HSEQ WORKBOOK
Dear Colleague!

The DOF Group is committed to achieving the highest standards of Safety at all worksites. By planning, organizing and assessing activities, the DOF Group shall ensure that all identified risks and hazards are reduced to a level that is as low as reasonably practicable. The DOF Group is also committed to ensuring that its activities shall have minimal impact upon the environment.

This HSEQ training is going to help us be more aware of how to work safer and that all our decisions have an HSE impact on our colleagues, the company, and our environment.

Please support me in achieving the HSEQ standards set for all of us, and our partners worldwide.
HSEQ WORKBOOK

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Our safety culture is guided by an overriding principle:

To achieve an **incident free** workplace
Introduction

DOF Group hopes you will find this training workbook as a useful tool during your Health, Safety, Environmental and Quality training.

Take care of the book, use it, write in it and learn from it. This is your copy and by using it actively you can gain more understanding of the different elements within HSEQ.

This book consists of the main elements and it is made as a workbook to assist you during the training.

The courses will give you insight to the tools and guidelines we use in DOF Group to execute our entire task in a safe manner. A combination of theory with practical activities, including exercises and group discussions allows participants to gain the knowledge needed to make safe decisions.

DOF provides HSEQ training on three different competency levels, where the candidates will have to complete the first level before progressing to the next level. The training will be delivered by trained HSEQ professionals in all regions within the DOF Group. The three levels of training will reflect the different levels of HSEQ responsibility within the organization. When you have finished level I and II you are qualified to attend our HSEQ leadership course. The process diagram below outlines the progression through the training modules:

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSEQ Introduction</td>
<td>Management of HSEQ</td>
<td>HSEQ Leadership</td>
</tr>
<tr>
<td>All Personnel</td>
<td>Managers/Officers/Supervisors</td>
<td>Managers/Officers/Supervisors</td>
</tr>
</tbody>
</table>

**Level I** training will provide an introductory overview of HSEQ to all personnel starting with the DOF Group. Level I will provide introductory safety information and also a number of learning modules for all employees.

**Level II** training is focussed on providing Managers/Officers/Supervisors with the skills to manage HSEQ. This will provide skills to be part of the investigation team and also provide management of HSEQ.

**Level III** training is focussed on providing Managers/Officers/Supervisors with the skills to provide leadership in HSEQ. This expands further on Level II training to provide the skills not only to manage HSEQ but provide leadership.
The material presented within this course is for informational and educational purposes only. It should not be used to provide guidance to customers or clients in lieu of competent, certified legal advice.

As a participant of the course, you should understand that it is your responsibility to adhere to the laws and regulations pertaining to any aspect of this course and the materials presented within.

The workbook is built upon best practice within the relevant areas. The aim of the book is to teach and motivate people to work safer and give a holistic understanding of safety and working environment, external environment and the quality aspect of our business.

**Tasks**
Blue boxes mean TASKS for individual or group

**Key**
Yellow boxes mean KEY Readings, KEY Words or KEY Points

**Further**
Green boxes are suggestions for FURTHER Readings
HSEQ Course Content

1. Safety Management and Occupational Health
This module provides an understanding of DOF Group’s systematic approach to safety management, global standards and other key aspects of safety management. A combination of theory and practical activities allows participants to gain knowledge of how to create an incident and injury free working environment.

2. Safety Culture
This module will give an introduction of the DOF Group HSE culture program. The module gives an overview of the four elements in the program; Behavioural base safety/barriers, Just culture, Open safety dialogue and Safety Rules.

3. Risk Management
This module is focusing on Risk Management. Identifying and managing hazards and environmental impacts is a vital part of the DOF Group Management Systems. In a combination of theory and practical activities this course will provide an introduction to the principles of risk reduction, as well as training in the risk management tools used by DOF.
<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Emergency Response Management</td>
<td>This module provides an overview of how to manage an emergency situation, and introduces the various reactions that may follow emergency response situations. This module will provide participants with the knowledge necessary to manage stress reaction and by that promote personnel health and well-being.</td>
</tr>
<tr>
<td>5</td>
<td>HSEQ Case Management and Inspection Techniques</td>
<td>This module provides participants with training on how to report, investigate and inspect HSE incidents and accidents.</td>
</tr>
<tr>
<td>6</td>
<td>Environmental Awareness</td>
<td>This module will outline DOF Group’s commitment to environmental management. This will include how to identify and manage environmental aspects and impacts. Participants will understand the individual responsibilities in achieving the DOF Group environmental objectives.</td>
</tr>
<tr>
<td>7</td>
<td>Internal Auditing</td>
<td>This module will teach the participants core auditing skills and techniques. Participants will be provided with the knowledge required to conduct various internal audits.</td>
</tr>
</tbody>
</table>
Our Values

The values that will help us achieve our goals - as we build DOF for the future - were chosen by the staff in the organization.

We deliver solutions responsibly by being an ethical business.
The values that make this possible are;

The very cornerstone of our business. We behave ethically - always.
We are honest, fair and equitable in all our dealings. We are dedicated to good corporate governance.
We strive to do the right thing not because someone is checking, or looking, but purely because it is the right thing to do.

Underpins everything we do and every interaction we have.
Respect for people: our colleagues, our customers, and our business partners.
As global citizens we are socially responsible, we respect the individual, the local customs and cultures of our various markets.
Acting with care and consideration is central to our wellbeing and safety and ensures we minimize our environmental impact.

Everything we achieve is as a result of teamwork.
Each of us is responsible and open in our professional relationships, cooperative and collaborative, treating one another with dignity and respect.
We do not blame, we find and share solutions and we learn from mistakes. From this platform we build diverse and global teams and strive for free exchange of ideas, experience and knowledge, worldwide.

In everything we do. We are resourceful and responsive to our customers’ needs; innovative in the solutions we apply to everyday problems.
We safeguard our individuality and the qualities that set us apart from our competitors, protecting our reputation and the professional trust we have built, we do not walk away from our commitments.

Above all we are SAFE
We are committed to protect the health and safety of our people and our environment.
Task
Which of the values do you like the best and which one do you think is most difficult to live by?
Give reasons for your answers.

Further Readings
You will find more about our values and visions in our Code of Business Conduct.
Policies

Our Policies determine the overall company standard and approach to HSE and represent the commitment of management to achieving Company goals and objectives.
DOF Group maintains a number of HSE related policies that apply throughout the organization and are approved by the DOF Group’s Chief Executive Officer. These include:

<table>
<thead>
<tr>
<th>Business Integrity &amp; Ethics Policy</th>
<th>Health, Safety and Work Environment Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlines a set of core values and approaches we expect our companies and employees to follow and the behaviours they must adopt to protect and build the DOF Group’s reputation.</td>
<td>Outlines corporate guiding principles detailing DOF Group’s commitment to providing and continually improving safety and health within the work environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality Policy</th>
<th>Environmental Impact Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlines the global commitment to delivering quality products and services through continual improvement, understanding the needs of the customer and consistency in meeting targets.</td>
<td>Outlines the principles by which global operations shall function within corporate management’s commitment to minimise the impact on the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equal Opportunity Policy</th>
<th>Workplace Harassment Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The DOF Group is committed to being an equal opportunity employer. This means all business units within the DOF Group will select and appoint the most suitable person for a position according to their skills, qualifications and aptitudes.</td>
<td>The DOF Group does not tolerate any form of harassment within the workplace. The DOF Group seeks to create an environment of empathy, mutual respect and understanding amongst all staff.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fitness for Work Policy</th>
<th>Security Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlines the standards expected of personnel operating under DOF Group in terms of their individual fitness to work and attitude towards alcohol and illegal substances.</td>
<td>Outlines DOF Group’s commitment to ensuring the protection and integrity of employees as well as intellectual property and all assets.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smoking Policy</th>
<th>HR Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlines and documents the acknowledgement that smoking has serious health and safety hazards and DOF Group is dedicated to the general care of employees.</td>
<td>Outlines how we treat our people within the DOF Group and how we develop our expertise and competence of our employees.</td>
</tr>
</tbody>
</table>
Business Management System (BMS) Overview

The DOF Group HSEQ Management Systems is based upon a continuous improvement model and is comprised of the 7 elements shown in the diagram below. Each element is supported by a set of objectives that form the basis for the development of plans, procedures, processes, standards and guidelines.
What is ISO 9001?
- ISO 9001 is the internationally recognised standard for the quality management of businesses.
- Applies to the processes that create and control the products and services an organisation supplies.
- Prescribes systematic control of activities to ensure that the needs and expectations of customers are met.

What is ISO 14001?
- ISO 14001 is the internationally recognised standard for the environmental management of businesses.
- It prescribes controls for those activities that have an effect on the environment. These include the use of natural resources, handling and treatment of waste and energy consumption.

What is OHSAS 18001?
- OHSAS 18001 is an international standard for occupational health and safety management systems.
- It exists to help organizations put in place demonstrably sound occupational health and safety performance.

Additionally DOF Group recognises industry practices and as such the HSE Management System is also aligned to International Association of Oil & Gas Producers (OGP), International Maritime Organisation (IMO) and the American Petroleum Institute (API).
SAFETY MANAGEMENT AND OCCUPATIONAL HEALTH

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Course aim
By the end of this section you should be able to:

- Provide a clear account of the DOF Group’s objectives and commitment within the field of HSE
- Understand the measures which have been chosen by the DOF Group to achieve these objectives and commitment.
- See HSE as an integrated part of the business.
- Recognize that awareness and continual improvement must be part of the daily work tasks in order to maintain the required DOF Group standards.

Key Words

- What is HSE?
- Values and policies
- Safety Management as part of the total Business management
- System elements
- Need for barriers
- Causes of accidents
- Occupational Health

HEALTH is the general condition of a person’s mind, body and spirit, usually meaning to be free from illness, injury or pain. The maintenance and promotion of health is achieved through combinations of physical, mental and social measures and activities. Occupational health deals with all aspects of health at the workplace.

SAFETY can be defined as being in control of recognized hazards to achieve an acceptable level of risk. To identify hazards and establish acceptance criteria for risks are important tasks throughout the business.

Our ENVIRONMENT is our surrounding, locally and globally. This includes living and non-living things around us. The non-living components of environment are land, water and air. The living components are germs, plants, animals and people. We also include the production and utilisation of energy as part of the environment.

OCCUPATIONAL HEALTH deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards.

SAFETY MANAGEMENT is a way to identify hazards and control risks while maintaining assurance that these risk controls are effective.

“Do you think safety costs money? – Try an accident!”
The Business Management System (BMS)

The DOF Group has implemented a fully integrated Business Management System (BMS) in order to manage processes and continuously improve the group’s operations.

Safety Management is an integral part of the BMS.

Hierarchy of internal reference documents

*Governing documents* are defined as all those documents produced internally to provide guidance and instructions on how the DOF Group requires activities to be performed.

The DOF Group governing documentation system provides a large variety of formats and a consistent set of document management rules.

**DOF Document Hierarchy**

- **Level I:** Worldwide govern executive documents
- **Level II:** Functional Control docs.
  - No regional variance permitted
- **Level III:** Project & Execution docs.
  - A minimum of regional variance may be permitted

**Business Unit and Project documents** are defined as all documents which are developed and produced to provide guidance, strategy and instructions on how all activities are to be performed specifically relating to the business unit (region) and projects / operations.

Document Control

The Business Management System platform has been established in order to manage distribution and control of documents. As an outcome of this tool, all governing documentation applicable in the DOF Group is available via internet / intranet pages.
Legislation and International Standards

Applicable laws, regulatory requirements, industry best practice, standards and guidelines shall be the basis of the DOF Group’s business practices and operations and shall be reflected in the BMS.

DOF operates under different regional and international legislation, depending upon each vessel’s flag state, country of operation, and type of operation. All DOF Group regions shall maintain a live and up to date legal and other requirements register.

The standards and guidelines provided in the DOF Group are based upon International Legislation mainly from Norway, Brazil, UK and Australia. As well as international standards taken from API, NORSOK, ISO, IMCA, OGP.


Additionally the DOF Group also operate and are certified to (among others): International Management Code for the Safe Operation of Ships and Pollution Prevention; International Port and Ship Facility Security Code and operate in accordance to the E&P (Exploration and Production) forum guidelines for the Development and application of Health, Safety and Environmental Management Systems.
The HSE Management System Elements

**Plan, Do, Check, Act** is an interactive four-step management method used in business for the control and continuous improvement of processes and products.

**Plan, Do, Check, Act model**

DOF has utilised the Plan, Do, Check, Act model in our management system, with seven elements making up the model. The DOF Group’s Management Systems are based upon a continuous improvement model. This comprises seven elements which underpin all DOF Group activities and reflects the commitments outlined in the HSE policies. Each element is supported by a set of objectives that form the basis for the development of plans, procedures, processes, standards and guidelines.

All functions of the company operate within the framework of the Company Vision, Values and Policies which are underpinned by the principle business management system guiding principles as listed:
DOF Group’s organisational managers are expected to lead by example and comply with model behaviour that reflects the company’s vision, values and policies. They are also expected to inspire, motivate and encourage all members of the company to contribute, to be innovative and to embrace change. A senior manager’s role is to communicate organisational vision, key objectives and core strategies and to ensure these strategies are effectively deployed throughout the organisation. The Group’s objectives are balanced with the needs of all shareholders.

The DOF Group Policies and Strategic Objectives reflect corporate intentions, principles of actions and aspirations with respect to improving performance within the organisation. The DOF Group understands what its market and shareholders (not just customers) value, and anticipate what will be valued in the future. It is this knowledge that informs and drives the organisation’s activities, products and services and will ensure successful performance.

DOF Group’s success is ensured through the establishment of an organisational structure that provides clear leadership and accountability whilst also providing engagement, management and development of the workforce to utilise the full potential of individuals.
DOF Group’s consistent approach to the management of risk ensures the achievement of our business objectives. The Business Management System contains the processes and tools which are applied to manage business, project and operational risks. These processes ensure the services and products supplied meet the needs of the customer and provide the DOF Group with assurance. These processes are applied at all levels of the Group, with the aim of reducing risk and uncertainty whilst ensuring customer needs and requirements are met – ultimately leading to the continued growth and success of the Group. Integral to the processes are the tools which are implemented to ensure that the identified risks are evaluated and effectively managed.

The DOF Group has established a planning and reporting process that enables it to meet strategic long-term and annual goals and objectives. The planning and development of specific objectives are fully integrated into the Group’s planning and reporting process.
The DOF Group has established a planning and reporting process that enables it to meet strategic long-term and annual goals and objectives. The planning and development of specific objectives are fully integrated into the Group’s planning and reporting process.

Periodic audits and reviews of procedures and systems of work are critical to achieving continual improvements to BMS and providing a high level of service. The philosophy of periodic audits and reviews seeks to satisfy the DOF Group’s ethos of continual improvement in regulatory, contractual and BMS compliance in addition to identifying opportunities for improvement in the services we provide.
Safety Management

Why do accidents occur?

The cause of any accident is a combination of human, technical, and/or organisational failures.

The model below illustrates how analyses of major accidents and catastrophic system failures tend to reveal multiple, smaller failures leading up to the actual hazard.

Each slice in the model represents a safety barrier or precaution relevant to a particular hazard. The system as a whole produces failures when all of the holes in each of the slices momentarily align, permitting (in Reason’s words) “a trajectory of accident opportunity”, so that a hazard passes through all of the holes in all of the defences, leading to a failure.

Based upon James Reason model – *The Swiss Cheese*

**Barriers**

Reason claimed that most accidents can be traced to one or more of four levels of failure: Organizational influences, unsafe supervision, preconditions for unsafe acts, and the unsafe acts themselves.

**Further Readings**

James T. Reason; Professor of Psychology at the University of Manchester.

He has done an extensive research of the psychology of human error. Dr. Reason has published multiple important books and papers on human error and organizational processes. Among these are *Human Error* (1990) and *Managing the Risks of Organizational Accidents* (1997).
I Chose To Look The Other Way

I could have saved a life that day,
But I chose to look the other way.
It wasn’t that I didn’t care;
I had the time, and I was there.

But I didn’t want to seem a fool,
Or argue over a safety rule.
I knew he’d done the job before;
If I spoke up he might get sore.

The chances didn’t seem that bad;
I’d done the same, he knew I had.
So I shook my head and walked by;
He knew the risks as well as I.

He took the chance, I closed an eye;
And with that act, I let him die.
I could have saved a life that day,
But I chose to look the other way.

Now every time I see his wife,
I know I should have saved his life.
That guilt is something I must bear;
But isn’t something you need to share.

If you see a risk that others take
That puts their health or life at stake,
The question asked or thing you say;
Could help them live another day.

If you see a risk and walk away,
Then hope you never have to say,
“I could have saved a life that day,
But I chose to look the other way.”

By Don Merrell
Reactive and Proactive Safety Management Models

Reactive Safety Management

Event-Based Safety Management

This model is characterized by the following features:

- In this model of Safety Management the accident potential is met by ad-hoc counter measures. The approach is based on a wait and see attitude and efforts are mostly made as reaction to undesirable events. People forget to fear things that rarely happen, particularly in the face of productive imperatives. Production and protection have to be balanced to avoid both catastrophe and bankruptcy.

