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May 16, 2015

[Ref. number]

Marc Arnecke, PMP

[Project Name]

[Sub-Project, phase, etc.]

Project Quality Management Plan (PQMP)

The project quality management plan is a component of the project management plan that describes how the organization's quality policies will be implemented.

It describes how the project management team plans to meet the quality requirements set for the project.



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REVISIONS AND DISTRIBUTION

Revision	Release date	Distributed to*											
		Client	Consultant	JV Main office(s)	All project mgmt. dept.	Sub-contractors	Suppliers						
Rev. 0 (draft)	29/10/2013												

*) Detailed distribution lists shall be prepared for each distribution event. Further details as per the project communication plan

Amendments

The Project Quality Management Plan (PQMP) from time to time may require updates. Any amendment to this plan shall be **informed to the change control board by use of the change request form and approved by the project change control board** prior to distribution. Only revised parts of the plan will be distributed along with the approval and shall be accompanied by instructions how to implement the changes.

The initial page numbering system **(to be added upon initial approval)** will be a normal continuous numbering displayed in the lower right corner of each page. In the event that pages have to be added, characters shall be added to the number. In case entire pages are deleted, the corresponding page shall be replaced by a blank page stating "page removed".

Each added/changed page shall have the revision number and date of approval displayed on the bottom of the page.



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PROJECT SPONSOR APPROVAL

Prepared by:	Reviewed by:	Approved by Proj. Sponsor:
Place, dd/mm/yyyy	Place, dd/mm/yyyy	Place, dd/mm/yyyy
Marc Arnecke, PMP Designation	Name Designation	Name Designation



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QUALITY MANAGEMENT APPROACH

Quality management under this document is defined as a system of planned activities that ensures that the deliverables of the **xyz** project meet or exceed the client requirements, specifications and expectations. The system includes inspections, verifications, audits and evaluations of materials and workmanship required to document the grade of quality of the deliverable.

This quality management plan in conjunction with the other various project plans also identifies the necessary personnel involved in the quality team, their responsibilities and inter-relationships.

Objective

The objective of this project quality management plan is to ensure that the **xyz** project is delivered in accordance with the contractual specifications, to satisfy stakeholder requirements, to reduce cost of quality (namely cost of re-works, cost of non-conformity and deficiencies, unnecessary future maintenance and repair cost) and to complete the project within the contractual baselines.

Basic Processes of Quality Management

- Plan quality management,
- Control quality,
- Perform quality assurance.

Tools and Techniques to be applied

- Field monitoring,
- Inspecting,
- Testing,
- Reporting,
- Reviewing technical and laboratory data,
- Identifying and documenting defects and necessary repairs,
- Compiling applicable data, log-files, as-built documents and photos.

General Approach

Quality management shall focus on both **product quality** and **project quality**

Product quality in this context basically is concerned about **what** is delivered, and therefore focuses on product specifications and requirements.



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Project quality more is concerned about **how** the product is delivered, and focuses more on the production processes, planning etc.

The quality system in general shall follow the **Plan – Do – Check (Study) – Act** approach.

Laws, Regulations and Guidelines

Strict adherence to this plan in no way absolves any party from any obligations or responsibilities under applicable laws and regulations.

The laws and regulations applicable to this project and relevant to quality management are defined in the contract and include:

- xyz law,
 - xyz Construction Standard,
 - Regulations by xyz bureaus and authorities.
-

Other Project Plans

This project quality management plan forms part of the overall project management plan. Further project plans to be read in conjunction to this project quality management plan are:

- a) Project Management Plan,
- b) Project Scope Management Plan,
- c) Project Requirements Management Plan,
- d) Project Schedule Management Plan,
- e) Project Cost Management Plan,
- f) *(this project quality management plan),*
- g) Process Improvement Plan,
- h) Project Human Resource Management Plan,
- i) Project Communication Management Plan,
- j) Project Risk Management Plan,
- k) Project Procurement Management Plan,
- l) Project Stakeholder Management Plan,
- m) Project Financial Management Plan,
- n) Project Health and Safety Management Plan,
- o) Project Environmental Management Plan,



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p) Project Claim Management Plan.



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PROJECT SCOPE OF WORKS (BRIEF DESCRIPTION)

The overall project scope of works is defined in the scope of works documentation (SOW) and consists of:

- xyz
- xyz

The project and its site facilities is located at

Address

A site layout plan depicting the current site conditions is provided as attachment 1.

