



API PIPELINE CONSTRUCTION COMPANY LIMITED

THE QUALITY MANAGEMENT SYSTEM MANUAL

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API PIPELINE CONSTRUCTION COMPANY LIMITED TABLE OF CONTENTS

Company Profile

Organization Chart

Mission Statement

Quality Policy

Macro Process Flow Diagrams

1.0 Scope and Exclusions

2.0 Related Document

3.0 Terminology and Definitions

4.0 The Quality Management System Manual

4.1 General Requirements Rev O

4.2 Documentation Requirement Rev O

5.0 Management Responsibility

5.1 Management Commitment Rev O

5.2 Customer Focus Rev O

5.3 Quality Policy Rev O

5.4 Planning Rev O

5.5 Responsibility, Authority and Communication Rev O

5.6 Management Review Rev O

6.0 Resource Management

6.1 Provision of Resources Rev O

6.2 Human Resources Rev O

6.3 Infrastructure Rev O

6.4 Work Environment Rev O

7.0 Product/Service Realization

| | | |
|-----|---|-------|
| 7.1 | Planning for Product/Service Realization | Rev O |
| 7.2 | Customer Related Processes | Rev O |
| 7.3 | Design and Development | Rev O |
| 7.4 | Purchasing | Rev O |
| 7.5 | Production and Service Provision | Rev O |
| 7.6 | Control of Monitoring and Measuring Devices | Rev O |

8.0 Measurement, Analysis and Improvement

| | | |
|-----|---|-------|
| 8.1 | General | Rev O |
| 8.2 | Monitoring and Measurement | Rev O |
| 8.3 | Control of Non-Conforming Product/Service | Rev O |
| 8.4 | Analysis of Data | Rev O |
| 8.5 | Improvement | Rev O |

Company Profile

API Pipeline Construction Company Limited was founded in 1989 by Feroze Hosein & Son and is presently located at API Complex, #51A Siparia Old Road, Fyzabad. Its original vision was to create an organization capable of handling cross-country pipeline construction of any magnitude or dimension and also other specialized services.

This vision has since been achieved, climaxing in the single largest pipeline project in Trinidad and Tobago to date being the AMOCO Trinidad - LNG Upstream Development Project in the construction of fifty-four (54) miles of 36" diameter pipeline from Galeota to Point Fortin.

While cross-country pipeline construction remains the Company's main strength, we have long since diversified into a range of services which include construction of tanks, structural steel, process piping and other mechanical type works including plant maintenance, plant turnaround and shutdown, equipment rental among other things.

Our fabrication and mechanical shop space comprises of approximately 6,000 square feet (covered/secured) and is fully outfitted with rollers, benders, lathes, welding sets and other related equipment. We also have fully outfitted Sandblasting facility located near by.

Along with API Pipeline Construction Company Limited, the following Companies were registered to operate under API PIPELINE CONSTRUCTION COMPANY LIMITED:
BZ's Limited
A&H Industrial Equipment Rental Company Limited
APISTAR Limited
Cross Atlantic Industrial Supplies Limited
Pegasus Engineering & Construction Limited

Our fleet of site equipment is extensive and state-of-the-art, enabling us to handle jobs of any size. We are in possession of the only fully computerized directional underground boring machine in the country.

Our safety record is unblemished. API Pipeline, in doing its job, acknowledges total respect for the environment. Our Environment, Health and Safety policy is properly in place to cater to the needs of the construction industry in this millennium.

Our Human Resource is valued with utmost respect as it is our most valued asset.

Organization Chart

Please see Appendix III

MISSION STATEMENT

To provide the highest quality goods & services to our clients in the Construction & Energy Industries on a timely basis, utilizing proficient technology and dynamic expertise.

We will create a wealth of opportunity for all stakeholders thereby sustaining growth while preserving a safe environment.