Steering by looking astern
Proactive Safety Management

Profesional Safety Management

This model is characterized by the following features:

- Management at all levels is committed to the management of safety.
- A corporate HSE culture that fosters safe practices and encourages safety, communicates and actively manages HSE matters with the same attention to results as financial management.
- Systematic mapping and elimination or reduction of risk.
- Effective implementation of operating procedures, including the use of checklists and pre-job meetings.
- A non-punitive environment (or just culture) to foster effective incident and hazard reporting.
- Systems to collect, analyze, and share HSE-related data arising from normal as well as abnormal operations.
- Competent investigation of accidents and serious incidents, identifying systematic deficiencies (rather than just targets for blame).
- Integration of HSE training for all personnel.
- Sharing lessons learned and best practices through the active exchange of HSE information.
- Systematic oversight and performance monitoring aimed at assessing performance and reducing or eliminating emerging problem areas.
- Continual improvements through a “plan-do-check-act” attitude at all levels in the organization.
Task
Discuss the reactive and proactive Safety Management Models in groups. Does it apply at your workplace? Provide examples.

“Everybody has the obligation to delay or stop activities that place themselves or others at risk of being injured and shall ensure appropriate control measures are implemented prior to continuing operations.”
Occupational Health

Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards. The health of the workers has several determinants, including risk factors at the workplace leading to cancers, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress related disorders and communicable diseases and others.

DOF aims to provide good and uniform working-environment conditions and occupational-health services. This shall be achieved by given standards, which is intended to set the standard for all aspects of working environment and occupational health.

Physical Working Environment
(Based on: Manual - Working Environment and Occupational Health)

The main physical working-environment factors to be considered are indoor climate, ventilation, illumination, ergonomics, radiation, noise, vibration, biological factors (hygiene and housekeeping), chemical factors, and outdoor conditions. These factors are addressed through company standards, guidelines, and procedures, and are summarised on the next page.

Further Readings

Physical work environment
- Noise
- Illumination
- Ergonomics
- Radiation
- Vibration
- In/Outdoor Conditions

Psychosocial work environment
- Stress
- Fatigue
- Harassment
- Culture
- Religion
- Equality

Risks at Work
- Lifting
- Working at Heights
- Confined Space
- Diving
- Electrical Safety
- Compressed Gasses
- Welding and Cutting
- Blasting and Painting
- Slips, Trips and Falls
### Ergonomics

Attention shall be paid to the layout of the work area and equipment. To the extent possible, these shall be designed in accordance with healthful ergonomic principles.

### Noise

Each employee’s exposure to noise shall be as low as reasonably practicable (ALARP). All employees shall use hearing protection in high-noise areas. Ear protection is mandatory in areas where noise levels exceed 83 dBA.

### Vibration

Exposure to hand-arm vibration and whole-body vibration shall be minimised. This requirement shall be considered when designing work stations and when buying equipment and tools.

### Biological factors, hygiene, and housekeeping

Exposure to micro-organisms that can harm people shall be avoided. Micro-organisms include bacteria, virus, fungi, and microscopic parasites (e.g., malaria parasites, amoeba, and trypanosomes).

### Indoor climate and ventilation

To ensure an efficient working climate, temperature, humidity, and ventilation shall be regulated and suitable for the work being performed.

### Outdoor conditions

DOF operates around the world, and outdoor conditions vary considerably between regions. Local conditions shall be considered for personnel working outdoors.

### Ergonomics

Attention shall be paid to the layout of the work area and equipment. To the extent possible, these shall be designed in accordance with healthful ergonomic principles.

### Radiation

All radioactive sources shall be treated as potentially harmful to personnel. Appropriate steps for protection shall be taken, in cooperation with competent personnel, using the principles of minimum exposure time, maximum distance, and maximum shielding.

### Illumination

All work stations and visual display units shall be provided with lighting that allows safe operation and provides appropriate illumination for the work being performed. Lighting shall be provided at the surface where equipment is to be operated and used.

### Chemical factors

Harmful exposure to chemicals shall be avoided during storage, handling, and disposal. For all chemicals used by DOF, the ECOonline software program provides material safety data sheets (MSDS), information about hazards, first-aid measures and PPE requirements. Additionally, regional variations will be required as per local legislation.
Psychosocial Working Environment

Mental health problems are among the most common, costly and disabling health challenges facing the working age population. The International Labour Organisation considers that psychosocial problems are one of the main causes of work-related accidents, diseases, absences and mortality worldwide (International Labour Organization, 2002).

Stress in the workplace is a serious occupational health and safety issue and can be linked to serious health problems amongst workers such as heart disease, back pain, insomnia, headaches and more.

Identifying the source is the first step to managing stress. For those who are experiencing it, stress can cause noticeable changes. For instance, when you are disappointed at work, you might lose confidence and may become irritable or withdrawn. This can lead you to become less productive in your job. Thus, if the signs of stress can be identified early on, you can then take action before they lead to more severe problems. By doing so, it is easier to reduce and eliminate the causes of stress.
Task
Discuss potential occupational health risks within the working environment you are familiar with.

Key points from this module are
- Safety Management is an integrated part of the BMS (Business Management System).
- “DOCMAP” has been established in order to manage distribution and control of documents.
- Proactive Safety Management is “steering by looking ahead”.
- Company policies represent the commitment of management to achieving company goals and objectives.
- The HSE Management System is based upon a continuous improvement model and comprises seven elements which underpin all DOF activities and reflects the commitments of the HSE Policies.
- Safety barriers must be maintained in an integrated and consistent manner in order to minimize the risk of a major accident.
- The cause of any accident is a combination of human, technical, and/or organisational failures.
SAFETY CULTURE

HSE CULTURE

Clarifying the Cultural Concept

DOF BEHAVIOURAL BASED SAFETY PROGRAM

JUST CULTURE

Guideline on the Application of the Tool

OPEN SAFETY DIALOGUE

SAFETY RULES

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Aim of the Course

By the end of this section you should be able to:

- Learn the key elements of a good safety culture.
- Understand the importance of having consistent and robust barriers in place at the workplace.
- Provide a structured framework for management to use in shaping workforce behaviour.
- Learn the main steps of Just Culture
- Learn the principles of an Open Safety Dialogue
- Safety Rules in the Workplace

Key Words

- Safety Culture
- Behavioural Based Safety
- Just culture
- Hard and soft barriers
- Open safety dialogue
- Lifesaving Rules

The safety culture program in DOF Group is based upon the following elements:

<table>
<thead>
<tr>
<th>Safe Behaviour</th>
<th>Just Culture</th>
<th>Open Safety Dialogue</th>
<th>HSE Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim is to develop a common safety culture based upon a strong understanding and execution of the five barriers: Correct prioritazion Compliance Open Dialogue Risk Assessment Caring about each other</td>
<td>The aim is to build a culture where we are consistent and react correctly according to our accountability towards safety. Documentation available on the BMS</td>
<td>Managers at all levels of the company need basic knowledge on how to intervene in work operations to enhance Safety at the workplace. Documentation available on the BMS</td>
<td>DOF Group’s HSE rules have been defined. All local workplaces shall be encouraged to add rules when local environmental factors call for extra measures to enhance HSE.</td>
</tr>
</tbody>
</table>
HSE Culture

A culture can be defined as the knowledge, values, norms, ideas and attitudes which characterise a group of people. We can gain an insight into this culture by listening to what people say and by looking at the way they behave.

The relationship between words and deeds is precisely the point at which an understanding of the HSE culture in an enterprise can be gained. Words and deeds must correspond.

Culture is not only a matter of knowledge, values and attitudes. It is also about technology, economics, law and regulations, and other conditions which influence daily life.

We can regard culture as a glass through which we see the world, and which helps us to interpret what we see. We may find it difficult to view our own culture without glasses, because our vision will be blurred. It is often the case that we regard our own culture as “right” and defend what we think of as its good and fundamental values. The technical term for this is “ethnocentricity”, or the tendency to assess, judge or analyse ways of behaviour in other cultures in relation to norms or concepts from the observer’s own culture. It is only through our meeting with people from other cultures that we can detect what is distinctive about us and them.

Understanding how people’s knowledge, values, norms, ideas, attitudes and framework conditions interact is important in building an HSE culture. All these aspects will influence the way we think and collaborate in relation to HSE.

(The text is based upon the brochure HSE and Culture developed by The Petroleum Safety Authority Norway. The brochure also forms the basis for the HSE Leadership training course in DOF Group.)
Clarifying the Cultural Concept

1. Culture is not something we own or have constructed once and for all. It finds expression through the things we do together, and is in constant development.

2. Culture is seldom a unified and collective quantity. It is usually fragmented, diversified and split into different sub-cultures.

3. Culture is not an individual quality. It develops through the interaction between people and specified frame conditions.

Key issues in efforts to enhance an HSE culture will be whether our HSE activities are appropriate, and whether they bring us closer to our objectives.

(From Gherardi & Nicolini 2000)

Characteristics of a sound safety culture

In pursuing a safety culture, many people draw on the work of organisational psychologist James Reason (2001). He has developed a set of concepts which can be helpful in building a Safety Culture. Reason argues that a significant feature of a sound safety culture is that it is informed. An informed organisational culture is characterised by several factors - it has good reporting systems, is perceived to promote fairness and is flexible and adaptable. In addition, both the organisation and its members learn from their experience.

Organisations with a sound safety culture are characterised by the ability to learn, and constantly question their own practice and patterns of interaction. Informed organisations accommodate dialogue and critical reflection on their own practices. People respect each other’s expertise and are willing to share and further develop their HSE knowledge. If organisations become self-satisfied, they are on the wrong track. This kind of attitude undermines their ability to spot danger signals.

A safety culture is one in which safety has a special place in the concerns of those who work for the organisation.

Safety cultures can be distinguished along a continuum from pathological, caring less about safety than about not being caught, through calculative, blindly following all the logically necessary steps, to generative, in which safe behaviour is fully integrated into everything the organisation does.

Key Words

A sound safety culture is
- A reporting culture
- A just culture
- A flexible culture
- A learning culture
### Generative
- Actively seek information
- Messengers are trained
- Responsibility is shared
- Bridging rewarded
- Inquiry and redirection
- New ideas are welcome

### Bureaucratic
- May not find out
- Listened to if they arrive
- Responsibility is compartmentalized
- Bridging is allowed but neglected
- Organization is just and merciful
- New ideas present problems

### Pathological
- Don’t want to know
- Messengers are shot
- Responsibility is shirked
- Bridging is discouraged
- Failure is punished or covered up
- New ideas are actively crushed

---

*Westrum’s original model*
DOF Behavioural Based Safety Program

The Behavioural Based Safety Program (BBS) is based upon the importance of having consistent and robust barriers in place at the workplace. Through crew gatherings, as well as follow up on the vessels, the barriers are believed to play a key role in avoiding accidents and incidents at the workplace:

Correct prioritisation
About taking the time needed to work safely
“If a conflict arises between safety issues and another important activity such as production or cost, safety takes priority until the conflict is resolved. This means that if we are uncertain that a task can be completed safely within the time given or with the resources available, we should postpone completion until we feel we are in control safety wise.”

Compliance
About being loyal to:
- Procedure
- Requirements
- Guidelines
- Decisions

Open dialogue
About openness and trust
“We should all feel open to discuss safety issues with line management at any level, as well as our colleagues. We shall always question whether the job can be done more safely and contribute in a constructive manner discussing safety issues raised by others.”

Continuous risk assessment
Just a simple and useful work habit
“It is all about taking time out to evaluate what type of accidents that can happen if something unexpected occurs. Once we have established that, we can then use other safety barriers to ensure that we do not place ourselves or others at risk.” “THINK, ASSESS, ACT”

Caring about each other
About taking responsibility and intervening when observing a risk
If you observe a colleague or manager doing something that might put them or others at risk, intervene and communicate your concerns.”
The preferred roll out model for the BBS program is as follow:

There are various ways of rolling out the five barriers. The preferred way is to gather a mixture of offshore and onshore personnel at a third party conference centre for a one day seminar.

There are various companies that can deliver a HSE culture day for our industry as long they have been well briefed on who we are and how we work.

Effect Leadership AS has been used by our organisation in Brazil, Norway and Houston. However, each region is free to use any company they wish.

It is recommended to use 3 hours to go through the five barriers.
Just Culture

Making mistakes is a natural part of human life. Our efforts to avoid injuries, accidents or negative consequences for HSE depend on failures being corrected – sometimes through the intervention of another person. The ability and willingness to intervene is an important aspect of an HSE culture. Organisation and staffing also affect opportunities to intervene.

Our actions have consequences for ourselves and others. The way we behave in an organisation normally arouses positive and negative reactions, formal and informal. For a system of rewards and sanctions to work well in practice, it must be perceived as fair and constructive.

In other words, reactions must be proportionate to the intentions behind and the consequences of an action. We must distinguish between intentional and unintentional behaviour. Organisations which apply sanctions in the right way will thereby support trust and creativity.

We are all responsible for our actions but, under certain circumstances, we are so far removed from these consequences that we find it hard to imagine what they might be. This makes it important to think about HSE in every phase from planning to execution and completion, and to try to prevent undesirable consequences. Framework conditions are very significant for our behaviour, but they do not absolve the individual from taking personal responsibility for HSE work.

Just Culture is a tool used for dealing with non-compliance with DOF Group’s safety standards and is used to ensure that such breaches are handled in an objective, proper and robust manner.

The Just Culture Process is a tool that can be used by a Line Manager to engage individuals or groups to understand their involvement in decisions or actions that may have contributed to hazardous occurrences or deviations. The Line Manager will then determine if an event, non compliance or behaviour requires the implementation of Just Culture or if it could be identified as an action item from an incident investigation. Typical triggers, not related to incident investigations, may be negative behaviours from monitoring of activities to identifying non compliance with procedures or policies.

Key Benefits:

• Provides a structured framework for management to use in shaping workforce behaviours,
• Is transparent, equitable and easy to apply,
• Recognises where action needs to be taken,
• Method of application builds trust & messages with fair and reasonable expectations,
• Promotes reporting.

Key Readings

A sound safety culture is a culture of ‘no blame’ where an atmosphere of trust is present and people are encouraged to or even rewarded for providing essential safety-related information – but where there is also a clear line between acceptable and unacceptable behaviour (Reason, 1997).
“Just Culture” Decision Tree

Initiating event, behavior or incident investigation identifies need to use “Just Culture” tool.

Yes

Was the job understood?

No

Supervisor is subject to “Just Culture” flowchart

Yes

Were the actions as intended?

No

Are procedures workable?

Yes

Was it a conscious decision not to follow procedure?

No

System Induced Error

Yes

Adequate risk assessment before starting job?

No

Unacceptable negligent behavior

Caused by inadequate, procedures, training selections, experience?

Yes

History of deviations or concerning behaviors?

No

Malevolent act

No

Reckless violation

Warnings/Negative performance appraisal

Severe Sanctions

Yes

Would peers make same decision?

History of deviations or concerning behaviors?

No

Negligent error

System produced error

Training required

No human error

Coaching

Structural Review

Just Culture Decision Tree, Typical Process of the Just Culture Methodology (Guideline-Just Culture).
## Guideline on the Application of the Tool

The following provides clarification around the different decision and outcome boxes below.

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Was the job understood?</strong></td>
<td>This is not always the starting point and depends on the circumstances. The information gathered during the safety investigation will help understand if this question should be considered. If the question is asked and the answer is 'no', the supervisor is subject to the decision tree.</td>
</tr>
<tr>
<td><strong>Were the actions as intended?</strong></td>
<td>Were you able to do what you were trying to do?</td>
</tr>
<tr>
<td><strong>Were the results as intended?</strong></td>
<td>Did your actions have the results you intended / expected?</td>
</tr>
<tr>
<td><strong>Was it a conscious decision not to follow procedure or policy?</strong></td>
<td>The difference between believing you were following procedures and knowing you weren't.</td>
</tr>
<tr>
<td><strong>Are procedures workable?</strong></td>
<td>Workable = Practicable. Were the procedures in any way inaccurate or not able to be followed?</td>
</tr>
<tr>
<td><strong>Reckless violation?</strong></td>
<td>Knowingly broke workable procedures, but didn't intend results.</td>
</tr>
<tr>
<td><strong>System Induced Error?</strong></td>
<td>When procedures aren't workable or practicable or the system rewards the wrong behaviour. The system needs to be reviewed to remove the system inducement that caused the event.</td>
</tr>
<tr>
<td><strong>Performed Adequate Risk Assessment before starting?</strong></td>
<td>For higher risk procedures, performed formal JHA, hazard assessment, etc. For lower risk procedures, used TIF or equivalent procedures to identify hazards. Was there an appropriate level of rigour/ detail in the risk assessment or was it ticking boxes.</td>
</tr>
<tr>
<td><strong>Would peers make the same decision?</strong></td>
<td>Given the circumstances that existed, could a person from the peer group be sure they would not have done the same thing. Peers would be persons performing the same or similar job having similar training. In applying the question to more general work tasks such as driving, peers would be deemed those driving with similar levels of training. This question captures instances where there is no detailed procedure and performing a task requires certain training such as an electrician changing a switch.</td>
</tr>
<tr>
<td><strong>Caused by unclear or inadequate procedures, training, selection, or experience?</strong></td>
<td>Choosing a person not appropriately skilled or experienced for the job. This can be determined from the individual's records or general knowledge of the person.</td>
</tr>
<tr>
<td><strong>Negligent error?</strong></td>
<td>Not in the right state of mind.</td>
</tr>
<tr>
<td><strong>History of deviations or worrying behaviour?</strong></td>
<td>This can be determined from the individual's records or general knowledge of the person. This question responds to a series of events which points to a pattern which may indicate the need for training.</td>
</tr>
<tr>
<td><strong>Training required?</strong></td>
<td>This can be at Group (if passed peer test) and / or individual level.</td>
</tr>
<tr>
<td><strong>No human error?</strong></td>
<td>The need to learn from the event should not be lost. A wider structural review of the people, procedures, systems and culture may be necessary to prevent recurrence.</td>
</tr>
</tbody>
</table>

*Decision Points Guideline*
Group Task

Based upon the following two cases, use the just culture map to decide upon the correct reaction of management:

Case 1:
An employee has been seen going on to the aft deck without a helmet on during operations, for the second time in a week.

