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# "Project Quality Control Plan" Rev. A

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# **1. PROJECT ORGANIZATION**

At Control Sazan, we are accustomed to constitute the organization of a project based on the specific nature and requirements of that particular project. Distinguished by a matrix corporate structure, Farineh San-at's projects are divided into three main categories and benefit from the support and assistance of the seven corporate departments. Staff members are assigned to a project team with regards to its needs for a limited duration and return to their original responsibilities after the fulfillment of their task. Particular attention is made by the management in orders allocate the individuals to corporate position based on their education professional experience and ambition. In every project the Project Manager is responsible for the implementation of the project, but the department heads retain control of the personnel and monitor the quality of the progress. Through this process, the project manager fully controls the development of the project team.

The project team is organized on conventional lines with a small number of senior staff reporting to the Project Manager and each responsible for their own sub team. Typically, these groups would include design engineers, procurement, construction management, project services and administration. The project procedures define the responsibilities and limits of authority for each senior team member. In addition to the full project manager may members, the project manager may also call on the services of specialists within the company for specific assignments.

In order to betters outline the principles of the project organization, the full basic conditions can be noted:

- ✓ The organization should show clearly defined lines of responsibility and communication.
- ✓ There shall be clearly defined interface points between the project team, the client, contractors and other interested parties. Depending on the project size, this can be solely through the Project Manager or through a small number of key staff.
- ✓ The organization should have a clearly triangular shape with only a limited number of subordinates reporting to each senior position.
- ✓ The duties of each subordinate shall be clearly stated and follow natural boundaries in the work split.

A quality assurance manager and senior review board are recommended to monitor the overall performance of the team. These staff should report to the project director to whom the project manager also reports. In this way quality issues can be addressed without influence of the day to day problems of production.

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#### 2. QUALITY MANAGEMENT

Control Sazan is committed to providing high quality services in order to achieve full client satisfaction and to remain the company of choice in providing Engineering, Procurement, and Construction Management Services.

Control Sazan committed to Quality Management and its related programs is based on our belief that in order to assume a cost-effective project execution, it is essential to fully respect and utilize the most advanced and proven principles .

At Control Sazan, Quality Management has three components:

- ✓ Quality Control: measuring, evaluating and checking to verify conformance to requirements, with the objective of ensuring only those services that conform to requirements are delivered.
- ✓ Quality Assurance: planned and systematic actions necessary to provide adequate confidence that services will be supplied in accordance with specified requirements.
- ✓ Continuous Improvement: management process involving everyone in the elimination of waste of capital, materials, time and lost sales.

From the first days of its establishment, Quality Control been applied at Control Sazan with a high degree of expertise in the acquisition of engineered materials and equipment for our clients. The philosophy developed here, now finds its application in controlling the output and management of our services.

The establishment of formal checks and reviews and the development of published company standards and procedures in engineering, construction, and procurement have contributed to a steady growth in Control Sazan's implementation of our Quality Assurance program.

Due to the diversity our of services Control Sazan has continuously reevaluated the content of its Quality Programs in order to reduce duplication and waste, and to enhance the cost effectiveness of these programs for Ourselves and our customers. Therefore, over the past year we have introduced to all levels of management and supervision, a program of Continuous Improvement (CIP) as part of our company-wide Quality Management Program.

CIP is not a quick-fix. It takes time, education, and perseverance. It is receiving a total commitment, however, from senior management in order to obtain the dedication of all employees and to ensure its success.

Currently, our President chairs the CIP Steering Committee. Our Vice President is dedicated to implementing, monitoring and publicizing the system. Progressively, at any point in time, five to eight short term pilot projects are being carried out by our line managers. It is these front-line people and their staffs who can best recognize problems and offer solutions. Upper management, including the Steering Committee, is committed to "enabling" these pilot projects.

Education and training continues to be a top down effort, beginning with our senior executives attending various seminars and workshops in their related fields. We believe this commitment shall result in establishing a quality management system that will benefit our clients and us in both cost effectiveness and service satisfaction.

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## 3. ENGINEERING QUALITY PROGRAM

The Engineering Quality Management program provides for an acceptable level of confidence that the project engineering activities will result in a safe, reliable and economic operating facility in conformance with the client's requirements.

