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ARAB ENGINEERING BUREAU

1 GENERAL

1.1 INTRODUCTION

1.1.1 Scope

- 1 This Part specifies the Quality Assurance and Quality Control activities to be performed by the Contractor during all phases of the Contract.
- 2 The purpose of QCS is to provide as a general technical guide for acceptable construction work practices in the State of Qatar, considering this; any addition for technology, material, specification, standard that are not mentioned in this section or their modification, shall be subject to approval as stated in the introduction of QCS (00-02).
- 3 Related Parts and Sections are:

All parts of this Section

Section 1

Part 1 Introduction

Part 7 Submittals

Part 9 Materials

Part 10 Occupational Health & Safety

Part 21 Final Inspection and Handover Procedures

Section 11 Health & Safety

1.1.2 References

- 1 The following standards are referred to in this part:

ISO 9001 Quality Management Systems – Requirements

ISO 10005 Quality management — Guidelines for quality plans

ISO 10006 Quality management — Guidelines for quality management in projects

ISO 19011 Guidelines for auditing management systems

ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories

ISO 31000 Risk management — Guidelines

1.1.3 Definitions

- 1 **Standard Terms and definitions:** As per ISO 9000, Quality management systems — Fundamentals and vocabulary with expanded definitions below
- 2 **Audit:** Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.
- 3 **Contract:** The binding agreement entered into between the Owner and the Contractor for the construction of the Works.
- 4 **Correction:** Action to eliminate a defect or non-conformity.

- 5 **Corrective Action:** Action to eliminate the cause of a defect or non-conformity or other undesirable situation.
- 6 **Engineer:** The party appointed by the Owner to administer the Contract.
- 7 **Engineers Representative:** The party appointed from time to time by the Engineer to perform duties on behalf of the Engineer whose authority and delegated powers shall be notified in writing to the Contractor by the Engineer.
- 8 **Hold Point:** Hold points are mandatory written notified verification points identified in the ITP beyond which work may not proceed until verification and acceptance has taken place by the relevant party.
- 9 **Key Performance Indicators:** A set of quantifiable measures that the Contractor uses to gauge its performance in accordance with the Contract over time.
- 10 **Management System:** System to establish policy and objectives and to achieve those objectives.
- 11 **Nonconformity:** Any part of the Works not executed, provided or completed in accordance with the Contract. For the avoidance of doubt and without limiting the generality of the expression the term shall be taken to include any item of Plant, material, goods or work incorporated or used in the Works which does not or may not conform to the relevant quality standards or pass the tests prescribed in or to be inferred from the Contract. Non-compliance with the approved Quality management system, Project Quality Plan, Inspection and Test Plan and Method statement.
- 12 **Owner:** The party for whom the Project is being undertaken and to whom the handover of the final product will be made.
- 13 **PQP:** Project Quality Plan.
- 14 **Preventative Action:** Action to eliminate the cause of a potential nonconformity or other potential undesirable situation.
- 15 **QA:** Quality Assurance. Part of quality management focused on providing confidence that quality requirements will be fulfilled. QA involves a continuous evaluation of the adequacy and effectiveness of the overall Quality Management System in order to evaluate the deviation from established quality objectives.
- 16 **QA & QC:** Quality Assurance & Quality Control and this may be written as QA/QC.
- 17 **QC:** Quality Control. Part of quality management focused on fulfilling quality requirements. The QC involves specific control points during design, fabrication or construction stages to check the fulfilling of design criteria, acceptance criteria (tolerance, etc.), performance criteria or functional criteria.
- 18 **QCS:** Qatar Construction Specification
- 19 **QMS:** Quality Management System. Management system to direct and control an organization with regard to Quality to facilitate delivery of the project, on time, within budget in accordance with the Contract.

- 20 **Quality Management:** Coordinated activities to direct and control an organization with regards to quality.
- 21 **Record Review Point:** Record Review Points are verification points identified in the ITP to review any result of inspections or test reports to ensure it conforms to specified requirements
- 22 **Risk:** The identification, analysis, assessment, control, and avoidance, minimization, or elimination of unacceptable risks.
- 23 **Surveillance Point:** Surveillance Points are verification points identified in the ITP attended on random basis where work may proceed with or without verification and acceptance by the relevant party.
- 24 **Works:** All works, supplies and services of any kind, including Permanent Works and Temporary Works, required for the project and to satisfy the requirements of the Contract Documents.
- 25 **Witness Point:** Witness Points are notified verification points identified in the ITP where work may proceed with or without verification and acceptance by the relevant party.

