



ANCHOR MARINE SERVICES PTY LTD

MARINE SURVEY | NAVAL ARCHITECTURE | CLIENT REPRESENTATION

QUALITY MANAGEMENT SYSTEM

MANUAL FOR COMPLIANCE WITH REQUIREMENTS OF ISO 9001:2008

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1 Approval and Revision

1.1 Approval

This "ISO 9001 Quality Manual with Quality Procedures" has been approved for use throughout Anchor Marine Services:

Date of Initial Version: August 22, 2011

Name and Title of Approver: Mr Justin Bentink (Director)

Date of Approval: [REDACTED]

This "ISO 9001 Quality Manual with Quality Procedures" was written and published by **Mr Justin Bentink** of Anchor Marine Services ABN: 36 152 801 119. Please contact justin.bentink@anchorms.com.au with questions, comments and improvement ideas.

2 Company

2.1 Vision

To establish Anchor Marine Services as a trusted and respected supplier of Representation services to clients in the Marine services sector, initially to clients in Western Australia at whichever location worldwide that they operate, and then by developing trusted relationships to gain greater market acceptance as an ethical service provider and to expand beyond Australia into Asia and the Far East.

It is the aim of the Directors of Anchor Marine Services to implement this QMS, as a precursor to attaining full ISO 9001 certification. As a company dedicated to ensuring compliance with Marine Standards, AMS shall, in its own internal systems hold itself accountable to demonstrate that AMS will also conduct itself within a visible QMS.

2.2 Mission

To supply Independent and Unbiased representation to the Marine and Offshore industries. To serve our clients interests, and provide them with a level of confidence and surety that is unquestionable, while promoting our core values.

Stewardship

By fulfilling our obligation of building a better, stronger and more durable company. Protecting the Anchor Marine Services brand. exceeding our obligations, developing our people and helping improve communities. In addition, to act with all due diligence to ensure the safety of life, ethical and responsible management of assets, and protection of the environment.

Represent with Honesty and Integrity.

Being Unbiased, Reliable, acting with Steadfastness and maintaining a stance of independence that allows us to be ethically unyielding. By being honest and inspiring trust by saying what we mean, matching our behaviors to our words and taking responsibility for our actions.

Adding value to our Clients

Enabling clients to maintain or increase performance and create long-term relationships by being responsive and relevant and by consistently delivering value.

Protect our Clients Reputation

Assisting our clients to assess and avoid potential risks that may damage their reputation, or increase their liability, and to transfer the confidence placed in us, into building confidence from others in our clients.

Active promotion of raising AMS skill base

Attracting, developing and retaining the best talent for our business, challenging our people, demonstrating a “can-do” attitude and fostering a collaborative and mutually supportive environment

3 Scope and Exclusions

3.1 Scope

This Manual specifies the Quality Management System requirements to demonstrate Anchor Marine Services capability to provide product (services) that meets customer and applicable statutory and regulatory requirements using a Quality System in accordance with ISO 9001:2008.

This manual is focused on the achievement of ongoing improvement as measured through the satisfaction of customers and other interested parties. Additionally, the requirements specified in this Manual are designed to prevent the creation of nonconforming product and to correct such non-conformance should it occur.

This Manual provides specific procedures and requirements to be applied within all departments within the scope of the Anchor Marine Services **program to attain ISO 9001:2008 registration**.

Those production departments (service types) are: Marine Survey, Naval Architecture and Engineering, Project Management and Client Representation. All Administrative processes are included within the scope of this Quality Management System.

The Manual does not provide detailed work instructions or test procedures. The operating departments will develop these requirements to meet their needs while conforming to and referring to the Procedures and requirements of this Manual.

3.2 Exclusions

The following requirements of ISO 9001:2008 are excluded due to the nature of our company and our products in compliance with Paragraph 1.2 of ISO 9001:2008:

3.3 References and Inclusions

ISO 9001:2008:

Revision Date: [REDACTED]

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All references to ISO 9001 in this manual refer to the requirements of ISO 9001:2008. Starting with Chapter 4 “Quality Management System”, the numbering system of this “ISO 9001 Quality Manual with Quality Procedures” directly corresponds to the numbering system of the requirements section of ISO 9001:2008.

Quality Procedures:

We documented certain key processes of our quality management system through more detailed quality procedures as required by ISO 9001:2008. These Quality Procedures are established, documented, implemented and maintained, they are part of our Quality Management System, and they are included within the following chapters:

- Chapter 4.2.3: Control of Documents
- Chapter 4.2.4: Control of Records
- Chapter 8.2.2: Internal Audits
- Chapter 8.3: Nonconforming Product
- Chapter 8.5.2: Corrective Action
- Chapter 8.5.3: Preventive Action

3.4 Quality Management / Manual Maintenance and Distribution

3.4.1 Contents

The contents of this Manual are the responsibility of the Company Managing Director. The Managing Director is the Director of Quality Assurance for Anchor Marine Services Pty Ltd.

3.4.2 Authorization

The Company Managing Director is authorized by the Board of Anchor Marine Services to develop, maintain, authorize and distribute the AMS Quality Management Manual including the Quality Policy.

3.4.3 Revisions and Revision Record

Revisions may be requested by any Employee of AMS. Requests should be forwarded to the Managing Director, for consideration, review, approval and implementation. The Managing Director will maintain a record of all revisions of this Manual. A summary of Revision is recorded in section 1.4.

3.5 Quality Management Manual Distribution

3.5.1 Controlled Distribution

A list of controlled copy holders is maintained by the Managing Director. Only the Managing Director, or his designee, is permitted to make and distribute copies of this Manual. Copy holders are personally responsible for the upkeep of their Manual. All controlled copies will be stamped: "CONTROLLED COPY" in red.

3.5.2 Uncontrolled Distribution

Occasionally, it may be desirable to issue copies of this Manual for informational purposes only. In such cases, it will not be necessary to add the names of the recipients to the distribution list. For this purpose, the Managing Director, or his designee, will provide a copy marked as "REFERENCE COPY", or "UNCONTROLLED COPY".

3.6 Revision History

The following revisions have been made to this "ISO 9001 Quality Manual with Quality Procedures" since its initial publication:

| Revision Date | List of Changes | Author (Name & Date) | Approval (Name & Date) |
|---------------|--|------------------------|------------------------|
| 21/03/2013 | 4.2.4.2 – addition of record management points | J.Bentink 21.3.2013 | J.Bentink 21.3.2013 |
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4 Quality Management System

4.1 General Requirements

Anchor Marine Services has established, documented, and implemented a quality management system that meets the requirements of ISO 9001:2008. Anchor Marine Services maintains this Quality Management System and continually improves its effectiveness, as required by ISO 9001:2008, through the use of the quality policy, quality objectives, audit results, analysis of data, corrective action, preventive action and management reviews.

