



QUALITY MANAGEMENT SYSTEM MANUAL

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QM-MR-001



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Introduction

In the competitive world, Quality, Cost, Delivery time, Speed with Safety is a critical aspect for the company to fulfill our customer requirements and enhance their satisfaction. To lead and operate the company successfully, the management of K999 Engineering & Construction Co., Ltd. (K999) management has decided its strategic direction to adapt its current quality management system to the international standard ISO 9001:2008 quality management system to demonstrate its ability to consistently produce a product that meets customer and applicable regulatory requirements include aiming to enhance the company customer satisfaction through the effective application of the system with continually performance improvement approach while addressing the needs of all interested parties in the supply chain – customers, suppliers – and other include employee and company itself.

This Quality Management System Manual (QM) has been established to be a main document used to demonstrate or describe the company strategic direction and policy of the company's quality management system to perform relevant activities with effectiveness. It will contain 4 sections. The first section will define control of this QM. The second section will describe the company profile organization, each functional responsibility and authority. The third section will illustrate the company's Quality Policy. The last section will define the company's quality management system refer to the international standard ISO 9001:2008 requirements.

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Relevant Standard Operating Procedure (SOP) and clauses reference

The QM shall identify the specific resources and procedures to be applied in order to assure the quality of the Work. Statements from the Management shall be included confirming the commitment to compliance with the technical information as well as statutory and regulatory requirements and methodology to be used to ensure compliance.

K999 shall prepare a chart of organization for the Work, depicting the names, titles and the functional and reporting relationships of all key-personnel assigned/to be assigned for all phases of the Work. A resume of qualifications and past experience with the detailed position description and required competencies of all personnel or personnel categories related to Quality Assurance of Quality Control activities of key- personnel shall be made available within this QM or Project Quality Procedures.

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Section 1: Control of Quality Management System Manual

The management of K999 Construction Industries Ltd., has established and maintained this quality manual to ensure that this document has been controlled, maintained with effectiveness.

1. To prepare, review and approve the QM
 - 1.1 The QM was prepared by Management Representative (QMR)
 - 1.2 And shall be approved by Managing Director (MD)/Director.
2. To change or revise the QM
 - 2.1 If some portion in QM had been changed, the revision no. must be changed.
 - 2.2 The detail of change should be recorded in QM Document Change History.
 - 2.3 Prepared, and approved for change has been defined same as item 1.
3. Issuing of the QM
 - 3.1 The original issue shall be identified with "ORIGINAL" marking in BLUE.
 - 3.2 The copy document (from the original issue) that would be used for internal purposed shall be distributed to relevant personnel in the company who specified intend use with identified "CONTROLLED" marking in BLUE. It requires to update for use, and to recall for disposition. Any additional copies require shall be approved by MD.
 - 3.3 The copy document (from any issues) that would not be used for work operating or for other purpose such a reference shall be identified with "UNCONTROLLED" marking in any color. It does not require updating.
 - 3.4 Any document without marking with originating color (or in black due to copying process) shall be defined as an uncontrolled copy.
 - 3.5 Requisition for issuing from external parties, shall be approved by MD/Director.
 - 3.6 The original of old revision shall be identified with "CANCELLED" marking in Red. And for old revision of distributed controlled document shall be recall and disposed in such a way.
4. Storage
 - 4.1 The original issue shall be kept and stored in place by DCC Dept. at document control in a good condition.
 - 4.2 The holder of each copy shall be kept and stored in place, at good condition, and prompt in sue.
 - 4.3 The original of old revision with red "CANCELLED" marking shall be kept and stored at document control in a separate file as obsolete document for reference only.
5. QM Disposition
 - 5.1 After revised the former document should be disposed and only originated document should be kept as reference by DCC Dept. at the Document center