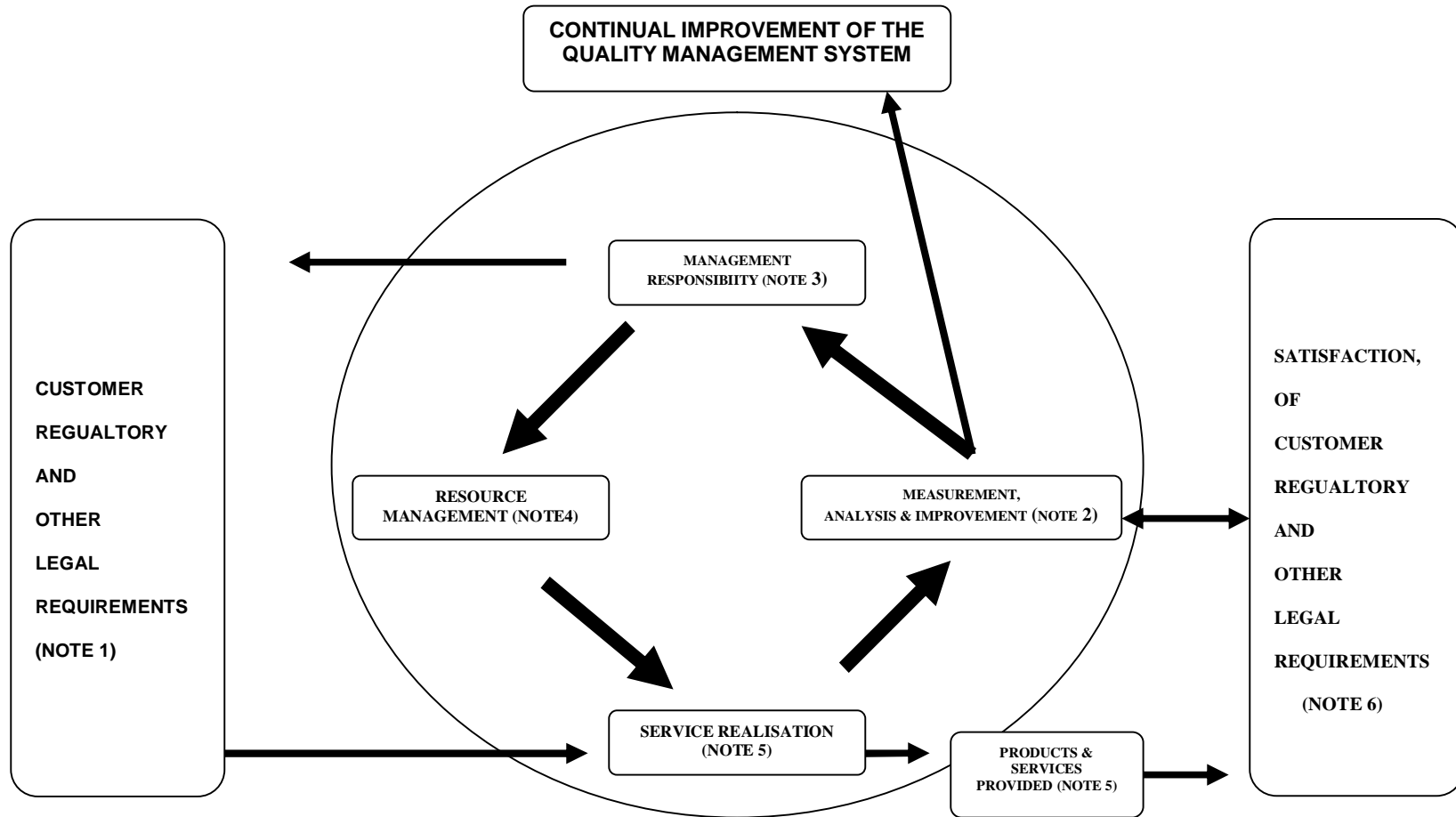
QUALITY POLICY STATEMENT

The Management & Staff of **API PIPELINE CONSTRUCTION COMPANY LIMITED** shall be committed to surpassing Customer's Expectations by delivering successful Projects, Products and Services of a superior quality, on a timely basis. The Company shall always be mindful of our natural environment as well as the legal, statutory and regulatory framework within which it operates.

We shall be the leader in the Construction and Energy Sectors in Trinidad & Tobago.

The Continual Improvement Process would be driven by competent, well-trained and experienced Employees using an appropriate mix of Specialized Equipment and Technology.

MACRO PROCESS FLOW DIAGRAM SHOWING A DESCRIPTION OF THE SEQUENCE AND INTERACTION BETWEEN PROCESSES IN THE QUALITY MANAGEMENT SYSTEM



Notes to the Macro Process Flow Diagram –

Note 1 – API PIPELINE determines the requirements specified by the customer as well as statutory and regulatory requirements related to the services provided.

Note 2 – API PIPELINE plans and implements the monitoring, measurement, analysis and improvement processes needed to demonstrate conformity of the services provided. Also, to ensure conformity of the QMS and to improve continually the effectiveness of the QMS. Further details of this can be found in Section 8.0 – Measurement, Analysis and Improvement of the QMS.

Note 3 – Top Management has provided and continues to provide evidence of its commitment to the development and implementation of the QMS and continually improving its effectiveness. Details of how Management does this can be found in Section 5.0 – Management Responsibility of the QMS.

