

Document Title: QUALITY MANUAL – Level One

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Abstract

The Quality Manual establishes and states the policies governing Hoel Engineering Ltd's Quality Management System. These policies define management's arrangements for managing operations and activities in accordance with ISO 9001:2000. These top-level policies represent the plans or protocols for achieving quality assurance and client satisfaction.

This manual is intended for the sole use of Hoel Engineering Ltd., and is provided to clients for informational purposes only.

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1.0 PURPOSE

The purpose of this quality manual is to establish and state the general policies governing Hoel Engineering Ltd's Quality Management System. These policies define management's intended arrangements for managing operations and activities in accordance with the framework established by ISO 9001:2000. These are the top-level (Level One) policies representing the company's plans or protocol for achieving quality assurance and client satisfaction.

All departmental or functional policies and procedures written must conform and parallel these policies. All changes to policies and procedures are reviewed to ensure that there are no conflicts with the policies stated in this Quality Manual (QM).

2.0 SCOPE

The policies stated in this manual apply to all operations and activities at Hoel Engineering Ltd.

Our quality system applies as follows to the:

- a) Design, development, and construction of engineered projects;
- b) Definition, implementation, and maintenance of the procedures required by this manual and to ensure all processes conform to these requirements;
- c) Adherence to the procedures in support of these policies, continuous improvement in all activities, and processes used at Hoel Engineering Ltd.

3.0 RELATION TO ISO 9001:2000

For ease of reference, the sections of this manual are numbered to coincide with the equivalent section numbers of the ISO 9001:2000 standard.

The term "Project" in the context of this document refers to a "Project, Product, or Service."

The term "Quotation" in the context of this document refers to an "Engineering Fee Proposal."

The term "Request for Quotation (RFQ)" in the context of this document refers to a "Request For Quote from a Supplier or Contractor."

4.0 QUALITY MANAGEMENT SYSTEM

4.1 General Requirements

Through this manual and associated procedures and documents, Hoel Engineering Ltd has established, documented, and implemented a Quality Management System conforming to the requirements of ISO 9001:2000. The system is designed to result in continually improving the effectiveness of Hoel Engineering Ltd in the operation of the quality management system and in the ability to satisfy the clients' requirements.

Hoel Engineering Ltd's quality management system comprises three levels: Level One being the Quality Manual, Level Two being the Quality Procedures, and Level Three being Work Procedures.

This Quality Manual, along with the associated procedures, identifies the processes necessary for the Quality Management System at Hoel Engineering Ltd.

Maintenance of this system is the responsibility of the Quality Management Executive in conjunction with all Department Managers.