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Section 2 : Company Profile

Section 2.1 : Company Profile

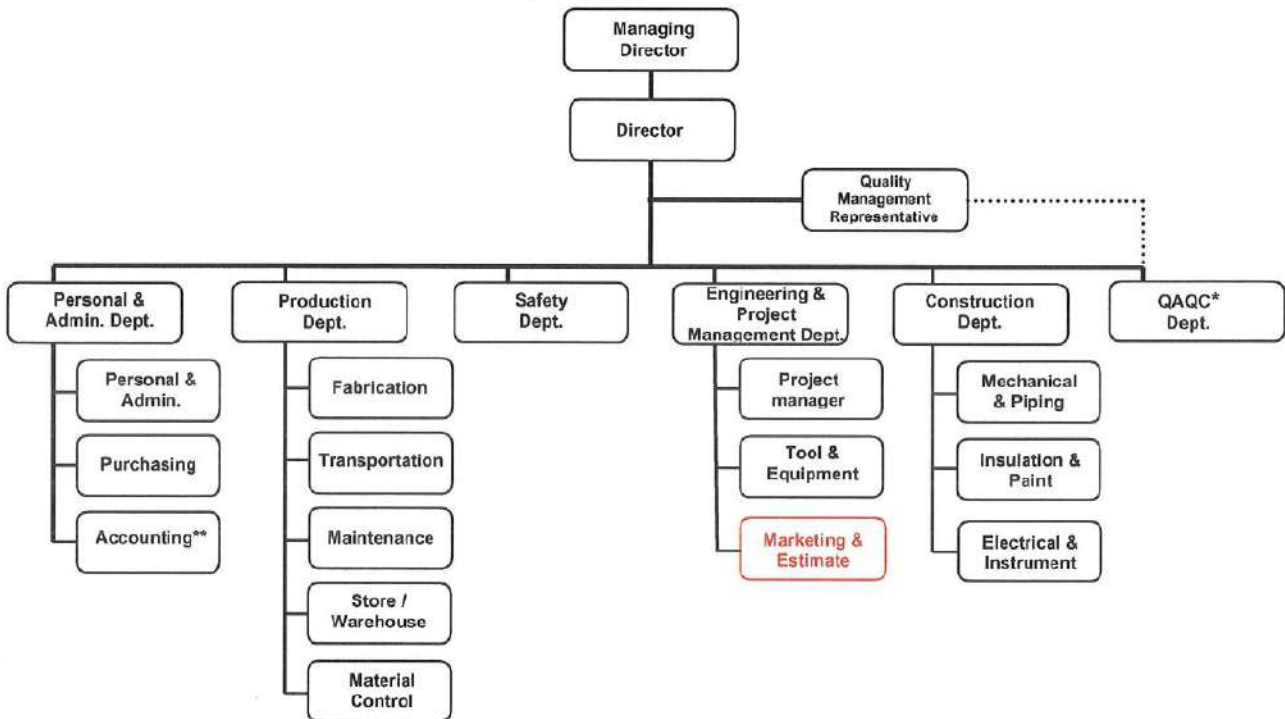
Company Name	:	K 999 Engineering & Construction Co., Ltd.
Company Address	:	No. 174 Moo-5 Tambol Map Kha, Amphur Nikompattana, Rayong 21180
Telephone	:	(66) 0-3896-8884
Facsimile	:	(66) 0-3896-8885
Type of Business	:	Manufacturing and Installation of Heater & Reformers, Storage Tanks Steel Structure, Piping & Plant Equipments.
Company History	:	
Feb 2006	:	Established under the name of K999 Engineering & Construction Co., Ltd. Located at No. 2/58 Seaboard Building Highway Rayong 3101, Maptaphut District, Amphur Muang, Rayong 21150 Thailand
May 2007	:	Established a New Factory at No. 174 Moo-5 Tambol Map Kha, Amphur Nikompattana, Rayong 21180 Expanded factory yard (32,000 sq.m.) and shop facilities (3,600 sq.m.)