Personnel, equipment and material enter and exit the project site by gated access located at

Address



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ORGANIZATION AND STAFFING

Organization Chart

The organization chart is a supplemental chart to the overall project organization chart as depicted in the project human resource management plan.

The quality department shall be organized in sub-divisions and their main roles shall be distributed as abstracted below:

Quality Assurance & Quality Control Management		
QA & QC Manager <ul style="list-style-type: none">Plans the project quality managementDirects and manages the activities of the departmentCoordinates activities with other disciplinesReviews the outputs of the departmentsProposes and implements process improvements where advisable		
Quality Control	Quality Assurance	Document Control
QC staff <ul style="list-style-type: none">Inspects materials and equipmentVerifies compliance with methodologies and appropriate working conditionsInspects ongoing and results of activities (on and off site)Produces checklists, forms and records	QA staff <ul style="list-style-type: none">Reviews material submittals and method statementsVerifies compliance with quality criteriaEvaluates inspection recordsIdentifies training needs including supplier and sub-contr. personnelEvaluates project recordsAudits project procedures	DC staff <ul style="list-style-type: none">Updates project records and registersCompiles the quality fileReceives and registers relevant documents from other departments etc.Distributes documents to other departments

For more detailed descriptions of the roles and responsibilities refer to the corresponding section in the human resource management plan.

Please find the organization chart of the QA & QC department attached to this plan (attachment 2).



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QUALITY METRICS

The applicable quality metrics are defined in the contract, relevant laws and regulations and through requirements management.

ID	Item	Standard Value	UOM	Measurement method	Acceptable Tolerance	
					upper	lower
0001						



QUALITY ASSURANCE

Quality assurance (QA) is a set of activities for ensuring quality in the processes by which products are developed. The focus of QA is the avoidance of problems and defects as well as the associated costs.

By auditing compliance to the approved project plans, processes, requirements and expectations processes continuously will be developed further with regards to workability and cost efficiency.

The key aim of QA is to continuously investigate issues and level-by-level develop a system and processes to avoid repetition of earlier issues and establish a management structure to facilitate process improvement at an organizational level.

The targets are:

- 1) Increase awareness of processes that could enhance organizational competencies.
- 2) Identify processes that need organizational improvement.
- 3) Facilitate discussions to allow people sharing their experiences inside and outside their functional boundaries.
- 4) Prioritize processes to achieve continuous improvement.

It is the aim of this plan to determine potentially existing process errors and take corrective action accordingly wherever possible before the error effects in any way.

For further details read the "Process Improvement Plan".



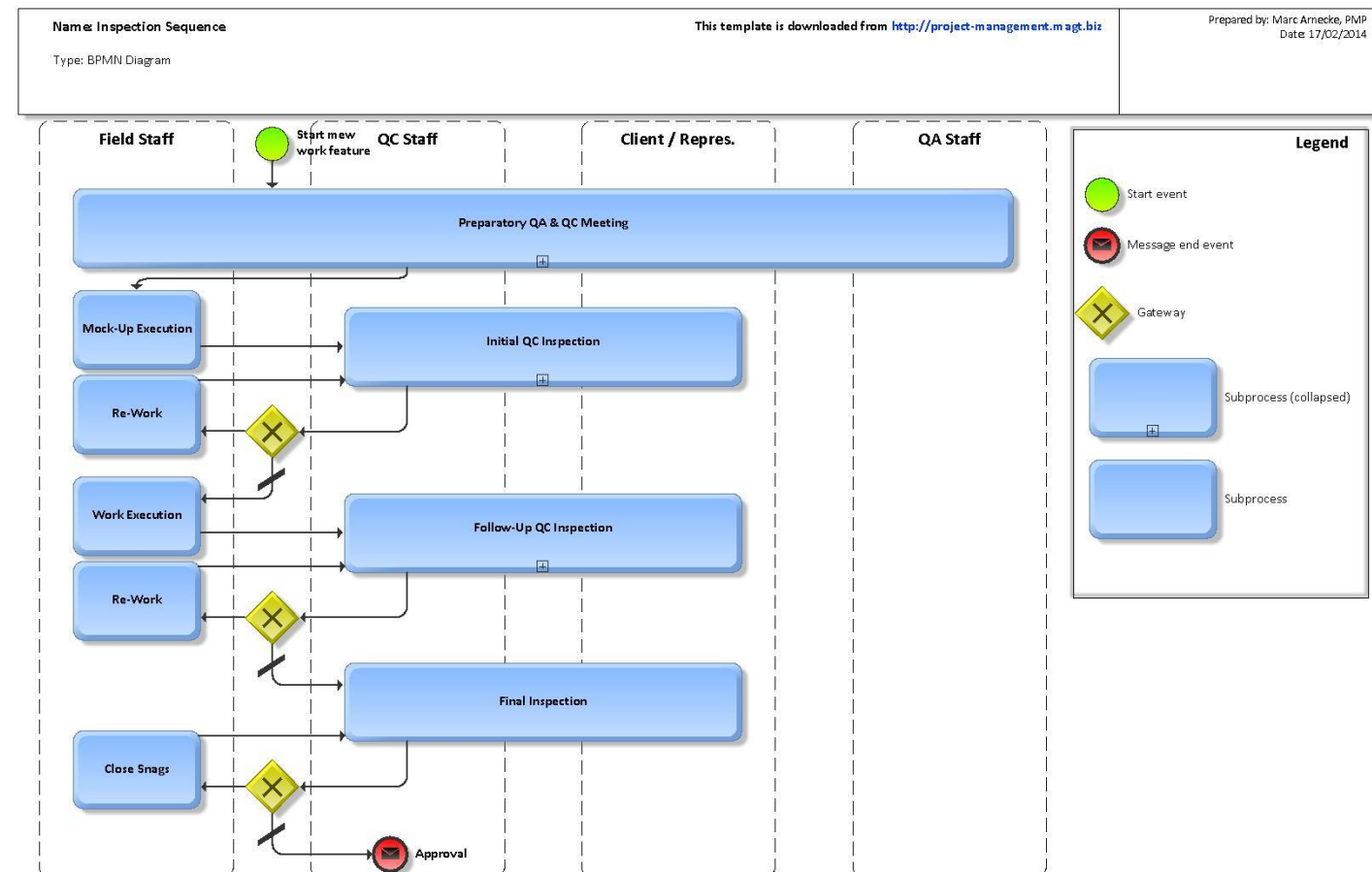
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GENERAL INSPECTION SEQUENCE