DESIGN/ CONTRACT BASED MODEL

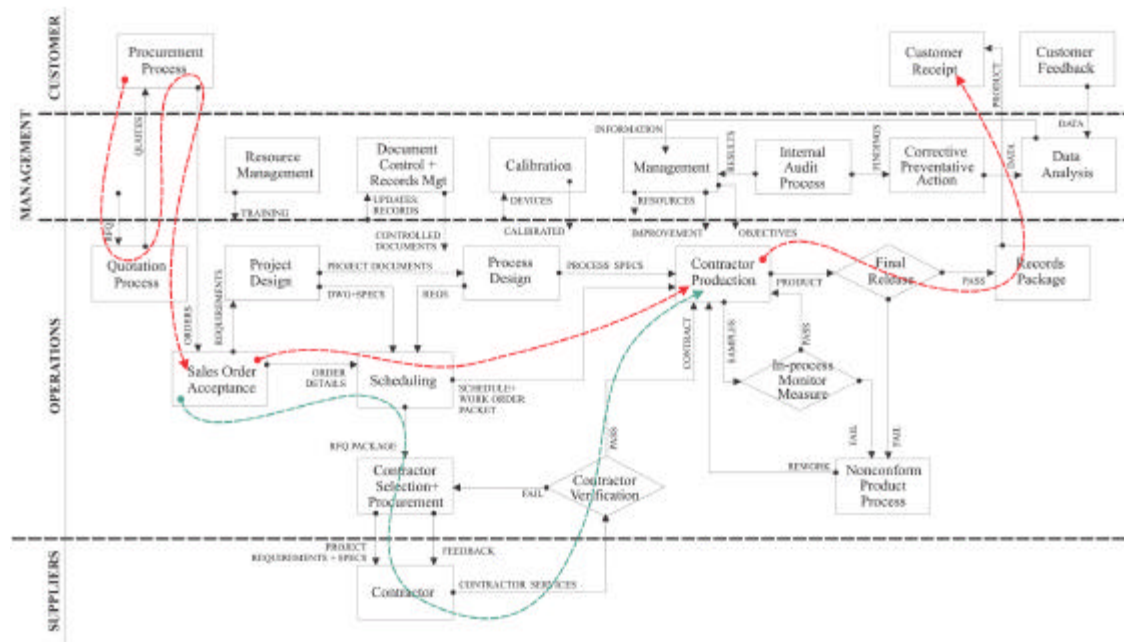


Table 1. Design / Contract Process Model

The Quality Manager maintains documentation that identifies the procedures within the process model and, in coordination with the department managers, defines and improves the procedures defining these processes. Procedures must include the methods necessary to ensure the effective operation, maintenance, and control of these processes. These processes are to be managed in accordance with the guidelines contained in ISO 9001:2000.

Management ensures the availability of documentation and resources to support the processes through regular interaction with personnel and through audit activities at quality management review meetings. Managers and senior personnel monitor, measure, and analyze processes and implement any actions necessary to achieve intended results and the continued improvement of these processes. These results are also audited at quality management review meetings.

Any processes that are outsourced, and that may affect project conformity to requirements, is to be controlled. The Quality Manager and appropriate manager(s) are responsible for defining the methods to control outsourced processes.

4.2 Documentation Requirements

4.2.1 General

This Quality Manual and the associated Quality Procedures documentation are intended to satisfy the ISO 9001:2000 documentation requirements for a quality manual, procedures, and statements of the quality policy and quality objectives. Records required by the ISO 9001 standard are identified in the appropriate Procedure.

Department managers and senior personnel are responsible for identifying any additional documents needed to ensure the effective planning, operation, and control of processes.

Procedures may vary in detail based on the size of the department involved and the type of activity performed. Procedure developers are to consider detail required based on the complexity of the processes, interactions, and competence of the personnel involved. Where competence is used to minimize the content in procedures, records (see QM section 6.2.2 Competence, Awareness, and Training) must support the decision.

Documents may be any medium including: software programs, electronic text files, or hardcopy documents.

4.2.2 Quality Manual:

This Quality Manual includes the scope of the Hoel Engineering Ltd quality system. Each section of this manual references appropriate processes. Interactions between processes are defined in this Manual or in the Quality Procedures.

4.2.3 Control of Documents:

All documents required by the Quality Management System (QMS) must be controlled. The Document Control Procedure defines the controls needed to:

- a) Approve documents for adequacy prior to issue;
- b) Review, update, and re-issue documents;
- c) Ensure that document changes and revision status is clear;
- d) Ensure that relevant current release versions of applicable documents are available at points of use;
- e) Ensure that documents remain legible and readily identifiable;
- f) Ensure that documents of external origin are identified and their distribution controlled;
- g) Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

4.2.4 Control of Records:

Procedures define the appropriate records that are to be maintained in order to provide evidence of conformity to requirements and of the effective performance of the QMS. Records must remain legible, readily identifiable, and retrievable. The Quality Records Procedure defines the controls needed for the identification, storage, protection, retrieval, retention time, and disposition of records.

4.3 **Referenced Procedures:**

QM1502 - DOCUMENT CONTROL

QM1504 - QUALITY RECORDS

5.0 MANAGEMENT RESPONSIBILITY

5.1 Management Commitment

Hoel Engineering Ltd shows its commitment to the quality management system through the development and implementation of this Quality Manual, and its associated procedures, instructions, and charts.

The Management Team, consisting of the executive managers, department/ project managers, and senior personnel, are accountable for ensuring that projects meet client as well as statutory and regulatory requirements.

5.2 Client Focus

The Management Team ensures that the focus on improving client satisfaction is maintained by setting and reviewing objectives related to client satisfaction at regular quality management review meetings.