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Section 2.2 : Organization

Organization Structure



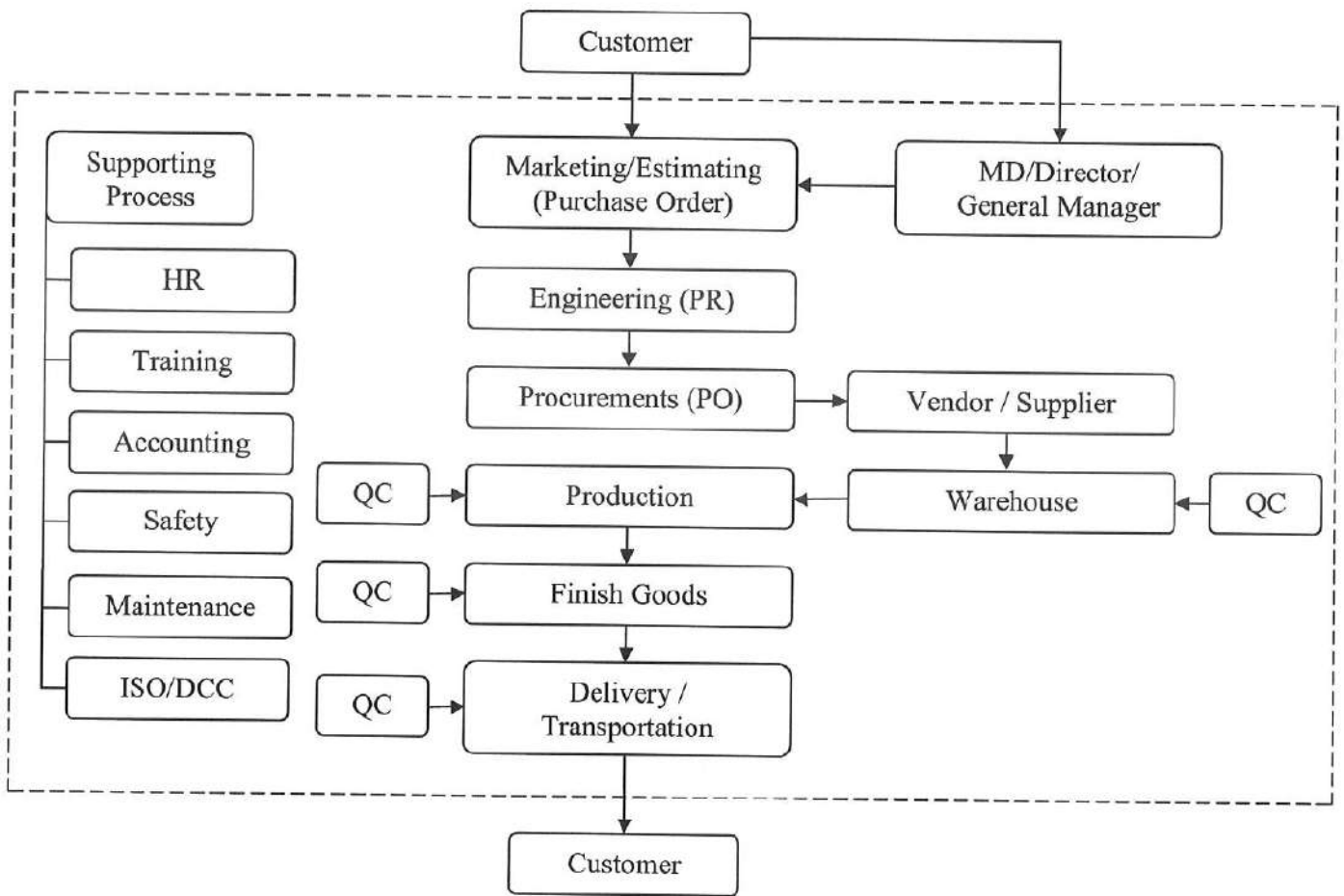
***QAQC Manager and/or Factory Manager - action as a QMR (Quality Management Representative)**

****Accounting-out of QMS ISO 9001 of K999 scope**

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Section 2.3 : Business Process Flow



Section 2.4 : Responsibility & Authority

1. Managing Director / Director

- Establish unity of purpose and direction of the company.
- Lead and operate the company to achieve the company policy and objectives.
- Direct and control the company in a systematic and transparent for success.
- Create and maintain the appropriate working environment.
- Support and in corporate in quality management system.
- Liaison with customer and other external parties.

2. Quality Management Representative (QMR)

- The QAQC Manager **and/or Factory Manager are** appointed as the Quality Management Representative (hereinafter called QMR). Each of them represents the Company on all quality matter pertaining to the Quality Management System (see details in section 5.5.2).

3. General manager

- Be certain that the job detail, specification, and customer's need have been fully reviewed and well understanding.
- Be sure that job will be proceeded as customer requirement and delivered on time.
- Recheck that the delivered products are correct and complete as shown in contract, before send the customer's satisfaction form to the client.

4. Safety / Health

- Plan, control and monitor worker welfare with safe.
- Support all purposed safety and risk response.

5. Procurement

- Response for purchasing function to control supplier/ subcontractor.

6. Personal & Administration Department

- In charge all human resources management – planning, development, include recruitment.
- Also for document control and accounting control.

7. Warehouse/Material

- Notice of material rejection should be issued to purchasing manager or purchasing staff.
- Make sure that the quantity, size and material grade have been checked, reviewed as per ordering.
- Investigate the inventory material.

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8. Engineering & Project Management Department

- Review, prepare, submit proposal and required document of invitation for bidding.
- Plan, Organize, monitor and control all aspects of the project management related to scope, time, cost, resource, personnel, communication, and risk related processes.
- Assign project organization, team, and staff allocation.
- Contract and other documents control (Drawings).

9. Production Shop Department

- i) Production manager, Production Engineer and Supervisor,
 - Be sure that job will be proceeded as customer requirement and delivered on time.
 - Be sure that customer requirement for job inspection has been noted and met.
 - Be sure that production team will understand the customer need, job detail, specification & standard, and delivery time.
 - Plan and control work to produce product as defined quality and safe.
 - Monitor and control actual work carried out in project schedule defined.
 - Allocate workers and monitor overall production performance.
 - Maintain all tool and equipment for availability.