This sequence of Inspections is mainly concerned with workmanship.

Material and other inspections are not shown here and will be dealt with separately.





QUALITY CONTROL

Quality control (QC) is a set of activities for ensuring quality in products. The activities focus on identifying defects in the actual products produced.

QC Inspections shall be conducted as a three-phase control process such as

Prior mock-up	Preparatory meeting
Mock-up stage	1. Initial inspection
Production stage	2. Follow-up inspections
	3. Final inspections

Those inspections and meeting shall be carried out for each work item regardless of whether that particular item was or will be produced by the contractor or its sub-contractors.

Implementation of the three-phase control process vouches for compliance with approved plans, specifications and requirements. Each single control phase is important for achieving the required grade of quality, whereas the preparatory meeting and initial inspections are particular important to make provision against re-works and its effects such as failure, cost, delay and others.

Preparatory QC Meeting

Preparatory QC Meeting(s) shall be arranged by the QC staffs at the beginning of each new work item and all accompanying activities. QA staffs shall be notified and client representative shall be invited. All concerned field staffs (key persons) shall attend.

In particular the preparatory meeting shall address

- Review of work plans,
- Review of operating procedures,
- Review of working conditions,
- Equipment check,
- Material check,
- Assessment of work sequences,
- Assessment of work methodology.

The purpose of this meeting is to verify that required plans, specifications and methodologies have been prepared, are approved and are available and known to the field staff before an activity or the production of a work item is started; equipment is appropriate for the intended use, fully functional and is calibrated if necessary and all appropriate arrangements have been made.

As part of the preparatory meeting the QC staff will verify that lessons learned during previous comparable activities have been implemented to avoid repetition of past problems.



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Any identified discrepancy must be resolved with the approved plan and/or methodology and shall be resolved prior to the production of the work item and prior any other activity which makes the later rectification of the discrepancy virtually impossible.

The meeting shall be conducted by means of the "Preparatory Meeting Checklist" (checklist 1).

Initial QC Inspection

Initial QC Inspection(s) shall be carried out by the QC staffs after a work item has been produced for the first time. Thus the QC staff will validate that the work is in compliance with applicable specifications and procedures and establishes an acceptable level of workmanship.

The inspection shall be conducted by means of the "Initial Inspection Checklist" (checklist 2). The results of the inspection shall be recorded in the "Inspection Register" (Register 1).

Any differences of opinion in the interpretation of project requirements, specifications and methodologies will be settled with a view to the production stage of the feature.

Once a product or intermediate product (whatever applicable) is ready "Inspection and Test Request" (form 1) shall be passed to the client or his representative and a copy of the Initial Inspection Checklist shall be attached thereto.