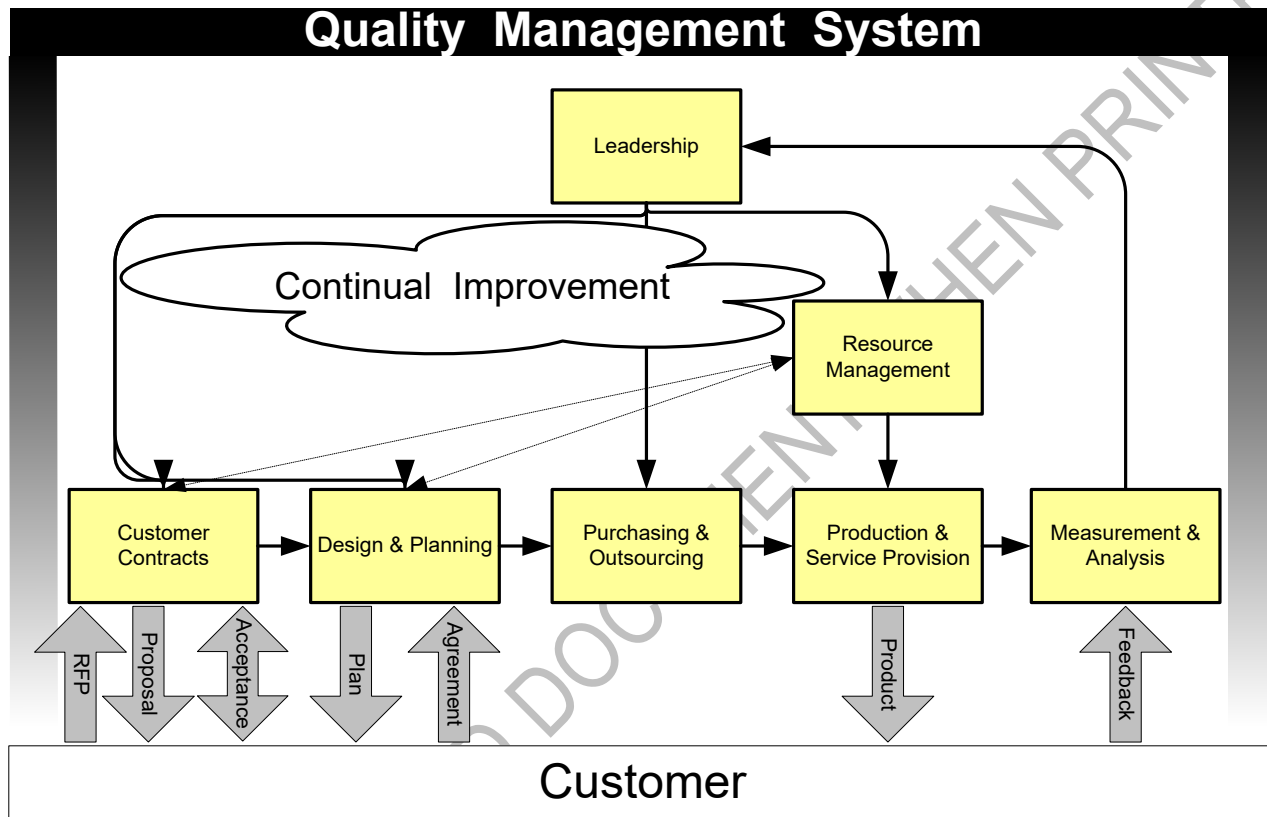
- Our Quality Management System has determined the processes needed for its operation and their application throughout Anchor Marine Services. These processes include processes for management activities, provision of resources, product realization and measurement.
- Our Quality Management System has determined the sequence and the interaction of these processes. They are documented in chapter 4.1.1 in form of a process flowchart.
- Our Quality Management System has determined the criteria and methods needed to ensure that both the operation and control of these processes are effective. They are documented in form of work instructions, quality plans and other documents.
- Our Quality Management System ensures the availability of resources and information necessary to support the operation and monitoring of these processes.
- Our Quality Management System ensures that these processes are monitored, measured where applicable, and analyzed by us.
- Our Quality Management System ensures that necessary actions are implemented to achieve planned results and continual improvement of these processes.

Anchor Marine Services manages these processes in accordance with the requirements of ISO 9001:2008.

Where Anchor Marine Services chooses to outsource any process that affects how our products meet requirements, Anchor Marine Services ensures control over such processes. Our Quality Management System identifies the type and extent of control of such outsourced processes (refer to Chapter 7.4).

4.1.1 Company Processes

We identified the key processes and their interaction at Anchor Marine Services and we fully integrated them in our ISO 9001:2008 quality management system. The flowchart below illustrates these processes and their interaction.



4.2 Documentation Requirements

4.2.1 General

The documentation of our Quality Management System includes the following documents:

- a) The documented Quality Policy of Anchor Marine Services and the documented Quality Objectives of Anchor Marine Services.
- b) This "ISO 9001 Quality Manual with Quality Procedures".
- c) The documented Quality Procedures required by ISO 9001:2008 (see Chapter 3.3). All such Quality Procedures are established, documented, implemented and maintained.
- d) All such documents (including records) that Anchor Marine Services needs to ensure the effective planning, operation and control of our processes.
- e) All records that are required by ISO 9001:2008 (see Chapter 4.2.4).

The documentation of our Quality Management System uses different forms and media depending on its use and user. The extent of the documentation of our Quality Management System has been determined based on the size of Anchor Marine Services and the type of our business, the complexity of our processes and their interactions, and the competence of our personnel.

4.2.2 Quality Manual

Anchor Marine Services has established this ISO 9001:2008 Quality Manual, which includes the following important sections:

- The scope of our Quality Management System in Chapter 3.1.
- Any exclusion including details and justifications in Chapter 3.2.
- Our documented Quality Procedures (see Chapter 3.3 for details)
- A description of the interaction between the processes of our Quality Management System in Chapter 4.1.1.

4.2.3 Control of Documents

4.2.3.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for the control of documents. This procedure defines how Anchor Marine Services controls all documents that are required by our Quality Management System.

Documents but not limited to, drawings, specifications and work instructions are established, maintained, controlled and documented. Also included are documents of external origin, determined by Anchor Marine Services to be necessary for the planning and operation of the quality management system, such as industry standards and other specifications supplied by National Standards Organizations

Records are a considered a special type of document; records are controlled according to the requirements in Chapter 4.2.4.

4.2.3.2 Purpose

Ensure that the right persons have the current version of the documents they need, while unauthorized persons are prevented from use.

4.2.3.3 Scope

All documents are controlled but the level of control is appropriate to the importance and impact of the document.

4.2.3.4 Responsibility

The responsible entity for this document is as indicated on the "Controlled Document" page 2.

4.2.3.5 Procedure

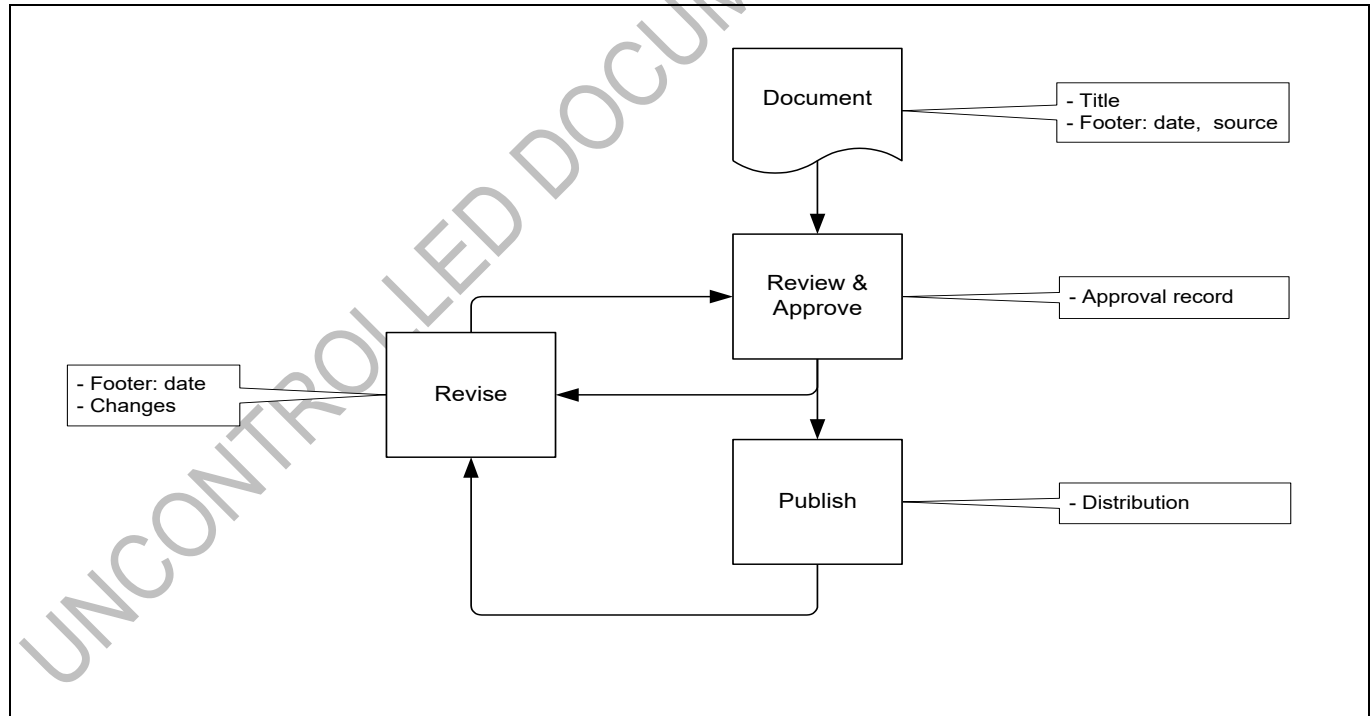


Illustration of Control of Documents Process

All employees shall follow the following instructions so that our documents are controlled.

When you write a document...

- Identify the document: eg. Give it a title. and a record identifier.
- Add a date (don't use the auto date function!) and a source (e.g., your department and your initials).
Example: see the footer of The ISO 9001:2008 Quality and Procedures Manual.

When you make changes...

- If you make handwritten changes, initial and date them.
- If you revise the document, update the date in the footer and inform users of changes (e.g., revision history, high-lighting of changes).

If somebody else needs to sign off...

- If you don't have the necessary authority, get approval first.
- Keep a record of the approval (on the document or separate; if separate, record date of approval, date of document, name of approver).

