



Chapter 8 & 9 - Quality Control Plan & Quality Management Checklist

Contractor's Quality Control Plan

- The contractor's quality control plan (CQCP) is the contractor's everyday tool to ensure meeting the performance standards specified in the contract documents.
- The efficient management of CQCP by the contractor's personnel has a great impact on both the performance of the contract and the owner's quality assurance surveillance of the contractor's performance.
- According to Chung (1999): "A quality plan is a document setting out the specific quality activities and resources pertaining to a particular contract or project. Its contents are drawn from the company's quality system, the contract and related documents".

Contractor's Quality Control Plan

- The Contractor's Quality Control Plan is prepared based on project-specific requirements as specified in the contract documents.
- The plan outlines the procedures to be followed during the construction period to attain the specified quality objectives of the project fully complying with the contractual and regulatory requirements.

Quality Control Records

- Quality control records should be maintained by the Quality Control Incharge and should be accessible to authorized personnel for review and information. The records should include:
 - Contract drawings and revisions
 - Contract specifications and revisions
 - Approved shop drawings
 - Record drawings
 - Material approval record
 - Checklists
 - Test reports
 - Material inspection reports
 - Minutes of quality control meetings
 - Site works instructions
 - Remedial notes
 - Other records specified in the contract documents or as requested by the owner/consultant

Documents for Quality Control Plan

- The following documents from the company's manual should be part of contractor's Quality Control Plan:
 1. Documents for specific projects
 2. Subcontractor evaluation
 3. Supplier evaluation
 4. Client supplied items
 5. Receiving inspection and testing
 6. Site inspection and testing
 7. Final inspection, testing, and commissioning
 8. Material storage and handling
 9. Control of quality records
 10. Internal audit

Responsibilities of QC Personnel

- *Project Manager*: Overall project responsibilities.
- *Quality Control Incharge*: He/she should be responsible for the following:
 - Preparation of QC plan
 - Responsible for overall QC/QA responsibilities
 - Responsible for monitoring and evaluation CQP
 - Implementation of QC plan
 - Responsible for implementing QC procedure
 - Maintain QC records and documents
 - Inspection of works

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- Responsible for offsite inspection
- Inspection of incoming material
- Responsible for subcontractor's QC plan
- Coordinating with safety officer to implement safety plan
- Calibration of measuring instruments
- Monitoring equipment certification

Responsibilities of QC Personnel

- *Quality Control Engineers*: Each trade should have a responsible quality control engineer to ensure that works are carried out in accordance with the contract documents.
- Following quality control engineers should be available at site.
 1. Quality Control Engineer (Civil Works)
 2. Quality Control Engineer (Concrete Works)
 3. Quality Control Engineer (Mechanical Works)
 4. Quality Control Engineer (Electrical Works)
 5. Quality Control Engineer (Other Subcontractors)
 6. Foreman (Concrete Works)
- A *Foreman* will assist the quality control engineer to maintain the quality of concrete works.

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- The aforementioned personnel should be responsible for following:
 - Overall quality of the respective trade
 - Preparation of method statement
 - Preparation of mock-up
 - Monitor and inspect quality of site works
 - Inspection of incoming material
 - Coordinate with Quality Incharge for preparation of CQP
 - Quality control records and documents

Quality Management Checklist

- *Refer Page No 365 to 379 of Textbook.*

THANK YOU

QUALITY ASSURANCE & QUALITY CONTROL

	PROCESS LIST	ANNEXURE NO.	LIST OF DOCUMENTS
Volume 2.2/09	Quality Assurance/Quality Control		
O-2.2/09-01	Preparation of Quality Management Plan	A-2.2/09-01-01	Quality Control Plan
		A-2.2/09-01-02	Material Testing Plan
		A-2.2/09-01-03	QMP Adherence Audit Report
O-2.2/09-02	QA/QC Observation and Surveillance	A-2.2/09-02-1	Site Observation and Surveillance Report (SOSR)
		A-2.2/09-02-2	Site Observation and Conformance Reports - Log
O-2.2/09-03	Issuance of Non Conformance Reports	A-2.2/09-03-1	Non-Conformance Reports
		A-2.2/09-03-2	Non Conformance Report Log
		A-2.2/09-03-3	Stop Work Notification
O-2.2/09-04	Corrective & Preventive Actions	A-2.2/09-04-1	Corrective/Preventive Action Report & Log
O-2.2/09-05	Quality Reports	A-2.2/09-05-1	Project Quality Report
		A-2.2/09-05-2	Regional Quality Report
		A-2.2/09-05-3	Corporate Quality Report
O-2.2/09-06	Quality Man of the Month	A-2.2/09-06-1	Assessment for Quality Man of the Month
		A-2.2/09-06-2	Quality Man of the Month Display
O-2.2/09-07	Quality Walk	A-2.2/09-07-1	Quality Walk Report
		A-2.2/09-07-2	Summary for Quality Walk
O-2.2/09-08	Calibration of Test Equipment and Validation of Measuring Aids	A-2.2/09-08-1	Test Equipment Calibration Data Sheet.
		A-2.2/09-08-2	Sub-Contractor's Test Equipment File.
		A-2.2/09-08-3	Validation Status of Measuring Aids
		A-2.2/09-08-4	Methods of Checking
O-2.2/09-09	Concrete Mix Design	A-2.2/09-09-1	Laboratory Trial Mix Report
O-2.2/09-10	Laboratory Testing	A-2.2/09-10-1	Laboratory Manual

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DOCUMENT CODE NO.	PROCESS LIST	ANNEXURE NO.	ANNEXURE LIST
Volume 2.2/09	Quality Assurance/Quality Control		
O-2.2/09-11	Preparation, Internal Inspection and Request for Approval for Mock Ups	A-2.2/09-11-1	Mock Up Label
		A-2.2/09-11-2	Mock Up Inspection - Internal
		A-2.2/09-11-3	Mock Up Inspection - Client
O-2.2/09-12	Internal QA/QC Audit & Reporting	A-2.2/09-12-1	Monthly Internal Audit Schedule
		A-2.2/09-12-2	Internal QA/QC Audit Observation Sheet
		A-2.2/09-12-3	Internal QA/QC Audit Non-Conformity Report
O-2.2/09-13	Integrated Management Systems Audit & Reporting	A-2.2/09-13-1	QHSE Annual Audit Plan
		A-2.2/09-13-2	QHSE Monthly Internal Audit Schedule
		A-2.2/09-13-3	QHSE Internal Audit Cover Page
		A-2.2/09-13-4	Summary of Clause Wise NCRs'
		A-2.2/09-13-5	Format for QHSE Internal Audit Observation
		A-2.2/09-13-6	Format for QHSE Non-Conformity Report
		A-2.2/09-13-7	Format for Consolidated Report to MR
O-2.2/09-14	Management Review Committee Meeting	A-2.2/09-14-1	Agenda for the Management Review Committee Meeting
		A-2.2/09-14-2	Categorisation of Customer Complaints based on the Customer Complaint Log
		A-2.2/09-14-3	Categorisation of Defects based on Internal NCR & SOSR
		A-2.2/09-14-4	Categorisation of Non Conformities based on the ISO 9001
		A-2.2/09-14-5	Categorisation of Non Conformities based on ISO 14001 and BS-OHSAS 18001 Clauses
		A-2.2/09-14-6	Customer Satisfaction Index
		A-2.2/09-14-7	Minutes of Meeting of Management Review Committee
O-2.2/09-15	Senior Management Visits to Projects	A-2.2/09-15-1	Senior Management Project/Site Observation Report
O-2.2/09-16	Application for Awards & Certifications		