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Ships and marine technology — Ship recycling management systems — Guidelines for the implementation of ISO 30000

Navires et technologie maritime — Systèmes de management de recyclage des navires — Lignes directrices pour la mise en application de l'ISO 30000

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/PAS 30004 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*.

Introduction

This Publicly Available Specification has been developed in response to demand from industry for a ship recycling standard.

As concern grows for identifying essential elements required for a ship recycling facility, shipowners, ship recyclers, governments, concerned bodies and other stakeholders are increasingly looking for guidance in what is acceptable in implementing standards for ship recycling facilities.

There is recognition that the present levels of death and injury, damage to the environment, lack of sanitation and provision of basic welfare needs are unacceptable. However, there is a lack of clear guidance on what is the minimum standard required.

This Publicly Available Specification aims to identify the principle elements required for compliance with ISO 30000. It gives guidance on how to design the management system in compliance with ISO 30000 and leads the designer or auditor into what the practical consequences should be.

This Publicly Available Specification describes the principle functional requirements of a ship recycling facility and the elements of the management system and gives facilities guidance on how to establish, implement, maintain and improve a ship recycling facility management system.

Practical examples are presented throughout this Publicly Available Specification for illustrative purposes. They are not intended to present the only possibilities, nor are they necessarily suitable for every organization. In designing and implementing ISO 30000 an organization should select approaches that are appropriate to their own circumstances.

For ease of reading and understanding this Publicly Available Specification, practical help and general guidance have been separated out and are shown as boxed text.

Within some organizations, elements of the ship recycling management system could already be in place, such as the policy and risk assessment records, but others will be developed further. Some organizations will have an integrated system in place which includes elements that have requirements common to those identified in this Publicly Available Specification. Many organizations will already have systems and decide to develop an integrated system that complies with ISO 30000. Compatible standards such as ISO 9001, ISO 14001 and OHSAS 18001 are particularly relevant to this approach and ISO 30000 is designed to ease such integration.

The organization can establish, document, implement, maintain and continually improve a ship recycling management system in accordance with this guidance.

“Establish” implies a level of permanency but the system is not considered established until all of its elements have been demonstrably implemented. “Maintain” implies that, once established, the system continues to operate effectively. This requires active effort on the part of the organization. Many systems start well but deteriorate due to lack of maintenance. Many of the elements of this guidance (such as checking and performance review) are designed to ensure active maintenance of the system.

It is important that all the elements in this Publicly Available Specification be incorporated into the ship recycling management system, but the manner and extent to which individual elements are applied will depend on factors such as the size of the organization, the nature of its activities, and the hazards, the risks, the environment and the conditions in which it operates.

Key tasks for managers of ship recycling facilities who wish to establish, implement, maintain or improve a management system for their facility include

a) recognising that the environment, safety, health and welfare are among the highest organizational priorities,

b) establishing and maintaining communication and constructive relations with internal and external interested parties including stakeholders, shipowners and the general public,

c) identifying the important aspects of the facilities operations including procedures for accepting the ship and downstream waste management (i.e. activities before and after operations in the facility itself),

d) identifying the legal requirements and other requirements to which the organization subscribes, that relate to the aspects above. These include national and international law such as the International Maritime Organization (IMO) conventions, the requirements of the Basel Convention (BC), the International Labour Organization (ILO) and other competent international organizations, as well as relevant guidelines published by these or other recognised organizations,

e) ensuring the commitment of management and all persons working for or on behalf of the organization to the protection of the environment and the safety, health and welfare of all persons whom the organization can control or exert influence over, with clear assignment of accountability and responsibility,

f) encouraging planning throughout the activities of the facility and related upstream and downstream activities,

g) establishing a process for achieving necessary objectives and targets,

h) providing appropriate and sufficient resources, including training, to comply with applicable legal and other requirements to which the facility subscribes and to monitor and achieve the objectives and targets on an ongoing basis,

i) evaluating environmental, safety, health and welfare performance against the facilities' policy, objectives and targets and seeking improvement where appropriate,

j) establishing a management process to audit and review the management system and to identify opportunities for improvement of the system and resulting environmental, safety, health and welfare performance, and

k) encouraging subcontractors, suppliers, transporters, disposers, resellers and other stakeholders to establish similar systems to manage and improve environmental, safety, health and welfare performance.

Facilities may use this Publicly Available Specification, or related International Standards, in various ways, including

1) as guidance to establish, implement, maintain or improve its management system, knowing that this Publicly Available Specification is not intended for conformity assessment purposes, and

2) in support of the implementation or improvement of its ship recycling management system.

The choice will depend on factors such as

i) the facilities' goals,

ii) the maturity of the facilities' management systems,

iii) possible advantages and disadvantages, as determined by factors such as the facilities' current and desired market positions, reputation, external relations and the views of interested parties, and

iv) the size of the organization.

An effective ship recycling management system helps an organization to avoid, reduce, control or mitigate the adverse impacts of its activities and to achieve compliance with applicable legal requirements as well as other requirements to which the organization subscribes – in particular this includes national and international law, the IMO convention and the relevant guidelines issued by the IMO, the BC and the ILO.

Having a ship recycling facility management system can help the facility assure shipowners and other interested parties that

a) a management commitment exists for environmental concerns, safety, health and welfare and to meet its policy, objectives and targets,

b) legal compliance (international and national) is assured as well as compliance with the IMO, the BC and ILO guidance,

c) emphasis is based on prevention of accidents and incidents,

d) evidence of reasonable care and regulatory compliance can be provided as well as proper acknowledgement and implementation of at least the IMO, the BC, and the ILO guidance, and

e) the systems' design incorporates the process of continual improvement.

NOTE This Publicly Available Specification is based on the methodology known as Plan-Do-Check-Act (PDCA).

PDCA can be described as follows:

— Plan: establish the objectives and processes necessary to deliver results in accordance with the organization's ship recycling policy;

— Do: implement the processes;

— Check: monitor and measure processes against recycling policies, objectives, targets, legal and other requirements, and report results;

— Act: take actions to continually improve performance of the recycling management system.

Ships and marine technology — Ship recycling management systems — Guidelines for the implementation of ISO 30000

1 Scope

This Publicly Available Specification provides general advice on the application of ISO 30000 and specifications for management systems for safe and environmentally sound ship recycling facilities.

It explains the underlying principles of ISO 30000 and describes the intent, typical inputs, processes and typical outputs for each requirement of ISO 30000 to aid the understanding and implementation of ISO 30000.

This Publicly Available Specification does not create additional requirements to those specified in ISO 30000, nor does it prescribe mandatory approaches to the implementation of ISO 30000.

NOTE Occupational health and safety issues can be included when an organization seeks to implement an integrated environmental and occupational health and safety management system.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 30000, *Ships and marine technology — Ship recycling management systems — Specifications for management systems for safe and environmentally sound ship recycling facilities*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
acceptable risk
risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its ship recycling policy

3.2
performance indicator
EPI, SPI, MPI, WPI
⟨environmental, safety, management, welfare⟩ item that provides information or measure about the facility or an organization's performance in the stated field

3.3
correction
action taken to eliminate a detected nonconformity

3.4
hazard
source, situation or act with potential for harm in terms of human injury or ill health (both short and long term), damage to property, damage to the environment, or a combination of these

3.5
ill health
identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation

3.6
incident
work-related event(s) in which a negative effect on ship recycling aspects or impacts, whether related to safety, health, welfare or the environment (regardless of severity), occurred or could have occurred, whether short term or long term

NOTE 1 An accident is an incident which has given rise to actual negative effects, such as injury, ill health, fatality, permanently reduced circumstances.

NOTE 2 An incident where no negative effects occur can be referred to as a “near miss”, “near hit”, “close call” or “dangerous occurrence”.

NOTE 3 An emergency situation is a particular type of incident.

3.7
risk
combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of the incident caused

3.8
risk assessment
process of evaluating the risk(s) arising from a hazard, taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable

4 Ship recycling management system elements

4.1 General

4.1.1 The ship recycling management system model

The management system detailed in this Publicly Available Specification follows a “Plan-Do-Check-Act” (PDCA) management model. This model and the ongoing process of continual improvement are illustrated below: Practical help — Ship recycling system management model.

A ship recycling management system is best viewed as an organizing framework that should be continually monitored and periodically reviewed to provide effective direction for an organization's management in response to changing internal and external factors. All levels in the organization should accept responsibility for working to achieve improvements in the management system, as applicable.

When first establishing a management system an organization should begin where there is obvious benefit, for example by focusing on immediate safety benefits or regulatory compliance related to its most significant recycling aspects. As the management system takes shape, procedures, programmes and technologies can be put in place to further improve the facilities performance. It should be noted that relevant guidance from organizations such as the ILO and the BC give guidance in such staged improvements.