10. QAQC Department

- i) QAQC manager, QAQC Engineer and QC Inspector,
 - Be sure that job will be proceeded as customer requirement and delivered on time.
 - Be sure that customer requirement for job inspection has been noted and met.
 - To be scheduled upon award of requisition.
 - Inspection according to customer specification and ITP.
 - Plan, Control, and monitor all defined quality issues of material, work in shop floor and fabricated products.
 - Prepare work specific procedures for internal quality control processes.
 - Control all inspection and measuring equipment.
 - Correctness check on every important point.
 - Be sure that die stamp marking are readable and correct.
- ii) Welding Engineer,
 - Skill or trained welder and Welding Operator for this activity are strongly required.
 - Applicable specification and shop DWG. are to be strictly conform.
 - Correctness check on every important point.
 - Before, During and After welding, the work pieces shall be inspected.
 - Welding is carried out in accordance with the WPS / WELD MAP.
 - All welding bead shall be always visually inspected as per ITP after welding.



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Section 3 : Quality Policy

K 999 Engineering & Construction Co., Ltd.

QUALITY POLICY

K 999 Engineering & Construction Co., Ltd. has established its quality defined as follow

**Delight our customer satisfactions
By Offering a committed quality construction products with safe**

The company is totally committed to this policy. To ensure this the following strategies and scheme are required to implement with effectiveness.

Establish a quality management system according to the ISO 9001:2008 international standard.

Deliver committed quality products with safe at competitive price, and on-time deliver performance to meet our customer's standard and requirements.

A training program has been established to increase potential capability and performance of our personnel.

Establish the company strategic annual objectives and quantifiable targets and review its continuing suitability through management review activity.

All personnel are required to understand and have responsibilities to implement, and improve its performance to achieve this policy continually.

(Mr. Dennis Hockin)
Managing Director
K 999 Engineering & Construction Co., Ltd.
Date 12 / Jan / 2015



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Section 4 : K999 Quality Management System

4.1 General requirements

K999 quality management has been created, is being maintained, is implemented and its effectiveness will be continually improved to achieve compliance with ISO 9001: 2008 through the company following activities:

- a) Identify the processes needed and application for the quality management system includes outsourcing processes,
- b) Determine the sequence and interaction of these processes,
- c) Determine criteria and methods needed to ensure that both the operation and control of these processes are effective,
- d) Ensure the availability of resources and information necessary to support these processes,
- e) Monitor measure and analyses these processes,
- f) Implement actions necessary to achieve planned results and continual improvement of these processes.

K999 has performed its outsource processes for rubber lining, galvanizing, NDE and other special inspection and testing activities, and Insulation, painting, electrical and instrument construction. However, those may be suited and having impact on the achievement of project production and construction requirements that would be controlled in accordance with purchasing control for subcontractors as K999 suppliers and receiving and incoming process. Additional supervision and control may require where appropriate.

4.2 Documentation requirements

4.2.1 General

K999's quality management system documentation includes:

- Statements of quality policy.
- Statement of company annual quality objectives and all relevant departmental targets.
- This quality manual.
- The documents referred to in this quality manual.
- Any documents required to avoid varied implementation of the processes needed to deliver our products and services.
- Records described in **Documents, Data and Record Controls (4.2.4)**

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4.2.2 Quality Management System Manual (QM)

This QM contains:

- A scope statement with exclusions.
- Reference to K999 standard operating procedures (“SOP”).
- Reference to K999 **Business Process Flow (Section 2.3)** as a quality plan which provides a description of the interaction within the quality management system.

4.2.3 Control of documents

A documented standard operating procedure has been established to control all document within K999 quality system as follow needed:

- a) To approve documents for adequacy prior to issue,
- b) To review and update as necessary and re-approve documents,
- c) To ensure that changes and the current revision status of document are identified,
- d) To ensure that relevant versions of applicable document are available at point of use,
- e) To ensure that documents remain legible and readily identifiable,
- f) To ensure that document of external origin are identified and their distribution controlled,
- g) To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.
- h) Records are a special type of document that would be controlled according to 4.2.4

Reference: - Standard Operating Procedure for Documents, Data and Record Controls (SOP-MR-001)

4.2.4 Control of record

A documented standard operating procedure has been established to define the controls needed for identification, storage, protection, retrieval, retention time and disposition of records. To ensure all records still remain legible, readily identifiable and retrievable. All data supporting the achievement of requirements and effectiveness of the quality system are included as records.

Reference: - Standard Operating Procedure for Documents, Data and Record Controls (SOP-MR-001)

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5 K999 MANAGEMENT FOR MANAGEMENT PROCESSES

5.1 Management commitment

The following are expressions of K999's management commitment to develop, implement and improve the effectiveness of the quality management system:

- a) Communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements,
- b) Establishing the quality policy,
- c) Ensuring that company quality objectives are established,
- d) Individual project objectives may be defined progressively as the project proceed conforming to specific requirements, time, cost, and resources
- e) Conducting management reviews, and
- f) Ensuring the availability of resources.

5.2 Customer focus

Through all of the policies, objectives and processes described in this quality policy manual, K999 ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction by contract reviewing process and routinely assessing customer satisfaction and management review activity.