Note 4 – API PIPELINE continually determines and provides the resources needed to implement and maintain the QMS. Details of this can be found in Section 6.0 – Resource Management

Note 5 – API PIPELINE provide Construction, Civil and Mechanical Services

Note 6 – Top Management at API PIPELINE has ensured that customer requirements are determined, and are met with the aim of enhancing customer satisfaction. Details of Customer Focus are contained in API-ADMN-003 (Procedure for Customer Satisfaction), and API-ADMN-004 (Procedure for Handling Customer Complaints)

1.0 Scope

1.1 The Quality Management System described within this manual includes the following activities and services provided:

Construction Services
Civil Services
Mechanical Services

The other businesses of API PIPELINE relating to maintenance, plant turnaround and equipment rental are presently outside the scope of the QMS but are planned for future inclusion.

1.2 Exclusions

There are no exclusions found in this manual.

1.3 Sections 4.0 – 8.0 of the Quality Management System Manual serves to direct the user from the policy statements to the procedures required to implement the policy, and/or to evidence which demonstrates compliance to ISO 9001(2000)

2.0 Related Documents

Documents related to this Quality Management System Manual include:

- 2.1 All procedures referenced within the pages of this document.
- 2.2 All work instructions that directly or indirectly have an impact on services provided or on processes that generate such services.
- 2.3 All forms used in conjunction with this Quality Management System Manual and with the associated procedures and work instructions described in 1 and 2 above.
- 2.4 ISO 9001 (2000) : Quality Management Systems - Requirements

3.0 Terminology and Definitions

3.1 Quality Policy

The overall intentions and direction of the Company related to Quality as formally expressed by Top Management.

3.2 Quality Procedure

The specified way to carry out an activity or a task or a process.

3.3 Work Instruction

The generic name for the detailed descriptions of work to be done for the provision of services; and the processes that generate such services.

3.4 Quality Management System

A management system to direct and control an organization with regard to quality.

3.5 Product and Service Realization

Product / Service realization is defined as all those processes, sub-processes and associated activities necessary to achieve service conformity; and to meet and exceed customer requirements

4.0 API PIPELINE CONSTRUCTION COMPANY LIMITED QUALITY MANAGEMENT SYSTEM MANUAL

4.1 General Requirements

API PIPELINE CONSTRUCTION COMPANY LIMITED (API PIPELINE) has established, documented, implemented and maintained a Quality Management System and continually improved its effectiveness in accordance with ISO 9001 (2000), legal, statutory, regulatory, customer, industrial, company or any other applicable requirements.

API PIPELINE has:

- a) Identified the processes needed for the quality system and their application throughout the organization
- b) Determined the sequence and interaction of these processes,
- c) Determined criteria and methods needed to ensure that both the operation and control of these processes are effective,

- d) Ensured the availability of resources and information necessary to support the operation and monitoring of these processes,
- e) Monitored, measured and analyzed these processes, and
- f) Implemented actions necessary to achieve planned results and continual improvement of these processes.

These processes are managed by **API PIPELINE** in accordance with the requirements of ISO 9001 or any other applicable or relevant requirements, including legal, regulatory, industrial and customer requirements.

Where **API PIPELINE** has chosen to outsource any processes that affect service conformity with requirements, the company has ensured control over such processes. Control of such outsourced processes are identified within the Quality Management System, via the Purchasing function.

NOTE 1: Processes needed for the Quality Management System referred to above includes processes for management activities, provision of resources, service realization and measurement.

4.2 Documentation Requirements

4.2.1 General

The Quality Management System documentation includes:

- a) A Documented statement of the Quality Policy
- b) Documented Quality Objectives,
- c) A Quality Management System Manual,
- d) Documented procedures required by ISO 9001 (i.e. procedures for Control of Documents, Control of Records, Control of Non-conforming service, Internal Audit; Corrective Action and Preventive Action).
- e) Documented Procedures needed by the company's Quality Management System to ensure the effective planning, operation and control of its processes. These are mainly departmental and other administrative procedures.
- f) Records required by ISO 9001 (See 4.2.4), and by the Quality Management System.

Details of documentation requirements are found in API-ADMN-001 – (Procedure for Creation and Control of QMS Documents and Records)

Note 2: A documented procedure means that the procedure has been established, documented, implemented, maintained, and continuously improved where necessary.

4.2.2 Quality Manual

API PIPELINE has established and maintained a Quality Management System Manual that includes:

- a) The scope of the Quality Management System, including details of and justification for any exclusions (See 1.0 Scope)
- b) References to the documented procedures established for the Quality Management System.
- c) A description of the interaction between the processes of the Quality Management System, via a macro process-flow diagram.

4.2.3 Control of Documents

Documents required by the Quality Management System are controlled. Records are considered a special type of document and are also controlled (See 4.2.4).

A documented procedure has been established to define the controls 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 documents are available at points of use,
- d) To ensure that documents remain legible and readily identifiable,
- e) To ensure that documents of external origin are identified and their distribution controlled, and
- f) To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for knowledge preservation or other purposes.