>> Note: Additional requirements apply to proposals and contracts. See respective chapters for more information. <<

When you make the document available to users...

- Keep a distribution list of hard copies (e.g., you can handwrite the location of all hard copies on your "master copy").
- Make documents accessible to intended users, and protect them so they remain usable.
- Save shared documents on the Intranet or on a shared drive, then provide shortcuts and hyperlinks pointing to the document rather than emailing the document as an attachment (to prevent outdated, uncontrolled copies).
- Set permissions on the Intranet and on shared folders to protect documents from unintended and unauthorized use and/or change.

Keeping your instructions, forms and similar documents current...

- Management ensures that instructions, forms and similar documents in their area of responsibility remain current.
- Review your instructions, forms and similar documents as needed to ensure they remain current.
- If necessary, assign an expiration date and then review documents on their expiration date.
- If you retain obsolete instructions, forms and similar documents, mark them clearly as obsolete.

External documents

The above requirements on identification and distribution also apply to documents that originate outside of Anchor Marine Services. If you modify any such documents (thus making them your own), all of the above requirements apply.

4.2.4 Control of Records

4.2.4.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for the control of records. This procedure defines how Anchor Marine Services controls records to provide evidence of conformity to requirements and of the effective operation of our Quality Management System. All such records are kept legible, readily identifiable and retrievable.

4.2.4.2 Purpose

Ensure that evidence of conformity to requirements and of the effective operation of our Quality Management System is available as planned.

All records must be handled in a manner that addresses the six key aspects of record management:

1. Identification
2. Storage
3. Protection
4. Retrieval
5. Retention
6. Disposition

4.2.4.3 Scope

All records are controlled. This includes, but is not limited to;

- Job files of each task,
- Final Reports as submitted to clients,
- Notes taken in contemplation of a task,
- Photographic survey evidence,
- Audio and video recordings,
- Medical reports for Health and Safety reviews and Alcohol and Drug testing.
- Training records
- Calibration records

4.2.4.4 Responsibility

- The Management Representative is responsible for the Record Retention Guide.
- The department managers are responsible for filing, archiving and destruction.

- All employees are responsible for proper identification of records and obsolete documents.

4.2.4.5 Procedure

Record Retention Guide

The Management Representative sets up a Record Retention Guide that defines for each record or record type the following information:

- the retention period,
- the filing and archiving location, and
- the method of destruction.

The Record Retention Guide must be accessible to all personnel involved in filing and archiving.

Control of Records Process

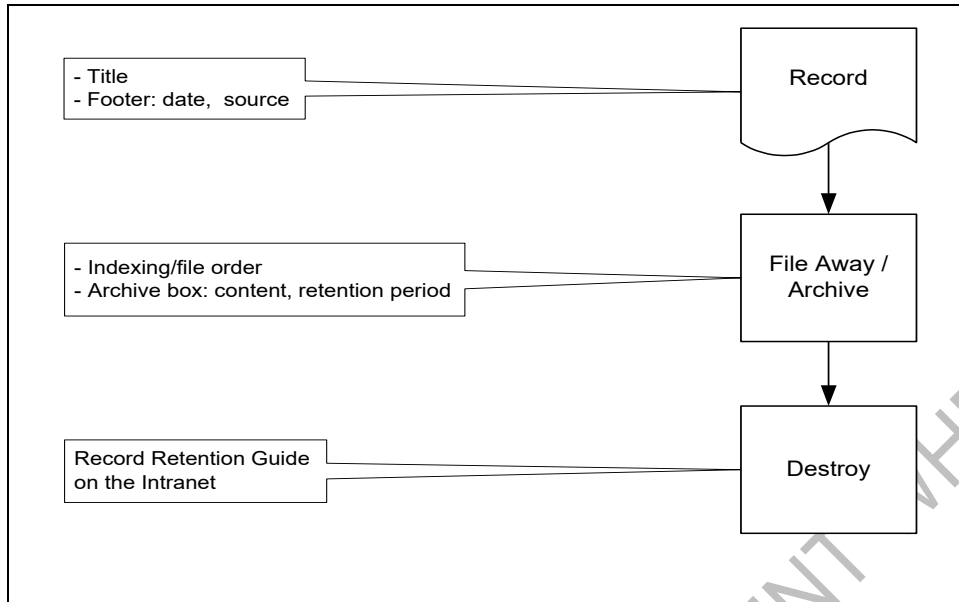


Illustration of Control of Records Process

All employees shall follow the following instructions so that our records are controlled.

Recording...

- Give the record a **title**.
- Add a **date** (don't use the auto date function!) and a **source** (e.g., your department and your initials).

Filing...

- If you retain obsolete instructions, forms and similar documents, mark them clearly as obsolete.
- Index and file records so that they can be easily retrieved if needed.

Archiving and Record Retention...

- Refer to the Record Retention Guide on the Intranet for instructions and retention periods.
- Label archive boxes with the following information: box number, contents, dates covered, destruction date.
- Keep a storage log listing archived records and their location.
- Keep archived records secure in a locked area throughout the required retention period.
- Destroy records that are passed their indicated destruction date. Most records must be shredded. See the Record Retention Guide for details.

Shredding...

- As a rule of thumb, all documents that should not be seen by competitors or outsiders must be shredded. This includes extra printouts, copies and worksheets.
- See the Record Retention Guide for details.

5 Management Responsibility

5.1 Management Commitment

Top management at Anchor Marine Services has not only actively participated in developing and implementing our Quality Management System but is also committed to continually improving its effectiveness. Top management of Anchor Marine Services clearly demonstrates its commitment by:

- communicating to Anchor Marine Services the importance of meeting customer requirements, as well as statutory and regulatory requirements,
- establishing our Quality Policy (see detailed requirements in Chapter 5.3),
- ensuring the Quality Objectives are established,
- conducting periodic management reviews of the Quality Management System, and
- ensuring the availability of resources.

5.2 Customer Focus

Anchor Marine Services is committed to serve its customers to their satisfaction.

Top Management at Anchor Marine Services provides leadership to ensure that we first clearly determine customer requirements, and then meeting those customer requirements, all with the aim of enhancing customer satisfaction.

It is axiomatic that the elements of Anchor Marine Services product realization efforts are designed to address the needs and expectations of our customers, both existing and potential.

The Quality Management System is designed to document prior product realization processes and procedures and address a dynamic marketplace. Customer requirements form the practical basis for all AMS products — if an AMS product does not adequately address customer (marketplace) needs, it will be subjected to review / customer feedback improvement or, it will be removed from active production. (see Chapters 7.2.1 and 8.2.1).

5.3 Quality Policy

Top management at Anchor Marine Services has established our Quality Policy with the aim of creating a policy that is appropriate to the purpose of Anchor Marine Services and that provides a framework for establishing and reviewing quality objectives. Our Quality Policy also firmly commits Anchor Marine Services to ISO 9001 through a statement that says that Anchor Marine Services is committed to comply with the requirements of ISO 9001, and that Anchor Marine Services is committed to continually improve the effectiveness of our ISO 9001:2008 Quality Management System.

Top management continues to keep our Quality Policy alive by ensuring:

- a) that our Quality Policy is communicated and understood throughout Anchor Marine Services, and
- b) that our Quality Policy is reviewed for continuing suitability as part of management reviews.

QUALITY POLICY

It is the Policy of Anchor Marine Services to supply its customers with product which meets, or exceeds their known specifications or requirements at a fair price.

Quality is a Primary operating priority at Anchor Marine Services. Our goal is to give quality the highest priority in every decision we make. To help insure this policy, every Anchor Marine Services employee must recognize that Quality means total conformance to specifications and procedures. In addition Anchor Marine Services' senior management will be committed to and involved in the organization, development, management and continued improvement of the Quality Management System. Quality objectives are established and reviewed for continued relevancy to the Company's business objectives.

5.4 Planning

5.4.1 Quality Objectives

Top management at Anchor Marine Services ensures that quality objectives are established throughout Anchor Marine Services at relevant functions and levels, including:

- on the corporate / management level,
- on the department level for all departments that have an impact on our products, and
- for individual operating units at individual facilities.

These quality objectives meet the following requirements:

- They include (but are not limited to) objectives regarding meeting requirements for our products (see Chapter 7.1 a).
- They are measurable.
- They are consistent with our Quality Policy.
- These objectives are to be found within pertinent Procedures, job descriptions, product quality assurance requirements, product design and performance specifications and requirements, purchase specifications and personnel performance requirements

5.4.2 Quality Management System Planning

Our Quality Management System has been planned and implemented with the aim of meeting our quality objectives and the requirements set forth in Chapter 4.1.