5.3 Quality Policy

Hoel Engineering Ltd has established a Quality Policy that is appropriate to its organization and meets the requirements set forth in ISO 9001:2001. This policy is communicated throughout the company. Managers and senior personnel are responsible for ensuring that all employees understand the policy. To ensure this policy remains appropriate, it is reviewed at least annually at a quality management review meeting.

Hoel Engineering Ltd's - Quality Policy statement:

It is the policy of Hoel Engineering Ltd to design and deliver projects that meet or exceed clients' requirements and that comply with all statutory and regulatory requirements. The company accomplishes this by adhering to quality management and operational systems that recognize client satisfaction as a primary goal.

We strive to continually improve the effectiveness of the quality management system and the commitment to client satisfaction by monitoring the performance against the established objectives and through leadership that promotes employee involvement. This concept represents Hoel Engineering Ltd's commitment to quality and the increasing need to better serve a growing and demanding client base.

5.4 Planning

5.4.1 Quality Objectives:

Hoel Engineering Ltd establishes quality objectives on an annual basis. These objectives are measurable and consistent with the Quality Policy, and reviewed at least annually at quality management review meetings.

5.4.2 Quality Management System (QMS) Planning:

As part of annual strategic planning, Hoel Engineering Ltd establishes objectives for improvement of company services, processes, and client satisfaction. These objectives are supported by measures that track performance against those objectives. Managers, in turn, set departmental objectives with specific performance measures and targets that support the company objectives.

If changes to the quality management system are considered, either to meet objectives or because of changing business conditions, they are to be reviewed by the management team to ensure that the integrity of the quality system is maintained.

5.5 Responsibility, Authority, and Communication

5.5.1 Responsibility and Authority:

The responsibilities and authorities at Hoel Engineering Ltd are defined in each Job Description as well as the Management Responsibility procedure. Job Descriptions are posted on the company intranet and are also used during annual performance reviews.

5.5.2 Management Representative:

The Quality Manager has the responsibility and authority to:

- a) Ensure that processes needed for the quality management system are established, implemented, and maintained;
- b) Report to executive management on the performance of the quality management system and necessary improvements;
- c) Ensure the promotion of awareness of client requirements throughout the organization;
- d) Serve as the liaison with external parties on matters relating to the quality management system.

5.5.3 Internal Communication:

In accordance with the policy of “leadership through employee involvement”, Hoel Engineering Ltd has policies that recognize open communication throughout the organization.

The effectiveness of the quality management system is validated through internal audit, corrective and preventive action, and the departmental performance measurement. Except for confidential information, company and departmental performance results are posted for review. Internal audit results, and corrective / preventive actions are shared at departmental meetings as appropriate.

5.5.4 Referenced Procedures:

QM1506 - MANAGEMENT RESPONSIBILITY

QM1508 - JOB DESCRIPTIONS

5.6 Management Review

5.6.1 General:

The Management Team reviews the QMS on a semi-annual basis, or more frequently, if needed, to ensure its continuing suitability, adequacy, and effectiveness. The QMS review should include assessing opportunities for improvement and the need for changes to the QMS.

Records of the Review Input and Output from meetings are to be maintained.

5.6.2 Review Input:

The Quality and Department Managers provide the following information for quality management review meetings:

- a) Results of audits;
- b) Client feedback;
- c) Process performance and project conformity;
- d) Status of preventive and corrective actions;
- e) Follow-up actions from previous management reviews;
- f) Changes that could affect the quality management system;
- g) Recommendations for improvements.

5.6.3 Review Output:

Records should include the output from the management review and any decisions or actions related to:

- a) Improvement of the effectiveness of the quality management system and its processes;
- b) Improvement of services related to client requirements;
- c) Resource needs.

5.6.4 Referenced Procedures:

QM1506 - MANAGEMENT RESPONSIBILITY

QM1508 - JOB DESCRIPTIONS

6.0 RESOURCE MANAGEMENT

6.1 Provision of Resources

During planning and budgeting processes, and as necessary throughout each year, the management team determines and ensures that the appropriate resources are available to implement and maintain the quality management system and continually improve its effectiveness and enhance client satisfaction by meeting client requirements.

6.2 Human Resources

6.2.1 General:

Personnel performing work affecting project quality must be competent based on appropriate education, training, skills, and experience.