Details of Control of Documents are found in API-ADMN-001– (Procedure for Creation and Control of QMS Documents and Records

4.2.4 Control of Records

Records have been established and maintained to provide evidence of conformity to requirements, and evidence of the effective operation of the Quality Management System. Records are legible, readily identifiable and retrievable.

A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

Details of Control of records are found in API-ADMN-001 – (Procedure for Creation and Control of QMS Documents and Records

5.0 Management Responsibility

5.1 Management Commitment

Top Management has provided and continues to provide evidence of its commitment to the development and implementation of the Quality Management System and continually improving its effectiveness by:

- 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 quality objectives are established and reviewed,
- d) Conducting management reviews, and
- e) Ensuring the availability of resources.

Details of how Management conducts Management Reviews are contained in API-ADMN-006 (Procedure for Conducting Management Review Meetings).

5.2 Customer Focus

Top management has ensured that customer requirements are determined, and are met with the aim of enhancing customer satisfaction (See 7.2.1 and 8.2.1).

Details of Customer Focus are contained in API-ADMN-003 (Procedure for Customer Satisfaction), and API-ADMN-004 (Procedure for Handling Customer Complaints

5.3 Quality Policy

Top management has ensured that **API PIPELINE's** Quality Policy:

- a) Is appropriate to the purpose of the organization,
- b) Includes a commitment to comply with customer and other requirements and continually improve the effectiveness of the Quality Management System,
- c) Provides a framework for establishing and reviewing quality objectives,
- d) Is communicated and understood within the organization, (via display at appropriate locations), and
- e) Is reviewed for continuing suitability annually.

Note: **API PIPELINE's** Quality Policy is shown on Page seven of this Quality Management System Manual.

5.4 Planning

5.4.1 Quality Objectives

Top Management has ensured that quality objectives, including those needed to meet requirements for provision of services, are established at relevant functions and levels within the organization. The quality objectives are measurable and consistent with the quality policy (See 7.1 (a)).

The following criteria were considered for the initial development of measurable Quality Objectives:

- Customer Service
- Timeliness of Response/Delivery
- Staff Productivity
- Accuracy of Information / Documentation

Note: **API PIPELINE's** Quality Objectives are prominently displayed in important areas throughout the Company.

5.4.2 Quality Management System Planning

Top Management has ensured that:

- a) The planning of the Quality Management System is carried out in order to meet the general requirements (See 4.1) as well as the quality objectives, and
- 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

Top Management has ensured that responsibilities and authorities are defined and communicated to appropriate personnel within the organization, via an Organization Chart; and Job Descriptions and Job Specifications (See 6.2.1).

Details of Responsibility and Authority are contained in Personnel Files in the form of Job Descriptions.

The Organization Chart is shown in Appendix III of this Quality Management System Manual.

5.5.2 Management Representative/ISO Coordinator

Top Management has appointed one member of Management who, irrespective of other responsibilities, have the responsibility and authority that includes:

- a) Ensuring that processes needed for the Quality Management System are established, implemented and maintained,
- b) Reporting to Top Management on the performance of the Quality Management System and any need for improvement,
- c) Ensuring the promotion of awareness of customer requirements throughout the organization, and
- d) Liaison with external parties on matters relating to the Quality Management System.

A Record of the "Instruments of Appointment" for the ISO Coordinators/Management Representatives is available.

5.5.3 Internal Communication

Top Management has ensured that appropriate communication processes have been established within the organization and that communication takes place regarding the effectiveness of the Quality Management System. This process of communication includes verbal, memos, meetings, phone calls and internal e-mail.

5.6 Management Review

5.6.1 General

Top Management reviews **API PIPELINE's** Quality Management System, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review includes assessing opportunities for improvement and the need for changes to the Quality Management System, including the quality objectives, and if necessary, the Quality Policy.

Records from management reviews are maintained (See 4.2.4).

Details of Management Review are contained in API-ADMN-006 (Procedure for Conducting Management Reviews)

5.6.2 Review Input (Agenda)

The Input to Management Review includes information on:

- 1) Follow-up actions from previous management reviews,
- 2) Results of audits, (Internal and External)
- 3) Customer feedback, including complaints and surveys,
- 4) Product / Service and critical process performance,
- 5) Review of Quality Objectives (Every Management Review Meeting)
- 6) Review of Quality Policy (Once Annually)
- 7) Status of Corrective Actions,
- 8) Status of Preventive Actions
- 9) Changes that could affect the Quality Management System, and
- 10) Recommendations for improvement

5.6.3 Review Output (Minutes)

The output from the management review includes decisions/actions to be taken; all of which relate to:

- a) Improvement of the effectiveness of the Quality Management System and its critical processes,
- b) Improvement of services related to customer requirements, and
- c) Resource needs, if necessary, to implement (a) and/or (b) above.