Case 2:
During a mobilisation, the vessel crew had to carry out routine maintenance on the vessel. As part of the induction to the company, and the vessel, the Permit system is communicated to all personnel. It is a regularly used tool on the vessel and personnel are well accustomed to the procedure.

At the ‘toolbox talk’ for the day, when the maintenance schedule was discussed, no welding was anticipated. However, other permits were issued for other maintenance work and the permit process was reiterated to all present.

During the shift, a crew member noticed some damage to the deck and decided to begin welding to repair the deck as this was a small repair. He started without informing his supervisor or requesting a hot work permit. This meant there was no risk assessment conducted and no fire watch was in place.

The welding was taking place near the muster point on the starboard side of the vessel and below the muster point is the captain’s day room. After 5 minutes of welding, the vessel’s fire alarm sounded and the crew member ceased welding and joined the rest of the crew at the muster station. The vessel’s fire fighting team entered the captain’s day room to find a small fire in the roof of the room (below the point the crew member had been welding). There was significant damage caused to the day room and the vessel was forced to go to port for repairs.
Further Reading

For more information, see the Just Culture Guideline in the BMS.
Open Safety Dialogue

Open Safety Dialogue is a management tool used to enhance management safety inspections by dialogue, and confrontation if necessary, making agreements with individuals regarding safety behaviour and revisiting the workplace to ensure that necessary improvements have been made. Use of the above tools is to be documented and followed up in the observation module in the BMS.

Open Safety Dialogue is a type of technique for advanced safety auditing based upon the following principle:

**Prepare**
- Time
- Place
- Activity

**Observe**
- People working
- Use all senses
- Use the checklist
- Create an agenda

**Discuss**
- Establish trust
- Questions only (open)
- Establish injury cause an severity
- Establish preventative measures
- Praise as appropriate
- Make agreements

**Debrief**
- Lessons learned
- Actions agreed
- Mutual coaching
- Auditor’s performance

**Follow up**
- Check on agreements
- Own personal agreements
- Organisational improvements

**Reaction of people**
- Changing position
- Rearranging the job
- Adjust for PPE

**Position of people**
- Caught in or between
- Falling/tripping
- Stuck by

**PPE**
- Heads and face
- Ears, eyes and feet
- Lung, skin and hands

**Tools and equipment**
- Right for the job
- Used correctly
- Safe condition

**Procedures (standard)**
- Adequate?
- Established?
- Maintained?

**Orderly & Tidy**
- Standards established?
- Understood?
- Maintained?

**Typical questions:**
- How could you be hurt?
- What kind of injury?
- How could you prevent it?
- What if the unexpected happened?
- Can you tell me about your job?
- What could go wrong?
- Why do you think I stopped you?
- How can the job be done more safely?
- What would you do in an emergency situation?
Group Task

Practice the open safety dialogue technique with one of your fellow classmates.
Safety Rules

In the oil and gas industry, it is common for our clients to issue safety rules that they want their contractors to follow; different clients have different rules. BP’s golden rules and Shell’s life saving rules are the best examples from the industry.

DOF Group accepts that clients impose these safety rules at our premises. However, DOF Group has also established its own safety rules. Furthermore, we strongly recommend that each department manager carries out a review to check whether it is necessary to have separate rules for their own area of responsibility:

The life saving rules focus on modifying worker and supervisor behaviours in the workplace by raising awareness of the activities which are most likely to result in fatalities and simple actions individuals can take to protect themselves and others.
OGP Life-Saving Rules

Core OGP Life-Saving Rules
- Personal Safety
- Driving
- Site Safety
- Control of Work

Supplemental OGP Life-Saving Rules
1. Obtain authorisation before entering a confined space

2. Protect yourself against a fall when working at height

3. Do not walk under a suspended load

4. Wear your seat belt

5. While driving, do not use your phone and do not exceed speed limits

6. Follow prescribed Journey Management Plan

7. Work with a valid work permit when required

8. Verify isolation before work begins and use the specified life protecting equipment
9. Prevent dropped objects

10. Position yourself in a safe zone in relation to moving and energised equipment

11. Obtain authorisation before starting excavation activities

12. Conduct gas tests when required

13. Wear a personal flotation device when required

14. Do not work under or near overhead electric power lines

15. No alcohol or drugs while working or driving

16. Do not smoke outside designated smoking areas

17. Obtain authorisation before overriding or disabling safety critical equipment

18. Follow prescribed lift plan
1. Always carry out a risk assessment and ensure required safety precautions are implemented prior to starting any work
2. Work with a valid work permit where required and obtain authorisation before overriding or disabling safety critical equipment
3. Verify isolation before work begins and use the specified life protecting equipment
4. Never cross safety barriers or enter prohibited areas and follow safety signs
5. Keep work sites clean, tidy and obstruction-free
6. Always plan every lifting operation and never walk under a suspended load.
7. Obtain authorisation before entering a confined space and conduct gas tests when required
8. Use fall protection equipment when working at heights
9. No alcohol or illegal substances when performing activities for the DOF Group
10. Whilst driving always wear vehicle seat belts, never use mobile phones and do not exceed speed limits

What a company expects from the employees:

- Know the rules, both DOF rules and client rules, as well as local rules at the workplace
- Ask, if you do not know the Rule(s)
- Notify your supervisor if you do not have the tools, equipment, processes to comply with the Rules
- You have an obligation to intervene by using your Stop Work Authority if you see an unsafe act or condition, as long as it is safe to do so
- Correct your behaviour immediately if one of your co-workers intervenes because of an unsafe act
- Report all violations of Life-Saving Rules via the safety observation system or incident reports
- Utilise existing HSE systems, e.g. safety meetings, toolbox talks, observation programme, etc. to keep Life Saving Rules fresh
Culture can be defined as "the ways of thinking, behaving and believing that members of a social unit have in common". A safety culture is a special case of such a culture, one in which safety has a special place in the concerns of those who work for the organisation.

DOF Safety Culture Program is based upon four elements: Safe Behaviour, Just Culture, Open Safety Dialogue and HSE Rules.

Just Culture is a tool used for dealing with non-compliance with DOF Group safety standards and is to ensure that such breaches are handled in an objective, proper and robust manner.

Open safety dialogue is a type of technique for advanced safety auditing.

The Behavioural Based Program is based upon the importance of having consistent and robust barriers in place at the workplace. Through crew gatherings as well as follow up on the vessels, the barriers are believed to play a key role in avoiding accidents and incidents at the workplace: Correct prioritisation, Compliance, Open dialogue, Continuous risk assessment and Caring about each other.

The life saving rules focus on modifying worker and supervisor behaviours in the workplace by raising awareness of the activities which are most likely to result in fatalities and simple actions individuals can take to protect themselves and others.

Group Task

Develop 5 safety rules for this classroom.

Classroom safety rules

1. 
2. 
3. 
4. 
5. 

Key points from this module are

- Culture can be defined as "the ways of thinking, behaving and believing that members of a social unit have in common". A safety culture is a special case of such a culture, one in which safety has a special place in the concerns of those who work for the organisation.
- DOF Safety Culture Program is based upon four elements: Safe Behaviour, Just Culture, Open Safety Dialogue and HSE Rules.
- Just Culture is a tool used for dealing with non-compliance with DOF Group safety standards and is to ensure that such breaches are handled in an objective, proper and robust manner.
- Open safety dialogue is a type of technique for advanced safety auditing.
- The Behavioural Based Program is based upon the importance of having consistent and robust barriers in place at the workplace. Through crew gatherings as well as follow up on the vessels, the barriers are believed to play a key role in avoiding accidents and incidents at the workplace: Correct prioritisation, Compliance, Open dialogue, Continuous risk assessment and Caring about each other.
- The life saving rules focus on modifying worker and supervisor behaviours in the workplace by raising awareness of the activities which are most likely to result in fatalities and simple actions individuals can take to protect themselves and others.
# RISK MANAGEMENT

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Aim of the Course

- Promote the importance of managing risk;
- To ensure personnel are aware of and understand the wide range of risk management techniques and their appropriate application;
- Provide an opportunity to attend a risk assessment;
- To train personnel in the use of appropriate risk assessment and risk management techniques as a practical means of improving safety within all work activities.

Key Readings

- A risk is the likelihood of a hazard causing harm, loss, injury or other adverse consequences.
- Risk can never be eliminated, but it can be reduced and managed.
- A hazard is anything that has the potential to cause harm, loss or damage.

Introduction

Experiences gained in the offshore industry demonstrate the inherent risks within the sector. The capsizing and subsequent sinking of the Bourbon Dolphin in 2007 illustrates the consequences of accidents if risks are not correctly managed.

HSE regulations worldwide require all players to analyse their own activities in detail in order to map how dangerous situations can occur and escalate. The potential consequences shall be identified and relevant risk reduced and / or preventative measures taken accordingly.

The DOF Group addresses risks at all levels and stages within the business cycle. This ranges from business acquisitions and procurement through to project execution and marine operations.
Risk Perception

The concept of risk has been established to help us understand and cope with danger and uncertainty. Risk perception is how we, as individuals, take in, feel, and apprehend the threat. Our perception of risk varies in relation to both the individual and the context.

A misjudgement of risk may lead to inappropriate decisions and an unsafe behaviour or human error – risk perception is a critical factor in how people behave when faced with risk.

We accept a certain level of risk in our lives as necessary to achieve certain benefits, and the higher the benefit the more likely we will accept the risk.

From “Perception to Decision and actual behaviours”
The majority of people in the general public express a greater concern for problems which appear to possess an immediate effect on everyday life, such as hazardous waste or pesticide-use than for long-term problems that may affect future generations, such as climate change or population growth.

Studies reveal that people will accept risks 1,000% greater if they are voluntary (e.g. driving a car) than if they are involuntary (e.g. a nuclear disaster).

Car accident

Nuclear disaster

Pesticide use

Climate change (draught)
Task
A driver is asked to move a forklift from one side of a busy yard to another whilst lifting a wooden crate containing fragile equipment.

Please list the Hazards that may be present.

Alternatively, discuss risk perception related to:

- Driving abroad
- Travelling by air (airplane/helicopter)
- Working at heights
The risk management process is designed to identify, assess magnitude and likelihood, control and mitigate the consequences of any hazard in the business activities of the DOF Group.

The risk management process can be applied to all phases of business management and operations and are as follows:

1. Identification of all the risks including those induced by a change to procedures and or / planned work.
2. Evaluation of the identified risks.
3. Determine the level of the identified risks.
4. Determine suitable measures required to control the risk.
5. Implementation of control measures.
6. Monitor effectiveness of control.

In many cases, risk assessment does not involve a complicated scientific formula. It is about making informed decisions based on information about the hazards, who / what may be harmed, how they may be harmed and the existing control measures. Recording and monitoring of risk assessments and the risk assessment process provide a method for continual improvement.

Key Words
Risk management is important to:
- Reduce accidents
- Reduce costs
- Improve quality
- Improve staff moral
- Achieve good management practice
- Improve resource allocation
- Risk can never be eliminated, but it can be reduced and managed
Risk Control Measures

Hierarchy of Controls

Risk elimination or reduction shall be preferred prior to the adoption of protective measures.

Elimination or reduction means proactive measures such as choosing another line of business, a different method of construction or equipment, or an improved operational procedure.

Protection means reactive measures which reduce the risk, such as personal protective equipment and emergency response.

Task

- Please discuss the hierarchy of control measures in the illustration above with regards to the picture on page 62.
- Which type of controls are in place here?
Risk Reduction Principles
As Low As Reasonably Practicable (ALARP)

Risks shall be limited in accordance with national legislation, internal requirements and acceptance / client criteria which have been specified for the business / operations. In addition, the risk shall be further reduced to the extent reasonably practicable.

This means that the risk shall be reduced beyond the regulations’ minimum level or internal acceptance criteria, if this can take place without unreasonable costs or drawbacks. This is the ALARP-principle.

Key Readings
ALARP is short for “as low as reasonably practicable”. The basic idea behind this concept is that risk should be reduced to a reasonable level that is as low as possible without requiring ‘excessive’ investment.
Risk Management Effectiveness over Time

The earlier a risk is identified, the greater the ability is to reduce it. Risks identified late in a task will be more difficult to manage. i.e. as a HAZID is conducted with work procedures written.

When a specific risk has been identified and a suitable and sufficient control measure implemented, the control measure itself should be assessed using one of the risk management tools that have been adopted by the DOF Group.
Risk Rating (DOF Group Risk Matrix)

The process to determine Risk Rating is:

1. What is the consequence or severity of the identified risk (severity or consequence)
2. What is the likelihood or probability of the identified risk occurring (likelihood or probability)
3. The “Risk Rating” is a combination of these two criteria: Risk = Consequence x Probability

The Consequence Criteria are defined in the Matrix at page 74 in terms of Safety (harm to people), Financial Impact as well as Environmental Impact. The highest consequence figure for any of these three criteria should be used to determine the Risk Rating.

The Probability Criteria are expressed in terms of the risk assessment team’s knowledge, lessons learned and experience.

“My ambition is to make this Group a world leader and the preferred service provider, recognised by our shareholders as a dependable, reliable and competent partner. Placing excellence, safety and quality at the heart of all our activities will vastly contribute towards achieving this ambition.”

Mona Aase, CEO
Risk Register

The Risk Register records details of all the risks identified at the beginning and during the life of the project. Risks are detailed with:

- Likelihood of occurring
- Seriousness of impact on the project
- Initial plans for mitigating each high level risk
- The costs and responsibilities of the prescribed mitigation strategies and subsequent results

A Risk Register is a Risk Management tool commonly used in Project Management and organisational risk assessments.

This Register should be maintained throughout the project and will change regularly as existing risks are re-graded in the light of the effectiveness of the mitigation strategy, and new risks are identified.

**A Risk Register is used to:**

- Provide a useful tool for managing and reducing the risks identified before and during the project;
- Document risk mitigation strategies being pursued in response to the identified risks and their grading in terms of likelihood and severity.
- Provide the project sponsor, steering committee/senior management with a documented framework from which risk status can be reported;
- Ensure the effective communication of risk management issues to key stakeholders;
- Provide a mechanism for seeking and acting on feedback to encourage the involvement of the key shareholders; and
- Identify the mitigation actions required for implementation of the risk management plan.
## RISK Event Potential Matrix

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (1) Injury is not credible</td>
<td>Not credible i.e. the team have never heard of event occurring in industry</td>
<td>Inj ury / Ill Health</td>
<td>Low (1)</td>
<td>Loss</td>
<td>$&lt;10,000</td>
</tr>
<tr>
<td>Low (2) Injury is not credible</td>
<td>Not credible i.e. the team have never heard of event occurring in industry</td>
<td>Environmental (any incident that...)</td>
<td>Low (2)</td>
<td>Minor Loss</td>
<td>$10,000 - $25,000</td>
</tr>
<tr>
<td>Medium (3) Injury is credible</td>
<td>Likely to occur and the team know ledge but are aware a similar event has occurred or represents a credible scenario</td>
<td>Single Serious Injury with the prospect of complete recovery – M1, RDI</td>
<td>Medium (3)</td>
<td>Moderate Loss</td>
<td>$250,000 - $500,000</td>
</tr>
<tr>
<td>Medium (4) Injury is credible</td>
<td>Likely to occur and the team know ledge but are aware a similar event has occurred or represents a credible scenario</td>
<td>Single Fatality / Multiple Serious Injury / Ill Health or Illness</td>
<td>Medium (4)</td>
<td>Significant Damage Loss</td>
<td>$500,000 - $2,000,000</td>
</tr>
<tr>
<td>High (5) Injury is credible</td>
<td>Likely to occur and the team have direct knowledge of a similar event</td>
<td>Multiple Fatality / Multiple Serious Injury / Ill Health or Illness</td>
<td>High (5)</td>
<td>Extensive Damage / Loss of a Asset / Equipment requiring long term repair or asset write off</td>
<td>$&gt;2,000,000</td>
</tr>
</tbody>
</table>

### Overall Risk Rating:
- **Low (1-6):** May be acceptable. However, review tasks to see if risk can be reduced further.
- **Medium (7-14):** The task should only proceed with appropriate management authorisation following consultation with specialist personnel and a dedicated risk management team. Where possible, the task should be reviewed to take account of the hazards involved or the risk should be reduced further prior to task commencement.
- **High (15-25):** The task must not proceed. It should be redefined or further control measures put in place to reduce risk. The controls should be reassessed for adequacy prior to task commencement.