Practical help — Ship recycling system management model

PDCA is an ongoing, iterative process that enables an organization to establish, implement and maintain its ship recycling policy based on top management's leadership and commitment to the management system. After the organization has evaluated its current position in relation to its activities for safety, health, welfare and the environment, the steps of this ongoing process are as follows.

a) Plan; manage and organize tasks and operations through required procedures and practices such that the aspects and impacts are properly controlled;

   1) identify ship recycling aspects and associated ship recycling impacts (see 4.3.1),

   2) identify and monitor applicable legal requirements and other requirements to which the organization subscribes, and set internal performance criteria where appropriate (see 4.3.2),

   3) set ship recycling objectives and targets and formulate programme(s) to achieve them (see 4.3.3.1 and 4.3.3.2), and

   4) develop and use performance indicators(see 4.3.3.3).

b) Do; implement and operate the ship recycling management system (see 4.4);

   1) create management structures, assign roles and responsibilities with sufficient authority,

   2) provide adequate resources (see 4.4.1),

   3) train persons working for or on behalf of the organization and ensure their awareness and competence (see 4.4.2),

   4) establish processes for internal and external communication (see 4.4.3),

   5) establish and maintain documentation (see 4.4.4),

   6) establish and implement document control(s) (see 4.4.5),

   7) establish and maintain operational control(s) (see 4.4.6), and

   8) ensure emergency preparedness and response (see 4.4.7).

c) Check; assess ship recycling management system processes (see 4.5);

   1) conduct ongoing monitoring and measurements (see 4.5 and 4.5.1),

   2) evaluate status of compliance (see 4.5.2),

   3) identify nonconformity and take corrective and preventive actions (see 4.5.3),

   4) manage records (see 4.5.4), and

   5) conduct periodic internal audits (see 4.5.5).

d) Act; review and take action to improve the ship recycling management system (see 4.6);

   1) conduct management reviews of the ship recycling management system at appropriate intervals (see 4.6.1), and

   2) identify areas for improvement (see 4.6.2).

This ongoing process enables the organization to continually improve its ship recycling management system and its overall ship recycling performance.

4.1.2 Top management commitment and leadership

To ensure success, an early step in establishing or improving a management system involves obtaining commitment from the top management of the organization to improve the management of its activities, products, services, and suppliers. The ongoing commitment and leadership of the top management are crucial. Identifying the benefits that a ship recycling management system can bring, as well as the challenges that a management system can avoid, may help to secure top management's commitment and leadership.

4.1.3 Scope of the ship recycling management system

Top management need to define the scope of the organization's management system. ISO 30000 is designed to be all inclusive in order to allow the top management to visibly control all the processes and procedures it needs to. This is particularly the case with downstream waste management and also with the processes for accepting ships into the facility as well as the use control of contracted or subcontracted organizations throughout the processes involved. Therefore top management should clearly define these boundaries. Once the scope has been defined, all activities, products, services, subcontractors, suppliers and subsuppliers within the scope should be covered by the management system. Further, it should be noted that since the design of the facility is critical to its success, the design and infrastructure of the facility and its suppliers and subcontractors need to be within the scope.

4.1.4 Initial ship recycling status review

An organization with no existing management system, or with a management system which has not previously been assessed against ISO 30000, should assess its current position by a review. This review should cover all the safety, welfare and environmental aspects of all the facilities activities within its scope, including procedures for vessel arrivals, management of subcontractors on site, transport, disposal and other downstream waste management.

Where no formal management system exists, or if the organization is newly established, the initial status review should serve as a basis for establishing what arrangements should be made to ensure an effective management system is implemented. The initial status review should indicate where the organization currently stands in relation to managing its ship recycling aspects and associated risks.

The review should cover the following key areas:

a) identification and anticipation of safety, hazards, welfare and environmental aspects, including upstream management (import/export and acceptance of the ship), site activities and subcontractors on site, transport and downstream waste management. Each element should be examined for normal operating conditions, abnormal conditions including start up and shut down and emergency situations, pollution incidents and accidents;

b) the relevant infrastructure and facilities of the site, and all associated subcontractors, suppliers and other facilities providing vital services such as transport and disposal should be examined for adequacy, as well as the procedural and legal capability of supporting services for certification and compliance;

c) identification of applicable legal requirements, both national and international and other requirements to which the organization or its suppliers subscribes, such as guidance published by the IMO, the ILO and the BC as well as industry best practice;

d) examination of existing management practices and procedures, including those associated with procurement and contracting activities;

e) evaluation of previous emergency situations and accidents.

The review can also include additional considerations, such as

1) an evaluation of performance compared with applicable internal criteria, external standards, regulations, codes of practice, and sets of principles and guidelines,

2) opportunities for competitive advantage, including cost reduction opportunities,

3) the views of interested parties, and

4) other organizational systems that can enable or impede environmental performance.

The results of the review should be documented and can be used to assist the organization in setting the scope of its ship recycling management system, developing or enhancing its policy, setting its objectives and targets, and determining the effectiveness of its approach to maintaining compliance with applicable legal requirements and other requirements to which the organization subscribes. The results can also be used as applicable to form a baseline for continuous improvement.

Practical help — Initial review

Methods that can be used to examine existing management practices and procedures include

a) interviews with persons previously or currently working for or on behalf of the organization to determine the scope of the organization's past and current activities, products and services,

b) evaluation of internal and external communications that have taken place with the organization's interested parties, including complaints, matters related to applicable legal requirements or other requirements to which the organization subscribes, past environmental or related incidents and accidents,

c) gathering information related to current shiprecycling practices such as

1) current guidance, for example as published by the IMO, the ILO and the BC as well as local information such as legislation and recent legal developments,

2) flag state and national authority advice on documents, reporting and procedures for preparing and delivering ships to be recycled, especially regarding inventories of hazardous materials (IHM) and ship recycling plans (SRP) and export/import requirements and notifications,

3) national authority requirements for ship recycling facilities,

4) owner's specific requirements for recycling of their ships,

5) best practice guidance,

6) requirements for handling hazardous materials,

7) information on ship dismantling procedures and practices,

8) methods for protecting land, sea, and air from harmful emissions due to ship recycling processes,

9) safety procedures for ship recycling, especially with regard to safe entry, hot work, working at heights, required personal protective equipment (PPE), recognising hazards, training, awareness, etc.,

10) storage, transport and disposal of hazardous materials,

11) control of subcontractors and suppliers,

12) prevention of pollution,

13) welfare practices and provisions of essential services in the facility such as messes, changing facilities, sanitation, etc.,

14) welfare provisions external to the facility such as housing, hospitals, schools, recreation, shops, financial services, emergency services, road rail and other communication, etc.,

15) emergency preparedness and response,

16) training programmes,

17) review and approval processes for operational control procedures,

18) completeness of monitoring records and/or ease of retrieving historical records, and

19) reporting procedures.

The review can be conducted using checklists, process flowcharts, interviews, direct inspection and past and current measurements, results of previous audits or other reviews. The results of the review should be documented so that it can be used to contribute to setting the scope and establishing or enhancing the organization's ship recycling management system, including its ship recycling policy.

4.2 Ship recycling policy

The ship recycling policy establishes the basic management policy of the ship recycling facility with regard to safety, health, welfare and the environment. It is expected to be complementary to any business or other policies the organization may have.

The policy sets the level of safety, health, welfare and environmental performance and responsibility required of the organization, against which all subsequent actions will be judged.

The policy should be appropriate to the impacts of the facilities operations and should guide the setting of objectives and targets. It should be reviewed periodically to ensure it remains relevant and appropriate and takes into account any changes to the organization or its operations.

A growing number of international organizations, especially UN agencies such as the IMO, the ILO and the BC, have developed guidelines. Such guidance helps organizations define the overall scope of their operations. They also help to give different organizations a common set of values. Guidance such as these can assist an organization in developing its policy, which can be as individual as the organization for which it is developed. An organization is not bound to use such guidance as provided by the three UN agencies mentioned, but it should at least show an awareness of them and their contents, and if it decides not to use them, then it should show equivalence in the documents and procedures that it does use.

The responsibility for setting policy rests with an organization's top management. The ship recycling policy can be included in or linked with other policy documents of the organization. The organization's management is responsible for implementing the policy and for providing input to the formulation and modification of the policy. The policy should be communicated to all persons working for or on behalf of the organization. In addition, the policy should be made available to the public (see 4.4.3.2 for a discussion of external communication methods).

In developing its ship recycling policy, an organization should consider

a) its mission, vision, core values and beliefs,

b) coordination with other organizational policies (e.g. quality),

c) the requirements of, and communication with, interested parties,

d) guiding principles,

e) specific local or regional conditions,

f) its commitments to safety, welfare, prevention of pollution and continual improvement, and

g) its commitment to comply with legal requirements and other requirements to which the organization subscribes.

Practical help — Ship recycling policy

The ship recycling policy should recognise that all activities, products and services within the defined scope of an organization's ship recycling management system can cause impacts on safety, welfare and the environment.

The policy should state commitments to, among other things,

a) comply with or exceed applicable legal requirements and other requirements to which the organization subscribes which relate to its ship recycling aspects,

b) provide a safe working environment for all workers and stakeholders,

c) provide adequate welfare arrangements for workers and other stakeholders as applicable,

d) provide suitable protection for the environment,

e) prevent pollution, (see Practical help — Prevention of pollution), and

f) achieve continual improvement through the development of performance evaluation procedures and associated indicators.