6.2.2 Competence, Awareness, and Training:

The minimum competencies required for each position at Hoel Engineering Ltd are defined in each position's Job Description. Human Resources, managers, and senior personnel are responsible for ensuring job descriptions are current.

Where required, additional training for personnel must be carried out in order to meet the minimum competency requirements. Each department provides task-specific training. General training or education is provided or coordinated through Human Resources. The appropriate department and / or Human Resources evaluates the effectiveness of training or education programs.

Each department generates records of task-specific training. The Human Resources department maintains records of all training and education, skills, and experience.

Managers are responsible for ensuring that employees are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

6.2.3 Referenced Procedures:

QM1508 - JOB DESCRIPTIONS

QM1510 - COMPETENCE, AWARENESS, AND TRAINING

6.3 Infrastructure

Hoel Engineering Ltd provides the infrastructure necessary to achieve conformity to process requirements. During the annual budgeting and strategic planning, processes, buildings, workspace, and associated equipment are evaluated for required improvements. When new personnel are added, Human Resources coordinates to ensure that appropriate workplace materials, equipment, and training are provided.

6.4 Work Environment

The management team administers the work environment to ensure that personnel have a safe and desirable place to work, and that the environment is appropriate for achieving conformity to QMS requirements.

7.0 PROJECT REALIZATION

7.1 Planning of Project Realization

Hoel Engineering Ltd has planned and developed the processes needed to provide clients with services that meet their requirements. The results of this planning are the processes and procedures defined in the Quality Management System documentation. These processes and procedures include the quality objectives and requirements for client projects, the required verification, validation, monitoring, review, and test activities specific to client projects and the criteria for finished project acceptance verification. The records needed to provide evidence that these processes and the resulting project meet requirements are defined in the procedures. Consideration is given for the need to establish processes, documents, and obtain resources specific to a new project, as they are developed, or during contract review.

7.2 Client Related Processes

7.2.1 Determination of Requirements Related to Project:

Project requirements are usually defined by obtaining information as follows:

- a) Requirements specified by the client during the quotation process;
- b) Requirements specified by the authorities having jurisdiction;
- c) Requirements specified by the external organizations;

- d) Requirements determined based on best judgment and normally accepted practices.

During the quotation process, requirements specified by the client, including delivery and post-delivery activities, are defined. Requirements not stated by the client, but that may be necessary for the projects' specified or intended use, are identified by a combination of authorities having jurisdiction, external organizations, or as established by Engineering. Engineering also identifies statutory and regulatory requirements related to the project.

Requirements and change requests determined by external organizations or the authorities having jurisdiction are also normally communicated during the course's design review.

7.2.2 Review of Requirements Related to Project

Before committing to the client, Hoel Engineering Ltd reviews the client's requirements related to the project to ensure that requirements can be met. These reviews include reviews of the fee proposal, orders, and change orders.

The purpose of these reviews is to determine if the projects' requirements are adequately defined. Any requirements differing from those previously understood or contracted are resolved. Hoel Engineering Ltd also reviews its ability to meet the defined or re-defined requirements in terms of performance and delivery.

Where a client provides a verbal order, an order confirmation is generated and sent to the client to ensure agreement on the requirements.

The Project Manager coordinates change orders or contract amendments to ensure that these items are reviewed by the appropriate departments and that work orders, sales orders, and any other documents are updated, and affected personnel are made aware of the changes.

These reviews are defined in the Quotation Process procedure. Required records are also defined in these processes.

7.2.3 Client Communication:

In keeping with the company's commitment to client satisfaction, Hoel Engineering Ltd views effective client communication as an essential element of client satisfaction. Appropriate handling of communications can reduce client dissatisfaction in situations and in many cases turn a dissatisfying scenario into a satisfying experience.

The Client Services Department is responsible for establishing communication methods to ensure that enquiries, contracts, or order handling, including amendments and client feedback, are handled expeditiously and professionally.

The Sales and Marketing Department has primary responsibility for developing corporate information and literature. Sales and Marketing and Client Services are the primary client contacts for corporate information.

Marketing and the Information Systems department manage the corporate web site. New web pages or changes to contents are reviewed to ensure that commitments expressed in the catalogue and advertising in the website can be met.