### Risk Priority Code:
- 1-6: Overall Risk Rating: Low
- 7-14: Overall Risk Rating: Medium

---

*Currency is in US$*
<table>
<thead>
<tr>
<th>No.</th>
<th>Activity Description</th>
<th>Hazard Identified</th>
<th>Existing Controls</th>
<th>Additional Control Measures</th>
<th>Risk Level</th>
<th>Risk Effect</th>
<th>Residual Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cons.</td>
<td>Prob.</td>
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<tr>
<td>2</td>
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<td>Cons.</td>
<td>Prob.</td>
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<td>3</td>
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<td>Cons.</td>
<td>Prob.</td>
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<td>4</td>
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<td>Cons.</td>
<td>Prob.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cons.</td>
<td>Prob.</td>
<td></td>
</tr>
</tbody>
</table>

**Toolbox Talk carried out?** Yes ☐ No ☐

**Action By**

**Deadline**

**Action**

**Residual Risk**

**By Whom**

**Date**

**Location**

**Equipment**

**Team Members**

**Project/Task**

**Date**

**Ref. No.**

**RISK MANAGEMENT**

**DOF Group HSEQ Workbook**

**Global Risk Assessment Worksheet**
Risk Management in the Business Cycle

Key Readings
Risk Management is used throughout the business cycle
- Business Acquisition Phase (Tender) – Review;
- Contract Award Phase
  Budget allocation and review;
- Project Initiation
  Methodology and design basis;
- Project Planning
  Procedural / Engineering development;
- Project Execution
  Construction / Installation/ Commissioning;
- Marine operations

Risk Management in the Business Acquisitions

During the business acquisition stage of the business cycle, a risk assessment is conducted as part of the tender process. The risk assessment is conducted at the “Prepare Tender” stage, as outlined above. This involves both qualitative and quantitative based risk assessments.

The Business Acquisition risk assessment process encompasses a wide scope of focus areas ranging from health and safety to financial and scheduling. This process is outlined in the Prepare and Issue Tender – Process Map in the BMS
Risk Management in Project Execution

Risk Management is used at various stages of project execution:

- **Project Initiation**: Methodology and design basis
- **Project Planning**: Procedural / Engineering development
- **Project Execution**: Construction / Installation / Commissioning
- **Project Close-out**: Lessons Learned

For all DOF Group’s operations and projects, there are legislative, internal and client requirements for execution of hazard and risk assessments for onshore and offshore operational activities.

The environment in which project operations take place is governed by a number of legislative, internal and client stipulations for risk assessment and risk reduction measures. These vary depending on the location and the scope of work. Environmental aspect assessment and subsequent management is a proactive approach to fulfilling these legislative requirements.

**A Project Risk Register** is a commonly used tool within the DOF Group for managing projects and organisational risk assessments. It acts as a central repository for all risks identified by either Projects or Marine operations. Each risk identified includes information such as risk probability, impact, risk reduction measures, risk owner and so on. Actions identified within the Risk Register should be logged within the BMS.
Risk Management within Engineering

DOF Group’s methods for risk management within engineering may include the following:

- Conceptual Hazard Analysis - Design Review
- Constructability Review
- Hazard Identification & Risk Assessment
- Qualitative Risk Analysis (QRA)

Risk Management – Project Operations

Throughout all operational activities, DOF Group utilises one risk assessment template which can be used both prior to and during operational activities.

By using this tool for operational activities, the hazard and risk management process by which hazards are identified shall be implemented, their significance assessed, and the necessary means of elimination/control/mitigation determined. DOF Group’s methods for risk management within operations include the following:

- Project risk assessment (based upon the procedure)
- Risk assessment on site
- Observation (Observation Cards)
- Toolbox / Pre-start Meetings
- Management of change process
- Operational HAZID reviews and assessments

Risk Management in Marine / Vessel Operations

DOF Group is required by legislative, internal, field and client requirements to carry out a risk assessment for certain activities and operations. Risk Management is used at various stages of Marine activities/operations:

- Contract Award Phase – Budget allocation and review;
- Project Initiation – Methodology and design basis (New Builds and Re-fit)
- Project Planning – Procedural / Engineering development
- Project Execution – Construction / Installation / Commissioning

All marine based risk assessments are conducted utilising the DOF Group Risk Assessment Template.
Risk Assessment Tools

Conceptual and Design Review

The objective of the Conceptual & Design Reviews is to enable the clarification of engineering & design safety issues or potential safety issues as they may relate to hazards/risks but also with respect to safety scope definitions and specifications. This is achieved through utilising the expertise and knowledge of project and client representatives in a formal and controlled manner. When required, a design safety review will be carried out on or before completion of principle design engineering documents, general arrangement plans and process identification diagrams etc. The Project Manager is responsible for undertaking conceptual & design reviews and shall ensure that the appropriate personnel attend and that the review is recorded within the risk register.

Constructability Review

Constructability reviews are normally held following issue of engineering construction / installation procedures at revision ‘A’ status. The review addresses all elements of the work scope, which may include installation engineering, fabrication, mobilisation, and offshore installation and pre-commissioning. The purpose of the constructability review is to highlight any issues to allow the development of solutions / control measures with regard to design, installation engineering, HSE, installability, quality, schedule, equipment, assets and resource provision.

The findings and actions arising from the constructability review are entered into a project specific risk register. The Line / Project Manager assigns responsibilities and deadlines for completion of actions. The supervisory engineer is responsible for documenting the way in which the action has been closed out and ensures this has been reflected within the relevant construction / installation procedure(s).
Failure Mode Effect Analysis (FMEA)

FMEA is a systematic analysis of the systems to whatever level of detail is required to demonstrate that no single failure will cause an undesired event. This should be conducted as early as possible to ensure the greatest benefit.

There are a number of standards to which an FMEA can be carried out. The use of standards is important so that the FMEA will be accepted by all parties interested in it.

The Project Manager will appoint the FMEA Team. It will include as a minimum an analyst expert in the use of FMEAs who is fully conversant in the architecture and operation of the equipment, system or process to be analysed. The FMEA is likely to be conducted by an external contractor appointed by the Project Manager in consultation with the Engineering Manager.

A successful FMEA activity helps a team to identify potential failure modes based on past experience with similar products or processes or based on common sense and logic, enabling the team to design those failures out of the system with the minimum of effort and resource expenditure, thereby reducing development time and costs.

Failure modes are any errors or defects in a process, design, or item, especially those that affect the intended function of the product and or process, and can be potential or actual. Effects analysis refers to studying the consequences of those failures at different system levels.

- The outcomes of an FMEA development are actions to prevent or reduce the severity or likelihood of failures, starting with the highest priority. These may be used to evaluate risk management priorities for mitigating known threat vulnerabilities. FMEA helps select remedial actions that reduce cumulative impacts of life-cycle consequences (risks) from a systems failure (fault).
Hazard Identification (HAZID) and Risk Assessment Studies (HIRA)

Each DOF Group project and/or major operation and any other relevant activity will be subject to a detailed HAZID & Risk Assessment (HIRA) prior to commencing project operations. The overall aim is to identify all foreseeable hazards arising from the work scope, ensuring these are adequately controlled and risks quantified using the DOF Group Risk Matrix.

HAZID is a formal in-depth study to identify the hazards, the risks, the controls, and the evaluation of whether these risks are acceptable using quantitative methods. A HAZID is carried out by a team. The team will vary depending upon the exact scope of the HAZID but representatives from Operations (Projects), Engineering, HSEQ Departments may be required. Client Representatives, Subcontractor and Supplier representatives may also be of value. The timing of a HAZID is critical to maximising the benefit i.e. the earlier in the project cycle the greater the benefit.

A HIRA register is compiled from the output from the HIRA. The Project Manager assigns all resulting actions to individuals who will be responsible for the close out. Once all actions are closed out, the HIRA will be issued to project personnel and appended to work procedures to ensure effective communication of the risk assessment throughout the project work team.

On-Site Risk Assessments

On-site risk assessments are conducted to evaluate any risk, assumptions and uncertainty so as to ensure clarity. They will be utilised regularly throughout the DOF Group to assess specific worksite risks and specific tasks. They are conducted using the DOF Group Risk Matrix and Risk Assessment Form which are located in the BMS.
Permit to Work (PTW)

The Permit to Work system is required to maintain a high level of safety in the operation and maintenance of the worksites.

The need for Work Permits is found primarily in non-routine work, likely to involve risk or create hazards which can adversely affect the worksite and its personnel.

A Permit to Work system is however only part of an overall safety system for work which is dependent upon those who issue permits and those who work with them.

Permit types:
- Hot Work permits;
- Isolation / Electrical permits;
- Confined Space Entry permit;

In addition to the above, some facilities may have permits for specific activities which may include but not be limited to:
- Work at heights / work over water permit;
- Lifting operations;
- Field / Operational zone entry permit
- Diving / ROV operations
Roles and Responsibilities – Permit to Work

Vessel Master
Overall responsibility for ensuring the application review of the permit system onboard.

Permit Holder
The permit holder is the person conducting the work or supervising the work and is responsible for ensuring the precautions are in place.

Area Authority
The responsible person in the area the work is being carried out such as shift supervisor. Responsible for inspecting work area and giving approval for work to commence.

Area Technician and Isolating Authority
Responsible for the plant or the area where the work is taking place and responsible for isolation certificates.

Issuing Authority
Person responsible for managing the permits and granting permits.

Authorized Gas Tester
Responsible for conducting tasks in support of the permit. Authorised by the vessel master to conduct this role.

Toolbox Talk / Pre-start Meetings

The Toolbox Talk (TBT) objective is to communicate all relevant Risk Assessments and capture any specific controls not already identified to the work party. All Personnel involved in the work activity must participate in the TBT and sign as being present.
Management of Change (MoC)

DOF Group strives to always work safely and efficiently. Part of this process is managing change. All employees and contractors working for DOF Group are responsible for monitoring the need for changes within their field of expertise.

Changes may be a result of a countless number of causes, i.e.;
- Deviation from Standard Company Procedures and Vessel Management Procedures
- Modifications to vessels and equipment
- Changes to the sequence of offshore operations
- Deviation from specific safe working practice or work instructions
- Use of an existing piece of equipment for a new task

Where this occurs, the Management of Change process will be followed to ensure that any change and any consequences of the change are correctly managed.

Further Readings

To learn more about risk management, please complete the relevant E-Learning modules related to risk management.

See also the DOF Group Risk Manual and the global Management of Change standard for further information.

Key points from this module are

- A risk is the likelihood of a hazard causing harm, loss, injury or other adverse sequences. Risk cannot be reduced to zero but it can be managed effectively.
- Internal factors such as experience, memory and stress, in addition to external factors such as environment and exposure affect our risk perception and the level of risk we take in our decisions.
- A hazard is anything that has the potential to cause harm, loss or damage. With risk management, we aim to remove and, if removal is not possible, reduce the hazard.
- ALARP is short for “as low as reasonably practicable”. Reasonably practicable involves weighing a risk against the trouble, time and money needed to control it.
- The “Risk Rating” is a combination of consequence and probability.
- Risk management is important to: reduce accidents, reduce costs, improve quality, improve staff moral, strengthen good management practice and improve resource allocation.
- The steps of risk management are identifying the hazards, assessing the risk, controlling the risk, monitoring and reviewing the risk.
- Risk Management Tools: DOF Group currently utilises the following Risk Management Tools: HAZID and HIRA, DOF Group Risk Assessment Form, Tool Box Talk
# Toolbox Talk Assessment / Checklist

All Personnel involved in the work activity must participate in the Toolbox Talk (TBT) and sign below as being present. The TBT objective is to communicate the Risk Assessment and capture any specific controls not already identified to the work party.

<table>
<thead>
<tr>
<th>Work Location:</th>
<th>Work Activity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>Discipline:</td>
</tr>
</tbody>
</table>

Permit, Work Instruction or Procedure No: TRA, Lift Plan, COSHH or Manual Handling No:

**CHECKLIST/PROMPT (Tick where appropriate)**

<table>
<thead>
<tr>
<th>Type of operation to be executed</th>
<th>Work equipment</th>
<th>Hazardous substances used/present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods/procedures to be adopted</td>
<td>Production/operational constraints</td>
<td>Isolation requirements</td>
</tr>
<tr>
<td>PTW precautions/controls</td>
<td>Human factor assessment</td>
<td>Conflicting activities</td>
</tr>
<tr>
<td>Safety equipment location</td>
<td>Crane/lifting requirements</td>
<td>Environmental considerations</td>
</tr>
<tr>
<td>Individual responsibilities for controls</td>
<td>Confined space entry requirements</td>
<td>Waste management</td>
</tr>
<tr>
<td>Access/egress</td>
<td>Manual handling</td>
<td>Working environmental conditions</td>
</tr>
<tr>
<td>Tests/monitoring</td>
<td></td>
<td>Potential hazards</td>
</tr>
</tbody>
</table>

**OPERATIONS SUMMARY**

**EQUIPMENT SUMMARY**

**SAFETY TOPICS DISCUSSED**

**ATTENDEES**

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Signature</th>
<th>Print Name</th>
<th>Signature</th>
</tr>
</thead>
</table>

**TALK CONDUCTED BY**

Planned By | Print Name: | Signature: | Date: |
|------------|-------------|------------|------|

Talk Carried Out By | Print Name: | Signature: | Date: |
|--------------------|-------------|------------|------|
## Permit to Work

### Operations and Safety preparations

**A: Required performed by Area Technician**
- ![ ] Hot work
- ![ ] Well operation
- ![ ] Dangerous/hazardous substances
- ![ ] Work on hydrocarbon system
- ![ ] Working at height
- ![ ] Isolation
- ![ ] Entry (confined space)
- ![ ] Other:

**B: Required Performed by Permit Holder**
- ![ ] Requires approval from engine room
- ![ ] Requires Isolation
- ![ ] Risk Assessment ref. no.:

### Approval / Authorisation of work

**Area Authority:**  
**Master/Responsible Officer:**  
**Time:**

**Remarks/requirements:**

### Precautions prior to / during work execution

**Remarks:**

### Gas test value

**Enclosed space**

<table>
<thead>
<tr>
<th></th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC/LEL:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O2:</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>H2S:</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Permit Issue

**Precautions (section 4) and safety preparations (section 2b) are implemented and will be fulfilled:**
- ![ ] Work site prepared according to requirements in section 2 and 4.
- ![ ] Work is approved by Bridge.
- ![ ] Issuing Authority (sign):  

### Completion

**Work completed**  
**Work not completed**  
**Work place cleaned & secured**

**Permit Holder**

**Area Authority**  
**Issuing Authority**

---

Original to be filed onboard for at least 6 months
EMERGENCY RESPONSE MANAGEMENT

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Crisis and Emergency Response Levels and Principles 94
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CRISIS AND EMERGENCY RESPONSE MANAGEMENT TOOL: “CRISIS MANAGER” 97
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The Effects of Stress 98
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Introduction

The DOF organisation must be able to handle the situation in case of crises or emergencies. Crisis and emergency response and management are based on a thorough analysis of possible situations, defined lines of responsibility and command, pre planned actions, and ready access to adequate resources.

Key focus

Key to the management of any crisis or emergency situation within the DOF Group is a prepared organisation and focus on the following:

**People:** Ensuring the safety of all personnel involved within the situation, and of those that may be affected.

**Environment:** Minimising any impact on the environment;

**Assets:** Minimising the impact on DOF Group’s facilities and assets and restoring normal business operations as soon as possible;

**Reputation:** Avoid or manage adverse publicity regarding the situation and defend the DOF Group, its shareholders and the industry at large;

**Liability:** Ensure plans are established to ensure business continuity is maintained or re-established as soon as possible.

The effectiveness of the systems, plans and equipment for crisis and emergency response management shall be periodically reviewed and assessed, through drills or other means, in an effort to reflect changing circumstances and ensure lessons learned are incorporated into future plans and undertakings.

"The main purpose of crisis and emergency preparedness is to prevent or limit the consequences of accidents and near accidents. In addition, efforts shall be made to maintain business continuity."
Conditions for Solving Problems

- We have to accept we have a problem
- We have to define the problem
- We need to gather information
- We need to find alternative solutions and their consequences
- We have to accept the chosen solution together

Task: Discuss
What are the major obstacles to decision making in an emergency situation?

The Cougar Ace had ballasting problems and capsized on her way to Vancouver.
Crisis and Emergency Response Management – Principles and Organisation

Principles

Performance Requirements

1. The DOF organisation shall be prepared to handle crises and emergencies.

2. This entails that all personnel shall know how crisis and emergency response is organised and practiced at company level and at their own workplace.

3. Equipment and facilities shall be appropriate, and personnel shall be trained such that crisis and emergency responses can be executed effectively;

4. Periodic scenario training exercises are to be undertaken to verify the effectiveness of the emergency response system, and are subjected to review to identify areas for improvement;

5. Training exercises shall include participation with external organisations (e.g. clients, regulators, contractors, etc) who could normally be involved during a crisis or emergency;

The effectiveness of the crisis and emergency response system is reviewed subsequent to any situation when the emergency management team was mobilised, in order to identify areas for improvement.