While a number of management activities are employed to attain this confidence, the appointment of a core of key experienced personnel to the project design team is primary. These personnel are selected on the basis of documented credentials and demonstrated capability to develop and direct a high technically proficient staff in performing to established design and drafting standards.

In the execution plan for engineering, the responsibilities related to the quality program include the following:

- ✓ Selection of the engineering standards and procedures to be applied to the project;
- $\checkmark$  Establishing the design criteria to be used in the development of the engineering design;
- ✓ Prepare plans for design reviews for critical and/or unusual designs for equipment and facilities;
- ✓ Appoint specific personnel to review, check and approve engineering documents including drawings, specifications, calculations and studies;
- ✓ Initiate investigations and appropriate actions on reported design errors or omissions;
- ✓ Perform pre-planned internal audits of the procedures related to the development of engineering design activities;
- ✓ Review the designs and engineering of sub-contractors' drawings and specifications developed for the contracted work;
- $\checkmark$
- ✓ Periodic review with procurement construction, and contractors to verify that products of design are being provided correctly.
- ✓ Review engineering operations and procedures to reduce waste in materials, time and money.

The supporting engineering activities to be used to assist and offer objective evidence of quality in this program include:

- ✓ Maintenance of an organization chart that is documented and fully illustrates specific personnel and their interrelationship;
- ✓ Maintenance of job descriptions defining specific responsibilities and authorities of engineering personnel;
- ✓ Establishing responsibilities for technical information exchanges both internal and external;
- ✓ Establishing a control of design documents including the activities for their review, approval, release, distribution and revision;
- $\checkmark$  Providing for the safe and easy location of design document retention;

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Periodic review of status and adequacy of the quality program;

✓ Training and upgrading of engineering personnel in order to meet project requirements;

Identifying appropriate design needs or inputs; Preparation of necessary design documents;

Specifying quality levels, acceptable criteria and standards and quality records requirements;

Performing design verification by those other than the designer;

Conducting audits of design activities, their reporting and follow-up;

Taking appropriate corrective action necessary throughout the engineering design;

Controlling design changes;

Liaison with procurement and construction and Adjudicating and conducting feasibility studies of proposed alternative designs.

### 4. PROCUREMENT QUALITY PROGRAM

The contribution of Procurement to the Quality Management Program on a project is to provide an acceptable level of confidence that all purchased equipment, materials and services needed for the project, meet or exceed the requirements established by specifications, drawings and commercial conditions within the established price and delivery.

Thus the Procurement Quality Program includes:

- ✓ Performing required functions in accordance with approved procurement procedures and instructions;
- ✓ Utilizing personnel who are aware and knowledgeable of their tasks and perform them efficiently and responsibly;

Procuring equipment, material and services in conformance to

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 $\checkmark$  established technical and commercial requirements within agreed cost and time constraints;

Verifying, monitoring and reporting procurement and

- ✓ vendor/contractor activities and products to agreed levels in order to establish confidences in meeting as bettering requirements;
- ✓ Subjecting procurement activities to periodic and independent reviews and audits;
- ✓ Recognizing deficiencies and directing responsible action necessary to correct and avoid their recurrence within procurement and vendor/contractor activities;
- ✓ Maintaining an on-going review of activities to avoid waste and reduce costs to company and client; and
- ✓ Establishing formal documented interfaces with other project staff to ensure necessary interchange of information.

Activities supporting this program include:

- ✓ Maintenance of bidders lists of sources that demonstrate a capability of supplying equipment, materials and services to project requirements;
  - Preparation, implementation and control of bidding activities;
- ✓ Recommend upon documented commercial evaluation and technical advice, vendor/contractor selection and award of PO/contracts
- ✓ PO/contract administration to preserve contractual integrity control contract changes and authorize payments;
- ✓ Maintain agreed levels of inspection and expediting surveillance to established levels to provide confidence that requirements are met or exceeded;
- ✓ Perform periodic audits of vendors and their quality programs for compliance to agreed requirements;
- ✓ Control materials and equipment released from vendors to maintain their integrity until acceptance by client or construction management;
- ✓ Maintain procedures and instructions current with procurement activity requirements;

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- ✓ Maintenance of procurement documents for company and client records as required; and
- ✓ Conduct the orderly transfer of vendor data and quality records to the client in accordance with requirements.