The policy might also include other commitments to

1) minimize any significant adverse impacts of existing infrastructure and new developments through the use of integrated management procedures and planning,

2) influence other stakeholders to improve safety, welfare and environmental performance, and

3) set an example of leadership in the field of safe and environmentally friendly ship recycling.

Practical help — Prevention of pollution, reduction and mitigation

Prevention of pollution can be incorporated into the design and development of the infrastructure and operations of the organization and also subcontractors and other key service providers such as disposal companies. Whilst prevention is most important, many operations must recognise that prevention may be impossible and thus reduction and mitigation strategies may be more practical.

Such strategies can, for example, help an organization to identify critical operations and thus target areas to reduce waste and emissions associated with processes.

In general the most critical area to identify and prevent pollution is while the ship is still afloat. Pollution at this point is hardest to contain and will spread quickest, making clean up impossible. Strategies to aid containment, or reduce the number of operations carried out afloat will have significant improvements.

Prevention, reduction and mitigation strategies must be relevant to the facilities characteristics. A floating containment boom is neither effective in a strong current, nor for potential pollutants with a density greater than the medium the ship is floating in.

The organization should recognise that safety, welfare and the environment are an integral part of improving business processes and performance.

Identification of areas where pollution cannot be contained is important in order to avoid operations with a high likelihood of pollution in those areas.

It is important to identify the type and significance of pollution in order to use the most effective strategy against it.

The organization should consider using a hierarchy of approaches for prevention of pollution. Such a hierarchy should give preference to preventing pollution at its source, and can be structured as follows:

a) source reduction or elimination (including not carrying out certain recycling operations in certain areas or circumstances);

b) internal reuse or recycling (reuse or recycling of materials within the process or facility);

c) external reuse or recycling (transfer of materials offsite for reuse or recycling);

d) recovery and treatment (recovery from waste streams on or offsite, treatment of emissions, and releases on wastes on or offsite to reduce their environmental impacts);

e) control mechanisms, such as incineration or controlled disposal, where permissible. However, the organization should use methods such as these only after other options have been considered.

4.3 Planning

General guidance — Planning

Planning is critical to the fulfilment of an organization's ship recycling policy and the establishment, implementation, and maintenance of its management system. Effective planning is concerned with prevention. An organization should have a planning process that includes the following elements:

a) identification of ship recycling aspects and the determination of those which are significant;

b) identification of applicable legal requirements and other requirements to which the organization subscribes;

c) setting of internal performance criteria where appropriate;

d) setting of objectives and targets and establishment of programme(s) to achieve them;

e) control of risks;

f) reaction to changing demands and circumstances.

Hazard identification, risk assessment and determination of controls are critical to this process. It is essential that there be a comprehensive appreciation of the significant hazards and risks associated with the organization's ship recycling work. It is recommended that an organization applies processes of hazard identification and risk assessment to determine the controls that are necessary to reduce the risks of injury and ill health, improve welfare and protect the environment. The overall purpose of the process is to understand the hazards and risks to health, welfare and the environment that exist or might arise in the course of the organization's activities, and ensure that the risks that arise from these ship recycling aspects are assessed, prioritized and controlled to eliminate hazards, reduce risks to acceptable levels, improve welfare and protect the environment.

It should take into account

1) routine and non-routine activities,

2) activities of all persons having access to the facility as well as other facilities which the ship recycling organization uses such as transport and disposal facilities,

3) hazards inside the facility, outside the facility and at other facilities that the ship recycling organization or its subcontractors or service providers use, and their associated risks, significance and controls,

4) infrastructure, equipment and materials,

5) method of shipbreaking and operations with enhanced risk,

6) legal and other requirements, and

7) design of work areas, processes, installations, machinery/equipment, operating procedures and work organization.

When planning controls or considering changes and improvements, consideration should be given to risk reduction according to the following hierarchy:

i) elimination;

ii) substitution;

iii) engineering controls;

iv) signage/warning and/or administrative controls;

v) PPE.

Such a planning process can help an organization focus its resources on those areas that are most important to achieving its goals. Information generated by the planning process can also be used in the establishment and improvement of other parts of the management system, such as training, operational control and monitoring and measurement.

The results of such assessments enable the organization to compare options and prioritize actions and associated resources for effective management.

Planning is an ongoing process. It is used both to establish and implement elements of the management system and to maintain and improve them, based on changing circumstances and input and output of the management system itself. As part of the planning process, an organization should consider how it would measure and evaluate its performance in meeting its policy commitments, objectives and targets, and other performance criteria.

One approach that can be useful is to establish performance indicators during the planning process.

ISO 30000 expects the ship recycling organization to take into account the activities of subcontractors and essential service suppliers such as transport or disposal companies. This is because such activities are critical to the success of the ship recycling organization, and the ship recycling organization can influence them. They are significant aspects of the ship recycling organization.

However, such planning, implementation and control should be relevant to the significance of the activity. Hence an organization should take great interest and control in, for example, the activities of its main waste transport agency(ies), or subcontractors on site, or its hazardous waste disposal sites.

4.3.1 Ship recycling aspects

4.3.1.1 Overview

An effective ship recycling management system begins with understanding how the operations, processes, facilities, subcontractors and related services interact with safety, welfare and environmental considerations. Such elements which affect safety, welfare and environmental considerations are called ship recycling aspects. Examples include mooring alongside, confined space entry, working at heights, hot work, cutting, sanitary facilities, a discharge, an emission, consumption or reuse of a material, or generation of noise. The organization should identify the ship recycling aspects it can control and those that it can influence (see 4.3.1.3). Since the organization enters into competitive tender for services such as subcontractors, transporters, disposal facilities and resellers, these are all areas that the organization can influence, as well as requiring applicable elements of control.

Changes to the safety or welfare situation or the environment, either adverse or beneficial, which result wholly or partially from ship recycling aspects are called ship recycling impacts. Examples of adverse impacts include pollution of air, and safety accidents or incidents. Examples of beneficial impacts include improved water quality, safety or new hospitals or schools. The relationship between ship recycling aspects and associated impacts is one of cause and effect. An organization should have an understanding of those aspects that have or can have significant impacts, i.e. significant ship recycling aspects (see 4.3.1.4).

Since an organization can have many ship recycling aspects and associated impacts, it should establish criteria and a method to determine those that it will consider significant (see 4.3.1.5). Several factors should be considered when establishing criteria, such as safety, welfare or environmental characteristics, information on applicable legal requirements and other requirements to which the organization subscribes, and concerns of interested parties (internal and external). Some of these criteria can be applied to an organization's ship recycling aspects directly and some to their associated ship recycling impacts.

Identifying significant ship recycling aspects and associated impacts is necessary in order to determine where control or improvement is needed and to set priorities for management action (see 4.3.1.5). An organization's policy, objectives and targets, training, communications, operational controls and monitoring programmes should be primarily based on knowledge of its significant aspects, although issues such as applicable legal requirements and other requirements to which the organization subscribes and the views of interested parties will also need to be taken into account. The identification of significant ship recycling aspects is an ongoing process that enhances an organization's understanding of its safety performance, its welfare situation and its relationship to the environment and contributes to continual improvement of its performance through enhancement of its ship recycling management system.

As there is no single approach for identifying ship recycling aspects and ship recycling impacts and determining significance that will suit all organizations, the guidance that follows serves to explain key concepts to those implementing or improving a ship recycling management system. Each organization should choose an approach that is appropriate to its scope, nature and scale and that meets its needs in terms of detail, complexity, time, cost and availability of reliable data. The use of (a) procedure(s) to apply the approach selected can help to achieve consistency.

Further guidance and additional examples are contained in the following subclauses.

4.3.1.2 Understanding activities, operations, products and services

Almost all activities, operations, products and services have some impact on safety, welfare or the environment, which may occur at any or all stages of the activities, operations, products or services life cycle, i.e. tendering for the ship through dismantling to transport, disposal and downstream waste management. Such impacts may be local, regional or global, short or long term, with varying levels of significance.

An organization should understand the activities, operations, products and services that fall within the scope of its ship recycling management system, and may find it useful to group them for identification and evaluation of ship recycling aspects. Grouping or categorizing activities, operations, products and services can assist an organization in identifying common or similar ship recycling aspects. A grouping or category could be based on common characteristics, such as organizational units, geographical locations, operations workflow,

materials or energy use in product groups, safety or welfare considerations or environmental media affected (e.g. air, water, land).

To be useful, the size of a category should be large enough for meaningful examination, yet small enough to be clearly understood.

4.3.1.3 Identifying ship recycling aspects

An organization should identify the ship recycling aspects within the scope of its management system that are associated with its past, ongoing and planned activities, operations, products and services. In all cases, the organization should consider normal and abnormal operating conditions including ship arrival, mooring, start-up and shut-down maintenance and emergency situations and accidents, storage, transport and downstream waste management.