The initial inspection result shall be registered in the "Inspection Register" (register 1).

Follow-Up QC Inspection

The purpose of the Follow-up QC Inspection is to ensure continuous compliance to applicable specifications, requirements and adherence to established methodologies as well as an acceptable level of workmanship.

Follow-up QC Inspection(s) shall be carried out by the QC staff regularly during the production phase of works. The Follow-up Inspection shall be carried out at variable intervals during the execution of works and shall cover all different stages of the activity including

- activity preparation,
- activity execution and
- result control.

Any identified discrepancy must be resolved with the approved plan and/or methodology and shall be re-inspected prior to the commencement of the particular activity or any other activity which makes the later rectification of the discrepancy virtually impossible.

The inspection shall be conducted by means of the "Follow-up Inspection Checklist" (checklist 3).

Once a product or intermediate product (whatever applicable) is completed "Inspection and Test Request" (form 1) shall be passed to the client or his representative and a copy of the Initial Inspection Checklist shall be attached thereto.



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Follow-up QC inspections shall be registered in the “Inspection Register” (register 1).

Final Inspection

Upon completion of the whole of works a pre-final inspection shall be carried out by the QC staffs and client or his representative.

The purpose of this inspection shall be to validate the final result of the whole of the works.

Outstanding and nonconforming items will be identified and documented in a punch-list. As each item is closed out it will be recorded. When all items recorded during the pre-final inspection have been corrected the client or his representative will be notified to schedule the final inspection.

The final inspection result shall be registered in the “Inspection Register” (register 1).

Further re-inspection is not foreseen, exceptional resumption of outstanding work and/or execution of instructed additional works.

Client Absence during Inspections

In the event that the client or his representative does not attend inspection(s), the inspection result(s) recorded by QC staffs shall be deemed binding and shall be passed on to the client or his representative “for information”.

Record Keeping

The QC staffs are responsible for the completion of forms and checklists. Checklists are to be filled during the ongoing inspection. All forms and checklists shall be passed to the Document Controller (DC) before the end of the workday.

The Document Controller registers the documents and distributes them to the concerned people respective departments as well as to the client or his representative (whatever applicable) promptly.

The QC staff furthermore shall maintain “Daily Activity Records” (record 1). Those records shall summarize all QC operations including activities, tests performed and inspections carried out for every single day during the project life cycle and shall be passed to QA staffs for review.

Document Submission

In principle, all documents that are intended for the client or his representative shall be delivered to their respective office address by hand or postal service. The client or his representative may deliver documents to the contractor in a similar way.

All documents addressed to subcontractors or any other parties who have an office on site or nearby will be deposited for daily collection from the DC. The DC also receives, registers and distributes documents from sub-contractors or other parties.



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For further details refer to the Communication Management Plan.



INSPECTION PROCEDURES

All final or intermediate products, whether produced by the contractor, sub-contractors or suppliers, shall be produced through the implementation of approved processes, appropriate use of equipment and control and management of materials and technical services.

Control procedures shall be implemented and serve in a manner that produces a cost effective and reliable product in accordance to the technical specifications and required grade of quality.

For process improvements refer to the Process Improvement Plan.

Material Receiving Inspection

QC staff as early as possible but latest one workday after delivery shall inspect all construction materials prior to use.

In order to plan and arrange timely material inspections, the Procurement In Charge will update the delivery schedule continuously.

48 hrs. prior to any material delivery the Procurement In Charge will prepare the "Inspection and Test Request" (form 1) with relevant documents attached thereto and pass it to the document controller. After registration the document controller will pass the document(s) to the material inspector promptly.

Inspection criteria include particularly

- Material identification and documentation (may include but not limited to),
 - "Submittal Review Sheet" (form 3, refer to Submittal Management below),
 - Delivery notes,
 - Test results,
 - Vendor certifications,
 - Certificates of Origin,
 - ...
- Signs of damage,
 - Reparable,
 - Non-reparable,
- Completeness,
- Compliance with specifications.

Results of the material receiving inspections shall be documented in the "Material Receiving Register" (register 4).



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Any identified discrepancy must be resolved prior to re-inspection; otherwise if rectification is not possible, the supplier shall remove the un-approved material immediately.

The Storekeeper will tag newly delivered material highly visible as “Uninspected - Don’t Use”. Only after the inspection is passed and inspection result is verified, the tag shall be removed and material can be used.