5.3 Quality Policy

The management of K999 has established the company quality policy, as defined in this quality manual, given due consideration to:

- a) Is appropriate to the purpose of K999,
- b) Includes a commitment to comply with requirements and improve the effectiveness of the quality management system continually,
- c) Provides a framework for establishing and reviewing quality objectives;
- d) Is communicated and understood within the organization through board, poster, or meeting,
- e) Is reviewed for continuing suitability through a management review activity.

5.4 Planning

5.4.1 Quality objectives

The K999 management ensures that the company quality objectives, including those needed to meet requirements for product, are established at relevant processes, functions and levels within the organization. The company annual quality objectives are rolled down to managers at subsequent levels who in turn

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convert them into section or department objectives levels. The quality objectives are specific, measurable, achievable, reasonable, and defined time period, and consistent with the quality policy. The company quality objectives and specific section or department objectives shall be monitored and reviewed in periodically.

Individual project objectives may be defined progressively as the project proceeds conforming to specific requirements, time, cost, and resources. It's also required to periodic monitor, review, and update during the project progress evaluation.

5.4.2 Quality management system planning

K999 management ensure that

- a) A business quality plan has been prepared in order to meet the requirements given in 4.1,
- b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

K999 has arranged the company organization structure to illustrate its functions, their interrelations, responsibilities and authorities. More specific quality management system responsibilities and authorities can be found on any documents such as job descriptions, route sheets, project schedule, standard operating procedures and specific work procedures etc. associated with machines utilized, products manufactured and services provided. It also has been distribution in associated with the training activities and company internal communication.

To carry out an individual project, the project organization shall be constructed tailored to suit the project needs including identifying roles in the project and defining authority and responsibility

The QAQC Manager **and/or Factory Manager are** responsibility in Quality Management Representative which has the absolute power to decide on all the issues that happen to work in organization such as the power to stop work or proceed to next process and all problems with the job. If not cooperate in resolving by personnel within the organization. Customers can discuss directly to QMR.

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5.5.2 Management representative

Managing Director (MD) / Director has appointed an authority person to serve as management representative (QMR). The assigned duties include:

- Overseeing the implementation and maintenance of the quality system.
- Reporting on the performance of the quality management system to MD / Director.
- Reporting on the need for improvement of the quality management system to MD.
- Encouraging and assisting in promoting the understanding of customer requirements and awareness.
- Liaison with external parties on matters relating to the quality management system.

5.5.3 Internal communication

K999 perform appropriate communication processes within the organization, share data, project schedule in progress, indicate the performance of the quality management system by postings monthly updated information in K999 on board, announcement, reporting or meeting.

5.6 Management review

5.6.1 General

In order to assure the continuing suitability, adequacy and effectiveness, K999 management will conduct periodic reviews of the quality management system to ensure its continuing suitability, adequacy and effectiveness. An expected outcome of that review is the determination of the need for any changes or to reveal opportunities for improvement. Management review records are maintained.

5.6.2 Review input

The input to management review include information on

- a) Follow-up action from previous management reviews,
- b) Results of audits,
- c) Customer feedback, including customer survey and customer complaints,
- d) Process performance and product conformity,
- e) Status of preventive and corrective actions,
- f) Results of quality policy, objectives and targets achievement,
- g) Changes that could affect the quality management system, and
- h) Recommendations for improvement.

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5.6.3 Review output

The outputs from the management review include any decisions and actions related to

- a) Improvement of the effectiveness of the quality management system and its processes,
- b) Improvement of product related to customer requirements, and
- c) Resource needs.

Reference: - Standard Operating Procedure for Management Review (SOP-MR-007)

6 K999 MANAGEMENT FOR RESOURCE MANAGEMENT PROCESSES

6.1 Provision of resources

K999 management provides adequate and efficient resources include computer software, equipment, facilities, finance, information systems, materials, personnel, service and space of shop floor and working area for the following purpose:

- To implement and maintain the quality management system
- To continually improve upon the quality management system effectiveness
- To ensure customer satisfaction through consistent achievement of customer requirements.

6.2 Human resource

6.2.1 General

All personnel in K999, having a work assignment who can affect product quality, must be competent on the basis of education, skills, training and experience as necessary. Requirements for education, skills, training and experience can be found in the defined job specification and competent maintained by the personal and administration department.

6.2.2 Competence, awareness and training

To achieving a performance and its quality management system purpose, its require to

- a) Determine the necessary competence for personnel performing work affecting product quality,
- b) Provide training or take other actions to satisfy these needs,

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- c) Evaluate the effectiveness of the action taken, including a qualifying welding worker method,
- d) Ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
- e) Maintain appropriate records of education, training, skill and experience by personal and administration department.