In addition to those ship recycling aspects an organization can control directly, it should also consider aspects that it can influence, e.g. those related to products and services used by the organization, especially subcontractors on site, transport and waste disposal companies and those related to products and services it provides. When evaluating its ability to influence the aspects associated with an activity, operation, product or service, an organization should give consideration to legal or contractual authority, its policies, local or regional issues and its obligations and responsibilities to interested parties. The organization should also consider the implications on its own safety, welfare and environmental performance, for example by the treatment of items containing hazardous materials.

Examples of situations in which these considerations can apply include activities carried out by contractors or subcontractors, transport and disposal of hazardous materials.

To identify and have an understanding of its ship recycling aspects, an organization should collect quantitative and/or qualitative data on the characteristics of its activities, operations, products and services such ship arrival and mooring, ship dismantling, pre-cleaning, confined work space, hot work, working with hazardous materials, pollution avoidance and reduction, transport and disposal.

In addition it can be useful to collect information on

a) cause and effect relationships between elements of its activities, operations, products, and services and possible or actual changes to the safety, welfare or environmental performance,

b) concerns of interested parties, and

c) possible ship recycling aspects identified in government regulations and permits, in other standards or guidelines, especially those of the IMO, the ILO and the BC, or by industry associations, academic institutions, etc.

The process of identifying ship recycling aspects will benefit from the participation of those individuals who are familiar with the organization's activities, operations, products and services. Although there is no single approach for identifying ship recycling aspects, the approach selected can for example consider

1) confined space entry,

2) hot work considerations,

3) working at height,

4) cutting operations,

5) ship handling, manoeuvring and mooring,

6) crane operation and general heavy lifting,

7) facility infrastructure,

8) emergency vehicle access,

9) sanitation,

10) schools, hospitals, recreational facilities,

11) local transport network,

12) housing,

13) mess facilities, washing, changing, cleaning, storing,

14) emissions to air,

15) releases to water, releases to land,

16) use of raw materials and natural resources (e.g. land use, water use),

17) local/community environmental issues,

18) use of energy,

19) energy emitted (e.g. heat, radiation, vibration),

20) waste and by-products, and

21) physical attributes (e.g. size, shape, colour, appearance).

Consideration should therefore be given to aspects related to the organization's activities, operations, products and services, such as

i) design and development,

ii) manufacturing processes,

iii) packaging and transportation,

iv) environmental performance and practices of contractors, and suppliers,

v) waste management including transport, storage, disposal, reuse and reselling,

vi) extraction and distribution of raw materials and natural resources,

vii) distribution, use and end of life, and

viii) wildlife and biodiversity.

4.3.1.4 Understanding ship recycling impacts

An understanding of an organization's ship recycling impacts is necessary when identifying ship recycling aspects and determining their significance. Many approaches are available. An organization should choose one that suits its needs.

Readily available information on the types of ship recycling impacts associated with an organization's ship recycling aspects may be adequate for some organizations.

The approach chosen should be capable of recognizing

a) positive (beneficial) as well as negative (adverse) impacts,

b) actual and potential impacts,

c) the area of safety, the type of welfare or the part(s) of the environment that might be affected, e.g. working at heights, confined spaces, provision of sanitation, education, housing or environmental areas such as air, water, soil, flora, fauna, cultural heritage, etc.,

d) the characteristics of the location that might affect the impact, such as local weather conditions, tidal conditions and related effects, height of water table, height of associated land, characteristics of the land/water interface, nature of operations and where they are undertaken, possible pollution related to such characteristics, e.g. porosity of surface in areas likely for liquid contamination, soil types, sub soil, etc., and

e) the severity of the safety risk, the requirement for welfare, the nature of the changes to the environment (such as global vs. local issues, length of time for which the impact occurs, potential for impact to accumulate in strength over time).

4.3.1.5 Determining significant ship recycling aspects

Significance is a relative concept; it cannot be defined in absolute terms. What is significant for one organization may not be significant for another. Evaluating significance involves applying both technical analysis and judgement by the organization.

The use of criteria should help an organization to establish which environmental aspects and associated impacts it considers significant. Establishing and applying such criteria should provide consistency and reproducibility in the assessment of significance. Further, it allows an organization to transparently identify and explain what it does not consider significant in terms of safety, welfare and the environment.

When establishing criteria for significance, an organization should consider the following:

a) safety criteria (the likelihood of an incident and the severity of an incident, cost of protection, mitigating factors, number of people affected);

b) welfare criteria (the relative importance of criteria, offsetting factors, consequences of not complying, long-term and short-term benefits, etc.);

c) environmental criteria (such as scale, severity and duration of the impact, or type, size and frequency of an aspect);

d) applicable legal requirements (such as emission and discharge limits in permits or regulations, etc.);

e) the concerns of internal and external interested parties (such as those related to organizational values, public image, noise, odour or visual degradation).

Significance criteria can be applied either to an organization's ship recycling aspects or to their associated impacts. Performance criteria can apply to both aspects and impacts, but in most situations they apply to the impacts.

When applying criteria, an organization can set levels (or values) of significance associated with each criterion, for example based on a combination of likelihood (probability/frequency) of an occurrence and its consequences severity/intensity). Some type of scale or ranking can be helpful in assigning significance, for example quantitatively in terms of a numeric value, or qualitatively in terms of levels such as high, medium, low or negligible.

An organization may choose to evaluate the significance of a ship recycling aspect and associated impacts, and may find it useful to combine results from the criteria. It should decide which aspects are significant, e.g. by using a threshold value.

To facilitate planning, an organization should maintain appropriate information on the ship recycling aspects identified and those considered significant. The organization should use this information to understand the need for and to determine operational controls. Information on identified impacts should be included as appropriate.

It should be reviewed and updated periodically, and when circumstances change to ensure it is up to date. For these purposes, it can be helpful to maintain them in a list, register, database or other form.

Practical help — Possible information sources for determining ship recycling aspects and impacts

Possible information sources include

a) guidance documents from the IMO, the ILO and the BC,

b) guidance documents from government safety, health, welfare and environmental agencies and information held on related websites,

c) general information documents, such as brochures, catalogues and annual reports,

d) operations manuals, process flowcharts, or quality and product plans,

e) reports from previous audits, assessments or reviews, such as safety reviews, welfare reports, initial environmental reviews or life cycle assessments,

f) information from other management systems, such as quality or occupational health and safety,

g) technical data reports, published analyses or studies, or lists of toxic substances,

h) applicable legal requirements and other requirements to which the organization subscribes,

i) codes of practice, national and international policies, guidelines and programmes,

j) purchasing data,

k) product specifications, product development data, Material/Chemical Safety Data Sheets (M/CSDS),

l) energy and material balance data,

m) waste inventories, libraries of inventories of hazardous materials (IHM) and ship recycling plans (SRP),

n) monitoring data,

o) environmental permit or licence applications,

p) views of, requests from, or agreements with, interested parties,

q) reports on emergency situations and accidents,

r) reports of pollution incidents, or safety accidents, and

s) welfare reports and recommendations.

4.3.2 Legal and other requirements

General guidance — Legal and other requirements

An organization should establish, implement and maintain procedures to identify and have access to legal requirements and other requirements to which it subscribes that are applicable to the safety, health, welfare and environmental aspects of its activities, operations, products and services. The purpose of such procedures is to enable the organization to be aware of the various requirements and determine how they apply to the ship recycling aspects of its activities, operations, products and services.

An organization should ensure that appropriate information about applicable legal requirements and other requirements to which it subscribes is communicated to all persons working for or on behalf of the organization, such as contractors or suppliers, subcontractors on site, transporters and disposal facilities whose responsibilities relate to, or whose actions can affect, the organization's compliance with such requirements.

It is crucial to recognise that due to the movements of the ship, all relevant international law must be identified and taken into account as well as local legislation. Additionally, it is vital to identify and demonstrate compliance with the legal requirements of the port of last survey, the flag state and transit states, as applicable.

An organization should have a process in place to anticipate and prepare for new or changed requirements, so that appropriate action can be taken to maintain compliance. It should also consider how applicable legal requirements and other requirements to which it subscribes might apply to or affect new or modified activities, products and services.

The organization will need a process to anticipate and prepare for the individual legal regimes of each ship it wishes to recycle, as applicable to its expected flag state, port of last survey, transit and arrival states. Further, if the vessel is to be pre-cleaned at another facility, relative international and local legal requirements must be identified and compliance planned for.

Several sources can be used to identify and maintain up-to-date information about applicable legal requirements and other requirements to which the organization subscribes. Such sources include all levels of government, industry associations or trade groups, commercial databases and publications, and professional advisors and services.

It is important to recognise the influence of international conventions, especially the relevant conventions of the IMO, the ILO and the BC. An organization needs to identify not only which conventions, or elements of conventions are relevant, but also those to which the applicable states are party. It then needs to identify how these conventions are implemented within the relevant national framework.

The organization should identify all such legal requirements for the ships it intends to recycle as well as the facility itself, subcontractors and services such as transporters and disposal agencies and resellers.

4.3.2.1 Legal requirements

Legal requirements refer broadly to any requirement or authorization that is related to an organization's ship recycling aspects as issued by a governmental authority (including international, national, state/provincial and local authorities) and has legal force.