Material Storage Inspection

QC staff shall continuously watch over and inspect on a weekly basis the storage and handling of all construction materials. Inspection criteria particularly include storage and handling of material in accordance with manufacturer's recommendations as guidelines.

Off-Site Inspection

If required material sources and fabrication facilities shall be inspected by QC staff to control that specifications are followed and requirements are implemented. Thus the delivery of unacceptable materials or intermediate products at site shall be avoided.

Workmanship Inspection

QC staff will periodically inspect and verify workmanship to ensure that installation, fabrication or whatsoever is executed in line with the specifications and requirements. This inspection is particular important on work items which cannot be rectified later or reworks would become very difficult and cost intensive.

Workmanship Inspection includes both on-site and off-site.

Equipment and Plant Inspections

All devices, equipment, machines and plants requiring periodical calibration shall be inspected by QC staffs.

- 1) When made available at site it shall be inventoried in the “Inventory Register” (register 5).
- 2) Calibration and maintenance shall be monitored and controlled regularly.
- 3) All unsuitable items shall be tagged accordingly and not used anymore unless the item is repaired, maintained, calibrated or whatsoever and re-inspected.

Management and Services Review

The QA manager will periodically review compliance with established processes and procedures. This inspection shall include both the contractor and sub-contractor(s).

(Please refer to the Process Improvement Plan)



SUBMITTAL PROCEDURE

Submittals shall be prepared for any type of material or intermediate product intended for permanent use, installation or whatsoever and thereby becoming part of the ready product, regardless whether the item is produced on-site or off-site and regardless whether it is produced by the contractor, sub-contractor, any supplier or fabricator etc.

Submittal Types

“Approval” Submittals

“Approval” submittals are the type of submittal for conventional consideration. Examples of “approval” submittals include (but are not limited to) manufacturer’s product data, catalogue cuts, shop drawings, samples, etc.. In accepting an approval submittal it is confirmed that the details of the ready product, finishes and materials are consistent with the design concept, specifications and requirements

“Review” Submittals

“Review” submittals are the type of submittal for presenting procedures, methods, techniques or sequences prior to implementation. Examples include (but are not limited to) working drawings (i.e. scaffolding, shoring...), proposed equipment, production methods, safety precautions, etc.. In accepting such a submittal it is acknowledged that the proposed method etc. is sufficient to allow quality control and verification. Acceptance of this type of submittal does not relieve the contractor from the responsibility for insuring that the work is performed in accordance with the terms of the contract.

“Information” Submittals

“Informational” submittals demonstrate that the contractor has complied with some requirements and/or specifications. Examples include concrete batch records, daily reports, calibration certificates, test reports, etc.. Action is not required for the contractor to proceed with the works. Although these submittals typically are not approved or rejected, but they still need to be reviewed. If the provided information is determined not to comply with contractual documents, a non-conformance report maybe issued.

Typical Material and/or Vendor Submittal Document

Complete material or vendor submittals generally may include (but are not limited to):

- “Submittal Cover Sheet” (form 2) with
 - General information (reference number, date, submitter, contact details etc.)
 - Date when material will be needed at site,



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- Short material description,
- Area of application,
- Material source,
- Table of content,
- Corresponding plans, specifications and requirements,
- Catalogues (or catalogue cuts),
- Data sheets,
- Shop drawings,
- Certifications,
- Work plans,
- QC plans and templates,
- Testing proposals,
- Diagrams, charts and curves,
- Reference letters,
- Operating manuals,
- Material samples,
- Company profile,
- Organization charts,
- ...

Submittals shall be prepared by the supplier, manufacturer, distributor or whoever supplies the material or intermediate product to the project.

Relevant information shall be highlighted.

Submittal Registration

All submittals shall be submitted to the Document Controller for registration and further distribution to the concerned staffs or departments.

Submittal Review

Submittals shall be reviewed by the designated QA staff. The Reviewer shall:

- a) Upon receipt of a submittal prepare "Submittal Review Sheet" (form 3),
- b) Record the submittal in the "Material Submission Register" (register 6),



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c) Either

- a. If submittal is insufficient for review through DC return it to the submitter for revision or
- b. Provide the submittal with minor comments and/or recommendations (if any) to the QA Manager.

Upon re-submission the designated staff will

- a) Update the "Submittal Review Sheet",
- b) Provide the submittal with minor comments and/or recommendations (if any) to the QA Manager,

The QA Manager will then propose the material to the client or his representative (engineer) and recommend comment solution (if any). For this purpose he passes the submittal to the document controller for register update and submission.