Key Readings

The company must establish measures for the five phases of crisis and emergency response:

1. Notification
2. Combating
3. Rescue
4. Evacuation
5. Normalisation

“To be prepared is to be able to handle the unexpected, through training in the expected.”
Crisis and Emergency Response Levels and Principles

**Level 1**
Emergency Response Team (ERT)
- On Scene Commander (OSC)
- Providing Site Incident Response and leading site ERT to effect rescue ad resolve incident.
- May call upon external local support
- Notification to EMT Duty Manager

**Level 2**
Regional Management Team
- Emergency Team Leader (ERT)
- Providing additional tactical support to the OSC;
- Identifying strategic elements of the emergency will notify the Crisis Management Team & client/Regulatory bodies

**Level 3**
Corporate Management Team
- Providing strategic management of crisis issues with coordination of elements of tactical response to the crisis

**Tasks: On Scene Commander (OSC)**
- Prioritise issues and tasks
- Co-ordinate of immediate support services
- Casualty evacuation and reception
- Liaise with contractors & site client reps
- Notification and reporting from ERT
- Recovery operations

**Tasks: ERT Duty Manager**
- Receive call and record site information;
- Notify Regional Management Team

**Tasks: Regional Emergency Management Group**
- Coordinate:
  - Identification and resolution of issues;
  - Additional support & advice to site;
  - HR aspects of the emergency;
  - Notification & reporting from EMT;
  - Recovery and Repatriation
- Liaise with client Emergency groups

**Corporate Management Team**
- Manage:
  - Identification and resolution of issues;
  - Media & external affairs;
  - HR aspects of the crisis;
  - Notification & reporting to board;
  - Management of Regional & Corporate impacts & Liabilities;
  - Liaise with Client Crisis group on executive levels
  - Business Continuity Recovery
Crisis and Emergency Response Organisation

DOF Group has defined 3 response levels:

**Level 1**

Emergency Response (Local)

An abnormal situation, which can be managed and contained using the existing resources and authorities at the site, and for which external resources are (initially) not required.

**Level 2**

Emergency Management Regional/Units

A situation for which, the site resources require additional support from the regional crisis and emergency management organisation.

**Level 3**

Corporate Management Team

An incident or emergency that has the potential to significantly impact company/project operations, reputation, or pose a substantial economic or legal liability.

**When Do We Mobilise?**

**Examples of Emergency Events**

<table>
<thead>
<tr>
<th>Category</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>Non-urgent Medivac.</td>
</tr>
<tr>
<td>Vessel/Facility</td>
<td>Person overboard and recovered safely.</td>
</tr>
<tr>
<td>Fire</td>
<td>Near miss where possible fire or explosion could have occurred.</td>
</tr>
<tr>
<td>Environment</td>
<td>Marine Fuel Oil spill between 80 litres (0.5bbls) and 10,000 litres (70bbls).</td>
</tr>
<tr>
<td>Weather</td>
<td>A cyclone is moving closer and is within 48 hrs of the site or at a distance of 350 to 600 nm from the site. Site preparedness and undertake evacuation as per project ERP requirements</td>
</tr>
<tr>
<td>Helicopter/</td>
<td>Near miss on takeoff or landing on a vessel or on land. Helicopter is up to 15 minutes overdue for arrival with no communications established.</td>
</tr>
<tr>
<td>Aircraft</td>
<td></td>
</tr>
<tr>
<td>Security issues</td>
<td>Known security breach activities near site. Potential civil unrest. Attempt to cause damage or sabotage.</td>
</tr>
</tbody>
</table>
## Examples of Emergency Events

### Level 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>Severe causalities or illness. Multiple casualties. Urgent Medivac. Single fatality.</td>
</tr>
<tr>
<td>Vessel/Facility</td>
<td>Overdue vessel and no communications established. Evacuation of a facility / vessel. Person overboard and missing.</td>
</tr>
<tr>
<td>Fire</td>
<td>Major fire or explosion.</td>
</tr>
<tr>
<td>Environment</td>
<td>Marine fuel Oil spill between 10,000 litres (70bbls) and &lt; 1,000,000 litres (&lt; 7,000bbls).</td>
</tr>
<tr>
<td>Weather</td>
<td>Site has not been evacuated and or evacuation not successful / appropriate. (Site is affected directly by Severe Weather, i.e. Cyclone/Typhoon.)</td>
</tr>
<tr>
<td>Helicopter/Aircraft</td>
<td>Communication failure. Emergency landing by helicopter on a vessel or on land. Helicopter is more than 30 minutes overdue for arrival and no communications established.</td>
</tr>
<tr>
<td>Security issues</td>
<td>Attempted illegal boarding of facilities. Deliberate damage to facilities. Detainment or arrest. Physical forced entry into office or facility areas to cause disruption.</td>
</tr>
</tbody>
</table>

### Level 3

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>Multiple fatalities.</td>
</tr>
<tr>
<td>Fire</td>
<td>Major oil spill &gt; 1,000,000 litres (7,000bbls). (Note – this event is not feasible with current vessel fuel capacity.)</td>
</tr>
<tr>
<td>Environment</td>
<td>Major oil spill &gt; 1,000,000 litres (7,000bbls). (Note – this event is not feasible with current vessel fuel capacity.)</td>
</tr>
<tr>
<td>Weather</td>
<td>Total loss of communications with vessel / site. EMT cannot identify situation at vessel / site after severe weather has passed location. Potential loss / major damage to assets / multiple fatalities.</td>
</tr>
<tr>
<td>Helicopter/Aircraft</td>
<td>Helicopter crashed en-route to or from a vessel.</td>
</tr>
<tr>
<td>Security issues</td>
<td>Boarding of vessel / facilities. Possible industrial espionage. Threat to kidnap or extortion. Kidnapping of personnel from vessel / facilities.</td>
</tr>
</tbody>
</table>

**Emergency Management, Level 2.** is declared by the ERT Duty Manager.

The emergency management team is the team to provide regional operational level support at the scene of the incident.

**Crisis Management, Level 3.** is declared by the regional Executive Vice President (or delegate).

Crisis Management is the centrally coordinated corporate strategic response, with the support of the Corporate Management team, to higher level Government, Non Government Organisations (NGOs) and Regulatory bodies.
Coordination and communication regarding Crisis Management is through our Crisis Manager Tool.

The Sealand Express was anchored off the coast of Cape Town South Africa in 2004.
Crisis and Emergency Response Management Tool: “Crisis Manager”

Crisis Manager (CM) is an electronic tool for handling crises and emergencies. All fact sheets from the entire DOF ASA Group are incorporated into the system. CM covers necessary actions to handle all types of crises and emergencies on levels 2 and 3. All level 2 organisations can communicate with each other within the system if needed. The system can handle several situations simultaneously.

- **Process Plans**
  - Define contingencies and develop incident-specific plans.

- **Learning Solution**
  - Train, exercise, test and certify team members.

- **Notify and Execute**
  - Duty planner build, maintain groups, alert teams, roles and instantly notify, execute predefined action plans.

- **Operations Center**
  - Assign and execute tasks, view real-time updates, manage staff, resources, measure and monitor, reporting, Dashboards.

- **Info Publisher**
  - Update intranet, extranet and Internet, social media.

Source: IntraPoint
Human Response to Emergencies and Crises

Characteristics of a Critical Situation:

- Entails a threat
- Usually arises quickly, is unpredictable and new
- Happens dramatically
- Creates stress - Usual coping strategies and resources are not sufficient;
- Intense interest from the outside world – media are first to know

The Effects of Stress

Everyone who experiences a dramatic situation is touched by it, including emergency response workers and managers. Stress can be constructive in the sense that creativity may be triggered and productivity increased.

On the other hand, stress in such situations is usually combined with fear, and may lead to destructive reactions, bodily as well as mentally, among persons involved.

<table>
<thead>
<tr>
<th>Positive stress</th>
<th>Negative stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Constantly behind in work</td>
</tr>
<tr>
<td>Promotion</td>
<td>Divorce</td>
</tr>
<tr>
<td>Having kids</td>
<td>Strong work pressure</td>
</tr>
<tr>
<td>Bought a new house</td>
<td>Computer problems</td>
</tr>
<tr>
<td>Won a prize</td>
<td></td>
</tr>
<tr>
<td>New job / position</td>
<td></td>
</tr>
</tbody>
</table>

“Stress is a perceived discrepancy between demands from the surroundings, and resources at hand.”
**Task: Discuss**

Please discuss in small groups the difference between positive stress and negative stress.

Use personal experiences from your own workdays.
The effects of stress may display as a variety of negative signals, physiological, emotional, and mental. Common for these reactions is that they may adversely affect rational thinking and adequate behaviour. These reactions also affect our decisions.

### Common Reactions in a crisis

<table>
<thead>
<tr>
<th>Physiological</th>
<th>Emotional</th>
<th>Mental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unease</td>
<td>Fear / anxiety</td>
<td>Confusion</td>
</tr>
<tr>
<td>Increased pulse</td>
<td>Irritability</td>
<td>Rigid thinking</td>
</tr>
<tr>
<td>Heavy breathing</td>
<td>Anger, aggression</td>
<td>Mental tunnel vision</td>
</tr>
<tr>
<td>Thumping heart</td>
<td>Sadness</td>
<td>Sleeping difficulties</td>
</tr>
<tr>
<td>Nausea / vomiting</td>
<td>Crying and despair</td>
<td>Hearing problems</td>
</tr>
<tr>
<td>Perspiration / shivers</td>
<td>Unreality</td>
<td>Reduced concentration and attention</td>
</tr>
<tr>
<td>Restless</td>
<td>Overwhelmed</td>
<td></td>
</tr>
<tr>
<td>Overactive</td>
<td>Helpless</td>
<td></td>
</tr>
<tr>
<td>Apathetic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Advice for Emergency Response Personnel

- When you’re needed, you need the procedure in your head, not your head in the procedure
- Think, keep control over yourself
- Be compassionate
- Ask for help if you need it
- Know the basic routines used by police, hospitals, clients and DOF with regards to notifying next of kin
- Media are to be treated courteously and firmly

Successful stress management is based on prevention and planning, a solid understanding of roles and responsibilities, support for colleagues, good self-care, and seeking help when needed.
Common Behavioural Patterns in a Critical Situation

People may react individually, depending on the situation, but primarily, humans react to threats in three ways: “Fight”, “Flight” or “Freeze”.

**Fight**
People will combat the situation.

**Flight**
People will escape from the situation.

**Freeze**
Most people do not perceive the threat, and await instructions/further information, or people are paralysed by the threat, leading to apathy.

People’s ability to react and cope constructively is based on their experience, practice, and knowledge. Being trained may greatly influence a person’s behaviour during a critical situation:

<table>
<thead>
<tr>
<th>Trained</th>
<th>Untrained</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fight</strong></td>
<td></td>
</tr>
<tr>
<td>Stalking actions</td>
<td>Actions motivated by ego</td>
</tr>
<tr>
<td>Precise actions</td>
<td>Uncoordinated movements</td>
</tr>
<tr>
<td>Calm mindset</td>
<td>Hyper, unfocused, overreacts</td>
</tr>
<tr>
<td><strong>Flight</strong></td>
<td></td>
</tr>
<tr>
<td>Orderly retreat</td>
<td>Unrestrained running</td>
</tr>
<tr>
<td>Situational awareness</td>
<td>Unaware of surroundings</td>
</tr>
<tr>
<td>Mental alertness</td>
<td>Panicked state</td>
</tr>
<tr>
<td><strong>Freeze</strong></td>
<td></td>
</tr>
<tr>
<td>Hunter’s crouch</td>
<td>Paralysation</td>
</tr>
<tr>
<td>Heightened awareness</td>
<td>Denial</td>
</tr>
<tr>
<td>“Weapon” at the ready</td>
<td>Submissive, apathetic</td>
</tr>
</tbody>
</table>

Different behavioural patterns. Scientific studies conclude differently, but people’s reactions towards catastrophes are shown in the illustration above. Source: Lars Weisæth

Discuss in Groups
Discuss the Fight, Flight and Freeze reactions in case of a;
- Severe emergency situation in DOF
- Robbery
- Car accident
Routines for Notifying Media and Next-of-Kin

Who talks to media in crisis situations

• The CEO and EVP are normally responsible for handling media.
• If the CEO and EVP are unavailable, their deputy handles the media.
• During an emergency situation, the Duty Officer handles media until the CEO/EVP are operational.

Next-of-kin

• Police are normally responsible for notifying NOK
• Hospitals are normally responsible for notifying NOK about things that happen to patients while they’re in the hospital
• The Local Department of Foreign Affairs has main responsibility for notifying foreign governments about injury and death of foreign citizens

Photo: NATO
How do I give information to my close ones?

Because of the differences in experience related to the incident, family members can show a wide range of reactions. These are mainly strong concern and worries related to your well being. These variations may be difficult to handle, and can lead to you misunderstanding each other. Subsequently, they may lead to arguments, or to the fact that family members find it hard to support one another.

Helpful hints as to how you can support one another

- Take an interest, and show that you care
- Show acceptance and respect for how different family members react and cope
- Acknowledge the concern of family members; however, reassure them that measures are in place in order to heighten security and safety at work
- Support and aid each other in maintaining daily routines, social activities and acting as a support for each other
Post Traumatic Support

Normal Reactions to Abnormal Situations

Normal reactions to abnormal situations usually develop through the following phases:

**Shock phase**
- From minutes to a few days
  - People look OK, but they are chaos inside.
  - Flashbacks, physical symptoms, emotional “explosions”.

**Reaction phase**
- From a few days to 4-6 weeks
  - Trying to make sense of what happened.
  - “Nerves”, psychological defence mechanisms.

**Restitution phase**
- 6-12 months - many years
  - Starting to look to the future again, spending less energy on what happened.

This picture is never black and white, and the outcome of a critical situation may largely depend on the way the situation has been handled by management, response personnel, and colleagues.

There is a wide range of reactions, positive as well as negative, that people could possibly experience:

<table>
<thead>
<tr>
<th>Type</th>
<th>Negative reactions</th>
<th>Positive reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>Confusion, disorientation, worrying, insistent thoughts and mental images, self-reproach</td>
<td>Decisiveness, sharpened senses, courage, optimism, belief</td>
</tr>
<tr>
<td>Emotional</td>
<td>Shock, grief, sadness, fear, anger, irritability, numbness, shame and guilt</td>
<td>Experience of togetherness, challenged, mobilisation / activation</td>
</tr>
<tr>
<td>Social</td>
<td>Social isolation, avoidance and reduction in level of activity, conflict with others</td>
<td>Social belonging, participation in helping others</td>
</tr>
<tr>
<td>Physiological</td>
<td>Fatigue, headache, muscle tension, stomach ache, increase in heart rate, jumpiness, sleep disturbance</td>
<td>Alertness, state of action, increased level of energy</td>
</tr>
</tbody>
</table>
Insistent Reactions

- Frightening thoughts and mental images of the incident when awake or when dreaming
- Increased emotional or physical reactions when reminded of incident
- Flashbacks

Avoidance and Isolation

- Avoid talking about, thinking of and experiencing feelings related to the incident
- Avoidance of incident reminders (people or places)
- Persistent numbness and lack of interest
- Alienation and social isolation

Physiological Activation

- Persistent jumpiness, nervous and on guard
- Irritable and quick tempered
- Difficulties falling asleep and sleeping, concentration difficulties
Supportive Measures after a Critical Incident

There is broad agreement on guidelines for factors which contribute to positive outcomes following exposure to extremely stressful and traumatic situations.

Most acute stress reactions experienced in the wake of a crisis are common, and will often diminish and disappear. Watchful waiting is therefore an important aspect. This means that the organisation and management must be alert to identify and address concerns for personnel who struggle in the weeks following an incident of this dimension. In the immediate follow-up, information and care are essential, rather than advanced therapeutic measures. This is described as psychological first-aid. Fundamental principles of psychological first-aid include providing security, reassurance, producing a sense of coping, stimulating a sense of belonging and providing a prospective of hope and optimism.

Furthermore, it is of utmost importance that the organisation is able to provide the workers with facts regarding the incident from a management perspective in order to reduce the degree of speculation. If personnel are deprived of facts about the incident, they are likely to produce fantasies in order to fill in gaps to make the story complete. The fantasies and speculations will normally be of a more dramatic character than the actual facts. If the information related to the incident and measures taken are well prepared and clearly portrayed, this may also reduce speculations regarding future incidents.

For a successful handling, the organisation must demonstrate the ability to be emotionally caring and understanding regarding the personnel’s experience and reactions in the aftermath of the incident. In addition, the ability for self-help and the support of work colleagues, friends and family could be of great importance.
However, if reactions are severe and persistent, specific measures may be necessary. The best practice for selecting those who need extra monitoring is to implement individual, supporting conversations, where quality of sleep and rest, social function, and function within family and work are assessed. This may be performed immediately after the incident in order to identify personnel with the most severe reactions. Furthermore, it is important to monitor personnel after 4-6 weeks.

Personnel experiencing severe reactions after this period and personnel who do not experience that their reactions are decreasing in frequency and strength must be identified and followed up closely. For this group of people, therapeutic interventions may be of relevance to reduce the probability of developing posttraumatic stress syndrome.