Legal requirements can take many forms, such as

a) international conventions such as the IMO, the ILO and the BC; the relevant national ratification and effective related clauses in national law,

b) legislation, including statutes and regulations,

c) decrees and directives,

d) permits, licences or other forms of authorization,

e) orders issued by regulatory agencies,

f) judgements of courts or administrative tribunals,

g) customary or indigenous law, and

h) treaties, conventions and protocols.

To facilitate the tracking of legal requirements, an organization may find it helpful to maintain an up-to-date register or list of applicable legal requirements.

An organization may also consider going beyond compliance with existing legal requirements. Enhanced reputation, competitive advantage, anticipation or influence of new legal requirements, improved performance and improved relations with the public and authorities can offset the potential added cost.

There are many sources where an organization should check for relevant legal requirements, such as

1) the internet,

2) libraries,

3) trade associations,

4) regulators,

5) legal services,

6) OH&S institutes,

7) OH&S consultants,

8) equipment manufacturers,

9) materials suppliers,

10) contractors, and

11) customers.

There is no requirement to maintain a library; it is sufficient that the organization is able to access the information when needed.

The organization's procedure should ensure that it can identify any changes that affect the applicability of legal and other requirements relevant to its ship recycling aspects.

The organization's procedure needs to identify who should receive information on legal and other requirements, and ensure that relevant information is communicated to them.

4.3.2.2 Other requirements

Depending on its circumstances and needs, an organization may subscribe voluntarily to requirements, other than legal requirements, that apply to its activities, operations, products and services.

Such other safety, health, welfare and environmental requirements, if applicable, can include

a) relevant guidelines, especially those issued by the IMO, the ILO and the BC,

b) agreements with public authorities,

c) agreements with customers,

d) non-regulatory guidelines,

e) voluntary principles or codes of practice,

f) voluntary environmental labelling or product stewardship commitments,

g) requirements of trade associations,

h) agreements with community groups or non-governmental organizations,

i) public commitments of the organization or its parent organization,

j) corporate/company requirements, and

k) best practice documents, especially those related to handling of hazardous materials and waste management.

An organization should identify and keep track of the other requirements to which it subscribes. To facilitate this, the organization can

1) identify other requirements in its ship recycling policy, and

2) maintain an up-to-date compilation of other requirements in a list, register, database or other form.

Information on internal performance criteria, together with applicable legal requirements and other requirements to which the organization subscribes, can assist an organization in developing its objectives and targets. Where legal and other requirements are insufficient to meet the organization's needs, an organization may develop and implement internal performance criteria to meet its needs. Examples of internal performance criteria might include improvements of lost time incidents, welfare measures, limitations on types and quantities of fuels or chemicals that can be used or managed at a facility or limitations on air emissions that go beyond legal compliance requirements.

Practical help — Other requirements

The ship recycling industry does not have a universally acknowledged holistic set of practical standards covering all its operations, which are subscribed to or accepted internationally.

In order to show a duty of care, a ship recycling facility must therefore be expected to reasonably apply the principle relevant areas of the main guidelines issued by the internationally recognised bodies who have worked to produce relevant guidelines – these are at least the IMO, the ILO and the BC guidelines, and any such relevant guidance as may be included within the ISO 30000 series.

An organization does not have to subscribe to these guidelines as 'other requirements', but in practice it must demonstrate knowledge and equivalency in all the keys areas if it wishes to demonstrate a duty of care. Failure to do so may not invalidate the ship recycling system under any specific legal requirement, but is likely to do so under most generic legal requirements of such “duty of care”.

Practical help — Commitment to compliance

Compliance with applicable legal requirements and other requirements to which the organization subscribes is a core commitment of a ship recycling management system. This commitment should be reflected in the management system planning process and be implemented through the management system. Top management should periodically review the adequacy of the ship recycling management system to ensure its effectiveness, including its compliance-related components.

For convenience, the principal compliance-related components of the ship recycling management system are summarized in the following list. An organization should establish, implement and maintain processes and provide adequate resources to

a) establish a policy that includes a commitment to compliance with applicable legal requirements and other requirements to which the organization subscribes (see 4.2),

b) identify, have access to and understand applicable legal requirements and other requirements to which the organization subscribes (see 4.3.2),

c) set objectives and targets that consider the need for compliance (see 4.3.3),

d) achieve compliance-related objectives and targets, by implementing

   1) programmes that identify roles, responsibilities, procedures, means and timeframes to achieve compliance-related objectives and targets (see 4.3.3.2), and

   2) operational controls (including procedures, as necessary) to implement the commitment to compliance and compliance-related objectives and targets (see 4.4.6).

e) ensure that all persons working for or on behalf of the organization and whose work is related to (a) significant aspect(s) have received appropriate training regarding applicable legal requirements and other requirements to which the organization subscribes, related procedures that apply to them, and the consequences of failing to meet applicable legal requirements (see 4.4.2),

f) periodically evaluate compliance with applicable legal requirements and with other requirements to which the organization subscribes (see 4.5.2),

g) identify any instances of non-compliance or non-conformance (and foreseeable potential non-compliance or non-conformance) and take prompt action to identify, implement and follow up corrective actions (see 4.5.3),

h) maintain and manage records of its compliance with applicable legal requirements and other requirements to which the organization subscribes (see 4.5.4),

i) address compliance-related features when conducting periodic audits of the management system (see 4.5.5), and

j) consider changes in applicable legal requirements and with other requirements to which the organization subscribes when undertaking the management review (see 4.6.1).

The commitment to compliance reflects an expectation that an organization employ a systematic approach to achieve and maintain compliance with applicable legal requirements and other requirements to which the organization subscribes.

4.3.3 Objectives, targets and programme(s)

General guidance — Objectives, targets and programme(s)

In the planning process, an organization sets objectives and targets to fulfil the commitments established in its ship recycling policy and achieve other organizational goals. The process of setting and reviewing objectives and implementing programmes to achieve them provides a systematic basis for the organization to improve performance in some areas whilst maintaining its level of performance in others.

Both management and operational performance can be addressed through the setting of objectives.

4.3.3.1 Setting objectives and targets

In setting objectives and targets, an organization should consider several inputs, including

a) principles and commitments in its ship recycling policy,

b) its significant aspects (and information developed in determining them),

c) applicable legal requirements and other requirements to which the organization subscribes,

d) effects of achieving objectives on other activities and processes,

e) views of interested parties,

f) technological options and feasibility,

g) financial, operational, and organizational considerations, including information from suppliers and contractors,

h) possible effects on the public image of the organization,

i) findings from reviews of the ship recycling operations and practices, and

j) other organizational goals.

Objectives should be set at the top level of the organization and at other levels and functions where activities important to meeting the policy commitments and overall organizational goals are carried out.

Objectives should be consistent with the ship recycling policy, including the commitment to safety, welfare and prevention of pollution, compliance with applicable legal requirements and other requirements to which the organization subscribes, and continual improvement.

An objective can be expressed directly as a specific performance level, or may be expressed in a general manner and further defined by one or more targets. When targets are set, they should be measurable by performance levels that need to be met to ensure the achievement of the related objectives. Targets may need to include a specified time frame to be delivered by the programme.

The objectives an organization sets should be considered as part of its overall business objectives. Such integration can enhance the value of not only the management system but also of the business objectives to which the integration applies.

Objectives and targets can be applicable across an organization or more narrowly to site-specific or individual activities. For example, the organization can set a safety objective that needs to be achieved by all areas, sites, subcontractors and service providers and it can set a specific safety objective to one operation such as a specific reduction in accident rates in the primary dismantling area.

It is also possible that different parts of an organization, pursuing the same overall objective, may need to implement different actions to achieve their departmental objectives. For example different operations will have different causes of accidents and thus the relevant safety strategy will change.

An organization should identify the contributions of different levels and functions of the organization in achieving the objectives, and make the individual members of the organization aware of their responsibilities. Objectives must thus be relevant – safety improvements within the ship recycling industry are more relevant and achievements greater in, for example, dangerous environments such as primary cutting and dismantling zones, than in safer environments such as offices.

Performance indicators can be used to track progress in achieving the objectives and targets (see 4.3.3.3). It is important that performance indicators or other measurement tools measure what is important and relevant, rather than items that are simply easy to measure. An organization should make items that are important easy to measure, rather than making items which are easy to measure important.

Documentation and communication of objectives and targets improves an organization's ability to achieve its objectives and targets. Information concerning objectives and related targets should be provided to those responsible for achieving them and to other personnel who need such information to carry out related functions, such as operational control.

NOTE Sometimes the acronym “SMART” is applied to the establishment of objectives, i.e. that they should be specific, measurable, achievable, realistic, time-oriented.

4.3.3.2 Programme(s) for achieving objectives and targets

Part of the planning process should include the elaboration of a programme for achieving the organization's objectives and targets. The programme should address roles, responsibilities, processes, resources, timeframes, priorities and the actions necessary for achieving the objectives and targets.