Upon receipt of the client's or engineer's approval, comments, or rejection (whatever applicable)

- a) The "Material Submission Register" shall be updated by the Document Controller accordingly,
- b) A copy of the "Material Review Sheet" shall be returned to the submitter for his further action.

Ideally a submittal shall be prepared and submitted as early as possible granting at least

- 10 workdays processing time to the contractor,
- 10 workdays processing time to the client or his representative.

In cases where specifications, plans and/or requirements (whatever applicable) were made available late

- The processing time by contractor shall be 3 workdays,
- The processing time by client or his representative shall be 3 workdays.

Submittal Approval

A submittal approval generally does not extend to the means, methods, sequences, techniques, or construction procedures. Following the review, the conventional response is to approve, approve conditionally, or reject the submittal, but only insofar as the end-result conforms to the design concept and complies with the contract documents.

Possible submittal responses are:

- Approved,
- Approved as noted,



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- Revise and Resubmit,
- Not Approved.

Approval Stamp

[Project Name]	
ACCEPTED/APPROVED	<input type="checkbox"/>
ACCEPTED/APPROVED AS NOTED	<input type="checkbox"/>
REVISE AND RESUBMIT	<input type="checkbox"/>
NOT APPROVED	<input type="checkbox"/>
Acceptance or approval of this document acknowledges only that the information being provided by the contractor conforms to the applicable requirements or specifications and to the design concept of the completed project as set forth in the contract documents. Contractor solely is responsible for all matters related to fabrication, shipping, handling, storage, assembly, installation, construction (including all safety and environmental aspects of performing the works) and for coordinating the work and the means, methods, techniques, sequences, and procedures of construction to the extent that these items are not specifically addressed by the project specifications or requirements.	
By: _____	Date: _____

Request for Information

Any clarification of specifications and plans and/or requirements etc. is to be presented using the "Request For Information" (form 4). Requests have to be clear and precise. The referenced plan, specification or whatsoever shall be attached and highlighted.

Requests for information shall be prepared by the enquirer as early as possible. The targeted timeframe for RFI submission is 5 workdays after a certain information requiring clarification was made available for the first time.

RFIs shall be passed to the document controller. The DC registers the document in the "RFI Register" (register 7) and distributes it to the concerned staff respective department.

A copy of every RFI shall be passed to the QA department for the sake of process review and improvement.

RFIs must be answered as early as possible and the targeted response time generally shall not exceed 5 workdays. In cases where due to the severity a problem solution within this timeframe is not possible, the enquirer shall be notified through DC that the RFI is under review and further response will be given as early as possible.



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RFI response shall be submitted back to the enquirer through DC. The DC updates the RFI register accordingly.



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DEFICIENCY PROCEDURE

The primary goal of the quality program defined in this document is the prevention of non-conformances, reduction of reworks and continuous improvement of processes.

In the unfortunate event that non-conformance couldn't be prevented any identified deficiencies shall be resolved with the approved plan and/or method in a timely and cost-effective manner and re-occurrence shall be avoided to its maximum extend.

Preventive Measures

This Quality Management Plan is intended to be proactive, in order to reduce risks and avoid issues and deficiencies. The primer tools and techniques identified for this project in order to meet this target include (but are not limited to)

- Training and qualification,
- Inspections and verifications,
- Submittal management,
- Calibration and maintenance,
- ...

Overall quality shall be built in the product rather than to be inspected and rectified in the product.

Continuous Improvement

The QC and QA manager(s) together with the project manager will review any instances where materials, components, assemblies, features of work, or completed products fail to meet the specified requirements, and will take appropriate action to prevent future occurrences.

All project team and workers are encouraged to suggest improvements.

For further details refer to the "Process Improvement Plan".

Non-Conformance Report (NCR)

Identified executed insufficient workmanship or used materials not conforming to the specifications and/or requirements or other non-conformities shall be documented by QC staff in a "Non-Conformance Report" (form 5) and signed by the QC manager.

The Non-Conformance Report will be passed to the document controller for registration in the "NCR Register" (register 8) and for submission to the QA manager and to the responsible/involved/executing department(s), sub-contractor(s), supplier(s) or whatever applicable.



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As a deficiency is corrected, a Corrective Action Report (CAR, form 6) shall be filled out by the executor of the subject works and shall be passed to the document controller for registration and further distribution to the QC manager or his designee.

The NCR remains open until the non-conformance satisfactory is resolved, inspected and approved by the QC manager or his designee and client or his representative (if applicable).

For the avoidance of repetition each NCR also shall be included in the “Lessons Learned” (register 9) and shall be evaluated with regards to process improvement by the QA manager or his designee.