7.2.4 Referenced Procedures:

QM1512 - QUOTATION PROCESS

QM1514 - SALES ORDERS

QM1516 - CLIENT COMPLAINTS

7.3 **Design and Development**

The design phase is the most important phase in the life cycle of a project. The inherent quality, effectiveness, safety, and client satisfaction of a project are established during this phase.

To ensure that specified requirements are met, the following activities are applicable for the design of a project:

7.3.1 Design and Development Planning:

A Design Plan is to be prepared for a new design project or extensive modification to an existing project. The person assigned as Project Manager is responsible for developing a Design Plan that defines the design and development stages, and the review, verification, and validation that are appropriate to each design and development stage.

Responsibilities and authorities for design and development are defined in Job Descriptions.

Responsibilities and authorities for tasks related to a specific design and development project are assigned by the Engineering Manager and may be reflected in the project plan. The Design Plan must be updated as changes occur and the design progresses.

The Project Manager is responsible for managing the scheduling and planning of the project and the interfaces between all organizations involved. The Project Manager ensures that the progress of tasks assigned during design review meetings is followed-up and communicated to the design team or appropriate department.

7.3.2 Design and Development Inputs:

Design Input requirements that are applicable to a project should be identified, documented, and reviewed for adequacy. These Inputs include:

- a) Functional and performance requirements;
- b) Applicable statutory and regulatory requirements;
- c) Where applicable, information derived from previous similar design;
- d) Other requirements essential for design and development.

7.3.3 Design and Development Output:

Design and development output is to be provided in a form that enables verification against the design and development input and is to be approved prior to release. These outputs may be in the form of technical specifications, documents, drawings, bills of materials, etc.

Design and development output must:

- a) Meet the input requirements for design and development;
- b) Provide the appropriate information for tendering and provision of construction services;
- c) Contain or reference project acceptance criteria;

- d) Specify the characteristics of the project that are essential for its safe and proper use.

7.3.4 Design and Development Review:

At the appropriate stages, systematic reviews of the Design and Development should be performed in accordance with planned arrangements.

- a) To evaluate the ability of the results of design and development to meet requirements;
- b) To identify and resolve problem areas.

Participants in such reviews include the Project Manager and representatives of functions concerned with the design and development stage(s) being reviewed. Records of the results of the reviews and any necessary actions should be maintained.

7.3.5 Design and Development Verification:

Design and development verification confirms, by objective review, that the specified design and development outputs have met the design and development input requirements.

Records of the results of the verifications and any necessary actions are to be maintained.

7.3.6 Design and Development Validation:

Design and Development validation must be performed in accordance with planned arrangements to ensure that the resulting project is capable of meeting the requirements for the specified application or intended use, where known.

Wherever practicable, validation should be completed before the delivery, implementation, or commissioning of the project.

Records of the results of validation and any necessary actions are to be maintained.

7.3.7 Control of Design and Development Changes:

Design and development changes are to be identified and records maintained. The changes must be reviewed, verified, and validated, as appropriate before implementation.

The review of design and development changes must include evaluation of the effect of the changes on constituent parts already provided/ delivered.

Records of the results of the review of changes and any necessary actions are to be maintained.

7.3.8 Referenced Procedures:

QM1522 - DESIGN AND DEVELOPMENT

QM1524 - DESIGN CHANGE

QM1526 - PRE-PRODUCTION QUALITY PLANNING

7.4 Request For Quotations (RFQ) - Contracted Services

7.4.1 Requesting Contracted Services Process

Hoel Engineering Ltd ensures that requested services conform to the specified contract requirements. The type and extent of control applied to the contractors and their product or services are to be dependent upon the effect of the purchased product or services on subsequent project realization or final project.

Hoel Engineering Ltd evaluates and recommends suppliers or contractors based on their ability to supply in accordance with company requirements. Criteria for selection, evaluation, and re-evaluation are defined in the Supplier Evaluation procedure.

Records of the results of evaluations and any necessary actions arising from the evaluation are maintained.

7.4.2 Contracted Services - RFQ Information:

RFQ information describes the product/ services to be to be contracted, including where appropriate:

- a) Requirements for approval of project, processes, and equipment;
- b) Requirements for qualification of personnel;
- c) Quality-control requirements.

Hoel Engineering Ltd ensures the adequacy of the specified RFQ requirements before communication with the contractor.