1.1.4 Contractors Responsibility

- 1 Contractor shall, throughout the execution and completion of the Works and the remedying defects therein have full regard for their QMS. The Contractor shall note that the Contract Price includes the Execution Programme for provision and implementation of a QMS to ensure that the appropriate standards are applied and enforced throughout design, construction, pre-commissioning and commissioning stages of the Works.
- 2 The Contractor shall be responsible for all Quality Assurance and Quality Control matters during the execution of the Work up to and including the Completion Date including the defects liability period.
- 3 The Contractor shall be responsible for the development, implementation and maintenance and continual improvement of a QMS consistent with the requirements of this Part that assures workmanship, equipment and material conformance to the applicable requirements of every Section of the Specification.
- 4 If required under the Contract the Consultant shall implement a QMS in accordance with ISO9001, however compliance with the requirements defined in this Section take precedence to those of ISO 9001 for any project QMS being operated by the Consultant. Compliance with ISO 9001 requirements enhances and supports the specific QA/QC requirements of this part to ensure on time, within budget and quality delivery of the Owner's project. Compliance with a QMS shall not relieve the Contractor of his duties, obligations or responsibilities.
- 5 Unless otherwise stated in the Contract or directed by the engineer, the Contractor may comply with requirements of the Qatar Construction Specification (QCS) that is relevant to the type of work forming any part of the Contract.
- 6 The Contractor shall obtain the necessary approvals from the relevant authorities for all his Works (including Temporary Works and the use of Contractor's Equipment).

- 7 The Contractor's Representative shall observe and inspect the Works for project Quality compliance during the execution of the Work up to and including the completion date.
- 8 The Contractor shall ensure acceptable QA and QC performance and compliance of all sub-contractors, vendors and other parties who may enter or perform works at the worksite.
- 9 The Contractor shall ensure acceptable QA and QC performance and compliance of all sub-contractor, vendors and other parties who perform works offsite.
- 10 The Contractor shall perform all necessary onsite and offsite audits, inspection and factory acceptance tests to ensure. QA and QC performance and compliance of the work.
- 11 The Contractor shall provide samples and mock-ups necessary to ensure acceptable QA and QC performance.
- 12 The Contractor is required to copy to the Engineer any formal quality related communication between the Contractor and enforcing authorities or government organisations.
- 13 Other standards listed in 1.1.2 above are reference documents to aid in meeting the requirements of this part.

1.1.5 System Description

- 1 The Quality Management System shall assure the quality throughout all applicable areas of Contract performance, such as the design of temporary works and structures, inspections, testing, handling, packaging, shipping, storage and construction activities.
- 2 The Quality Management System shall provide a mode of operation that emphasises the identification, correction, and prevention of deficiencies and discrepancies.
- 3 Procedures to implement the Quality Management System shall be developed. Specific responsibilities shall be assigned, and individual job authorities clearly delineated. Procedures shall be established to systematically verify compliance with the requirements of this Section and any other requirements of the Specification necessary to show conformance with the Project Documentation.
- 4 The Contractor's Quality Programme shall be subject to evaluation by the Engineer to determine that the Quality Programme meets contractual requirements. Audits of Contractor, sub-contractor, and Contractor activities will be performed by the Engineer to verify compliance with the Specifications and all referenced standards. Audits will be performed on an agreed documented audit plan/ programme or as warranted by general quality trends. The Contractor shall provide all necessary assistance to the Engineer in auditing quality assurance activities.
- 5 Nonconformity relating to work and materials, whether in place or not, will be rejected by the Engineer. The Contractor shall be notified in writing to correct defective work or remove the defective material from the Works. If the Contractor fails to respond, the Engineer may order correction, removal, and/or replacement of defective materials by others. The Contractor shall bear all costs for such work.

- 6 Materials accepted on the basis of a Certificate of Compliance may be sampled and inspected/tested by the Engineer at any time. The fact that the materials were accepted on the basis of a certificate shall not relieve the Contractor of his responsibility to verify and use materials which comply with the Specifications.
- 7 The Contractor shall impose all quality assurance requirements upon sub-contractors, suppliers, manufacturers and any other parties associated with the Contractor that are involved in the Project.

1.1.6 Failure to Perform

- 1 If the Contractor fails to adequately perform any or all of the provisions of this Section, the Owner, at its sole discretion, reserves the right to have the Engineer perform any or all of the provisions of this Section and charge the Contractor for the actual cost of such work as defined in contract.

1.1.7 Management

- 1 All Contractor's top management are responsible and shall take accountability and ownership to lead and provide a commitment to deliver a quality service/product and will be assessed on a regular basis. The development of a quality focussed culture through awareness training must be supported and implemented from top to bottom. All Contractors shall be required to provide experienced quality management staff with appropriate qualifications relevant to the position as per this Section

END OF PART