Site Observation Report (SOR)

Significant deviations of any kind that can be corrected on the spot, but do not justify NCR at the discretion of the inspector are documented and communicated by Site Observation Report (form 7).

Such deviations are promptly resolved on the spot so that the SOR is only for documentation in terms of lessons learned and avoidance of future repetition.

In case of recurrence the SOR may be a precursor to the NCR.

On the other hand, above average positive findings may also be documented in the form of a SOR in order to be recorded as good practice in the lessons learned.

Corrective Action System

Identified negative quality trends such as repeated NCRs, observations, defects or whatsoever shall be documented by QA staff in a “Corrective Action Report” (form 6) and registered in the “CAR Register” (register 10).

For further details refer to the “Process Improvement Plan”.



PROJECT RECORDS AND PROJECT DOCUMENTATION

The QA&QC manager with the assistance of all QC and QA staffs establishes and maintains through document controller the quality file which is a part of the project documentation. The purpose of this file is to maintain a complete set of all relevant documents and records.

The quality file is a compilation of

- Plans,
- Reports,
- Registers and logs,
- Work orders,
- Change orders,
- Correspondences,
- As-built records,
- Certifications and
- Any other relevant records that provide information on the project.

Under no circumstances documents of whatsoever shall be removed from the quality file, even if superseded. In such case revisions shall be prepared and kept.

Filing System

The QA & QC department will file its documents (here softcopies) within the projects filing scheme.

Hardcopies and electronic data shall be maintained simultaneously. Each data folder shall be represented by a corresponding box file and vice versa. The names of both box file and data folder shall be same; their contents consequently shall be same.

Filing Scheme

Level 1 Document.docx	Level 2 Document.docx	Level 3 Document.docx	Level 4
05_Quality	051_Initiation	[empty]	
	052_Planning	0521_Quality Mgmt	
	053_Execution	0531_Quality Assurance	
	054_Monitor&Control	0541_Quality Control	
	055_Closure	[empty]	

It is undisputed that further folders may be required over time to sort files in a logic and manageable order.



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However

- 1) No new folders shall be created on folder level 1 and 2, nor shall any existing folder be renamed and no data files such as e.g. word files, excel spreadsheets, drawings, PDF-files, images or whatsoever shall be saved at this level.
- 2) Folders on folder level 3 shall not be renamed and no data files such as e.g. word files, excel spreadsheets, drawings, PDF-files, images or whatsoever shall be saved at this level. On level 3 limited additional folders can be created upon approval by the responsible manager.
- 3) Preferably additional folders only shall be created on level 4. The responsible manager must be consulted and the filing scheme must be updated and communicated accordingly.

Data Backup

All electronic data shall be backed up regularly.

Further details with regards to correspondences, data storage and data integrity etc. as well as the complete project filing scheme can be found in the Project Communication Management Plan.



TESTING

Testing shall be performed, recorded and reported and test results shall be verified under the responsibility of QC staffs to ensure that specifications and requirements are met.

Prior to the first execution of a new work item testing methods and frequency of testing shall be reviewed, communicated to concerned staffs and shall be in line with applicable standards, contractual requirements, plans, approved method statements or whatever agreed upon.

General Testing Procedure

- 1) Not less than 24 hrs. prior to any testing client or his representative by means of "Inspection and Test Request" (form 1) shall be notified of the testing and may then at their own discretion decide to attend the testing or not.
 - 2) Prior to any test the QC staff shall verify that
 - a) Required equipment is available and calibrated,
 - b) Testing criteria and procedure are known,
 - c) Personnel are capable to perform test and operate equipment.
 - 3) Upon verification of requirements the test may proceed and shall be witnessed and documented by QC staffs using a test specific form. Standard forms provided by a 3rd party testing organization(if applicable) shall be acceptable.
 - 4) All test results shall be
 - a) Registered in the "Test Register" (register 11) and compiled in the quality file,
 - b) Verified by QA staffs,
 - c) Submitted to the client or his representative (if required).
 - 5) Any failing test result shall be recorded in the "Deficiency Register" (register 12) and the test shall be repeated as early as possible (unless otherwise agreed). Failed tests shall be subject to review with regards to process improvement.
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3rd Party Testing

If testing by a third party laboratory is required, whether on-site or off-site, QA staffs shall be responsible to verify 3rd party's compliance to applicable standards and therefore shall review laboratory's historic data such as QA & QC procedures, calibration records, logs for similar testings etc. 3rd party testing organizations not being able to provide such records shall be avoided if possible. In case of regular testing the review may be carried out periodically.