Whenever there are any future changes to our Quality Management System planned and implemented, top management will ensure that the integrity of our Quality Management System continues to be maintained, and include;

- preparation of a Quality Plan which includes Quality Assurance procedures, materials, process specifications and work instructions;
- identification and acquisition of any controls, processes, inspection equipment, fixtures and skills that are needed to achieve the required quality;
- ensuring the capability of the production processes;
- updating as necessary of quality control, inspection and testing techniques;
- identification of suitable verification at appropriate stages in the Survey or Engineering processes;
- clarification of standards of acceptability for all product features and requirements, including those that contain a subjective element;
- maintenance of the internal consistency of the design, the production process, installation, inspection and test procedures and applicable documentation;

- identification and preparation of quality records; and
- when changes to the Quality Management System are planned and implemented, the integrity of the entire Quality Management System is considered and maintained.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority

Top management at Anchor Marine Services ensures that responsibilities and authorities are defined and communicated throughout Anchor Marine Services.

The responsibilities and authorities of all personnel who manage control and verify work affecting Quality are defined and documented, particularly those who need authority to:

- initiate actions to prevent the occurrence of any non-conformities relating to product, process and quality systems;
- identify and record any Quality problems;
- initiate, recommend, or provide solutions through designated channels;
- verify the implemented solutions;
- suspend further processing, delivery, or installation of non-conforming product until the deficiency has been corrected.

Responsibilities and authorities are defined and communicated through

- **Organizational charts**
Anchor Marine Services uses organizational charts to show the overall structure, interrelation and hierarchy between individual positions. Organizational charts are communicated to all positions within the functional areas that they cover.
- **Job descriptions**
Job descriptions are used to define the responsibilities and authorities of individual positions. Job descriptions are communicated and made available to those positions that are affected.

5.5.2 Management Representative

Anchor Marine Services board of Directors has appointed **Mr Justin Bentink (AMS Managing Director)** as ISO 9001 Management Representative. This Management Representative has the following responsibilities and authorities irrespective of other responsibilities:

- The Management Representative ensures that the processes needed for our Quality Management System are established, implemented and maintained.

- The Management Representative reports to our top management on the performance of our Quality Management System and any need for improvement.
- The Management Representative ensures that a general awareness of customer requirements is promoted throughout Anchor Marine Services.
- The Management Representative also serves as liaison with external parties (for example, external auditors, the ISO 9001 registrar, customer's auditors) on matters relating to our Quality Management System.

5.5.3 Internal Communication

Top management at Anchor Marine Services ensures that there are appropriate communication processes established throughout Anchor Marine Services. These communication processes include direct email of all communications to personnel email addresses.

Email is considered the method of communication appropriate to the size and complexity of Anchor Marine Services organization.

Notably, Anchor Marine Services is a small, organization staffed mainly with highly skilled sub-contractors for each project, with supervisory and managerial personnel tasked with multiple responsibilities. Prescribed communication protocols "suggested" within ISO 9001:2008 generally would be overly formalized for use at AMS.

Top management further ensures that communication takes place regarding the effectiveness of our Quality Management System. This includes audit closing meetings and making results of internal and external audits of our Quality Management System available throughout Anchor Marine Services.

5.6 Management Review

5.6.1 General

Top management at Anchor Marine Services plans intervals at which it reviews our Quality Management System. Top management then reviews our Quality Management System at these intervals to ensure that the Quality Management System continues to be suitable, adequate and effective.

This review includes an assessment of opportunities for improvement and the need for changes to our Quality Management System, including our Quality Policy and the quality objectives.

Anchor Marine Services maintains records of these management reviews in compliance with Chapter 4.2.4.

5.6.2 Review Input

Management reviews of our Quality Management System are based on assessing certain information: the review input. The following information serves as input to the management reviews of our Quality Management System:

- results of audits (including internal and external audits),
- customer feedback,
- process performance,
- product conformance to requirements,
- status of preventive and corrective actions,
- follow-up actions from previous management reviews,
- any changes that could affect our Quality Management System, and
- recommendations for improvement.

The above list is not to be considered limiting; senior management will use whatever informational resources are relevant and available for Quality Management System review purposes.

5.6.3 Review Output

During our management reviews, decisions are made and actions are planned, which are considered output of such reviews. The output from the management reviews of our Quality Management System includes decisions and planned actions related to the following key issues:

- improving the effectiveness of the our Quality Management System and its processes,
- improving our products relative to customer requirements, and
- resource needs.

The above list is not to be considered limiting; senior management will determine the form and substance of any review output. It will use whatever review output that is relevant and available for Quality Management System continual improvement purposes.

6 Resource Management

6.1 Provision of Resources

Anchor Marine Services has implemented our Quality Management System through top management's support, commitment and the provision of the necessary resources.

Anchor Marine Services continues to first determine and then provide the resources needed to maintain the Quality Management System and continually improve its effectiveness.

Anchor Marine Services also determines and then provides the resources needed to meet all customer requirements in order to enhance and then exceed customer satisfaction.

6.2 Human Resources

6.2.1 General

Anchor Marine Services ensures that all our personnel who perform work that affects product quality are competent to perform their work and meet their responsibilities. Competence is based on:

- appropriate skills and experience;
- appropriate education and training.

6.2.2 Competence, Training, and Awareness

Anchor Marine Services does the following regarding competence, training and awareness of our employees:

- Anchor Marine Services determines the necessary competence for personnel who perform work that affects how our products conform to their requirements.
- Where personnel lack that competence, Anchor Marine Services provides the necessary training or takes other actions in order to achieve the necessary competence.
- Anchor Marine Services evaluates the effectiveness of the training or other actions taken.
- Anchor Marine Services ensures that all our personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.
- Anchor Marine Services maintains personnel files that include appropriate records of education, training, skills and experience in compliance with Chapter 4.2.4.

6.3 Infrastructure

Anchor Marine Services does the following regarding the infrastructure necessary to achieve conformity to product requirements:

- (1) determination of infrastructure needs,
- (2) providing the necessary infrastructure, and
- (3) maintaining the infrastructure.

This infrastructure includes, as applicable, the following:

- a) buildings and workspaces (including the associated utilities),
- b) equipment used in work processes (equipment includes both hardware and software), and
- c) supporting services (such as transportation, information systems and communication).

6.4 Work Environment

Anchor Marine Services has established and manages a work environment that is conducive to achieving the required product quality.

In case of changes, Anchor Marine Services determines a work environment that is necessary to achieve conformity to product requirements, and then manages it accordingly.

The work environment encompasses conditions under which work is performed, for example lighting, temperature, ventilation, noise, vibration, exposure to weather and other environmental and physical factors.

NOTE:

For the Services which Anchor Marine Services supplies, the client is responsible for the Work Environment condition presented. Each employee is required to assess the work environment and to notify AMS Directors if the conditions presented inhibit the quality of the service or prevent the service being carried out.

7 Product Realization

7.1 Planning of Product Realization

Anchor Marine Services plans and develops the processes needed for product realization. This planning of product realization is consistent with the requirements of the other processes of our Quality Management System (see Chapter 4.1).

Anchor Marine Services determines the following, as appropriate, during the planning phase for product realization:

- a) Anchor Marine Services determines the quality objectives and requirements for the product;

This is carried out by the preparation of Quality Plan(s) that include quality assurance procedures, selection of materials of construction, purchased raw materials and intermediate component specifications, process specifications and work instructions.

- b) Anchor Marine Services determines the need to establish: processes, documents, and provision of resources specific to the product;

This is realized by the identification and acquisition of any controls, processes, inspection equipment, fixtures and skills that are needed to achieve the required quality, specific to the product; ensuring the capability of the production processes, and documents, and to provide resources specific to the product; and the updating as necessary of quality assurance, inspection and testing techniques, specific to the product;

- c) Anchor Marine Services determines the following activities that are required by the specifics of the product and the criteria for product acceptance:

- This includes the identification of required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance;
- the clarification of standards of acceptability for all features and requirements, including those that contain a subjective element;
- the compatibility of the design, the production process, installation, inspection and test procedures and applicable documentation, specific to the product;

- d) Anchor Marine Services determines and prepares quality records of the above activities to demonstrate product and process conformance (records are controlled in compliance with Chapter 4.2.4).

The output of this planning is in any form that is suitable for the method of operations.

7.2 Customer Related Processes

7.2.1 Determination of Requirements Related to the Product

Product requirements include several aspects. Anchor Marine Services determines the following requirements that are related to our product; these different requirements constitute our comprehensive product requirements:

- Customer specifications
Anchor Marine Services determines those requirements that have been specified by our customers, including any such requirements for delivery and post-delivery activities.
- Implied requirements
Anchor Marine Services determines those product requirements that have not explicitly stated by our customers but that are necessary for the specified or intended use of our products (where the use is known).
- Regulations
Anchor Marine Services determines statutory and regulatory requirements that are applicable to our products.
- Others
Anchor Marine Services may add any additional requirements that Anchor Marine Services considers necessary, including requirements based on our Quality Management System or quality objectives.