These actions may deal with individual processes, projects, products, operations, services, sites or works within a site. Organizations may integrate programmes to achieve objectives and targets with other programmes within their strategic planning process. Programmes to achieve objectives and targets help an organization to improve its performance. They should be dynamic.

When changes in processes, activities, services, operations, subcontractors, products and other areas within the scope of the management system occur, the objectives and targets and associated programmes should be revised as necessary.

To achieve its objectives and targets, an organization may find it useful to follow a process: for each policy commitment, identify each objective and target that corresponds to that commitment, establish one or more programmes to achieve each objective and target, and identify specific performance indicators and actions to implement each programme. The specific objectives and targets may then need to be redefined to ensure that the performance indicators and actions can address them. This process can be repeated as appropriate, for example if the policy is changed or after a management review.

4.3.3.3 Performance indicators

An organization should establish measurable ship recycling performance indicators. Indicators should cover all the relevant fields of safety, welfare and the environment. Such indicators should be objective, verifiable and reproducible. They should be appropriate to the organization's activities, products, operations and services, consistent with its ship recycling policy, practical, cost-effective and technologically feasible.

These indicators can be used to track an organization's progress in achieving its objectives and targets. They can also be used for other purposes, such as part of an overall process for evaluating and improving performance. The organization should consider the use of both management and operational performance indicators appropriate to its significant ship recycling aspects.

An organization's performance indicators are an important tool for monitoring continual improvement.

Practical help — Performance indicators

Progress towards an objective can generally be measured using performance indicators such as

Safety:

a) accident and incident statistics,

b) near miss reports,

c) relative figures from similar industries or operations, e.g. ship repair or waste management, as applicable,

d) awareness, and

e) training offered and received;

Welfare:

a) education and awareness levels,

b) training offered and received,

c) provision of sanitary facilities, recreational facilities, schools, and

d) provision of emergency facilities, e.g. health, fire and police;

Environment:

a) quantity of raw material or energy used,

b) quantity of emissions such as CO_2,

c) waste produced per quantity of finished product,

d) efficiency of material and energy used,

e) number of environmental incidents (e.g. excursions above limits),

f) number of environmental accidents (e.g. unplanned releases),

g) percentage waste recycled,

h) percentage recycled material used in packaging,

i) number of service vehicle kilometres per unit of production,

j) quantities of specific pollutants emitted, e.g. SO_2, CO, VOCs, Pb, CFCs,

k) investment in environmental protection,

l) number of prosecutions, and

m) land area set aside for wildlife habitat.

4.4 Implementation and operation

General guidance — Implementation and operation

An organization should provide resources, capabilities, structures and support mechanisms necessary to

a) achieve its ship recycling policy, objectives and targets,

b) meet the changing requirements of the organization,

c) communicate on ship recycling management system matters with interested parties, and

d) provide for the ongoing operation and continual improvement of the management system to improve the organization's performance.

To effectively manage ship recycling activities, the ship recycling management system can be designed or revised so that it is effectively aligned and integrated with existing management system processes. Such integration can help an organization balance and resolve conflicts between safety, welfare and environmental objectives and priorities and other organizational objectives and priorities, if they exist.

Management system elements that can benefit from integration include organization policies, resource allocation, operational controls and documentation, information and support systems, training and development, organization and accountability structure, reward and appraisal systems, measuring and monitoring systems, internal audit processes, and communication and reporting.

4.4.1 Resources, roles, responsibility and authority

The management of an organization should determine and make available appropriate resources to establish, implement, maintain and improve the ship recycling management system. These resources should be provided in a timely and efficient manner. Top management should take ultimate responsibility for the management system, its implementation and results.

When identifying the resources needed to establish, implement and maintain the ship recycling management system, an organization should consider

1) infrastructure,

2) safety,

3) information systems,

4) training,

5) technology, and

6) financial, human and other resources specific to its operations.

Resource allocations should consider both the current and future needs of an organization. In allocating resources, an organization can develop procedures to track the benefits as well as the costs of its activities. Issues such as the cost of improved safety initiatives, welfare programmes, pollution control, wastes and disposal can be included.

NOTE Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.

Resources and their allocation should be reviewed periodically, and in conjunction with the management review to ensure their adequacy. In evaluating adequacy of resources, consideration should be given to planned changes and/or new projects or operations.

The organization should ensure that all workers take responsibility for the ship recycling aspects over which they have control, including compliance with the ship recycling management system.

Practical help — Human, physical and financial resources

The resource base and organizational structure of a small or medium-sized enterprise (SME) can impose certain limitations on environmental management system implementation. To overcome these limitations, an SME can consider cooperative strategies with

a) larger client and supplier organizations, to share technology and knowledge,

b) other SMEs in a supply chain or on a local basis to define and address common issues, share experiences, facilitate technical development, use facilities jointly, and collectively engage external resources,

c) standardization organizations, SME associations, chambers of commerce, for training and awareness programmes, and

d) universities and other research centres, to support productivity improvements and innovation.

Successful establishment, implementation and maintenance of a ship recycling management system depends to a great extent on how top management defines and assigns responsibilities, accountability and authority within the organization (see Practical help — Structure and responsibility).

The top management should assign (a) representative(s) or function(s) with sufficient authority, awareness, competence and resources to

a) ensure the establishment, implementation and the maintenance of the ship recycling management system at all applicable levels of the organization, and

b) report to the top management on ship recycling management system performance and its opportunities for improvement.

NOTE "Accountability" means "ultimate responsibility", and relates to the person who is held to account if something is not done, does not work or fails to achieve its objective.

The responsibilities of the management representative may include interactions with interested parties on issues pertaining to the ship recycling management system. The management representative can have a variety of other responsibilities within the organization. In small organizations, the general manager may perform this function.

It is important to ensure that those with responsibilities to ensure the effectiveness of the ship recycling management system have the necessary authority to fulfil their role.

An organization should define and communicate the responsibilities and authorities of persons working for or on behalf of the organization whose work relates to its ship recycling management.

The resources provided by the top management should enable the fulfilment of the responsibilities assigned. The responsibilities and authorities should be reviewed when a change in structure of the organization occurs.

Resources and their allocation should be reviewed periodically and in conjunction with the management review to ensure they are sufficient. In evaluating the adequacy of resources, consideration should also be given to planned changes, continual improvement, objectives and targets, and/or new projects or operations.

There should be clarity of responsibilities at the interfaces between different functions (e.g. between departments, between different levels of management, between workers, between the organization and contractors, control of downstream waste management, and between the organization and its neighbours).

The existence of a top management appointee (e.g. in a large organization, a Board or executive committee member) does not absolve other top managers of their collective and individual responsibility. The identity of the top management appointee should be made available to all persons working under the control of the organization.

Management at all levels have responsibility for ensuring that the ship recycling management system is managed effectively within their areas of control. The role and responsibilities of any specialist function within the organization should be appropriately defined to avoid ambiguity.

This should include arrangements to resolve any conflict between safety, welfare or environmental issues and operational considerations and, where appropriate, escalation to a higher level of management.

Top management should determine the level of supervision for staff at all levels necessary for tasks to be carried out safely.

All managers should clearly demonstrate their commitment to implementation of the ship recycling policy by, for example,

1) attending and actively participating at training and awareness meetings,
2) touring the facility, visiting and inspecting sites and subcontractors,
3) participating in risk assessment and risk control processes,
4) participating in incident investigation,
5) committing resources to preventive and corrective actions, and
6) issuing messages of support.

The organization should communicate and promote safety, welfare and the environment as the responsibility of everyone in the organization, not just those with defined ship recycling management system duties.

Practical help — Structure and responsibility

To ensure effective establishment and implementation of a ship recycling management system, it is necessary to assign appropriate responsibilities.

The following examples illustrate ship recycling responsibilities.

Example of responsibilities	Typical person(s) responsible
Establish overall direction	President, chief executive officer (CEO), Board of directors
Develop ship recycling policy	President, CEO, and others as appropriate
Develop objectives, targets and programmes	Relevant managers
Monitor overall ship recycling management system performance	Chief ship recycling manager
Ensure compliance with applicable legal requirements and other requirements to which the organization subscribes	All managers
Promote continual improvement	All managers
Identify customers' expectations	Sales and marketing staff
Identify requirements for subcontractors and downstream waste management	Subcontractor management staff
Conform to ship recycling management system requirements Review the operation of the environmental management system	All persons working for or on behalf of the organization Top management

NOTE Companies and institutions have different organizational structures and need to define ship recycling management responsibilities based on their own work processes. In the case of an SME, for example, the owner can be the person responsible for all of these activities.

4.4.2 Competence, training and awareness

Top management has a key responsibility for building awareness and motivating employees by explaining an organization's values, communicating its commitment to the ship recycling policy, and encouraging all persons working for or on behalf of the organization to accept the importance of achieving the objectives and targets for which they are responsible or accountable.

All workers should be made aware that they have a general responsibility for their own and others' ship recycling aspects such as safety, welfare, protection of the environment and prevention of pollution.