A 3rd party testing organization shall be capable to perform a required test within 2 workdays (if applicable) from receipt of samples.



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The QC Manager at his discretion together with client or his representative may decide in general or case-by-case if witnessing the test by QC staff is required. Client or his representative may decide at their own discretion to attend and witness the testing.

In any case 3rd party test results shall be verified by their own senior laboratory personnel.

Test Results

Ideally the original test record shall be submitted to the QC department within 48 hrs from the test. Advance copies of successful tests sent by fax and/or email shall be deemed acceptable in order to proceed with the works.

Once test results are received, they shall be registered and distributed by document controller and shall be verified by QC staffs as to:

- Completeness of documents,
- Observance of the specified testing procedures,
- Acceptability of results.

Test and other Equipment Calibration and Maintenance

Test and measurement equipment shall be regularly maintained and calibrated according to the manufacturer's specifications and recommendations. The service provider shall provide calibration and maintenance records. (To be read in conjunction with equipment and plant operating inspection procedure.)



QA & QC MEETINGS

Mutual Understanding Meeting

The QC and QA manager(s) will invite the client or his representative as well as key project team staffs and key field staffs in order to introduce the QC and QA systems and requirements after the PQMP is submitted and prior to the start of construction.

The purpose of this meeting is to establish a mutual understanding of QC and QA under the contract.

Preparatory QC Meeting

Unlike other meetings, this meeting is not usually held in the meeting room but at site.

(please refer to Quality Control above)

Weekly Meeting

After the start of construction, the QA & QC manager(s) will conduct weekly QC meetings at the work site with the QA & QC staff(s), and the responsible site engineer(s) who are performing the work on the current work packages. Further project staffs maybe asked to attend as required. The client or his representative may attend the meeting at his own discretion.

The following shall be accomplished at each weekly meeting (as applicable):

- Review the minutes of the previous meeting.
- Review the schedule and the status of work and rework.
- Review the status of submittals.
- Review the work to be accomplished in the next two weeks and identify the documentation required.
- Resolve production problems.
- Address items that may require revision of the Quality Management Plan.
- Review the status of training requirements, as applicable.

The QA & QC manager(s) or his designee prepares minutes of meeting (MOM) and provides a copy to all attending departments, sub-contractors, client (whatever applicable) within 2 workdays after the meeting ended. Comments on the minutes of meeting (if any) shall be presented in writing to the QA & QC manager(s) within 2 workdays after MOM being received.



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APPROVAL OF DELIVERABLES

xyz



DEFINITIONS

For the purpose of this plan and any further document developed through its use the following terms are used:

Quality Control (QC)	The primary objective of QC is to anticipate potential risks and issues with regards to the grade of quality. The QC measures are to be adequate to cover all operations both on-site and off-site.
Quality Assurance (QA)	The primary objective of QA includes verification, audits and evaluations of implementation of the quality control system by the contractor, its sub-contractors and suppliers.
May	means an optional action
Shall	means a mandatory action



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ACRONYMS AND ABBREVIATIONS

CAR	Corrective Action Report
COO	Certificate of Origin
DC	Document Control(ler)
Insp.	Inspection
IR.....	Inspection Register
ITR.....	Inspection and Test Request
NCR	Non-Conformance Report
PQMP.....	Project Quality Management Plan
QA.....	Quality Assurance
QC	Quality Control
QMP.....	Quality Management Plan
RFI	Request For Information



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Project Quality Management Plan (PQMP)

APPENDICES

Attachments:

Attachment 1	Project Site Layout Plan
Attachment 2	Organizational Chart QA & QC dept.

Checklists:

Checklist 1	Preparatory Meeting Checklist
Checklist 2	Initial Inspection Checklist
Checklist 3	Follow-up Inspection Checklist

Forms:

Form 1	Inspection and Test Request
Form 2	Submittal Cover Sheet
Form 3	Submittal Review Sheet
Form 4	Request For Information
Form 5	Non-Conformance Report
Form 6	Corrective Action Report
Form 7	Site Observation Report

Registers:

Register 1	Inspection Register
Register 2	Completion Inspection Register
Register 3	Material Receiving Register
Register 4	Inventory Register
Register 5	Material Submission Register
Register 6	RFI Register
Register 7	NCR Register
Register 8	Lessons Learned Register
Register 9	CAR Register
Register 10	Test Register
Register 11	Deficiency Register

Records:

Record 1	Daily Activity Records
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