7.2.2 Review of Requirements Related to the Product

Anchor Marine Services reviews all requirements related to the product (see Chapter 7.2.1) prior to Anchor Marine Services' commitment to supply a product to the customer (e.g., prior to the submission of tenders, prior to the acceptance of contracts or orders, prior to the acceptance of changes to contracts or orders).

The review covers the following issues; the purpose of the review is to ensure that:

- a) Completeness and accuracy
Anchor Marine Services ensures that all product requirements are defined.
- b) No differences
Anchor Marine Services ensures that any differences of contract or order requirements to previously expressed contract or order requirements are resolved.
- c) Ability to deliver
Anchor Marine Services ensures that we have the ability to meet the defined requirements.

Anchor Marine Services maintains records that show the results of the review and the actions arising from the review in compliance with Chapter 4.2.4.

In cases in which our customers don't provide documented requirements, Anchor Marine Services confirms the customer requirements before acceptance.

In cases in which product requirements are changed, Anchor Marine Services ensures:

- Anchor Marine Services ensures that relevant documents are amended, and
- Anchor Marine Services ensures that relevant personnel are made aware of the changed requirements.

7.2.3 Customer Communication

Anchor Marine Services determines and implements effective arrangements for communicating with our customers regarding the following:

- product information,
- inquiries, contracts or order handling,
- handling of contract or order amendments, and
- customer feedback including customer complaints.

7.3 Design and Development

7.3.1 Design and Development Planning

Anchor Marine Services plans and controls the design and development of our products. The design plan includes the following:

- Design stages
Anchor Marine Services plans for the various stages of the design and development process.
- Design reviews
Anchor Marine Services plans for the reviews, verification and validation activities that are appropriate to each design and development stage (see above).
- Responsibilities and authorities
Anchor Marine Services determines, as part of the design plan, the responsibilities and authorities for design and development.
- Interfaces
Anchor Marine Services determines, as part of the design plan, how the different groups that are involved in the design and development process interface with each other so that effective communication and clear assignment of responsibilities are ensured.
- Updates
Anchor Marine Services updates the output of design and development planning, as appropriate, as the design and development process progresses.

7.3.2 Design and Development Inputs

Anchor Marine Services determines the inputs related to product requirements and keeps records of these inputs in compliance with Chapter 4.2.4. All inputs are reviewed for adequacy, and to ensure that all requirements are complete, unambiguous and not in conflict with each other.

The inputs include:

- functional and performance requirements,
- information derived from previous similar designs (if applicable),
- statutory and regulatory requirements (as they may apply),
- customer specific requirements,
- other requirements that are essential for the design and development.

7.3.3 Design and Development Outputs

Anchor Marine Services documents the outputs of the design and development process in a format that allows for verification against the design and development inputs. The outputs are approved by Anchor Marine Services prior to release in order to ensure that they meet the following conditions:

- Meet input requirements
The outputs meet the input requirements for design and development.
- Detail
The outputs provide appropriate information for purchasing, production and service provision.
- Acceptance criteria
The outputs either contain or reference the criteria for product acceptance.
- Use characteristics
The outputs specify the product characteristics that are essential for its safe and proper use.

7.3.4 Design and Development Review

Anchor Marine Services performs systematic reviews of the design and development at suitable stages in accordance with the design plan (see Chapter 7.3.1), documents the results of the reviews and any necessary actions, and maintains records in compliance with Chapter 4.2.4. The reviews include representatives of those functions concerned with the design and development states under review.

These reviews address the following:

- Meet requirements
Anchor Marine Services evaluate the results of design and development and determine if they are able to meet requirements.
- Problems
Anchor Marine Services identifies any problems and proposes necessary actions.

Participants in such reviews will include representatives of functions concerned with the design and development stage(s) being reviewed and any other employees so designated by the Managing Director or designee(s). Records of the results of the reviews and any necessary actions will be maintained.

7.3.5 Design and Development Verification

In accordance with the design plan (see Chapter 7.3.1), Anchor Marine Services performs a design and development verification to ensure that the design and development outputs satisfy the design and development input requirements.

Anchor Marine Services documents the results of the verification and of any necessary actions and maintains records in accordance with Chapter 4.2.4.

7.3.6 Design and Development Validation

In accordance with the design plan (see Chapter 7.3.1) and prior to the delivery or implementation of the product, Anchor Marine Services performs a design and development validation to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use (where known).

Anchor Marine Services documents the results of the validation and of any necessary actions and maintains records in accordance with Chapter 4.2.4.

7.3.7 Control of Design and Development Changes

Anchor Marine Services identifies any changes to design and development changes, and, prior to their implementation, reviews, verifies, validates (as appropriate) and approves them. The review of design and development changes includes:

- an evaluation on the effect of the changes on constituent parts, and
- an evaluation on the effect of the changes on products that have already been delivered.

Anchor Marine Services documents the results of the change reviews and of any necessary actions and maintains records in accordance with Chapter 4.2.4.

7.4 Purchasing

7.4.1 Purchasing Process

Anchor Marine Services ensures that the products we purchase conform to our specified purchase requirements. In order to achieve this, Anchor Marine Services applies certain controls to our suppliers and to the purchased products:

- **Supplier selection**
Anchor Marine Services evaluates and selects our suppliers based on their ability to supply products in accordance with our requirements.
- **Supplier criteria**
Anchor Marine Services establishes criteria that we use for the selection, evaluation and re-evaluation of our suppliers.
- **Extend of control**
Anchor Marine Services bases the type and extend of these controls on the effect that the purchase product has on our product realization or on our final product.

Anchor Marine Services documents the results of the evaluations and of any necessary actions and maintains records in accordance with Chapter 4.2.4.

7.4.2 Purchasing Information

Anchor Marine Services describes the products to be purchased and ensures that the purchase requirements are adequate prior to communicating the purchase information to the supplier. Anchor Marine Services includes the following, as appropriate, in the purchasing information:

- requirements for the approval of product,
- requirements for the procedures and processes,
- requirements for the equipment,
- requirements for qualification of personnel, and
- requirements on the supplier's quality management system.

Where applicable, this includes the following details:

- The type, class, style, grade, catalog number, part number or other precise identification;
- Positive identification and applicable current version of specifications, drawings, process requirements, inspection instructions, other relevant technical data, and if applicable, qualification of vendor personnel; and
- Relevant Quality Management System standards, general terms and conditions are to be a part of the purchase documents including specific requirements listed on the face of the purchase order.

Purchase orders are to be reviewed and approved for adequacy of specified requirements prior to release by the AMS buyer to the vendor

7.4.3 Verification of Purchased Product

Anchor Marine Services applies appropriate inspection activities (or other suitable activities) that are designed to ensure that our purchased products meet our specified purchase requirements (see Chapter 7.4.2). In cases in which Anchor Marine Services or our customers intend to perform this verification at our supplier's premises, Anchor Marine Services state the intended verification arrangements and method of product release in the purchasing information.

7.5 Production and Service Provision

7.5.1 Control of Production and Service Provision

Anchor Marine Services carries out our production and service provision under controlled conditions which include the following, as applicable:

- Work instructions
Documented Quality assurance procedures and Necessary work instructions are available describing / defining the manner of production, where the absence of instructions would adversely affect quality;
- Product characteristics
Information that describes the characteristics of the product is available.(e.g., customer requirements, competitive product knowledge, end use requirements) which describes the characteristics of the product (or services);
- Suitable equipment
Suitable equipment is used.
- Monitoring and measuring
Monitoring and measuring activities are implemented and the proper monitoring and measurement equipment is available and used (see Chapter 7.5.2 for an exception).
- Product release
Product release activities are implemented.
- Product delivery
Product delivery and post-delivery activities are implemented.

7.5.2 Validation of Process for Production and Service Provision

In such special situations in which we cannot use monitoring or measurement activities to verify the output of our production and service provision, and, as a consequence, deficiencies would become apparent only after the product is in use or the service has been delivered, Anchor Marine Services applies special controls to the processes of such production and service provision. These controls include:

- Process validation
Anchor Marine Services validates the processes of such production and service provision in order to demonstrate that these processes are able to achieve the planned results.
- Process approval
Anchor Marine Services establishes defined criteria for review and approval of these processes.
- Equipment approval
Anchor Marine Services establishes criteria for the approval of equipment.