All workers, contractors, visitors or other stakeholders should be aware of the ship recycling aspects applicable to them. Such awareness should create the requirement for training or knowledge to be competent in the areas required. For example, a visitor near a scaffolding tower needs to be aware of the dangers (this may require a brief induction training session on arriving at the yard), whereas a worker on the scaffolding needs to be competent at that job (through training). The visitor, is, in effect, a “competent visitor”.

It is the commitment of individual people, in the context of shared ship recycling values, which transforms a ship recycling management system from paperwork into an effective process. Persons working for or on behalf of an organization should be encouraged to make suggestions that can lead to improved performance.

An organization should ensure that all persons working for or on behalf of the organization are aware of the importance of conforming to the ship recycling policy and the requirements of the management system, their role and responsibilities within the management system, the significant actual or potential ship recycling aspects and associated impacts of their work activities, benefits of improved performance, and the consequences of the departure from applicable ship recycling management system requirements.

NOTE 1 All persons working for or on behalf of an organization include employees, contractors and, as applicable, other involved parties.

Those persons undertaking work activities that involve (a) significant actual or potential ship recycling aspect(s) or associated impact(s) should be competent to do so in a manner that meets the requirements of the ship recycling management system. For those activities that are most important in the management of its ship recycling aspects, the organization should identify the knowledge, understanding, skills, or abilities that make an individual competent to perform them. Once required competence is identified, the organization should ensure that persons performing these activities have the required competence, through experience, training, or other method.

Competence is based on appropriate education, training, skills and/or experience. Competence requirements should be considered in recruiting, training and developing future skills and abilities of persons working for or on behalf of the organization. Competence should also be considered in selecting contractors and others working for or on behalf of the organization.

An organization should identify and assess any differences between the competence needed to perform an activity and that possessed by the individual required to perform the activity. This difference can be rectified through additional education, training, skills development, etc.

The organization should require that contractors be able to demonstrate that their workers have the requisite competence and/or appropriate training.

NOTE 2 “Awareness” is to be conscious of something, e.g. risks and hazards. “Competence” is the demonstrated ability to apply knowledge and skills.

Training programmes should reflect the responsibilities defined within the ship recycling management system and take into account the audience's existing knowledge and understanding of the subject material. Training should also be relevant to the capabilities of the individual, and in a form most readily understood by the individual.

Training procedures should take into account differing levels of

a) responsibility, ability, language skills and literacy, and

b) risk.

Ship recycling management system-related training programmes can include

1) identification of employee training needs,

2) design and development of a training plan to address defined training needs,

3) verification of conformity with environmental management system training requirements,

4) training of target employee groups,

5) documentation and monitoring of training received, and

6) evaluation of training received against defined training needs and requirements.

Practical help — Competence, training and awareness

Examples of the types of environmental training that can be provided by an organization are as follows.

Type of training	Audience	Purpose
Raising awareness of the importance of ship recycling management	Senior management	To gain commitment and alignment to the organization's environmental policy
Raising general ship recycling awareness	All employees	To gain commitment to the ship recycling policy, objectives and targets of the organization and instil a sense of individual responsibility
Training in ship recycling management systems requirements	Persons with responsibilities in the ship recycling management system	To instruct on how to meet requirements, conduct procedures, etc.
Skills enhancement	Employees with ship recycling responsibility	To improve performance in areas of the organization, e.g. operations, research and development, and engineering
Compliance training	Employees whose actions can effect compliance	To achieve compliance with regulatory training requirements and improve compliance with applicable legal requirements and other requirements to which the organization subscribes

4.4.3 Communication

General guidance — Communication

An organization should establish, implement and maintain procedures for communicating internally and externally on its ship recycling policy, performance or other information, based on its own needs and the needs of interested parties. Interested parties can include, for example, neighbours, non-governmental organizations, customers, contractors, suppliers, investors, emergency services and regulators.

The purposes and benefits of such communication can include

a) demonstrating the organization's commitment and efforts to improving environmental performance, as well as the results of such efforts,

b) raising awareness and encouraging dialogue about the organization's environmental policy, environmental performance and other relevant achievements,

c) receiving, considering and responding to questions, concerns or other inputs,

d) promoting continual improvement of environmental performance, and

e) participation of workers by involvement in hazard identification, risk assessment, determination of controls, incident investigation, development of new objectives and targets, consultation and representation on ship recycling aspects.

4.4.3.1 Internal communication

Communication between and among the levels and functions within an organization is crucial to the effectiveness of the ship recycling management system. For example, communication is important for problem solving, for coordination of activities, for follow-up on action plans and for further development of the ship recycling management system.

The provision of appropriate information to an organization's employees serves to motivate them and encourage acceptance of the organization's efforts to improve its ship recycling performance. This can assist employees to fulfil their responsibilities and the organization to meet its objectives and targets. An organization should have a process to encourage feedback from and involvement of all levels of the organization and receive and respond to employees' suggestions and concerns.

It will often be important to provide information to others working on behalf of the organization, such as contractors and suppliers, transporters and disposal agencies. Results from ship recycling management system monitoring, audit and management review should be communicated to appropriate persons within the organization.

A variety of internal communication methods are available, for example minutes of meetings, bulletin-board postings, internal newsletters, suggestion boxes/schemes, websites, e-mail, meetings and joint committees.

4.4.3.2 External communication

Communication with external interested parties can be an important and effective tool for ship recycling management. Proactive methods can increase the effectiveness of external communication. An organization should consider the potential costs and benefits of different approaches in developing a communication plan that is appropriate for its particular circumstances.

It should also consider how to communicate externally to its interested parties about its ship recycling aspects, including those that relate to its supply and product chains including transport and disposal.

At a minimum, an organization should establish, implement and maintain procedures for receiving, documenting and responding to relevant communication from external parties. An organization might also find it useful to document its procedure for external communication.

Whatever decisions an organization makes with regard to communicating externally on a proactive basis, its decision should be recorded. An organization should have in place a process for communicating with external interested parties in case of emergency situations or accidents that could affect or concern them.

A variety of external communication methods that can encourage understanding and acceptance of an organization's management efforts and promote dialogue with interested parties are available.

Methods of communication include, for example: informal discussions; organization open days, focus groups, community dialogue, involvement in community events, websites and e-mail, press releases, advertisements and periodic newsletters, annual (or other periodic) reports and telephone hotlines.

It is essential to communicate effectively with third parties involved in the ship recycling process, such as contractors and service suppliers, including transport and downstream waste management.

The organization should have arrangements in place to clearly communicate its ship recycling requirements to contractors. The procedure(s) should be appropriate to the hazards and risks associated with the work to be performed. In addition to communicating performance requirements, the organization should communicate the consequences associated with nonconformity with requirements.

Contracts are often used to communicate performance requirements. Contracts might need to be supplemented with other on-site arrangements (e.g. pre-project planning meetings) to ensure that appropriate controls are implemented to ensure safety, welfare and environmental protection at all stages of the ship recycling process.

The communication should include information about any operational controls related to the specific tasks to be performed or the area where the work is to be done. This information should be communicated before the contractor comes on site and then supplemented with additional or other information (e.g. a site tour), as appropriate, when the work starts. The organization should also have procedures in place for consultation with contractors when there are changes that affect the management system.

In addition to the specific requirements for activities carried out on site, the following could also be relevant to the organization when developing its procedure(s) for communications with contractors and other service providers:

a) information about the contractor or service supplier's (especially downstream waste management) management system (e.g. established policies and procedures to address pertinent ship recycling aspects);

b) legal and other requirements, including those that impact on the method or extent of communication;

c) previous ship recycling experience (e.g. safety, welfare and environmental protection performance data);

d) the existence of multiple contractors at the worksite or other facilities fundamental to the ship recycling processes such as transport and disposal;

e) staffing for accomplishing ship recycling activities (e.g. exposure monitoring and equipment inspections);

f) emergency response and pollution prevention;

g) the need for alignment of contractors' and service suppliers' policies and practices with those of the organization and other contractors;

h) the need for additional consultation and/or contractual provisions for high-risk tasks;

i) requirements for the assessment of conformity with agreed performance criteria;

j) processes for incident investigation, reporting of nonconformities and corrective action; and

k) arrangements for day-to-day communications.

For visitors (including delivery and transport people, customers, members of the public, service providers, inspectors, etc.), communication can include warning signs and security barriers, as well as verbal or written communication. Information that should be communicated includes

1) requirements relevant to their visit,

2) evacuation procedures and responses to alarms,

3) traffic controls,

4) access controls and escort requirements, and

5) any PPE that needs to be worn (e.g. safety glasses).

Practical help — Internal and external communication

Examples of information to be communicated include

a) general information about the organization,

b) management statement if applicable,

c) policy, objectives and targets,

d) management processes (including employee and interested party involvement),

e) the organization's commitments to continual improvement, safety, welfare and prevention of pollution,

f) information related to ship recycling aspects of products and services, conveyed through, for example, marketing, labels and declarations,

g) information on the organization's performance including trends (e.g. accidents and incident rates, waste reduction, product stewardship, past performance),

h) the organization's compliance with legal and other requirements to which the organization subscribes, and corrective actions taken in response to identified instances of non-compliance,

i) supplementary information in reports, such as glossaries,

j) financial information such as cost savings or investments in safety, welfare or environmental projects,

k) potential strategies to improve an organization's performance,

l) information related to ship recycling incidents, and

m) sources for further information, such as contact person(s) or websites.