Reference: - Standard Operating Procedure for Recruitment and Selection and Evaluation of personal procedure (**SOP-HR-001**)

6.3 Infrastructure

K999 determine, provide and maintain the infrastructure needed for operation in adequately to achieve conformity to products and customer requirements include : building, shop floor, working area, and appropriate utilities, process equipment – hardware : furniture, workbenches, storage racks, tools, gages, machines, test equipment, vehicles, computer, software, other equipment etc. Other services for supporting, if applicable, such as telecommunication system, information system. When all the needs or changes have been identified, it is the responsibility of MD / Director to review and approve for the achievement of those requirements.

6.4 Work environment

To ensure that the work environment is suitable for work operating, K999 considers and addresses many significant aspects of the work environment in the company and at site include Housekeeping, Health and safety, and Work ethics etc. that will be responsible by all departments and Safety Department.

Reference: - Standard Operating Procedure for Health, safety and environment (**SOP-SA-001**)

7 K999 MANAGEMENT FOR PROJECT PRODUCT REALIZATION PROCESSES

7.1 Planning of project product realization processes

K999 has planned and developed the 2 categories of project process approach:- the project management processes and the project product– Related processes– Needed for product realization in consistently with the requirements of the quality management system, see K999 business quality plan and customer contract review processes.

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To achieve of quality in project management, during the project management processes shall consider the following concepts:

- a) Satisfaction of the customer's and others, stated and implied needs,
- b) A project is able to carry out as a set of developed project plan,
- c) Clearly determine i.e. scope, time, cost, resource, personnel, communication and risk,
- d) A focus on the quality of processes and products is necessary to meet the project objectives,
- e) Management is responsible for creating an environment for quality,
- f) Management is responsible for continual improvement,

For the project product – related processes shall be determined with the following:

- a) Quality objectives and requirements for the project product i.e. time, cost, worker allocation,
- b) Project product processes control plan, documents, and resources provided to specific product,
- c) Required verification, validation, monitoring specific to the project product,
- d) Required inspection and test activities specific to the product and the criteria for project product acceptance, and
- e) Records needed to provide evidence that the realization processes and resulting of project product met requirements.

7.2 Contract review processes

7.2.1 Determination of requirements related to the product

In an effort to thoroughly identify all customer requirements, the following are considered by K999 Engineering & Project Management department and/or MD / Director as they interface with the customer to determine:

- a) Invitation or Call for Bidding, include project product specific requirements, and/or time schedule specified by the customer,
- b) Customer delivery and post-delivery requirements i.e. installation, commissioning, technical assistance, servicing, after sales, disposal or recycling at the end of useful project life etc.,
- c) Requirements not stated by the customer but necessary for specified use, where known,
- d) Statutory and regulatory requirements related to the product defined by customer, and
- e) Any additional requirements determined by K999

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7.2.2 Review of requirements related to the product

K999 Engineering & Project Management department or MD / Director will review the requirements related to the project product prior to accept a new or existing project order and changes to ensure that.

- a) Invitation to bidding and project product requirements are clearly defined,
- b) Any requirements differing from those previously expressed are resolved, and
- c) K999 has the ability and capability to meet the defined requirements. The scope, time schedule, project plan, cost, resource, personnel, communication, risk, and most similar project in the previous shall be considered. The proposal shall be arranged, and prepared, reference to the documented customer and other relevant party's requirements, and submitted to customer. The arranged proposal and actions also will be maintained.

Where the customer provides no documented statement of requirement, the customer requirements will be confirmed before acceptance and documented statement shall be followed.

The contract shall be arranged and reviewed when the purpose of a project product is to fulfill the requirements of Invitation for bidding or customer approval.

Change management covers the identification and documentation of the need for and of the impact of any project product requirements change i.e. scope, plan, interlinked project processes, resolving any conflict relevant, the intent, extent, and impact of the change should be analyzed before a change is authorized and shall be agreed with the customer and other relevant parties.

7.2.3 Customer communication

To fulfill customer requirements and to satisfy needs, K999 Engineering & Project Management department /or MD / Director require to communicate with customer in effectiveness manner for

- a) Invitation to bidding, project product information,
- b) Enquiries, regarding to contract arrangement,
- c) Enquiries regarding to any defined changes, and
- d) Voice of Customer and feedback including complaints through corrective action activities.

Reference: - Standard Operating Procedure Customer Review and Satisfaction (SOP-MK-001)

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7.3 Design and development processes

In case of design and development processes are needed, K999 shall apply control of design and develop according to 7.1 planning of project product realization processes. Any specification changes, K999 shall inform to customer or project representative. It's our customer responsibility to review and approve prior to change. Change review records are kept as indicated in **Documents, Data and Record Controls (4.2.4)**

7.4 Purchasing processes

7.4.1 Purchasing

Purchasing section of Personal and Administration department has established a documented standard operating procedure for purchasing control to ensure that purchased product obtained for the project conforms to specified purchase requirements. The type and extent of control applied to the supplier/ subcontractor (for outsourcing activities) and the purchased product will be dependent upon the effect of the purchased product on subsequent production processes or the processes or the project product.