- Personnel approval
Anchor Marine Services establishes criteria for the qualifications of personnel.
- Defined procedures
Anchor Marine Services establishes the use of specific methods and procedures.
- Records
Anchor Marine Services defines the requirements for records (refer to Chapter 4.2.4).
- Revalidation
Anchor Marine Services establishes the arrangements for revalidation.

7.5.3 Identification and Traceability

Anchor Marine Services applies the following controls:

- Product identification
Anchor Marine Services identifies our product, where appropriate, by suitable means throughout the product realization.
- Product traceability
Anchor Marine Services controls unique product identifications and maintains records in compliance with Chapter 4.2.4 in cases in which it is required to be able to trace a product back.
- Product status
Anchor Marine Services identifies the product status with respect to monitoring and measurement requirements throughout product realization.

7.5.4 Customer Property

Whenever we use our customers' property or whenever we have our customers' property under our control, Anchor Marine Services exercises care with such customer property (which can also include intellectual property and personal data).

Customer property that has been provided for use or incorporation into our product is cared for as follows:

- Identification
Anchor Marine Services identifies customer such property.

- **Verification**
Anchor Marine Services verifies customer such property.
- **Protection and safeguarding**
Anchor Marine Services protects and safeguards customer such property and where required extends Confidentiality Agreements and other such legal obligations to other parties under AMS.

If despite all our care any customer property is lost, damaged or otherwise found unsuitable for use, Anchor Marine Services reports this to the customer and maintains records in compliance with Chapter 4.2.4.

7.5.5 Preservation of Product

Anchor Marine Services preserves our products and their constituent parts during internal processing and during delivery to the intended destination in order to maintain conformity to product requirements. This preservation includes (as applicable):

- identification, marking and traceability,
- handling,
- packaging, preservation,
- storage & segregation, and
- protection.

7.6 Control of Monitoring and Measuring Equipment

In order to provide evidence that our products conform to determined requirements (see Chapter 7.2.1), Anchor Marine Services determines the monitoring and measuring activities to be undertaken, as well as the monitoring and measuring equipment needed.

- **Monitoring and measuring processes**
Anchor Marine Services establishes processes that ensure that monitoring and measurement can be carried out, and that monitoring and measurement is performed in a manner that is consistent with the monitoring and measurement requirements.
- **Measuring equipment**
Anchor Marine Services applies the following controls on measuring equipment where necessary to ensure valid results:
 - a) **Calibration**
Measuring equipment is calibrated or verified, or both, at specified intervals or prior to use. This calibration or verification is done against recognized measurement standards; where no such standards exist, the basis used for calibration or verification is recorded.
 - b) **Calibration status**
Measuring equipment has a form of identification that enables us to determine its calibration status.
 - c) **Adjustment**
Measuring equipment is adjusted or re-adjusted as necessary. When measuring equipment is found not to conform to requirements, Anchor Marine Services assesses and records the validity of previous measuring results. In addition, Anchor Marine Services takes appropriate action on the equipment and any product that is affected.
 - d) **Protection**
Measuring equipment is safeguarded from adjustments that would invalidate the measurement results, and protected from damage and deterioration during handling, maintenance and storage.
 - e) **Software**
In cases in which we use computer software in the monitoring and measurement of specified requirements, Anchor Marine Services confirms the software's ability to satisfy the intended application. This is done prior to the initial use and reconfirmed as necessary.
 - f) **Records**
Anchor Marine Services maintains records of the results of calibration and verification in compliance with Chapter 4.2.4.

8 Measurement, Analysis and Improvement

8.1 General

Anchor Marine Services has planned and implemented the monitoring, measurement, analysis and improvement processes needed

- a) to demonstrate that our products conform to requirements, and
- b) to ensure that our Quality Management System conforms to requirements, and
- c) to continually improve its effectiveness.

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

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

Customer satisfaction is one of the key indicators of the performance of our Quality Management System. Anchor Marine Services, therefore, monitors information relating to our customers' perception as to whether Anchor Marine Services has met customer requirements according to my Anchor Marine Services' established methods.

Methods to execute this requirement include, but are not limited, to the following:

- customer feedback, including customer complaints and warranty claims;
- customer communication, including all indirect media, (e.g., facsimile and e-mail) and direct telephone, trade show meetings and sales calls; marketing mailings requesting satisfaction feedback; and
- internal communication, corrective and preventive actions taken as a result of customer complaint analysis

8.2.2 Internal Audit

8.2.2.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for internal audits. This procedure defines the responsibilities and requirements for the planning and conducting of internal audits, for the reporting of audit results, and for maintaining records in compliance with Chapter 4.2.4.

8.2.2.2 Purpose

To determine if the quality management system meets the requirements of ISO 9001 and this ISO 9001:2008 Quality and Procedures Manual, and if it is effectively implemented and maintained.

8.2.2.3 Scope

All processes addressed in the "ISO 9001 Quality Manual with Quality Procedures" at all ISO 9001 certified locations.

8.2.2.4 Responsibility

- The Quality Manager is responsible for planning and conducting of audits.
- Local management is responsible for correcting identified nonconformities in a timely manner.

8.2.2.5 Procedure

Audit methods:

The Quality Manager selects the most appropriate audit method for each audit:

- Physical audit visits
- Phone audits

The audit method depends on the importance of the processes and locations to be audited, the cost of travel, and on the results of the previous audit.

Audit plan:

- Frequency:
Each location is audited once a year (not counting any audits by our registrar), or more frequently if the Quality Manager considers it necessary based on the importance of the location and its processes, or on previous audit results.
- Audit Schedule:
The Quality Manager schedules the audits together with local management for mutually agreeable dates. Scheduled audits are published on the Audit Schedule on the Intranet.

- **Scope:**
Typically each audit comprises the entire "ISO 9001 Quality Manual with Quality Procedures". If an audit comprises less, the Quality Manager ensures that the missing areas are audited within the year through one of the above methods.

Auditors:

Audits are performed by the Quality Manager, by other employees trained in ISO 9001 auditing, or by external ISO 9001 auditors. Auditors may not audit their own work. Audits of the audit function are performed by an auditor other than the Quality Manager.

Audit:

The auditor(s) perform their audit with the aim of receiving truthful answers to the following questions:

- a) Does our Quality Management System conform to the planned arrangements (see Chapter 7.1)?
- b) Does our Quality Management System conform to the requirements of ISO 9001:2008 (which are also reflected in this "ISO 9001 Quality Manual with Quality Procedures")?
- c) Does our Quality Management System conform to the requirements established by Anchor Marine Services?
- d) Is our Quality Management System effectively implemented and maintained?

The auditor conducts the audit by interviewing staff and by probing sample processes and/or records.

A typical audit consists of the following:

- Opening meeting in which the audit process is explained
- Verification of effective correction of previously identified noncompliance's (unless already verified)
- Auditing according to plan
- Closing meeting in which the audit findings are presented

Audit Report:

The Quality Manager prepares a report for each audit, listing the audit findings, opportunities for improvement and recommended action. Audit reports are maintained on the Intranet in compliance with our record keeping requirements.

Correction:

Local management works to attain that timely action is taken to eliminate detected noncompliance's and their causes. Correction is usually completed *within 3 months*.

Verification:

The Quality Manager verifies at the time of the next audit that all noncompliance's have been adequately addressed.

8.2.3 Monitoring and Measurement of Processes

Anchor Marine Services applies suitable methods for the monitoring and any applicable measurement of the processes of our Quality Management System in order to demonstrate that these processes achieve the planned results.

In cases in which the processes of the Quality Management System are found not to achieve their planned results, Anchor Marine Services applies correction and appropriate corrective action (see Chapter 8.5.2) to ensure that our products conform to their requirements.

8.2.4 Monitoring and Measurement of Product

Anchor Marine Services monitors and measures the characteristics of our products at appropriate states of the product realization process and in accordance with planned arrangements (see Chapter 7.1) in order to verify that product requirements have been met. Anchor Marine Services maintains records (in compliance with Chapter 4.2.4) providing evidence of conformity to acceptance criteria; these records, also indicate the person(s) authorizing the release of our products for delivery to our customer.

Unless otherwise approved by a relevant authority and, where applicable, by the customer, Anchor Marine Services ensures that the release of our products and the delivery of services to our customer do not proceed until the planned arrangements (see Chapter 7.1) have been satisfactorily completed.

8.3 Control of Nonconforming Product

8.3.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for the control of nonconforming product. This procedure defines how Anchor Marine Services ensures that those products that do not conform to product requirements are identified and controlled so that their unintended use or delivery is prevented.

8.3.2 Purpose

To prevent nonconforming products and services from further processing or unintended use, and to ensure that they are addressed properly.