For both internal and external communication, it is important to remember that

1) information should be understandable and adequately explained,

2) information should be traceable,

3) the organization should present an accurate picture of its performance, and

1) if possible, information should be presented in comparable forms (e.g. similar units of measurement).

4.4.3.3 Communication processes

An organization should take into account its nature and size, its significant environmental aspects and the nature and needs of its interested parties when establishing a communications programme.

An organization should consider the following process steps:

a) gather information, or make inquiries including from interested parties;

b) determine the target audience(s) and information or dialogue needs;

c) select information relevant to the audience's interests;

d) decide on the information to be communicated to the target audience(s);

e) determine which methods are appropriate for communication;

f) evaluate and periodically determine the effectiveness of the communications process.

NOTE There are likely to be legal requirements to provide information about ship recycling aspects and the management system.

4.4.4 Documentation

To ensure that its management system is understood and operating effectively, an organization should develop and maintain adequate documentation. The purpose of such documentation is to provide necessary information to employees and other interested parties as appropriate.

Documentation should be collected and maintained in a way that reflects the culture and needs of an organization, building onto and improving its existing information system. The extent of the documentation can differ from one organization to another but it should describe the management system (see Practical help — Documentation below).

An organization may choose to summarize information in the form of a manual, which constitutes an overview or summary of the ship recycling management system and can provide direction to related documentation. The structure of any such management system manual need not follow the clause structure of ISO 30000 or any other standard.

For effective management of its key processes (i.e. those related to its identified significant ship recycling aspects), an organization should establish (a) procedure(s) that describe, in appropriate detail, a specified way of carrying out each process. If an organization decides not to document a procedure, appropriate employees need to be informed, through communication or training, of the requirements to be satisfied (see 4.4.2).

Records, which provide information on results achieved or evidence of activities performed, are part of an organization's documentation, but are generally controlled through different management processes (see 4.5.4).

Documents can be managed in any medium (paper, electronic, photos, and posters) that is useful, legible, easily understood and accessible to those needing the information contained therein. There can be advantages to maintaining documents electronically, such as ease of updating, controlling access, and ensuring that all users are using the valid versions of documents.

If processes of the ship recycling management system are aligned with those from other management systems, an organization can combine relevant ship recycling documentation with documentation of these other management systems.

Practical help — Documentation

Examples of documents include

a) statements of policy, objectives and targets,

b) description of the scope of the environmental management system,

c) descriptions of programmes and responsibilities,

d) information on significant ship recycling aspects,

e) procedures,

f) process information,

g) organizational charts,

h) internal and external standards,

i) site emergency plans, and

j) records.

4.4.5 Control of documents

Control of ship recycling management system documents is important to ensure

a) documents can be identified with the appropriate organization, division, function, activity or contact person,

b) documents (other than records) are regularly reviewed, revised as necessary and approved by authorized personnel prior to issue,

c) the current versions of relevant documents are available at all locations where operations essential to the effective functioning of the system are performed, and

d) obsolete documents are promptly removed from all points of issue and points of use. In some circumstances, for example, for legal and/or knowledge preservation purposes, obsolete documents can be retained.

Documents can be effectively controlled by

1) developing an appropriate document format that includes unique titles, numbers, dates, revisions, revision history and authority,

2) assigning the review and approval of documents to individuals with sufficient technical capability and organizational authority, and

3) maintaining an effective document distribution system.

4.4.6 Operational control

Once it has gained an understanding of its ship recycling aspects and associated significant impacts, the organization should implement the operational controls that are necessary to manage these and comply with applicable legal and other requirements.

The organization should determine those operations and activities that are associated with the identified aspects where the implementation of controls is necessary to manage them. This should include the management of change.

General guidance — Operational control

An organization needs to apply some type of operational controls to meet its ship recycling policy commitments, achieve its objectives and targets, comply with applicable legal requirements and other requirements to which the organization subscribes and manage its significant aspects.

To plan for effective and efficient operational controls, an organization should identify where such controls are needed and for what purpose. It should establish the types and levels of controls that meet the organization's needs.

The operational controls selected should be maintained and evaluated periodically for their continuing effectiveness.

4.4.6.1 Identifying needs for operational controls

An organization might use operational controls to

a) manage identified significant ship recycling aspects,

b) ensure compliance with legal requirements and other requirements to which it subscribes,

c) achieve objectives and targets and ensure consistency with its ship recycling policy, including the commitment to safety, welfare, prevention of pollution and continual improvement, and

d) avoid or minimize safety, welfare and environmental risks.

When identifying needs for operational controls, an organization should consider all of its operations, including those related to management functions such as purchasing, sales, marketing, research and development, design and engineering; day-to-day process operations such as manufacturing, maintenance, laboratory analysis and product storage; and external processes such as transport and disposal of wastes, delivery of products and services.

An organization should also consider how contractors or suppliers might affect its ability to manage ship recycling aspects, achieve objectives and targets, and otherwise comply with applicable legal requirements and other requirements to which it subscribes. An organization should establish operational controls that are needed, such as documented procedures, contracts or supplier agreements, and communicate them to its contractors and suppliers as appropriate.

The organization should establish the controls needed for subcontractors, essential service suppliers such as waste transport and disposal, and for contractors and visitors to the facility.

4.4.6.2 Establishing operational controls

Operational controls can take various forms, such as procedures, work instructions, physical controls, use of trained personnel or any combination of these. The choice of the specific control methods depends on a number of factors, such as the skills and experience of people carrying out the operation and the complexity and the significance of the operation itself.

A common approach to establishing operational controls includes

a) choosing a method of control,

b) selecting acceptable operating criteria,

c) establishing procedures, as needed, that define how identified operations are to be planned, carried out and controlled, and

d) documenting these procedures, as needed, in the form of instructions, signs, forms, videos, photos, etc.

In addition to procedures, work instructions, and other control mechanisms, operational controls can include provisions for measurement and evaluation and for determining whether operating criteria are being met.

An organization may choose to establish procedures to enhance its ability to implement controls in a consistent manner. Operational controls can be a significant component of an organization's ship recycling management programme(s) (see 4.3.3.2).

Operational controls should be addressed in training those persons involved in control functions to ensure that operational controls are carried out as planned.

NOTE See 4.4.2 for further guidance on training.

Once operational controls have been established, an organization should monitor the continuing application of these controls as well as the effectiveness of the controls and plan and take corrective actions as needed.

Practical help — Operational control

An organization should consider the different operations associated with its significant ship recycling aspects when establishing or modifying operational controls and procedures. Examples of such operations include

a) acquisition, construction or modification of property and facilities,

b) contracting,

c) customer service,

d) handling and storage of raw materials,

e) marketing and advertising,

f) production and maintenance processes,

g) purchasing,

h) research, design, and development engineering,

i) storage of products,

j) transportation of wastes,

k) disposal facilities, and

l) utility processes (e.g. energy and water supply, recycling, waste and wastewater management).

4.4.7 Emergency preparedness and response

An organization should establish, implement and maintain (a) procedure(s) detailing how to identify potential emergency situations and potential accidents that can have adverse impact(s), and the appropriate mitigation and response actions if such situations occur. The organization should demonstrate the ability to identify (and thereby reduce, prevent or mitigate) and respond to potential incidents.

The procedure(s) and associated controls should include, where appropriate, consideration of

a) safe operations and safety procedures,

b) emergency vehicle access arrangements and evacuation capability,

c) pollution response, medical emergency, fire fighting,

d) accidental emissions to the atmosphere,

e) accidental discharges to water and land, and

f) specific environment and ecosystem effects from accidental releases.

The procedure(s) should take into account potential consequences of abnormal operating conditions, potential emergency situations and potential accidents.

The organization should take into account the capabilities and requirements of the local emergency services and ensure that all site infrastructure required by such emergency services is available and operable at all times.

Emergency services must have ready access to all areas of the facility at all times. Evacuation procedures must be in place for all areas where people work or have access to.

Practical help — Emergency preparedness and response

It is the responsibility of each organization to establish (an) emergency preparedness and response procedure(s) that suits its own particular needs. In establishing its procedure(s), the organization should include consideration of

a) the nature of on-site hazards (e.g. flammable liquid, storage tanks, compressed gases and measures to be taken in the event of spillages or accidental releases),

b) the most likely type and scale of an emergency situation or accident,

c) the potential for (an) emergency situation(s) or accident(s) at a nearby facility (e.g. plant, road, railway line),

d) the most appropriate method(s) for responding to an accident or emergency situation,

e) the actions required to minimize environmental damage,

f) training of emergency response personnel,

g) emergency organization and responsibilities,

h) evacuation routes and assembly points,

i) a list of key personnel and aid agencies, including contact details (e.g. fire department, spillage clean-up services),

j) the possibility of mutual assistance from neighbouring organizations,

k) internal and external communication plans,

l) mitigation and response action(s) to be taken for different types of accident or emergency situation(s),