6.0 Resource Management

6.1 Provision of Resources

API PIPELINE continually determines and provides the resources needed:

- a) To implement and maintain the Quality Management System and continually improve its effectiveness, and
- b) To enhance customer satisfaction by meeting and exceeding customer requirements.

6.2 Human Resources

6.2.1 General

Personnel performing work affecting service quality are deemed competent on the basis of appropriate education, training, skills and experience (via Job Description, Job Specifications; Performance appraisals, etc).

6.2.2 Competence, Awareness and Training

The organization has and continues to:

- a) Determine the necessary competence for personnel performing work affecting service quality.
- b) Provide training or take other actions to satisfy these training needs
- c) Evaluate the effectiveness of the training or actions taken (via Certification or Evaluations of training provided or actions taken, where necessary).
- 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, (See 5.5.2 (c) and 5.5.3).
- e) Maintain appropriate records of education, training, skills and experience (See 4.2.4).

Details of Competence, Awareness and Training are contained in API-HRES-002 – Procedure for Training and Development; and API-HRES-001– Procedure for Recruitment of Personnel.

6.3 Infrastructure

The organization has determined, provided and maintained the infrastructure needed to achieve conformity to service requirements. Infrastructure includes, as applicable:

- a) Buildings, workspace and associated utilities,
- b) Equipment (both hardware and software), and
- c) Supporting services (such as transport or communication).

Details of Infrastructure are contained in the company's Asset Register.

6.4 Work Environment

6.4.1 The organization has determined and managed the work environment needed to achieve conformity to service requirements; including where necessary, requirements for Environment, Health and Safety. Where **API PIPELINE** recognizes that certain factors in the work environment may affect conformity to service requirements, then **API PIPELINE** will take the necessary actions to minimize, mitigate or eliminate such factors. These factors may include: - Temperature, Humidity, Occupational Health and Safety, Psychological, Social, Cultural or other elements. Records of actions taken shall be maintained

7.0 Product and Service Realization

7.1 Planning for Service Realization

API PIPELINE has planned and developed the processes needed for service realization. Planning of service realization is consistent with the requirements of the other processes of the Quality Management System (see 4.1).

In planning for service realization, the organization has determined the following, as appropriate:

- a) Quality objectives and requirements for the provision of services
- b) The need to establish processes, documents, and provide resources specific to the services provided
- c) Required verification, validation, monitoring, inspection and test activities specific to the services and the criteria for services acceptance;
- d) Records needed to provide evidence that service realization processes and the resulting services meet requirements (see 4.2.4)

7.2 Customer-Related Processes

7.2.1 Determination of Requirements Related to the Services provides

API PIPELINE determines:

- a) Requirements specified by the customer, including the requirements for delivery of services and post-delivery activities,
- b) Requirements not stated by the customer but (where known) necessary for provision of services to the customer.
- c) Statutory and regulatory requirements related to the service provided; and
- d) Any additional requirements determined by **API PIPELINE's**.

7.2.2 Review of Requirements Related to the Provision of Services

API PIPELINE reviews the requirements related to the provision of services. This review is conducted prior to **API PIPELINE's** commitment to provide services to the customer (e.g. submission of tenders, acceptance of contracts or orders, changes to contracts or orders) and ensures that:

- a) Service requirements are defined,
- b) Contract or order requirements differing from those previously expressed are resolved, and
- c) **API PIPELINE** has the ability to meet the specified requirements, including delivery of services on time.

Records of the results of the review and actions arising from the review are maintained (See 4.2.4).

Where the customer provides no documented statement of requirements, the customer requirements are confirmed by **API PIPELINE** before acceptance.

Where service requirements are changed, the organization ensures that relevant documents are amended and the relevant personnel are made aware of the changed requirements.

7.2.3 Customer Communication

API PIPELINE has determined and implemented effective arrangements for communicating with customers in relation to:

- a) Services provided, via brochures, direct contact and website
- b) Enquiries, contracts or order handling, including amendments, and
- c) Customer feedback, including customer complaints and where possible, client feedback questionnaires after completion of a job or project; as well as customer surveys where necessary.

Customer communication may take place via phone, fax, e-mail and verbally during business transactions.

7.3 Design and Development

7.3.1 Design and Development Planning

API PIPELINE shall plan and control the design and development of products / services.

During the design and development planning, **API PIPELINE** the organization determines

- a) the design and development stages
- b) the review, verification and validation that are appropriate to each design and development stage, and
- c) the responsibilities and authorities for design and development.

API PIPELINE manages the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

Planning outputs are updated, as appropriate, as the design and development progresses

7.3.2 Design and Development Inputs

Inputs relating to product requirements are determined and records maintained (see 4.2.4). These inputs include

- a) functional and performance requirements,
- b) applicable statutory and regulatory requirements,
- c) where applicable, information derived from previous similar designs, and
- d) other requirements essential for design and development

These inputs are reviewed for adequacy in order to ensure that requirements are complete, unambiguous and not in conflict with each other.