8.3.3 Scope

All nonconforming products and services (i.e., products that differ from what was expected or required). Nonconforming products and services could be detected in receiving inspections, QC inspections, or by chance.

8.3.4 Responsibility

- Management for establishing the process.
- Employees for following the process.

8.3.5 Procedure

Management strives to ensure that nonconformities (both products and service nonconformities) are

1. Prevented from Unintended Use or from Further Processing

In order to ensure that **nonconforming products** are held until they are properly addressed, nonconforming products are segregated (e.g., in a marked area or designated room) or otherwise identified (e.g., labeled, or placed on hold in the computer system).

Similarly, nonconformities in the **service provision** lead to an interruption of that process until the nonconformity is addressed (e.g., delay billing for a misrouted shipment until the problem has been addressed; delay release notification to the customer in case a damage is found in the final inspection).

2. Addressed Properly

Once identified and put on hold, nonconforming products and services are addressed in one or more of the following ways:

- Correction
If there was a QC inspection that was not passed initially, there is a re-inspection after the problem is corrected.

- **Authorization**
Management and where applicable, the customer, may authorize the use, release or acceptance of a nonconforming product/service. Any such authorizations are documented and **records** are kept on file.
- **Different Application**
Management may decide to use the nonconforming product/service for a different application.

Written Work Instructions

Where appropriate, local management establishes written work instructions for dealing with nonconforming products or services that may have a significant effect on the customer or our company.

What if the nonconformity is detected after use or delivery?

In case a nonconforming product or service is detected only after delivery or use has started, Management takes action appropriate to the (potential) effects of the nonconformity.

Records

Records of the nature of nonconformities and their disposition (including concessions obtained) are maintained.

>> **Tip:** Consider recording information on those nonconformities that are corrected in the normal course of work. This data could help improve processes as it shows how much time and resources are actually spent in dealing with such problems. <<

8.4 Analysis of Data

Anchor Marine Services determines, collects and analyzes appropriate data to demonstrate the suitability and effectiveness of our Quality Management System, and to evaluate where continual improvement of the effectiveness of our Quality Management System can be made.

This data includes data generated as a result of our monitoring and measurement activities and from other relevant sources.

The analysis of data is designed to provide information relating to

- customer satisfaction, through market share maintenance and growth, personal and written communication with individual customers, customer surveys and customer complaint analysis (see 8.2.1);
- conformity to product requirements (analysis of quality assurance inspection and testing data (see 8.2.4);
- characteristics and trends of processes and products including opportunities for preventive action (analysis of product non-conformity data and corrective and preventive measures taken to resolve non-conformities) (see 8.2.3 and 8.2.4);
- suppliers (continued communication regarding intermediate product purchasing specifications and non-conforming material data) (see 7.4).

At Anchor Marine Services some of this data analysis is manifested in certain corrective and preventive action Procedures, as noted in the paragraphs below.

Documented procedures have been established and are maintained for implementing corrective and preventive action.

Corrective action taken to eliminate causes of non-conformities will be appropriate to the importance of the reported problem. Preventive action taken to eliminate potential nonconformities will be proportional to the estimated risk. Documented procedures will be revised to incorporate the changes to accomplish these desired results.

Corrective Action

Procedures for corrective action include, but are not limited, to:

- the effective handling of customer complaints and reports of product nonconformity;
- investigation and identification of the root cause of non-conformities relating to product, process or elements of the Quality Management System and recording the results of such investigations

- determination of the corrective action(s) needed to correct the nonconforming product and eliminate the cause of the non-conformity; and
- application of controls to ensure that corrective action is taken and is effective.

Preventive Action

Procedures for preventive action include, but are not limited to, the following:

- use and analysis of customer complaints, audit results, quality records and other information sources to detect the potential cause of nonconformities;
- reference to and analysis of work instructions, procedures and other instructions to determine the causes of the potential non-conformities;
- determination of steps needed to deal with any problems requiring preventive action; and
- submission of preventive recommendations and relevant information to management for review and approval. Responsible management authority will document and distribute necessary changes to affected procedures.

8.5 Improvement

8.5.1 Continual Improvement

Anchor Marine Services continually improves the effectiveness of our Quality Management System. In order to achieve continual improvement, Anchor Marine Services makes use of;

- **its Quality Policy;**
- quality objectives, explicitly stated elsewhere in specific Procedures and departmental work instructions, and implicitly found in product specifications and quality requirements necessary to market its products;
- its audit results, and corrective actions taken to remedy any found deficiencies;
- analysis of data input from previously specified sources and any source found to be of value by AMS management;
- its corrective and preventive actions, recommended and taken, as a result of actual or perceived product or process non-conformities or deficiencies; and
- management review of all stated or unstated data inputs relevant to product, process or System improvement.

8.5.2 Corrective Action

8.5.2.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for corrective action. This procedure defines how Anchor Marine Services takes corrective actions to eliminate the cause of nonconformities in order to prevent those nonconformities from recurring.

8.5.2.2 Purpose

To prevent problems from recurring by correcting their root cause.

8.5.2.3 Scope

Process improvement throughout Anchor Marine Services.

8.5.2.4 Responsibility

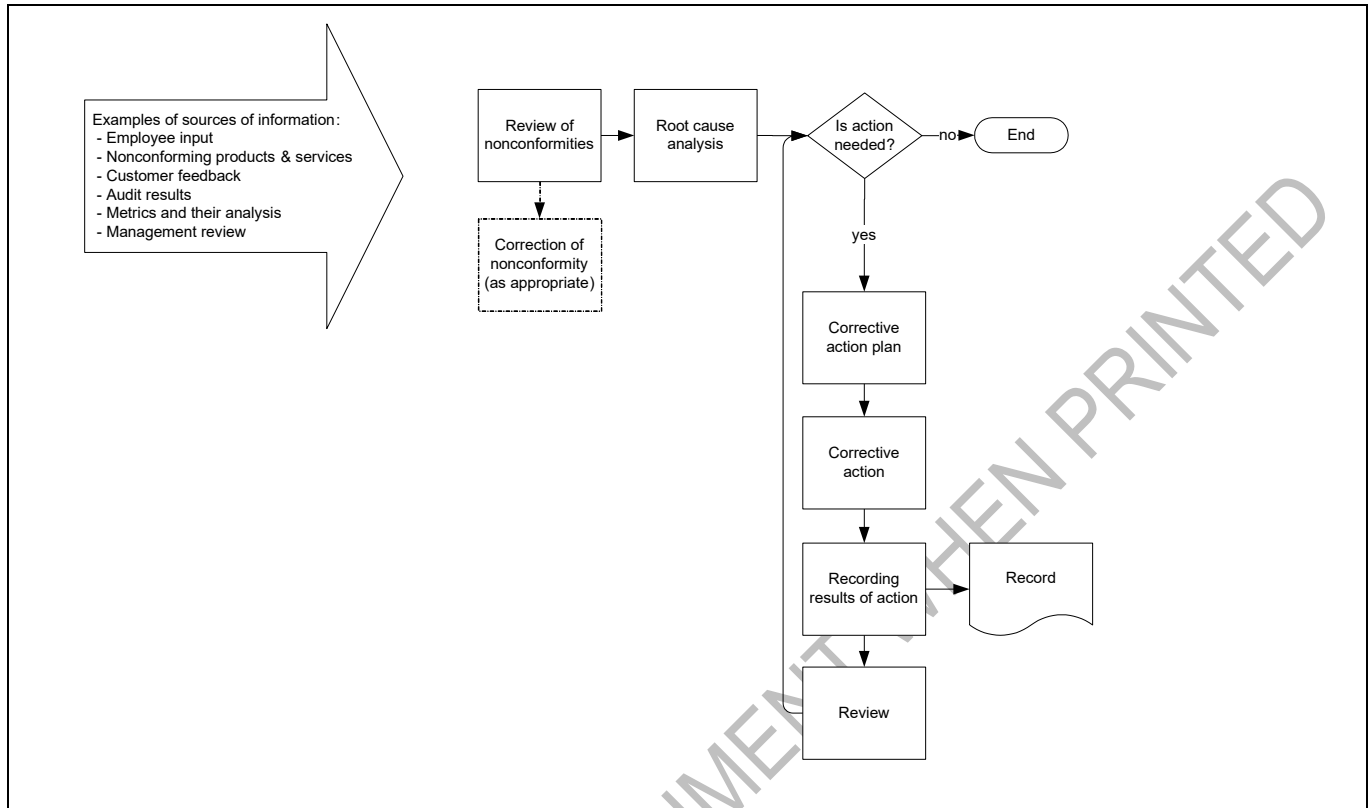
Management is responsible for corrective action in their functional areas.