**Posttraumatic stress syndrome (PTSD)** is a severe anxiety disorder that may develop after exposure to a stressful incident experienced as traumatic. A situation may be experienced as traumatic when the individual feels overwhelmed, has no control over the situation or feels that his/her life is threatened. The main symptoms of PTSD are re-experiencing the dramatic incident through flashbacks or nightmares, avoidance of stimuli associated with the trauma, and increased arousal – such as difficulty falling or staying asleep, anger, and extreme heightened alertness. This diagnosis is severe and results in a dramatic reduction in everyday functioning. The disorder requires professional follow-up and therapeutic interventions.
Recommendations

Information

- Frequently provide facts on the security and safety situation – establish trust and confidence.
- Present measures taken to continuously improve security and safety.
- Focus on how information is delivered.
- Be clear and confident with relation to the company’s emergency measures and plans for dealing with aspects concerning worst case scenarios.
- Avoid vague and imprecise information which can lead to speculation.
- Allow competent and confident personnel to inform the employees. (Important element of crisis communication under and after an incident.)
- Be aware of the fact that employees are influenced distinctively based on their competence, opinions and attitudes towards a subject. (Office based employees may require different information than operative personnel.)
- Invite employees to address their concerns continuously.
- Make sure the company has competent and qualified personnel to address and follow up these concerns in a qualitative manner.
- Continue to encourage the employees to perform safe operations.

Psychological interventions

- Provide the employees with information regarding expected reactions and how to deal with these if persistent.
- Continue to inform about the importance of having focus on and monitoring oneself with respect to reactions, without impelling reactions on employees who do not experience reactions. The latter is also regarded as normal.
- Management should follow up the employees with regards to their functioning.
- Be specific and clear related to follow up measures at company level.
- Make available a support system where employees may seek assistance and help to cope with the effects of the incident.
- Meeting with the employees within 4-6 weeks where they are given information about reactions and what to expect.
- Ensure follow up of personnel at risk for developing chronic stress reactions.
- Provide the opportunity for employees to contact an externally engaged professional. Previous experience shows that employees may feel at risk, confiding themselves to an internally engaged supervisor.
Advice for “Self Treatment”

<table>
<thead>
<tr>
<th>Helpful hints</th>
<th>What to avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Plan and participate in positive activities (sports, hobbies, reading etc)</td>
<td>• Detailed conversations related to incident which sufficiently increase level of distress</td>
</tr>
<tr>
<td>• Adequate rest and healthy meals</td>
<td>• Complete and extreme avoidance of thinking and talking about the incident because it arouses anxiety levels</td>
</tr>
<tr>
<td>• Stick to usual schedule</td>
<td>• Use of alcohol and drugs in order to cope with distress/sleep disturbance</td>
</tr>
<tr>
<td>• Regular breaks</td>
<td>• Blame others</td>
</tr>
<tr>
<td>• Conversation and/or spending time with individuals who can provide support</td>
<td>• Isolation from colleagues, family, friends and social activities</td>
</tr>
<tr>
<td>• Practical management of distress (e.g. relaxation exercises, listen to calming music, positive self-instruction, sleeping techniques)</td>
<td>• Neglect yourself</td>
</tr>
</tbody>
</table>

Relaxation techniques

- Deep breathing (Count of 1, ... 2, ... 3) through nose, filling the lungs
- Mental instruction: feel relaxed, reduce tension in muscles
- Focus on bodily contact points with chair, mattress, floor etc.
- Deep breathing... repeat until achieving desired level of relaxation
Children and Adolescents

Children's reactions are not qualitatively distinct to the ones experienced by adults. However, children tend to experience reactions of shorter duration when expressing emotions. Children's reactions are also influenced by their parents' reactions and may comprise elements of confusion and misunderstanding.

Common reactions:
- Act out, strike
- Anger and frustration
- Uneasy and restless
- Being oppressive
- Cry (especially close to the time of departure)
- Nightmares

Helpful Hints in Dealing with Children/Adolescents

Be supportive and help the child to verbally formulate the emotions you believe they are experiencing. For example; “You are angry or sad/upset because you are afraid that something will happen to me while I am gone.”

Be also aware that parents, as a result of experiencing a traumatic incident, may act over protectively during the period following the traumatic event.

Key points from this module are

- The main purpose of crisis and emergency preparedness is to prevent or limit the consequences of accidents and near accidents. In addition, efforts shall be made to maintain business continuity.
- A clear understanding of roles and procedures is critical to helping individuals manage stress. Training and preparedness in incident management procedures are therefore key to stress management.
- DOF’s five checkpoints for crisis and emergency response management are: notification, combating, rescue, evacuation, normalisation.
- Stress management is key to emergency management. Successful stress management is based on prevention and planning, a solid understanding of roles and responsibilities, support for colleagues, good self-care, and seeking help when needed.

Advice for emergency response personnel:
- When you’re needed, you need the procedure in your head, not your head in the procedure.
- Think, keep control over yourself
- Be compassionate
- Ask for help if you need it
- Know the basic routines used by police, hospitals, clients and DOF with regards to notifying NOK.
Task: Discuss

1. One of your employees has been involved in a serious accident. The situation is yet unclear, however, you know that he/she is injured and on his/her way to the hospital. You are contacted by his/her NOK. What must you keep in mind? Act out a conversation with NOK - another person in your group.

2. Similar exercise with a colleague who has been through a severe accident and shows signs of PTSD.

End of Section Quiz

Please cross the correct answer.

T = True  F = False

1. You should try to live as normal a life as possible after exposure to a traumatic situation.  

2. Defusing is one possible method of on-scene support which may be used in a disaster.  

3. Crisis Manager is an electronic tool for handling crises.  

4. Early intervention after a stress reaction is not necessary for maximum benefit to be derived from the intervention.  

5. Stress management has no influence on emergency management.  

6. DOF has four checkpoints for ERT: Notification, Mobilisation, Handling and Normalisation.  

7. We have some control over what happens to us psychologically after exposure to a disaster.  

8. After exposure to a disaster situation, don’t attempt to reassure yourself or others that everything is ‘okay’.  

9. Adequate sleep and a balanced diet are essential after exposure to a traumatic situation.
HSEQ CASE MANAGEMENT AND INSPECTION TECHNIQUES

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Aim of the Course

By the end of this module, you will be able to:

- Know how to report incidents
- Describe the management of accidents, incidents and HSE observations
- Meet the corporate requirements for accident and incident management
- Have a basic understanding of the Kelvin TOP-SET investigation method
- Understand the basic principles of safety inspection techniques
- Define methods for reporting accidents and incidents and hazardous occurrences

Key Words

- Standard Definitions
- Reporting
- The Investigation Process
- Inspections
- Interviewing
- Skills
- Kelvin TOP-SET
- Completing DOF Forms

After the crash of Gol Transportes Aéreos Flight 1907, Brazilian Air Force personnel recover the flight data recorder of the flight. Copyright: Wikipedia
<table>
<thead>
<tr>
<th>Terms</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Term to define an unplanned event that results in harm to people (injury), damage to property or the environment or loss of process.</td>
</tr>
<tr>
<td>Incident</td>
<td>Term to define an unplanned event (also known as a near miss) not resulting in loss which, under slightly different circumstances, could have resulted in harm to people, damage to property or the environment or loss of process.</td>
</tr>
<tr>
<td>Near Miss</td>
<td>Term to define a hazardous condition, which under slightly different circumstances could have caused an accident or incident as defined above.</td>
</tr>
<tr>
<td>Lost Time Incident (LTI)</td>
<td>An incident or injury in which the involved person is unable to resume normal duties the day/shift following the accident. The day of the accident is not counted when calculating absence, but any days which would not have been working days are counted.</td>
</tr>
<tr>
<td>Injury</td>
<td>Term to define the result of an action/event which caused harm to a person(s).</td>
</tr>
<tr>
<td>Dangerous Occurrence</td>
<td>An occurrence which may have to be reported to the authorities.</td>
</tr>
<tr>
<td>Occupational Disease</td>
<td>A disease caused by your occupation to be reported to authorities according to local requirements and definitions</td>
</tr>
<tr>
<td>Major Accident</td>
<td>An accident or incident that has caused a fatality, damage to assets or the environment or loss exceeding 100,000 US.</td>
</tr>
<tr>
<td>Restricted Work Day Case</td>
<td>As a result of an injury, a person returns to work to perform work of a less strenuous nature.</td>
</tr>
<tr>
<td>Medical Treatment Case</td>
<td>An injury that required treatment by a qualified Medical Practitioner or hospital by administering more than first-aid and where the injured person was deemed by them to be fit to return to work.</td>
</tr>
<tr>
<td>First-Aid Case</td>
<td>An injury that required treatment by a qualified Medical Practitioner or hospital by administering more than first-aid and where the injured person was deemed by them to be fit to return to work.</td>
</tr>
<tr>
<td>Investigation</td>
<td>The process to identify the cause of an accident, incident or near miss.</td>
</tr>
<tr>
<td>Report</td>
<td>A written document recording information about an accident, incident or near miss.</td>
</tr>
</tbody>
</table>
Notification

Oral or written information concerning an accident or incident immediately after it has occurred.

Should an incident occur, the Worksite Supervisor should follow the Accident and Incident Process Flowchart and complete the appropriate Incident Report.

All accidents or incidents shall be reported on the approved DOF Incident Report, be it personal injury, environmental or asset damage.

All accident and incidents shall be notified to the Project Manager or Vessel Supervisor onshore in a timely manner as listed below:

<table>
<thead>
<tr>
<th>Type of Incident</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatality</td>
<td>Inform immediately</td>
</tr>
<tr>
<td></td>
<td>Local emergency team</td>
</tr>
<tr>
<td>High Potential Incident</td>
<td>Inform immediately</td>
</tr>
<tr>
<td></td>
<td>Project Manager or Vessel Supervisor</td>
</tr>
<tr>
<td>Lost Time Incident (LTI)</td>
<td>Inform immediately</td>
</tr>
<tr>
<td></td>
<td>Project Manager or Vessel Supervisor</td>
</tr>
<tr>
<td>Medical Treatment Case (MTC)</td>
<td>Inform within 6 hours</td>
</tr>
<tr>
<td></td>
<td>Project Manager or Vessel Supervisor</td>
</tr>
<tr>
<td>First Aid Case</td>
<td>Inform within 24 hours</td>
</tr>
<tr>
<td></td>
<td>Project Manager or Vessel Supervisor</td>
</tr>
<tr>
<td>Non Work Related Case (NWRC)</td>
<td>Inform within 24 hours</td>
</tr>
<tr>
<td></td>
<td>Project Manager or Vessel Supervisor</td>
</tr>
</tbody>
</table>
Reporting

The main objectives for reporting are:

- To prevent further similar occurrences. To ensure that legal requirements are met.
- To highlight areas of operation where occurrences are a concern in order to effectively manage and reverse the trend.
- To measure DOF’s performance in meeting the requirements noted within our policies.
- To guide Senior Management to set objectives for accident prevention programs.
- To meet the DOF Group’s requirements for accident management.

DOF is governed by both internal and statutory reporting requirements.

Statutory Reporting: Various regions globally may be required to report certain types of Accidents or Incidents to their local governing authorities. Please contact your Local Business Unit HSEQ Department for further information.

Overall principles of reporting

<table>
<thead>
<tr>
<th>AT SITE</th>
<th>HSEQ ONSHORE</th>
<th>CLOSE OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Report in Docmap</td>
<td>• Notify Client</td>
<td>• HSE observations at site</td>
</tr>
<tr>
<td>• Notification Form</td>
<td>• Case management</td>
<td>• Other by responsible managers</td>
</tr>
<tr>
<td>• Notify Client Rep.</td>
<td>• Notify Government</td>
<td></td>
</tr>
</tbody>
</table>

Incident/Injury Notification Form

<table>
<thead>
<tr>
<th>Site/location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/time of incident</td>
</tr>
<tr>
<td>Incident type/classification</td>
</tr>
<tr>
<td>Incident description (brief description of incident)</td>
</tr>
</tbody>
</table>

The above template once completed needs to be sent to both the Project Manager/Vessel Supervisor and the HSEQ Manager within your Business Unit prior to the Incident Report being completed.
Observation/Action Module in Docmap

Source: Front page of DOF Group Business Management System.
Report Format in Docmap

<table>
<thead>
<tr>
<th>HSE Reports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Safety Observation</td>
<td>Safety Observations, including unsafe acts and conditions, positive safety behaviour. The clients on board Construction Support Vessels (CSVs) will follow-up SOBs, HOCs etc., relevant for client operations.</td>
</tr>
<tr>
<td>02 Near Miss</td>
<td>Incidents/conditions/situations, which under slightly different circumstances could have led to an accident.</td>
</tr>
<tr>
<td>04 Personal Injury</td>
<td>All accidents that as a minimum require first-aid treatment.</td>
</tr>
<tr>
<td>06 Property and Environmental Damage</td>
<td>All material damage to vessel, rig/installation, port, cargo or equipment. All type of spill resulting in harm to the environment. Incidents were the crew manage to recover the spill onboard shall also be reported.</td>
</tr>
<tr>
<td>08 DP Incident</td>
<td>IMCA Report: DP incident - loss of automatic control, loss of position or any incident which has resulted in or should have resulted in a red alert DP undesired event – loss of position or other event which is unexpected /uncontrolled.</td>
</tr>
<tr>
<td>09 Lifting Operation Incident</td>
<td>IMCA Report: All incidents related to lost objects, falling objects, crane failure or other lifting equipment failure or incidents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality Reports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 Non-Conformity</td>
<td>Non-conformities in connection with operation and management. Examples: breach of procedures and rules, results from audits, customer/media/public complaints, non-conformities related to shipments and suppliers, etc.</td>
</tr>
<tr>
<td>05 Equipment Failure</td>
<td>Breakdown/failure of machinery and/or equipment etc.</td>
</tr>
<tr>
<td>07 Suggestion for Improvement</td>
<td>Any suggestions for improvement</td>
</tr>
<tr>
<td>10 Audit and Inspection Report</td>
<td>Handling of all audits and inspections</td>
</tr>
<tr>
<td>11 Experience Transfer</td>
<td>Good practice and learning to be shared, on and offshore.</td>
</tr>
<tr>
<td>12 Management Meetings</td>
<td>Meeting Minutes from: Safety, PEC (Working Environment Committee), Departmental or Other meetings with relevant actions</td>
</tr>
<tr>
<td>13 Financial Report Review</td>
<td>Follow-up of findings within finance department reporting</td>
</tr>
</tbody>
</table>

Source: Index of observation module in BMS
Investigations

The main objectives of investigations are:

- To establish direct and indirect causes of the accident, incident or near miss
- To identify the sequence of events leading up to and those which contributed to the accident, incident or near miss
- To determine and implement effective control measures to prevent future recurrences
- To demonstrate management commitment to the workforce with respect to their actions and determination to prevent accidents
- Not to apportion blame

Levels of Investigation

Depending on the severity of the accident or incident, there shall be 4 levels of investigation. Where practicable, accidents should not be investigated by involved personnel.

<table>
<thead>
<tr>
<th>Level</th>
<th>Accident, Incident Consequences</th>
<th>Investigation team appointed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Injury / Damage, Near Miss, Environmental Incident</td>
<td>Responsible Manager</td>
</tr>
<tr>
<td>2</td>
<td>Lost Time Injury / Serious Damage</td>
<td>Department Manager</td>
</tr>
<tr>
<td>3</td>
<td>Multiple Injuries / Damage to Safety Critical Equipment</td>
<td>HSEQ Manager</td>
</tr>
<tr>
<td>4</td>
<td>Fatality / Loss of an Asset</td>
<td>Managing Director</td>
</tr>
</tbody>
</table>
**Investigation Techniques**

There are four basic forms of information, which need to be gathered during each investigation, comprising the following:

1. Interviews with victims and witnesses
2. Positional evidence
3. Damage to plant, equipment, and facilities including Environmental Impact
4. Documentation

### 1. Interviews
- Conduct the investigation on the same day of the occurrence, if possible
- Put each person at ease in an appropriate location at the site; ask for information, don't threaten or demand
- Interview witnesses / victims individually and record the person's own version, avoid using "leading" questions
- Provide feedback to colleagues

### 2. Positional Information

Record the circumstances, which led up to the occurrence, what happened at the time of impact and what happened afterwards. This should enable the investigation team to picture the scenario.

### 3. Signs of Damage
- Check if the correct tools for the job were used
- Check the extent of the damage
- Check if any previous damage was evident
- What safeguards were in place - e.g., PPE, guards, barriers, warning signs etc.
- Take photographs (when permitted) of the scene

### 4. Documentation
- Photographic evidence
- Technical evidence
- Additional written statements
- Certification details
- Records of inspection
- Maintenance records
- Extracts from medical log
- Work instructions/Procedures
- Permits to work
- Training records
- Risk assessments
Kelvin TOP-SET

DOF Group has standardised the company’s incident investigation process by utilising TOP-SET courses, software and investigation services which are specifically designed to provide us with the skills and tools to:

- Get reliable, consistent results from incident investigations every time
- Uncover the real root causes of incidents through efficient root cause analysis
- Solve complex problems using a simple step-by-step process
- Produce logical, accurate incident reports
- Increase safety performance and improve safety culture
- Save our company time and money

Source: All text in this section is taken from Kelvin TOP-SET webpages
Note: Kelvin TOP-SET is providing DOF Group with investigation courses as well as electronic investigation tools.

Key Readings

This step-by-step process provides a reliable investigation structure which includes planning, investigating, analysis, creation of recommendations and reporting. Open thinking and information gathering without bias (i.e. divergent thinking) are encouraged in order to seek out quality data on which to analyse and report. Rather than focusing on Root Cause Analysis as a box ticking exercise, TOP-SET gives users the confidence and competence to investigate any type/scale of incident in any industry – from slips, trips and falls to major process failures by leading them through the full and straightforward investigation process. The TOP-SET method is not only efficient and effective, it is an incredibly user friendly tool.
Structured Investigation
Planning Based on Indicators

The Kelvin TOP-SET system uses a set of indicators, which are commonly found in incidents, as a thinking framework which can be used during the investigation process.