Purchasing will evaluate and select suppliers/ subcontractors based on their ability that may impact on the project, such as technical experience, plant capability, delivery times, quality system, and financial stability in accordance to K999 requirements. Criteria for selection, evaluation its performance also has been established and defined. Records of the results of evaluations and any necessary action taken from the evaluation will be maintained.

7.4.2 Purchasing information

K999 purchasing order documents shall be originated in the purchasing section. Each originator of purchasing documents shall assure that required information contained in the purchasing documents are adequate and adequate i.e. name, type, quantity, required date, and specific specifications (if require) including where applicable

- a) Requirements for approval of product, procedures, processes, and equipment,
- b) Requirements for qualification of personnel, and
- c) Quality management system requirements.
- d) Complete responses from potential supplier/or subcontractor

7.4.3 Receiving Inspection of purchased product processes

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Verification of purchased project product, for critical products as steel, bar, beam, welding wire only, is required to inspect for ensuring that purchased project product and subcontracted product meets specified purchased requirements.

When K999 stipulates in any contract that purchased project product or service is subject to source inspection by K999 or K999 customer project owner or representatives, the details for such an inspection and subsequent release of accepted material will be stated in the purchase agreement.

Reference: - Standard Operating Procedure for Procurement Procedure and supplier Evaluation (SOP-PU-001).
- Standard Operating Procedure for Sub-Contractor Control Process (SOP-PR-002).

7.5 Project Management and Project Product-related processes

7.5.1 Project management planning and control, and Control of Production processes.

Project management section and other relevant sections have a responsibility to plan a detail of project schedule. Relevant section has a responsibility to carry out in accordance to project schedule and plan on his specific responsibility work under controlled conditions that include:

- a) Plan and control for production regarding to resource, work task, and time in project schedule,
- b) Availability of information that describes the product characteristics in drawing,
- c) Availability of standard operating procedures, specific work procedures, as necessary,
- d) Use of suitable equipment with effective maintenance activities,
- e) Availability and use of monitoring, inspecting and measuring devices and control,
- f) Implementation and regular evaluation of project progress and working performance, and
- g) Implementation of release according to a project product plan, and contract specified.

7.5.2 Validation of processes for production provision

QAQC and Production department has a responsibility-in witness with customer or representative- WPS/PQR shall be arranged for validate or revalidate a welding process and personnel for production where the resulting output cannot be fully verified, inspected and tested in the finished product. The criteria for

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review and approve process are defined in a specific methods and procedures with records.

7.5.3 Identification and Trace ability

To prevent the misuse or misapplication and to maintain identity of purchased project material, work-in-process, or finished product, product status requires and identify at appropriate production and inspection stage. Product trace ability is controlled and recorded through various production and inspection processes.

Reference: - **Work Instructions for Transfer of Material Identification to Ensure Traceability Procedure (WI-PR-015)**

7.5.4 Customer property

The customer supplied products or customer for K999 current activities i.e. project material, supporting products shall identify, verify and inspect before use, protect and safeguard same as K999 material or product. Any lost, damaged or otherwise found to be unsuitable for use shall be reported or informed to customer and records maintained (see 4.2.4). This include drawing, contract or other documents that was received from customer shall be controlled as an external document.

7.5.5 Preservation and Warehouse Control

K999 has established a documented standard operating procedure to preserve the conformity of material and product during internal processing and deliver to customer for identification, handling, storage, packing, and protection.

Reference: - **Standard Operating Procedure for Warehouse Management (SOP-WH-001)**

7.6 Control of monitoring and measuring equipment and devices

K999 has established a documented standard operating procedure for control of inspection, measuring and test equipment and devices to ensure that monitoring and measurement can be carried out in a manner that is consistent with the monitoring and measurement requirements includes :

- a) Be calibrated or verified at specified intervals or prior to use, against measurement standards traceable to international or national measurement standards; where no such standard exist, the basis used for calibration or verification with record,
- b) Be adjusted or re-adjusted as necessary,
- c) Be identified to enable calibration status to be determined,

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- d) Be safeguarded from adjustments that would invalidate the measurement result, and
- e) Be protected from damage and deterioration during handling, maintenance and storage.

When the equipment is found not to conform to requirements, record will be verified the validity of the previous measuring results with appropriate action on the equipment and any product affected.

Reference: - **Work Instructions for** Calibrated Procedure (WI-QC-001)

8 K999 MANAEMENT FOR MEASUREMENT, ANALYSIS AND IMPROVEMENT PROCESS

8.1 General

K999 quality plan, proposal, contract, and a detail project schedule are used for planning the necessary monitoring and measurement processes. The process for improvement is found in accordance with the relevant activities i.e. customer satisfaction evaluation, internal audit, corrective and preventive actions. The need for statistical techniques is considered and used as a tool for trend monitoring and analysis of data.

