monitoring and control methods;
* Ensure that all required inspections and tests have been completed and necessary reports have been received and verified before the finished work is released to the client;
* Identify and correct any nonconforming work.

The quality plan or documented procedures for final inspection and testing require that all specified inspections and tests, including those specified either by established quality procedures or the client, are carried out and that the work meets specified requirements. The Project Manager shall ensure that all final inspections and testing activities are in accordance with the quality plan and documented procedures. Upon completion, all associated data and documentation shall be properly filed in the project Q A / Q C file and submitted to the client as required.

The Project Manager shall ensure that all records which give evidence that the work has passed specified inspection and / or testing acceptance criteria are maintained in the project QA/QC file for future reference.

The inspection and test status of the work shall be identified by using markings, authorized stamps, tags, labels, routing cards, inspection records, test software, physical location, or other suitable means, which indicate the conformance or nonperformance of work with regard to inspections and tests performed. The identification of inspection and test status shall be maintained, as necessary, throughout the project to ensure that all work has passed the required inspections and testing specified. Records shall identify the inspection authority responsible for the release of conforming work.

1. **Control of Nonconforming Actions and Corrective Actions**

The Project Manager shall establish and maintain procedures to ensure that any work that does not conform to specified requirements is prevented from inadvertent release to the client. Control shall be provided for identification, documentation, evaluation, segregation when practical, disposition of nonconforming work, and for notification to management as required.

Nonconforming work shall be reviewed in accordance with documented procedures. The nonconforming work may be:

* Reworked to meet the specified requirements;
* Accepted with or without repair by concession of the client;
* Reused for alternative applications;
* Rejected, torn out, scrapped and new work performed. Where required by the contract, the proposed use or repair of the nonconforming work to specified requirements shall be reported for concession to the client or his representative. The description of nonconformity that has been accepted, and repairs, shall be recorded to denote the actual condition. Repaired and reworked work shall be re-inspected in accordance with documented procedures.

The Project Manager shall establish, document, and maintain procedures for:

* Investigating the cause of nonconforming work and the corrective action needed to prevent recurrence;
* Analyzing all processes, work operations, concessions, quality records, service reports and customer complaints to detect and eliminate potential causes of nonconforming work;
* Initiating preventive actions to deal with problems in relation to the risks encountered;
* Applied controls to ensure that corrective actions are taken and their effectiveness;
* Implementing and recording changes in procedures resulting from corrective actions.

1. **Audits**

* The QCM shall carry out internal audits to verify whether quality activities comply with planned arrangements and to determine the effectiveness of the quality system.
* The QCM shall maintain records on the performance and the adequacy of each project’s QA/QC activities.
* Audits shall be scheduled on the basis of the status and importance of the activity.
* The audits and follow up actions shall be carried out in accordance with documented procedures established to ensure improvement to overall company QA/QC program.
* The results of the audits shall be documented and brought to the attention of the president within 10 days or sooner when critical action is required, after each internal quality audit.
* Each audit report shall have the actions started and planned by the QCM and Project Manager for any nonconforming activities found.

1. **Records**

* The QCM shall follow established procedures for identification, collection, indexing, filing, storage, maintenance, and disposition of quality records.
* Quality records are to be maintained to demonstrate achievement of the required quality and the effective operation of the quality system.
* Pertinent sub-contractor quality record shall be an element of this data. All quality records shall be legible and identifiable to the project involved.
* Quality records shall be stored and maintained in such a way that they are readily retrievable in facilities that provide a suitable environment to minimize deterioration or damage to prevent loss of the records.
* Retention times of quality records shall be a minimum of seven (7) years, longer if required by specific project requirements. Where agreed contractually, the quality records shall be made available for evaluation to the client.

1. **Training**

The QCM, the Project Managers and Management are responsible for identifying the training needs of all personnel performing activities effecting quality during the project execution. Personnel performing specific assigned tasks shall be qualified on the basis of appropriate education, training, and / or experience, as required. Appropriate records of training shall be maintained on each individual training and qualifications.