7.3.3 Design and Development Outputs

The outputs of design and development are provided in a form that enables verification against the design and development input and must be approved prior to release.

Design and development outputs

- a) meet the input requirements for design and development,
- b) provide appropriate information for purchasing, production and service provision,
- c) contain or reference product acceptance criteria, and
- d) specify the characteristics of the product that are essential for its safe and proper use

7.3.4 Design and Development Review

At suitable stages, systematic reviews of design and development are performed in accordance with planned arrangements (see 7.3.1) in order to

- a) evaluate the ability of the results of design and development to meet requirements ,and
- b) identify any problems and propose necessary actions

Participants in such reviews include representatives of functions concerned with the design and development stage(s) being reviewed. Records of the results of the reviews and any necessary actions are maintained (see 4.2.4).

7.3.5 Design and Development Verification

Verification is performed in accordance with planned arrangements (see 7.3.1) to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions are maintained (see 4.2.4).

7.3.6 Design and Development Validation

Design and development validation is performed in accordance with planned arrangements (see 7.3.1) to ensure that the resulting product or service is capable of meeting the requirements for the specified application or intended use, where known. Wherever practicable, validation is completed prior to the delivery or implementation of the product or service. Records of the results of validation and any necessary actions are maintained (see 4.2.4).

7.3.6 Control of Design and Development Changes

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The review of design and development changes includes evaluation of the effect of the changes on constituent parts and product already delivered.

Records of the results of the review of changes and any necessary actions are maintained (see 4.2.4).

7.4 Purchasing

7.4.1 Purchasing Process

API PIPELINE ensures that purchased product/service conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product/service is dependent upon the effect of the purchased product/service on subsequent service realization or the final services provided by **API PIPELINE**.

API PIPELINE evaluates and select suppliers based on their ability to supply product/service in accordance with **API PIPELINE's** requirements. Criteria for selection, evaluation and re-evaluation of suppliers have been established. Records of the results of evaluations and any necessary actions arising from the evaluations are maintained (See 4.2.4).

Details of the Purchasing Process are contained in API-PURC-001 (Procedure for Purchasing and Supplier Evaluation)

7.4.2 Purchasing Information

Purchasing information describes the product/service to be purchased, including where appropriate:

- a) Requirements for approval of product/service, procedures, processes and equipment,
- b) Requirements for qualification of sub-contracted personnel
- c) **API PIPELINE's** Quality Management System requirements.

API PIPELINE ensures the adequacy of specified purchase requirements prior to their communication to the supplier, including confirmation/approval signature(s).

Details of Purchasing Information are contained in API-PURC-001 (Procedure for Purchasing and Supplier Evaluation)

7.4.3 Verification of Purchased Product

API PIPELINE has established and implemented the inspection or other activities necessary for ensuring that purchased products/services meets specified purchase requirements.

Where **API PIPELINE** or its customers intend to perform verification at the supplier's premises, **API PIPELINE** shall state the intended verification arrangements and method of product release or service delivery in the purchasing information.

Details of Purchasing Information are contained in API-MATE-001 (Procedure for Receiving, Storage and Issue of Items).

7.5 Service Provision

7.5.1 Control of Service Provision (Process Control)

API PIPELINE plans and carries out service provision under controlled conditions. Controlled conditions includes, as applicable:

- a) The availability of information that describes the characteristics of the service,
- b) The availability of work instructions, as necessary or required,
- c) The use of suitable equipment,
- d) The availability use and calibration of monitoring and measuring devices, where applicable.
- e) The implementation of monitoring and measurement, and
- f) The implementation of release, delivery and post-delivery activities for services provided

7.5.2 Validation of Processes for Product and Service Provision

API PIPELINE validates processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement. This includes processes where deficiencies become apparent only after the product is in use or service delivered. Eg. Welding and Coating.

API PIPELINE has established arrangements for these processes including as applicable:

- a. Defined criteria for review and approval of the processes
- b. Approval of equipment and qualification of personnel, via training and certification
- c. Use of specific methods and procedures
- d. Requirements for records
- e. Revalidation.

7.5.3 Identification and Traceability

Where appropriate, **API PIPELINE** identifies the services provided by suitable means throughout service realization.

API PIPELINE also identifies the status of service provided with respect to monitoring and measurement requirements.

Where traceability is a requirement, **API PIPELINE** controls and records the unique identification of each service provided.

Identification and Traceability is done via job numbers.