8.2 Monitoring and measuring

8.2.1 Customer satisfaction evaluation and improvement processes

Customer satisfaction evaluation is conducted by K999 or customer or project owner/representative himself, when the project has been completed or hand over to a project owner/customer.

Reference: - **Standard Operating Procedure Customer Review and Satisfaction** (SOP-MK-001)

8.2.2 Internal auditing processes

Internal audits are conducted in accordance with a documented standard operating procedure for internal quality audit for planning and conducting audits, and for reporting and maintaining records. Scope, Frequency, plan and method of audits will be vary based on the status, problems occur and importance of the processes and areas to be audited with the need. Auditors are selected on capability and independence basis that does not allow auditing their own work. The audit results are recorded to enable management and others take timely corrective action without any delay and to allow for proper verification of

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effectiveness.

Reference: - Standard Operating Procedure for Internal Audit (SOP-MR-003)

8.2.3 Quality management system monitoring and measurement of processes

Quality management system processes are monitored and measured in accordance with specific company annual quality objectives and targets for each section or department and processes through management review activities. When planned results are not achieved, it requires to correct and takes appropriate corrective actions.

8.2.4 Monitoring and measurement of incoming, work in process and finished product processes

In order to assure conformity to customer requirements, the monitoring and measurement the characteristic of product is monitored and measured in accordance with specified project schedule and contract defined at the appropriate stage.

Evidence of compliance with the requirements are recorded as well as the authority allowing further progression or final release and maintained.

Fabricated or project product release must be preceded by successful completion of all required activities, that also shall be acknowledged by customer or representative for witness, unless approved by the customer or authorized person. The commissioning test also is available if contract is specified.

Reference: - Fabrication Procedure of Pressure vessel (WI-PR-001)
- Fabrication Procedure of Heater and Steel structure (WI-PR-002)
- Dimension Inspection Procedure (WI-PR-005)

8.3 Control of nonconforming product

Nonconforming product i.e. materials, work in processes, finished products, and customer returned products which does not conform to product specification and requirements is identified, segregated and controlled in accordance with a documented standard operating procedure for control of nonconforming product and record. One or more of actions is required:

- Off specification defined and separated
- Accepting nonconformities for use (from management or customer approval)
- Field Repair or Rework
- Scrap

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Discovery of nonconforming product after delivery is immediately followed by the actions necessary to minimize its impact and preserve customer satisfaction to the highest level possible under the circumstances. Record also shall be maintained.

Reference: - Standard Operating Procedure for Control of Non Conformities (SOP-MR-004)

8.4 Analysis of data

In K999 quality management system relating data is recorded. It requires to collect, analyses appropriate data, including from other sources, to determine the suitability, effectiveness and opportunities for improvement of the quality management system. The objectives for these are:

- To assess and determine customer satisfaction levels
- To determine the conformity of product
- To gather information on trends of products and processes including opportunities for preventive action and improvement
- To maintain awareness, take action to correct and improve the performance of suppliers

Reference: - Standard Operating Procedure for Statistical Techniques use for analysis (SOP-MR-008)

8.5 Improvement

8.5.1 Continual improvement

The process for continual improvement of K999 is described through the results and the use of the following activities:

- The quality policy
- The company and section annual objectives and targets
- The actions taken upon internal / external audit results
- The opportunities surfacing from data analysis
- Corrective action when the action taken corrects a new problem
- Result of preventive action
- Training to increase all personnel competent and performance
- A required output from management review or regular project progress evaluation

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8.5.2 Corrective action

K999 has provided a systematic approach and prepared a documented standard operating procedure for corrective action in order to avoid the recurrence of problems, appropriate corrective actions are taken that includes:

- Reviewing nonconformities including customer complaints.
- The determination of causes of nonconformities.
- Assessing the need for actions to avoid recurrence.
- The determination of corrective actions needed.
- The implementation of determined corrective actions.
- Making records of the outcomes from actions taken.
- Verifying the effectiveness of corrective actions taken.

Reference: - Standard Operating Procedure for Corrective Action (SOP-MR-005)

8.5.3 Preventive action

K999 has provided a systematic approach and prepared a documented standard operating procedure for preventive action in order to avoid the occurrence of potential problems through management review, suggestion and recommendation for improvement, and risk evaluation and management include quality, safety and environmental aspects. Appropriate preventive actions are taken that includes:

- The determination of potential nonconformities.
- The determination of causes of potential nonconformities.
- The determination of preventive actions needed.
- The implementation of determined preventive actions.
- Making records of the outcomes from actions taken.
- Reviewing preventive actions taken.

Reference: - Standard Operating Procedure for Preventive Action (SOP-MR-006)