7.4.3 Verification of Contracted Product or Services

Hoel Engineering Ltd establishes and implements the review or other activities necessary for ensuring that the contracted products or services meet specific contract requirements.

In the event that Hoel Engineering Ltd is to perform verification, the verification arrangements and method of product approval/ release must be stated in the RFQ information.

7.4.4 Referenced Procedures:

QM1528 - SUPPLIER EVALUATION

QM1530 - PURCHASING

7.5 Construction Services Provision

7.5.1 Control of Construction Services Provision:

Where specified, Hoel Engineering Ltd plans and completes construction services activities under controlled conditions. Controlled conditions include, as applicable:

- a) The availability of information that describes the characteristics of the project;
- b) The availability of work instructions, as necessary;
- c) The use of suitable equipment;
- d) The availability and use of monitoring and measuring devices;
- e) The implementation of monitoring and measurement;
- f) The implementation of release, delivery, and post-delivery activities.

7.5.2 Validation of Processes for Construction Services Provision:

Hoel Engineering Ltd validates processes used for construction services provision where the resulting output cannot be verified by subsequent monitoring or measurement.

Validation demonstrates the ability of these processes to achieve planned results.

Hoel Engineering Ltd establishes arrangements for these processes, including, as applicable, documentation of the following:

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

7.5.3 Identification and Traceability:

Hoel Engineering Ltd identifies a project by suitable means throughout the component life cycle.

Hoel Engineering Ltd identifies the project status regarding monitoring and measurement requirements.

7.5.4 Client Property:

Hoel Engineering Ltd is to exercise care with client property (including intellectual property) while it is under company control or being used.

Hoel Engineering Ltd identifies, verifies, protects, and safeguards client property provided for use or incorporation into a project. If any client property is lost, damaged or otherwise found to be unsuitable for use, it must be reported to the client, and records maintained.

7.5.5 Preservation of Materials, Components, and Information:

Hoel Engineering Ltd handles materials, components, and information in a manner that preserves their conformity during internal processing and delivery. This preservation includes identification, handling, packaging, storage, and protection.

7.5.6 Referenced Procedures:

QM1532 –RECEIVING AND REVIEW

QM1534 - SCHEDULING

QM1536 - PRODUCTION

QM1544 - CLIENT PROPERTY

7.6 Control of Monitoring and Measuring Devices

Hoel Engineering Ltd determines the monitoring and measurement to be undertaken and the devices needed to provide evidence of conformity of project to determined requirements.

Hoel Engineering Ltd establishes processes to ensure that monitoring and measurement can be carried out and are carried out in a manner consistent with the monitoring and measurement requirements.

7.7 Calibration Activities

Where necessary to ensure valid results, measuring equipment must be:

- 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 used for calibration or verification must be recorded;
- b) Adjusted or re-adjusted as necessary;
- c) Identified to enable the calibration status to be determined;
- d) Be safeguarded from adjustments that would invalidate the measurement result;
- e) Be protected from damage and deterioration during handling, maintenance, and storage.

In addition, Hoel Engineering Ltd assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. The organization takes appropriate action on the equipment and any project affected.

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application should be confirmed.

Records of the results of calibration and verification must be maintained.

7.7.2 Referenced Procedures:

QM1546 - CONTROL OF MONITORING & MEASURING DEVICES

8.0 MEASUREMENT, ANALYSIS, AND IMPROVEMENT

8.1 General

Hoel Engineering Ltd plans and implements the monitoring, measurement, and improvement processes needed to:

- a) Demonstrate conformity of the services;
- b) Ensure conformity to the quality management system;
- c) Continually improve the effectiveness of the quality management system.

This includes determination of applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and Measurement

8.2.1 Client Satisfaction:

As one of the measurements of the performance of the quality management system, Hoel Engineering Ltd monitors information relating to client perception as to whether the company has met client requirements.

The methods for obtaining and using this information are defined in the Client Satisfaction procedure.

8.2.2 Internal Audit:

Hoel Engineering Ltd conducts internal audits at planned intervals to determine whether the quality management system conforms to:

- a) The planned arrangements for project realization, to the requirements of the ISO9001: 2000 standard, and to the quality management system requirements established by Hoel Engineering Ltd;
- b) Effective implementation and maintenance.