7.5.4 Customer Property

Where applicable, **API PIPELINE** always exercises due care with the customer property. **API PIPELINE** identifies, verifies, protects and safeguards customer property provided for use or incorporation into the services provided. If any customer property is lost, damaged or otherwise found to be unsuitable for use, this is reported to the customer and records maintained (See 4.2.4). Customer property may include the client's procedures, equipment and intellectual property.

7.5.5 Preservation of Product

API PIPELINE preserves the conformity of product during internal processing and delivery to the intended destination. This preservation includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

7.6 Control of Monitoring and Measuring Devices

API PIPELINE has determined the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements.

API PIPELINE has established processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements.

Where necessary to ensure valid results, measuring equipment is:

- a) calibrated or verified at specified intervals, or prior to use, against measurement standards, traceable to international or national measurement standards; where no such standards exist, the basis for calibration or verification shall be recorded;
- b) adjusted or re-adjusted as necessary;
- c) safeguarded from adjustments that would invalidate the measurement result;
- d) protected from damage and deterioration during handling, maintenance and storage.

In addition, **API PIPELINE** assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. **API PIPELINE** takes appropriate action on the equipment and any product / service affected. Records of the results of calibration and verification are maintained.

When used in monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

8.0 Measurement, Analysis and Improvement

8.1 General

API PIPELINE plans and implements the monitoring, measurement, analysis and improvement processes needed

- a) To demonstrate conformity of the services provided
- b) To ensure conformity of the Quality Management System, and
- c) To continually improve the effectiveness of the quality management system.

This includes determination of applicable methods, including data analysis and where applicable, statistical techniques.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the Quality Management System **API PIPELINE** monitors information relating to the customer perception, as to whether the organization has met customer requirements. The methods for obtaining and using this information shall be via:

- i. Customer complaints and feedback, and/or
- ii. Completion of client feedback questionnaire after each job or project; and/or
- iii. Conduct of customer surveys

Details of Customer Satisfaction are contained in API-ADMN-003 (Procedure for Customer Satisfaction) and API-ADMN-004 (Procedure for Customer Complaints).

8.2.2 Internal Audit

API PIPELINE conducts internal audits at planned intervals to determine whether the Quality Management System

- a) Conforms to the planned arrangements (See 7.1); to the requirements of ISO 9001 and to the Quality Management System requirements (i.e. Procedures) established by the organization, and
- b) Is effectively implemented, maintained and continually improved.

An audit programme exist which takes into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. Selection of auditors and conduct of audits ensures objectivity and impartially of the audit process. Auditors do not audit their own work.

The responsibilities and requirements for planning and conducting audits and for reporting results and maintaining records (See 4.2.4) are defined in a documented procedure.

The management responsible for the area being audited ensures that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results (See 8.5.2).

Details for Internal Audit are contained in API-ADMN-005 – (Procedure for Internal Auditing of the Quality Management System)

8.2.3 Monitoring and Measurement of Processes (Process Control)

API PIPELINE applies suitable methods for monitoring and, where applicable, measurement of the Quality Management System processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and correctives action are taken, as appropriate, to ensure conformity of the services provided.

Details of how processes are monitored and measured are contained In API-ADMN-002 - (Procedure For Continual Improvement Of The Quality Management System and Analysis of Data) To API-ADMN-009 - (Procedure For Control Of Non-Conforming Services Provided) , and via the Quality Objectives

8.2.4 Monitoring and Measurement of Services provided (Inspection and Testing)

API PIPELINE monitors and measures the characteristics of the services provided to verify that service requirements have been met. This is be carried out at appropriate stages of the service realization process in accordance with the planned arrangements (See 7.1)

Evidence of service conformity with the acceptance criteria is maintained. Records also indicate the person(s) authorizing release for delivery of services (See 4.2.4).

Service delivery cannot proceed until the planned arrangements (See 7.1) have been satisfactorily completed, or unless otherwise approved by a relevant authority and, where applicable, by the customer.

Details for Monitoring and Measurement of Service are contained In API-ADMN-002 - (Procedure For Continual Improvement Of The Quality Management System and Analysis of Data) To API-ADMN-009 - (Procedure For Control Of Non-Conforming Services Provided) and API-SUBC-001 - (Procedure For Control of Sub-Contracted Works) , and via the Quality Objectives

8.3 Control of Nonconforming Product/Service

API PIPELINE ensures that services provided which does not conform to customer or other specified requirements are identified and controlled to prevent further unintended service delivery. The controls and related responsibilities and authorities for dealing with nonconforming service provided have been defined in a documented procedure.

API PIPELINE deals with nonconforming product/service by one or more of the following ways:

- a) By taking action to prevent further unintended delivery of the service. (Scrap, dump, recycle, re-grade, etc)
- b) By taking action to eliminate the detected nonconformity; (redo or repeat the service)
- c) By authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained (See 4.2.4).

When nonconforming service is corrected, it is subject to re-verification to demonstrate conformity to the requirements.