8.5.2.5 Procedure

Corrective action refers to the improvement of **processes**. Corrective action addresses problems that have already occurred by correcting the root cause and, thus, preventing the problem from reoccurring in the future.

Procedures for corrective action include, but are not limited, to:

- the effective handling of customer complaints and reports of product nonconformity;
- investigation, identification and elimination of the root causes of nonconformities in order to prevent recurrence relating to product, process or elements of the Quality Management System and recording the results of such investigations;
- determination of the corrective action(s) needed to correct the nonconforming product and eliminate the cause of the non-conformity; and
- application of controls to ensure that the corrective action is taken and review of the effectiveness of the corrective action taken.



Management engages in a formal corrective action process in order to achieve continual improvement.

1) An existing problem is identified

The corrective action process starts with the discovery of an existing problem. Existing problems are identified through various sources, including:

- Employee input
- Nonconforming processes, products and services
- Customer feedback
- Audit results
- Metrics and their analysis
- Management review

Identified problems are reviewed and handled appropriately. Appropriate handling may include the immediate correction or repair of that particular problem (note that this is not corrective action, as corrective action addresses the root cause to prevent future recurrences).

2) Root cause analysis

Root cause analysis is the systematic identification of the *underlying cause* of a problem. There are many ways to determine the root cause, one of which is the “5 W Approach”:

Ask “why?” five times (e.g., “why did the nonconformity occur?” – “because of xyz.” – “why did xyz occur?” - and so on).

3) Do we need to do anything?

Once the root cause is determined, management evaluates if any action could prevent the problem recurring in the future.

Management makes a judgment call under consideration of customer satisfaction and the absolute importance of safety: does the benefit justify the cost of the action?

4) Corrective action plan

If Management decides that action is needed, a corrective action plan is made. The action plan includes:

1. Deliverables

The intended results of the action items are defined.

2. Responsibilities

An individual responsible for the implementation of each action item is defined.

- Deadlines

Due dates for each action item are defined.

5) Corrective action

Management strives to ensure that corrective action is taken according to plan and by the established deadline.

6) Review

Corrective action is not complete when the action has been performed but rather when the action has been verified as achieving the intended results. Management always reviews the success of corrective action before it can be closed out. If the results are deemed unsatisfactory, Management considers further action.

7) Records

Management documents the results of the corrective action taken. This can be done in a variety of ways, including corrective action plan forms, lists on the Intranet and a collection of other documentation addressing the issue.

8.5.3 Preventive Action

8.5.3.1 General

Anchor Marine Services has established, documented, implemented and maintains this Quality Procedure for preventive action. This procedure defines how Anchor Marine Services takes preventive action to eliminate the causes of potential nonconformities in order to prevent the occurrence of those potential nonconformities.

8.5.3.2 Purpose

To prevent problems from occurring by correcting their root cause.

8.5.3.3 Scope

Process improvement throughout Anchor Marine Services.

8.5.3.4 Responsibility

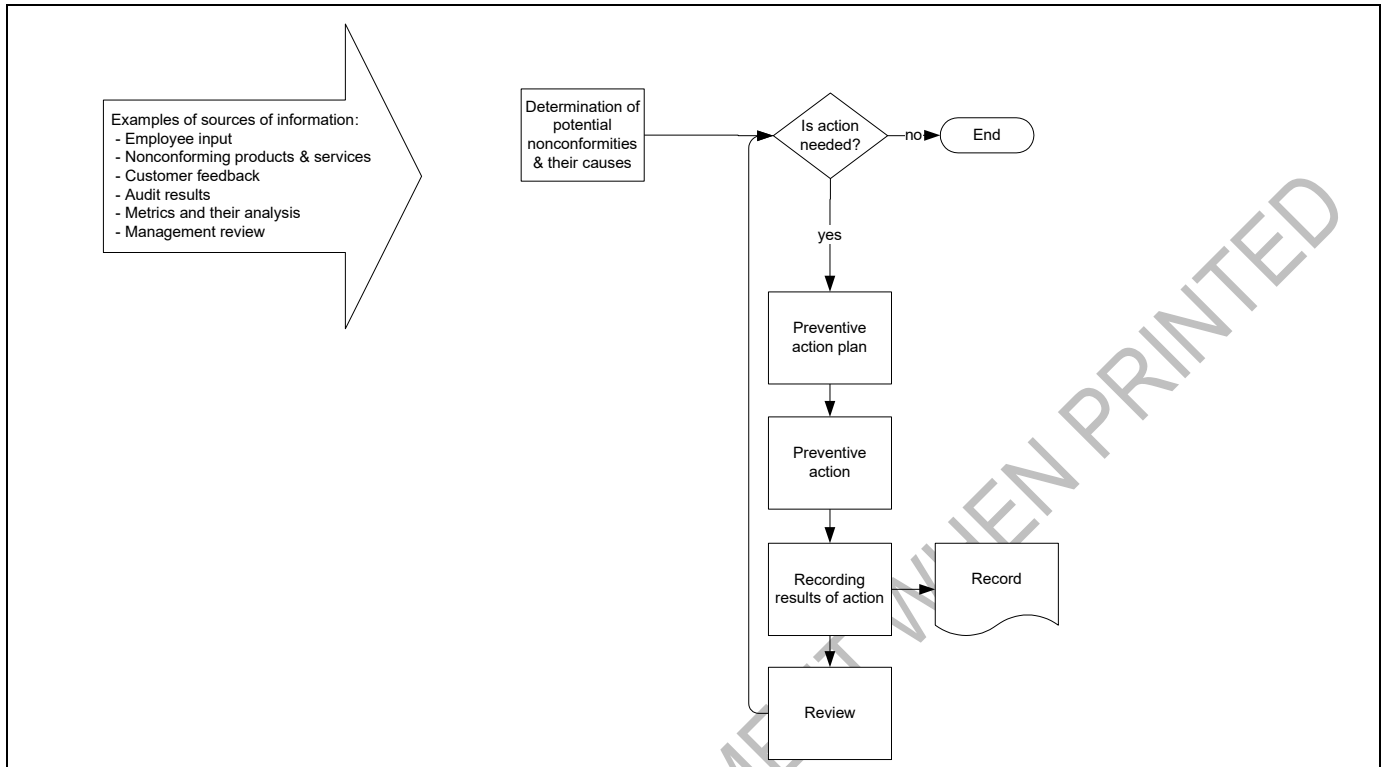
Management is responsible for preventive action in their functional areas.

8.5.3.5 Procedure

Preventive action refers to the improvement of **processes**. Preventive Action addresses potential problems and prevents them from happening.

Procedures for preventive action include, but are not limited to, the following:

- use and analysis of customer complaints, audit results, quality records and other information sources to detect the potential cause of nonconformities;
- reference to and analysis of work instructions, procedures and other instructions to determine the causes of the potential non-conformities;
- determination of steps needed to deal with any problems requiring preventive action;
- submission of preventive recommendations and relevant information to management for review and approval. Responsible management authority will document and distribute necessary changes to affected procedures; and
- review of the effectiveness of the preventive action taken.



Management engages in a formal preventive action process in order to achieve continual improvement.

1) A potential problem is identified

The preventive action process starts with the discovery of a potential problem. Potential problems and their causes are identified through various sources, including:

- Employee input
- Customer feedback
- Audit results
- Metrics and their analysis
- Management review

2) Root cause analysis

The cause of a potential problem is usually identified at the same time as the potential problem is identified. However, the underlying root cause may still need to be analyzed through root cause analysis (the systematic identification of the *underlying cause* of a problem). There are many ways to determine the root cause, one of which is the “5 W Approach”:

Ask “why?” five times (e.g., “why can the problem occur?” – “because of xyz.” – “why can xyz occur?” - and so on).

3) Do we need to do anything?

Once the root cause is determined, management evaluates if any action could prevent the problem from occurring in the future.

Management makes a judgment call under consideration of customer satisfaction and the absolute importance of safety: does the benefit justify the cost of the action?

4) Preventive action plan

If Management decides that action is needed, a preventive action plan is made. The action plan includes:

- Deliverables
The intended results of the action items are defined.
- Responsibilities
An individual responsible for the implementation of each action item is defined.
- Deadlines
Due dates for each action item are defined.

5) Preventive action

Management strives to ensure that preventive action is taken according to plan and by the established deadline.

6) Review

Preventive action is not complete when the action has been performed but rather when the action has been verified as achieving the intended results. Management always reviews the success of preventive action before it can be closed out. If the results are deemed unsatisfactory, Management considers further action.

7) Records

Management documents the results of the preventive action taken. This can be done in a variety of ways, including preventive action plan forms, lists on the Intranet and a collection of other documentation addressing the issue.