An audit program is to be planned, taking 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 must be defined. Selection of auditors and conduct of audits ensures the objectivity and impartiality of the audit process. Auditors must not audit their own work.

The responsibilities and requirements for planning and conducting Audits, and for reporting results and maintaining records are defined in the quality procedures.

The management responsible for the area being audited must ensure 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.

8.2.3 Monitoring and Measurement of Processes:

Hoel Engineering Ltd applies suitable methods for monitoring and, where applicable, measurements of the QMS processes. These methods demonstrate the ability of the processes to achieve planned results. When the planned results or conformity to the quality management objectives are not achieved, corrective action must be taken.

8.2.4 Monitoring and Measurement of Projects:

Hoel Engineering Ltd monitors and measures the characteristics of projects to verify that the requirements have been met. This is to be carried out at the appropriate stages of the project realization process, in accordance with the planned arrangements.

Evidence of conformity with the acceptance criteria must be maintained. Records must indicate the person(s) authorizing release.

Release of projects, or the delivery of services must not proceed until the activities defined in the quality plan have been satisfactorily completed. Any exceptions must be approved by management and, where applicable, by the client.

8.2.5 Referenced Procedures:

QM1548 - CLIENT SATISFACTION

QM1550 - INTERNAL QUALITY AUDITS

QM1552 - MONITORING & MEASUREMENT OF PROCESS

QM1556 - DATA ANALYSIS AND CONTINUAL IMPROVEMENT

QM1558 - CORRECTIVE ACTION

8.3 Control of Nonconforming Projects or Components

Projects that do not conform to requirements are to be identified and controlled to prevent their unintended use or delivery.

8.3.1 Nonconformance Actions:

Hoel Engineering Ltd deals with nonconformances by one or more of the following methods:

- a) By taking action to eliminate the detected nonconformity;
- b) Authorizing its use, by way of release or acceptance under concession, by a relevant authority and, where applicable, by the client;
- c) By taking action to preclude its original intended use or application.

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, must be maintained.

When a non-conformance is corrected, it is to be subject to re-verification to demonstrate conformity to the requirements.

When a non-conformance is detected after delivery or use has started, Hoel Engineering Ltd takes action appropriate to the effects, or potential effects, of the nonconformity.

8.3.2 Referenced Procedures:

QM1554 - CONTROL OF NON-CONFORMANCES

QM1504 - QUALITY RECORDS

8.4 Analysis of Data

8.4.1 Quality Management System Evaluation:

Hoel Engineering Ltd 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 is to provide information relating to:

- a) Client satisfaction;
- b) Conformity to requirements;
- c) Characteristics and trends of processes and projects including opportunities for preventive action;
- d) Suppliers/ Contractors.

8.4.2 Referenced Procedures:

QM1504 - QUALITY RECORDS

QM1516 - CLIENT COMPLAINTS

QM1548 - CLIENT SATISFACTION

QM1554 - CONTROL OF NONCONFORMANCES

QM1556 - DATA ANALYSIS AND CONTINUAL IMPROVEMENT

8.5 Improvement

8.5.1 Continual Improvement:

Hoel Engineering Ltd continually improves the quality management system effectiveness using the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, and management review programs.

8.5.2 Corrective Action:

Hoel Engineering Ltd takes action to eliminate the cause of non-conformities in order to prevent recurrence.

Corrective actions relates to the nonconformities encountered.

The Corrective Action Procedure defines requirements for:

- a) Reviewing nonconformities (including client complaints);
- 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) Records of the results of action taken;
- f) Reviewing corrective action taken.

8.5.3 Preventive Action:

Hoel Engineering Ltd takes action to eliminate the causes of potential nonconformities in order to prevent their recurrence. Preventive actions are to be appropriate to the effects of the potential problems.

The Preventive Action Procedure defines requirements for:

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

8.5.4 Referenced Procedures:

QM1556 - DATA ANALYSIS AND CONTINUAL IMPROVEMENT

QM1558 - CORRECTIVE ACTION

QM1560 - PREVENTIVE ACTION

Quality Manual Revision History

| Revision | Date | Description of changes | Requested By |
|-----------------|-------------|-------------------------------|---------------------|
| 0 | 030629 | First Draft | |
| 0 | 031009 | Initial Release | JH |
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