When nonconforming service is detected after delivery, **API PIPELINE** takes action appropriate to the effects, or potential effects, of the nonconformity.

Details for Control of Nonconforming Service provided are contained in API-ADMN-009 (Procedure for Control of Non-Conforming Services Provided).

8.4 Analysis of Data

API PIPELINE continually determines, collects and analyzes appropriate data to demonstrate the suitability and effectiveness of the Quality Management System and to evaluate where continual improvement of the effectiveness of the Quality Management System can be made. This includes data generated as a result of monitoring and measurement, and from other relevant sources.

The analysis of data provides information relating to:

- a) Customer satisfaction (See 8.2.1)
- b) Conformity to the requirements of services provided (See 7.2.1)
- c) Characteristics and trends of processes and services provided including opportunities for preventive action, and
- d) Suppliers

Details for Analysis of data are contained in API-ADMN-002 (Procedure for Continual Improvement of the Quality Management System and Analysis of Data).

8.5 Improvement

8.5.1 Continual Improvement

API PIPELINE continually improves the effectiveness of the Quality Management System through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, management review, customer feedback and monitoring and measurement of processes/services provided.

8.5.2 Corrective Action

API PIPELINE takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered.

A documented procedure has been established to define requirements for

- a) Reviewing nonconformities (including customer complaints and feedback)
- b) Determining the causes of nonconformities
- c) Evaluating the need for action to ensure that nonconformities do not recur,
- d) Determining and implementing action needed,
- e) Recording of the results of action taken (See 4.2.4), and
- f) Reviewing corrective action taken.

Details of Corrective Action are contained in API-ADMN-007 (Procedure for Corrective Action).

8.5.3 Preventive Action

API PIPELINE determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

A documented procedure has been established to define requirements for

- a) Determining potential nonconformities and their causes,
- b) Evaluating the need for action to prevent occurrence of (potential) nonconformities,
- c) Determining and implementing action needed,
- d) Recording of results of action taken (See 4.2.4), and
- e) Reviewing preventive action taken.

Details for Preventive Action are contained in API-ADMN-008 (Procedure for Preventive Action).

APPENDIX I

LIST OF QUALITY MANAGEMENT SYSTEM PROCEDURES

| | | |
|-------------------------|---|---------------|
| 1 | Procedure for Creation and Control of QMS Docs | API -ADMN-001 |
| 2 | Procedure for Continual Improvement of the QMS and Analysis of Data | API -ADMN-002 |
| 3 | Procedure for Customer Satisfaction | API -ADMN-003 |
| 4 | Procedure for Handling Customer Complaints | API -ADMN-004 |
| 5 | Procedure for Internal Auditing of the QMS | API -ADMN-005 |
| 6 | Procedure for Conducting Management Reviews | API -ADMN-006 |
| 7 | Procedure for Corrective Action | API -ADMN-007 |
| 8 | Procedure for Preventive Action | API -ADMN-008 |
| 9 | Procedure for Control of Nonconforming Services Provided | API -ADMN-009 |
| 10 | Procedure for Calibration of Monitoring & Measuring Devices | API -ADMN-010 |
| DEPARTMENTAL PROCEDURES | | |
| 11 | Procedure for Recruitment & Selection of Personnel | API -HUMR-001 |
| 12 | Procedure for Training and Development | API -HUMR-002 |
| 13 | Procedure for Purchasing and Supplier Evaluation | API -PURC-001 |
| 14 | Procedure for Welding and Fabricating | API -WELF-001 |
| 15 | Procedure for Maintenance & Repairs of Vehicle, Equipment and Machinery | API -MECH-001 |
| 16 | Procedure for the Machine Shop | API -MACS-001 |
| 17 | Procedure for Sandblasting & Coating Department | API-SANC-001 |
| 18 | Procedure for Receiving, Storage & Issue of Items | API-MATE-001 |
| 19 | Procedure for Tendering of Jobs | API-PROJ-001 |
| 20 | Guidelines for Quality Management on Projects and Work sites | API-PROJ-002 |
| 21 | Guidelines for Quality Management of Emergency and Short Term Projects | API-PROJ-003 |
| 22 | Procedure for Tendering on Emergency and Short Term Jobs | API-PROJ-004 |
| 23 | Procedure for Design and Development | API-PROJ-005 |
| 24 | Procedure for Rental/Supply of Equipment/Labour | API-PROJ-006 |
| 25 | Procedure for Inspection done on Welded Pipelines | API-QAQC-001 |
| 26 | Procedure for Coating Inspection done on Welded Pipelines | API-QAQC-002 |
| 27 | Procedure for Pressure Testing of Welded Pipelines | API-QAQC-003 |
| 28 | Procedure for Control of Sub-Contracted Works | API-SUBC-001 |