A detailed planning chart containing around 400 indicators, which fall under the TOP-SET headers, is used to guide investigators through the planning stage in a simple and effective manner. It is this focus on a standardised approach to planning and structuring investigations that gives TOP-SET investigations their accuracy and consistency.
Key Readings

TOP-SET Root Cause Analysis;
- What happened?
- Actual and potential consequences
- Immediate causes
  Triggers
  - Actions
  - Conditions
- Root causes
Task

Fill out an Incident / Injury Notification Form and Accident / Incident Report Form for the following accident:

1. First of all, locate the above forms on the BMS.
2. Then search for the relevant governing documents for reference.
3. Read the incident description below.
4. Fill in the forms.

Joe Bloggs, 29, from Canada was onboard the Skandi Aker for a well intervention project off the coast of Angola as an ROV Pilot Tech. He was working a 6am to 6pm shift and was 16 days into a 28 day trip.

At 6.30 am, Joe was walking to the ROV hanger to commence his shift. As he was walking into the hanger, Joe tripped on a step, fell and hit his head on the step. Joe suffered a 5 cm laceration to his forehead and was unconscious. Joe regained consciousness by the time the Medic had been called and had arrived at the accident scene.

First-aid was given at 6.41 am. He was then moved to the vessel hospital. Due to the severity of his concussion, the medic made the decision to medivac Joe Bloggs at 7.10. The vessel master ordered a helicopter which arrived at the vessel at 7.45 and departed the vessel at 8.05 am.

Two of Joe’s ROV colleagues, John Smith and Scott Brown, witnessed the incident and called the medic when the incident occurred. Both have provided statements immediately after the incident to the offshore manager. They commented that Joe had tripped on a rag lying at the foot of the step (see photo below).

The wave height was 2.5 m, temperature 10 degrees Celsius at the time of the incident.

Joe was released from hospital after receiving stitches and 36 hours of observations and was ordered to not work for two weeks.

This was the fourth slip, trip or fall onboard the vessel this reporting year.

Should there be a full investigation? Are there any initial lessons learned?
Inspections

Why do we need safety inspections?

Safety Inspections can give a general impression of safety in the business. They are a useful tool to identify dangerous working practices.

Most injuries are caused by dangerous actions; using information from the inspection reports in conversations with staff can probably decrease the number of injuries.

How to carry out an inspection?

Start the inspection with a positive attitude. During the inspection, it is also important to pay attention to what correct actions. Giving recognition for correct actions always inspires employees to increase their efforts related to safety and the department’s daily efforts to maintain a safe and efficient working environment.

The inspection reports should always start by pointing out what is in order before you start to write down the things that require change.

If, during the inspection, you discover dangerous conditions, these must be followed up immediately, if necessary with temporary measures until the situation can be addressed more permanently. Such temporary measures may, for example, be to close down hazardous areas or put up warning signs until the area is secured.

The checklist is simply based on one main area you are going to inspect. This could for example be order and cleanliness, safety equipment or loading and lifting equipment. For each section, there is a simple checklist that can be used as a reference.

We recommend making note of key words during observations to support the standards set for the inspected area.

Inspect frequently - Inspect using common sense

One condition for achieving safe working conditions is that you are able to identify and eliminate risk factors. As such, inspection is an important tool. Looking for potential hazards should be part of our daily work.

Safety levels always reflect what managers are willing to accept within their remit. As a conscious role model and motivator, you have the capacity to increase safety at work. You can raise the level of safety through systematic inspections and follow-up.

Five key elements:

1. Inspect
2. React
3. Communicate
4. Monitor
5. Raise the Standard
Inspection in itself has little or no value unless it is followed by reactions, and the way you react is essential when establishing standards for safety. The reaction - or lack of reaction, will quickly tell the organisation what’s OK and what is not acceptable. Every time you carry out an inspection, you should ask yourself the following questions: Are all the conditions in this area safe and acceptable? If the answer is no, you must immediately write down comments on the deviations you have noticed.

Monitoring is essential to achieve results. If you fail to monitor, all previous work might be wasted.

The inspections may be “universal” or focus on limited areas and specific issues. Inspections can be carried out in many ways, depending on whether it is an office or a vessel you are going to inspect.

Here is a process for performing an inspection:

1. Become familiar with safety rules
2. Ask questions
3. Take notes
4. Communicate clearly
5. Draw conclusions
Observation Techniques

1. Stop for 10-30 seconds when you enter a new area to see how people are working
2. Be aware of work procedures that may have been corrected because you have entered the area
3. Observe activities
4. Remember: UNDER, OVER, BEHIND, INSIDE, BETWEEN
5. Adopt a questioning attitude. Ask why?
   What would happen if ...? Have you learned ...?
6. Use all the senses: SEE - HEAR - SMELL – FEEL
7. Observe all phases of a job
8. Be curious
9. Get constructive ideas - not just problems
10. Give praise when you find good examples of safe work performance

Key points from this module are

- All accidents or incidents shall be reported on the approved DOF Incident Report, be it personal injury, environmental or asset damage.
- Most injuries are caused by dangerous actions; using information from the inspection reports in conversations with staff can probably decrease the number of damages.
- Use a checklist for the inspection
- Inspect frequently - Inspect with common sense: Inspect, React, Communicate, Monitor, Raise the standard.
Appendix - Incident & Injury Report Form
**INCIDENT & INJURY REPORT FORM**

**SECTION C**

**RISK & EVENT POTENTIAL**

Using the DOF Subsea Risk & Event Potential Matrix, identify through assessment the potential of the incident (may be more than one).

<table>
<thead>
<tr>
<th>INJURY / ILL HEALTH</th>
<th>ENVIRONMENTAL IMPACT</th>
<th>ASSETS / OPERATIONS</th>
<th>FINANCIAL</th>
<th>SOCIO - POLITICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

**SERIOUS POTENTIAL INCIDENT ?**

- [ ] YES
- [ ] NO

(Where any of the above are assessed as "HIGH" or "SEVERE" the incident is deemed as a Serious Potential)

**INVESTIGATION**

(Supervisor / Site Manager to check Section's A & B are complete. Complete Part C, send within 24 hours to Project / Operations Manager & HSE Department)

**EVENT / MECHANISM**

(If not in drop down list, please specify actual event causing incident/injury)

**IMMEDIATE CAUSES**

(Select Category tick box and then select from drop down list and provide detail of immediate cause)

- [ ] PROCEDURES/PROCESSES
- [ ] USE OF TOOLS & EQUIPMENT
- [ ] PROTECTIVE MEASURES
- [ ] KNOWLEDGE/TRAIN'G/EXPER'CE
- [ ] TOOLS & EQUIPMENT
- [ ] EXPOSURES
- [ ] WORK ENVIRONMENT/DESIGN
- [ ] ENVIRONMENT

**ROOT CAUSES**

(Refer to Cause Analysis chart to select appropriate Category box)

<table>
<thead>
<tr>
<th>PHYSICAL CONDITION</th>
<th>PSYCHOLOGICAL CONDITION</th>
<th>LACK OF KNOWLEDGE</th>
<th>LACK OF SKILL</th>
<th>PURCHASING / PROCUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTIVATION</td>
<td>LEADERSHIP &amp; SUPERVISION</td>
<td>ENGINEERING / DESIGN</td>
<td></td>
<td>ABUSE / MISUSE</td>
</tr>
<tr>
<td>MAINTENANCE</td>
<td>TOOLS &amp; EQUIPMENT</td>
<td>WORK STANDARDS</td>
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</tbody>
</table>

**Description of Root Cause Findings**
INCIDENT & INJURY REPORT FORM

SECTION D

CORRECTIVE ACTIONS

All actions must be Actionable (i.e. specific and clear what to do), Achievable (i.e. it will be obvious when it is done) & Appropriate (i.e. directly address immediate and root causes). All actions must have an actionee & target date. When actions are completed, these must be signed by the actionee and verified by Management.

<table>
<thead>
<tr>
<th>No</th>
<th>Corrective Action Item</th>
<th>Actionee</th>
<th>Target Date</th>
<th>Date Completed</th>
<th>Actionee Initial</th>
<th>Mgmt Initial</th>
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INCIDENT REPORT SITE APPROVAL

Supervisor: __________________________ Department: __________________________ Signature: __________________________ Date: ____________

HSE Department: __________________________ Position: __________________________ Signature: __________________________ Date: ____________

SITE Manager: __________________________ Position: __________________________ Signature: __________________________ Date: ____________

Client Representative Comments: __________________________ Name: __________________________ Position: __________________________ Signature: __________________________ Date: ____________
# ENVIRONMENTAL AWARENESS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOF GROUP'S ENVIRONMENTAL MANAGEMENT SYSTEM</td>
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</tr>
<tr>
<td>PROJECT/ACTIVITY ENVIRONMENTAL MANAGEMENT PLAN</td>
<td>139</td>
</tr>
<tr>
<td>ENVIRONMENTAL PRINCIPLES</td>
<td>140</td>
</tr>
<tr>
<td>ENVIRONMENTAL HAZARDS AND RISK MANAGEMENT</td>
<td>141</td>
</tr>
<tr>
<td>OPERATIONS AND CONTROL MEASURES</td>
<td>143</td>
</tr>
<tr>
<td>GLOBAL ENVIRONMENTAL IMPACTS</td>
<td>144</td>
</tr>
</tbody>
</table>
Aim of the Course

By the end of this module, you will be able to:

- To outline DOF’s commitment to environmental management
- To provide a basic overview of workplace-related environmental issues
- To outline how DOF’s activities can impact on the environment
- To identify possible solutions of how environmental impacts can be eliminated or controlled
- To understand the role every employee has to play in reducing our environmental impact
- To achieve better awareness to make better decisions.
- To achieve a basic overview of current global environmental issues

The DOF Policy

The DOF Group shall:

- Implement and operate in compliance with the ISO 14001 standard;
- Ensure environmental management is given equal consideration throughout all operational planning and execution;
- Assess and control the aspects and impacts of our operations upon the environment;
- Consider all environmental incidents to be preventable;
- Apply applicable laws and regulations and where deficient apply company and industry best practice;
- Reduce and restrict the production of waste products known to be detrimental to the environment;
- Minimise our impact on the environment through pollution prevention, efficient use of natural resources and the reduction and recycling of waste;
- Establish and regularly review environmental objectives and targets, aiming for continuous improvement;
- Monitor our environmental performance and address deficiencies where identified;
- Consider environmental improvement areas as high priorities during projects and new-buildings;
- Openly communicate environmental performance with industry organisations and the wider community.

Key Words

- Environmental Policy
- Environmental Aspects / Impacts
- Environmental Management System
- International Legislation
- SEEMP
- Carbon Disclosure
- Environmental Principles:
  - Sustainable Operations
  - Polluter pays principle
  - Duty of care

Key Readings

What is an environment?

Our environment is our surroundings. This includes living and non-living things around us. The non-living components of our environment are land, water and air. The living components are germs, plants, animals and people.

Environmental aspects

An element of DOF Group’s activities, products or services that can interact with the environment.

Environmental impact

Any change to the environment whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products, or services. Fundamentally, it is the physical change to the external environment resulting from environmental aspects.

Environmental management requires you to:

- Understand the environmental liabilities related to your work.
- Understand your legal responsibilities towards them.
Responsibility and Application

All DOF Group employees and subcontractors have an individual responsibility to ensure that they and their colleagues cooperate with the Group to achieve its environmental objectives.

This Policy applies to all DOF business units and operations.

DOF Group’s Environmental Management System

The Environmental Management System (EMS) is integrated in DOF’s Management System. The system also takes into account industry bodies, guidelines, codes of practice and best practice techniques at local, regional, national and international levels.

For more information the EMS please refer to Manual - Environmental Management.

Strategic Objectives

Minimising environmental impact and improving environmental performance are an important part of Group and Regional HSEQ improvement plans.

All strategic objectives related to environmental management are established using the DOF Group principles whilst ensuring:

• Consistency with the policies of the company;
• That they support the management of significant environmental aspects;
• That they support continued compliance with legal and other requirements;
• Consideration for the views and expectations of external shareholders of the organisation;
• Added value for Health, Safety and Quality elements of the Business Management System;
• Transparency.

Strategic Objectives are supported by programmes and plans that detail roles, responsibilities, processes, resources, timeframes and actions.

Competencies, Training and Awareness

Training ensures that all employees understand the importance of and are capable of conducting their duties in an environmental satisfactory way. All employees shall be informed of and understand the significant environmental aspects relevant for their duties. Objectives and targets included in the HSEQ Plan shall be communicated to all through town hall meetings, department meetings and communication on the Portal.
International Legislation / MARPOL

Marpol 73/78 is the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. (Marpol is short for marine pollution.)

Marpol 73/78 is one of the most important international marine environmental conventions. As of 31 December 2005, 136 countries, representing 98% of the world’s shipping tonnage, were parties to the Convention. The Convention was designed to minimise pollution of the seas, including waste, oil and exhaust pollution. Its stated object is: to preserve the marine environment through the complete elimination of pollution by oil and other harmful substances and the minimisation of accidental discharge of such substances.

SEEMP (Ship Energy Efficiency Management Plan)

SEEMP is an IMO requirement which became mandatory as of January 2013.

The fundamental aim is to reduce emissions and fuel consumption for the global shipping industry.

Its purpose: reduce the quantity of energy consumed on vessels by a range of different measures such as clean hulls, weather routing, new technologies, propeller polishing, engine load etc.

Another major part of SEEMP is understanding where energy is used and what is efficient and inefficient. This is achieved by recording data and analysing energy consumption onboard each vessel.

Within DOF Group, SEEMP follows the continual improvement model of: Planning, Implementation, Monitoring and Self evaluation and improvement. This ensures DOF Group can continually set new targets and ensure that we can continue as a Group to improve the efficiency of our vessels.

DOF Group has high quality SEEMP in place onboard all vessels. Using a variety of energy reducing measures, we believe we have the potential to save 10.18% of fuel used across the DOF fleet.

Carbon Disclosure Project

DOF Group participates in the Carbon Disclosure Project (CDP) on an annual basis. With the CDP, DOF Group has to identify, record, report, evaluate and reduce the amount of CO₂ emitted by the Group.

There are two scopes for which DOF Group has to report:

- **Scope 1**: Direct emissions: Vessels, generators and any operation where DOF Group is directly responsible for the emissions.
- **Scope 2**: Indirect emissions: Purchasing of electricity, business travel, logistics and any activity where DOF Group indirectly emits CO₂.
Project/Activity Environmental Management Plan

In certain cases, it may be necessary for activity-specific or project-specific environmental management plans to be constructed. The content will be defined by specific factors such as client requirements, project work scope, ecological/social factors and local legislative/statutory requirements.

The contents of a project/activity environmental plan should include;

- Communication of Group policies, values, visions and principles
- Environmental legislation and other requirements
- Description of work scope/activity. Including:
  - Location
  - General details
  - Operational details
- Description of the environment with consideration to;
  - Natural systems
  - Cultural systems
  - Socio-economic environment
  - Particular sensitivities
- Description of environmental risks and impacts;
  - Identification of sources of risk and impacts
  - Risk assessments/aspect evaluation data
- Specific environmental performance objectives and standards
- Implementation strategies;
  - Roles and responsibilities
  - Training and competencies
  - Measurement and monitoring of data
  - Emergency response
  - Record keeping
- Reporting;
  - Routine reporting
  - Incident reporting

DOF has one of the most modern fleets in the market. All regions and vessels are certified by DNV to the latest ISO 14001 standard. We utilise the most up-to-date and environmentally friendly technologies available in the development of our new build program. We have introduced a new generation of low-resistance hull lines, designed for speed and economic fuel consumption.

Our vessels have environmentally friendly and clean designs, (DNV) and in 2012, DOF established Ship Energy Efficiency Management Plans (SEEMP) for the whole fleet. This project, undertaken with DNV, will see all vessels hold a high quality, ship-specific SEEMP.
Environmental Principles

There are a number of principles used by DOF Group to help frame our approach and commitment to the management of the environment in which we work.

- Sustainable Operations
- Polluter Pays Principle
- Precautionary Principle
- Duty of Care

Sustainable Operations

For DOF Group, sustainability is a key concept. This refers to the ability of an organisation to endure in the long term within its external environment. The DOF Group recognises that effective environmental management can only be achieved with the addition of social and economic considerations.

What are Sustainable Operations?

Economic, Social and Environmental Factors.

The successful balance of these three elements ensures that the DOF Group will remain commercially feasible, socially acceptable and in compliance with the capacity of the external environment. This is known as ‘Sustainable Operations’.

Polluter Pays Principle

This principle is based in our socio-economic commitment and means that DOF Group will remedy pollution incidents directly caused by the Group's operational activities.

Precautionary Principle

The precautionary principle requires DOF Group to assess and anticipate potential environmental harm caused by activities and ensure these are understood and reflected within work activities.

Duty of Care

DOF Group has undertaken to ensure that all partners are committed to environmental management and abide by the same or very similar principles as the DOF Group. This forms part of the supply chain management and is crucial for DOF Group in being able to achieve its environmental objectives.
Environmental Hazards and Risk Management

The DOF Group has a series of systems to identify foreseeable hazards and risks for Group activities - including those that can interact with the external environment.