#### 5. CONSTRUCTION MANAGEMENT QUALITY PROGRAM

The construction management Quality Program involves the construction management function in order to provide that the requirements set down in the applicable standards and by good site engineering and construction

practices, will achieve an acceptable guarantee that all elements which contribute to providing a facility or plant are received, stored, constructed and installed in accordance with approved drawings, specifications and contracts in order to meet design requirements for reliable and safe use and operation of the facility.

In the execution of the Construction responsibilities, the Quality Program shall provide for:

- ✓ Conducting the construction and installation activities in accordance with approved drawings, specifications and contracts;
- ✓ Utilizing trained personnel, using suitable tools and procedures on planned tasks and activities;
- ✓ Verifying, monitoring and documenting the correctness of construction and installation activities and not permitting incorrect work to proceed without acceptable resolution;
- ✓ Performing periodic audits to confirm the conformance of construction and installation activities to approved plans of execution;
- ✓ Establishing that all appropriate standards, codes and jurisdictional regulations and laws have been adhered to;
- ✓ Changes and corrections of deficiencies in the field are documented, and upon approval by those responsible and competent, are properly implemented; and
- ✓ Reviewing construction methods and procedures to eliminate waste of materials, time and money.
- $\checkmark$  Supporting construction activities that will contribute to this program include:

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- ✓ Participation in constructability reviews with other project functions principally design disciplines and procurement;
- $\checkmark$  Implementation and development of necessary site instructions and procedures;
- ✓ Verification that construction satisfies the design and related regulatory requirements;
- ✓ Assigning qualified personnel to verify that various tests are performed in the prescribed manner, and that documentation attesting to this has been completed and suitably stored;
- ✓ Identifying and reporting quality problems or nonconformities to project or regulatory requirements;
- ✓ Initiating corrective action or directing solutions of quality problems in order to avoid repetition;
- ✓ Verification of equipment and materials received that they meet required specifications;

Consulting with the designer on all quality related problems;

- ✓ Maintaining a complete set of drawings showing current status leading to the asbuilt condition;
- ✓ Verifying and controlling of contractor's implementation of their approved Quality Program;
- ✓ Conducting quality audits of contractors and verifying correction of non-conformances; and
- ✓ Responding to internal and client quality audits and implementing necessary corrective actions.

### 6. PROJECT CONTROL QUALITY PROGRAM

Project control activities including cost, schedule, man/hour and document control are also part of our Quality Management program.

Most of the planning and status reporting functions related to these activities are supported by the application of totally integrated, computerized, on-line, interactive menu driven project management systems such as Primavera, Expedition and MSP.

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Where applicable to specific contract requirements and Control Sazan's own management requirements, this system is controlled through the application of documented standards, procedures and manuals. This provides for a consistent and efficient control function sized to contract needs.

To verify that these agreed standards, procedures and manuals are being adhered to, the Project Control function is audited, both internally by function staff and externally by corporate staff, on a regular scheduled basis.

# 7. QUALITY MANUALS

Demonstrating Control Sazan's commitment to Quality Management, copies of the following three documents are available:

Corporate Quality Assurance Manual

Certifies and establishes the policy and objectives, responsibilities and authorities related to Quality of work performed by Control Sazan and the concept of doing the job right the first time and every other time.

Project Quality Manual - Model

Identifies Control Sazan's policy, objectives organization, responsibilities and procedures with respect to the implementation and maintenance throughout a project of an effective and efficient Quality Management system.

This model document is made specific to the Project, to reflect contract scope requirements, following contract award. It is made available to all Project personnel and forms the basis for audit of Project activities.

#### Construction Quality Manual

It has been assembled to assist site engineering, document, and controlling construction activities and installation for all projects.

In addition to the above - mentioned documents, we have available various nterest procedures and guide lines with regards to execution of projects. Due to their size and volume these documents have not been included, but available upon demand.