The principle of As Low As Reasonably Practicable (ALARP) is the tolerated level of environmental risk. Other principles such as the Precautionary Principle and Sustainable Operations can also be used within environmental risk management.

There are a number of ways in which environmental interactions can be identified and included in assessment processes.

Environmental impact is included in project risk assessment where there is an obvious potential for impact to the environment. This is captured in project risk assessments using the DOF Group Risk Assessment Form as outlined in the Risk Management training module.

Identification of Hazards and Environmental Aspects

To identify environmental aspects, DOF Group utilises a set of guidelines for identification of environmental aspects. For more information, please consult the Environmental Management Manual and corresponding documentation with Generic Environmental Aspects/Impacts Analysis for on- and offshore.

When identifying environmental aspects, you must:

1. Identify what activities are under your control/responsibility
2. What are the inputs and outputs of the activities
3. Identify the aspects and impacts
4. Assess the impacts using the scoring criteria outlined below
**Scoring Environmental Aspects**

Environmental aspects are scored within the following areas on a scale of 1-5 (for more detail on scoring criteria, please see Guideline - Identification of Significant Environmental Aspects):

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Consider the frequency of each aspect occurring. When assessing frequency, you should consider abnormal operating conditions (such as shutdowns and start-ups) and emergency situations as well as normal conditions.</td>
</tr>
<tr>
<td>Scale</td>
<td>Refers to the geographical scope of the impact, i.e. the area affected by any incident and the sensitivity of the area (nature reserve, drinking water supply etc).</td>
</tr>
<tr>
<td>Severity</td>
<td>Consider the sensitivity of the area affected and also the possible hazardous nature of the pollutants involved, in terms of the damage that may result.</td>
</tr>
<tr>
<td>Duration</td>
<td>Refers to the length of time that the impact or damage remains within the receptor.</td>
</tr>
<tr>
<td>Non compliance potential</td>
<td>Evaluates the potential of legislative non-compliance through the operational activity</td>
</tr>
<tr>
<td>Cost to company</td>
<td>Consider the impact on the company’s image (to public and customers) and assess the potential cost to the company in areas such as cleanup, fines, remedies and potential loss of business.</td>
</tr>
</tbody>
</table>
Operations and Control Measures

DOF Group utilises a number of control measures

<table>
<thead>
<tr>
<th>Continuous Review</th>
<th>This process identifies and assesses environmental interactions and is continuously assessed within an evolving framework to reflect the current activities within the Group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural/ Organisational Barriers</td>
<td>These are proactive barriers which are driven by industry best practice and the principles and commitments of the DOF Group. The aim is to proactively avoid irreversible environmental damage through governing documents and project-specific procedures.</td>
</tr>
<tr>
<td>Technical Barriers</td>
<td>Technical barriers are where technology is utilised to prevent environmental damage. DOF Group utilises this control measure on all vessels in the fleet to minimise the impact the vessels have on the environment.</td>
</tr>
</tbody>
</table>

Emergency Response
As part of DOF Group’s commitment to environmental management, DOF Group has established emergency plans for responding to an environmental incident.

All DOF vessels have a Shipboard Marine Pollution Emergency Plan (SOPEP / SMPEP) which provides guidance on how to manage marine pollution incidents. Additionally, there are also project-specific arrangements which are tailored to specific work scopes.

Incident Reporting
All DOF Group personnel have an obligation to report an environmental incident, no matter how small. The reporting method varies depending on local legislation and client requirements. They are however all aligned with DOF Group’s requirements which are outlined in: DOF Group’s Guideline for Incident Management.

Responsibilities
All individuals have a responsibility within the DOF Group towards the environment as outlined in the DOF Group policy. All personnel must complete the Environmental Awareness e-learning module to gain a greater understanding of individual roles and responsibilities.
Global Environmental Impacts

**Water pollution** is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). Water pollution occurs when pollutants are discharged directly or indirectly into water bodies without adequate treatment to remove harmful compounds.

Pollution of water resources is a key environmental concern. Water pollution affects plants and organisms living in these bodies of water. In almost all cases, the effect is damaging not only to individual species and populations, but also to the natural biological communities.

Water pollution is a major global problem which requires ongoing evaluation and revision of water resource policy at all levels (international down to individual aquifers and wells). It has been suggested that it is the leading worldwide cause of deaths and diseases, and that it accounts for the deaths of more than 14,000 people daily.

**Air Pollution** – A substance in the air that can cause harm to humans and the environment is known as an air pollutant. Pollutants can be in the form of solid particles, liquid droplets, or gases. In addition, they may be natural or man-made. Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or cause damage to the natural environment or built environment, into the atmosphere.

**Biodiversity** – The variety of life on Earth, its biological diversity is commonly referred to as biodiversity. The number of species of plants, animals, and microorganisms, the enormous diversity of genes in these species, the different ecosystems on the planet, such as deserts, rainforests and coral reefs are all part of a biologically diverse Earth. Appropriate conservation and sustainable development strategies attempt to recognise this as being integral to any approach. Almost all cultures have in some way or form recognised the importance that nature and its biological diversity has had upon them and the need to maintain it.

Rapid environmental changes typically cause mass extinctions. One estimate is that less than 1% of the species that have existed on Earth are still alive. A larger number of plant species means a greater variety of crops; greater species diversity ensures natural sustainability for all life forms; and healthy ecosystems can better withstand and recover from a variety of disasters. This is why we need to preserve the diversity in wildlife.
Contaminated Land refers to land contaminated by hazardous substances (such as lead and other heavy metals, chemicals etc.) which may pose a risk to human health and/or the environment. Common land uses which are known to cause contamination include service stations, cattle dips, tanneries, wood treatment sites and landfills.

Land that is contaminated contains substances in or under the land that are actually or potentially hazardous to health or the environment. Areas with a long history of industrial production will have many sites which may be affected by their former uses such as mining, industry, chemical and oil spills and waste disposal. Contamination can also occur naturally as a result of the geology of the area, or through agricultural use.

Waste Production – Waste can be defined as “any substance or object which the holder discards or intends or is required to discard”. Waste represents an enormous loss of resources in the form of both materials and energy.

In addition, the management and disposal of waste can have serious environmental impacts. Landfills, for example, take up land space and may cause air, water and soil pollution, while incineration may result in emissions of dangerous air pollutants, unless properly regulated. DOF Group follows the waste hierarchy below, where the aim is to reduce waste and the last resort is disposal.
Key points from this module are

- All DOF Group employees and subcontractors have an individual responsibility to ensure that they and their colleagues cooperate with the Group to achieve its environmental objectives.
- DOF Group operates under the ISO 14001 standard.
- Environmental Management requires you to:
  - Understand the environmental liabilities related to your work.
  - Understand your legal responsibilities towards these liabilities.
- Identifying environmental aspects and impacts is a key part of setting up an environmental management system (EMS).
- An environmental aspect is any element of your company’s activities that can interact with the environment.
- An environmental impact is an effect that an aspect has on the environment.
- There are two methods of evaluating environmental hazards depending on whether the interaction has been identified as part of an Environmental Aspect Process or a Risk Assessment.
- SEEMP means: Ship Energy Efficiency Management Plan, which aims to reduce the quantity of energy consumed on vessels by a range of different measures such as clean hulls, weather routing, new technologies, propeller polishing, engine load etc.

Further Readings

For further reading, please consult: Manual – Environmental Management.
Please ensure you complete the DOF Group Environmental Awareness E-Learning module!
## INTERNAL AUDITING

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Introduction

Periodic audits of procedures and systems of work shall be conducted by company-recognised auditors to ensure the objectives, targets and operational plans are being appropriately implemented and maintained. The assistance of employees may be called on as necessary.

DOF shall ensure that activities, products or services that do not conform with the HSE-MS requirements are identified. All deficiencies and corrective actions arising from meetings, incident investigations, audits and inspections will be raised and promptly tracked to ensure close-out.

Aim of the Course

- This course aims to provide an overview of the audit structure within the DOF Group.
- Having completed the module, the candidate is qualified to participate as a member of the audit team in internal audits as well as supplier audits.
- The course will also provide an overview of some key elements used in the ongoing review, monitoring and evaluation structure of the company.

Key Words

- The importance of auditing
- DOF auditing system
- Marine audits (ISM code, ISPS code, IMCA audit, OVID)
- ISO/OHSAS audits
- Audits of management system
- Supplier audits
- Global audits
- How to plan, perform and finalise an audit
- Call for audit scope, objectives and criteria
- Plan the audits, develop checklists etc.
- Perform the audit – opening meeting, interviews, close-out meeting
- How to report the audit
- Follow up audits
- Monitoring and review
- KPIs
- Leading and lagging indicators
<table>
<thead>
<tr>
<th>Terms and Definitions</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit</td>
<td>Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.</td>
</tr>
<tr>
<td>Auditee</td>
<td>Organisation, department or process owner being audited.</td>
</tr>
<tr>
<td>Auditor</td>
<td>The person, group or independent body conducting the audit.</td>
</tr>
<tr>
<td>Audit Scope</td>
<td>Extent and boundaries of an audit.</td>
</tr>
<tr>
<td>Corrective Action</td>
<td>Action to either eliminate the cause of a non-conformity or other undesirable situations.</td>
</tr>
<tr>
<td>Preventative Action</td>
<td>Action to either eliminate the cause of a potential non-conformity or other potential undesirable events.</td>
</tr>
<tr>
<td>Non-conformity</td>
<td>Non fulfilment of a requirement.</td>
</tr>
<tr>
<td>Process</td>
<td>Set of interrelated or interacting activities which transform inputs or outputs.</td>
</tr>
<tr>
<td>Procedure</td>
<td>Specified way to carry out an activity or process.</td>
</tr>
<tr>
<td>Quality</td>
<td>Degree to which a set of inherent characteristics fulfils requirements.</td>
</tr>
<tr>
<td>Audit Criteria</td>
<td>Set of policies, procedures or requirements used as a reference against which audit evidence is compared.</td>
</tr>
<tr>
<td>Audit Evidence</td>
<td>Records, statement of fact or other information which is relevant to the audit criteria and is verifiable.</td>
</tr>
<tr>
<td>Audit Findings</td>
<td>Results of the evaluation of the collected audit evidence against audit criteria.</td>
</tr>
<tr>
<td>Observation</td>
<td>An observation is an individual audit finding based on objective evidence for which there is no related requirement.</td>
</tr>
<tr>
<td>Quality Management System</td>
<td>Management system to direct and control an organisation with regards to quality.</td>
</tr>
<tr>
<td>Record</td>
<td>Document stating results achieved or providing evidence of activities performed.</td>
</tr>
<tr>
<td>Noteworthy Effort</td>
<td>A noteworthy effort is a positive individual audit finding based on objective evidence for which there is no related requirement.</td>
</tr>
</tbody>
</table>
Types of Audit

Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organisation’s operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

Auditing is a catalyst for improving an organisation’s effectiveness and efficiency by providing insight and recommendations based on analyses and assessments of data and business processes. With commitment to integrity and accountability, internal auditing provides value to governing bodies and senior management as an objective source of independent advice. Professionals called internal auditors are employed by organisations to perform the internal auditing activity.

The scope of auditing within an organisation is broad and may involve topics such as the efficacy of operations, the reliability of financial reporting, deterring and investigating fraud, safeguarding assets, and a review of processes.

Process Audits shall be based on requirements in:

- ISO 9001, ISO 14001, OHSAS 18001
- DOF Business Management System
- Purchase Orders
- Framework Agreements
- Client Contracts

Each business unit shall as a minimum be audited every year, based on ISO 9001, ISO 14001, OHSAS 18001 and the BMS. Process audits shall be recognised as the major tool for continual improvement compliance with laws and regulations among internal processes.
### Types of Audit

<table>
<thead>
<tr>
<th>Audit Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality Audits</strong></td>
<td>Are performed to verify conformance to standards through review of objective evidence. A system of quality audits may verify the effectiveness of a quality management system. This is part of certifications such as ISO 9001, ISO 14001 and OHSAS 18001. To benefit the organisation, quality auditing should not only report non-conformance and corrective actions but also highlight areas of good practice and provide evidence of conformance. In this way, other departments may share information and amend their working practices as a result, also enhancing continual improvement.</td>
</tr>
<tr>
<td><strong>Project Audits</strong></td>
<td>Are an evaluation of a specific project, measured according to DOF Group and contract requirements. The HSEQ Manager shall ensure that the project audit plans are also maintained in the common regional audit schedules. This to avoid double audits by suppliers or own organisation and to secure proper planning.</td>
</tr>
<tr>
<td><strong>Supplier Audits</strong></td>
<td>Should be based on recognised management system standards and the DOF Group requirements for suppliers and subcontractors. Supplier audits are a tool for evaluation, approval and improvement of suppliers providing services to DOF.</td>
</tr>
</tbody>
</table>
| **Global Audits**  | Are an in-depth audit of a region or business unit within the DOF Group. The main objectives of this review are:  
  - To verify compliance with Group policies  
  - To assess whether the internal control framework designed by management to cover the main risk areas of the business is sufficient and working as intended  
  - To review the operational and reporting processes |
| **Marine Audits**  | All ships operated by DOF Management, also including the main and branch offices, are subject to Annual Internal ISM/ISO/ISPS audits. The audits on board, and ashore, are to be held at intervals not exceeding twelve months. In exceptional circumstances, this interval may be exceeded by not more than three months subject to flag state approval. Internal ISM/ISO/ISPS audits shall be carried out in accordance with the Internal Audit Plan and Internal Audit Check list. The audits will be conducted by approved auditors and the criteria for the audits shall be the relevant internal requirements and regulations/standards. The completed checklists shall be reviewed by the auditor and involved personnel onboard. An Internal Audit Report will be completed and documented in the incident NC reporting system. |
| **Compliance Audits** | Compliance audits are the process of systematic examination of a quality system carried out by an internal or external quality auditor or an audit team. DOF Group's main compliance audits come in the form of ISO certification audits. |
Auditing Process

Systems and processes for auditing shall be in line with the requirement of the quality assurance audit standards, guidelines and processes.

The audit process is designed to verify that the HSEQ management arrangements are being operated and are effective in accordance with specified performance standards.

Audits may be undertaken by:

- Internal company auditors
- Client
- Regulatory bodies

The audit results will be collected and reported to the HSEQ Manager (for process compliance) and implementation of corrective action plans established. These shall include:

- Corrective actions and findings are recorded and prioritised.
- Affected employees are made aware of audit results and corrective actions.
- Corrective actions are reviewed for appropriateness prior to implementation.
- Follow-up action is monitored for timely close-out.

The review of any audit report, corrective action plan and audit close-out is undertaken by the DOF Line Management Team.

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<thead>
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<th>Before</th>
<th>Scope for audit</th>
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<tr>
<td></td>
<td>Call for audit</td>
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<tr>
<td></td>
<td>Checklist to follow</td>
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<td>Questions to be asked</td>
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<table>
<thead>
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<th>During</th>
<th>Opening meeting</th>
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<td></td>
<td>Interviewing</td>
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<td></td>
<td>Auditor’s time – define findings</td>
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<td>Close-out meeting</td>
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</table>

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<thead>
<tr>
<th>After</th>
<th>Write the report</th>
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<tr>
<td></td>
<td>Communicate</td>
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<td></td>
<td>Follow-up</td>
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<td></td>
<td>Close-out</td>
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</tbody>
</table>
Responsibility

The HSEQ Manager of each DOF business unit is responsible for their audits being planned, carried out and reported. Audits may be carried out of HSE and Quality systems or both in combination.

DOF’s internal auditors shall have completed auditor training on the relevant standards or similar training which is approved by the HSEQ Manager. Auditors conducting supplier audits shall have lead assessor training or equivalent. When required, the lead auditor shall request assistance from other auditors or technical staff to cover special processes and to evaluate technical capability.

The Designated Persons Ashore (DPAs) are responsible for developing an annual internal audit plan for their relevant fleet and to ensure that the audits are executed as planned. The Head of the HSEQ Department is responsible for ensuring that such internal audit plans are developed and are followed up by the DPAs.

Create Audit Schedule

An audit schedule for planned internal, supplier audits and evaluation of compliance audits shall be prepared at a regional level and presented to business units on an annual basis. Schedules shall have input from senior management and be subject to the approval of the Vice President HSEQ as well as being agreed upon at business unit level. The audits are scheduled on the basis of importance to the company’s operations and results from previous audits.

Unscheduled Audits

The HSEQ Manager can plan and assign unscheduled audits to be conducted when:

- Problems are encountered with the operation of the BMS
- Significant changes have to be made to the BMS
- A problem requires investigation
- Deemed necessary throughout any stage of a project

The HSEQ Manager shall ensure unscheduled audits are carried out in the same way as scheduled audits except that the period of notice to auditee may be reduced.

Prepare Audit – Audit Notification

Where appropriate, the audit leader shall prepare thorough checklists, developing an Audit Checklist template to be used during the audit which covers the general scope of the audit. The checklist and any other relevant documents shall include objective evidence to be verified. The auditor shall also give consideration to previous audit findings, performance and non-conformance which may require follow-up.
Evaluation of Compliance Audit Preparations

No audit checklists exist as such for an Evaluation of Compliance Audit due to the complexity and quantity of requirements DOF Group subscribes to as a group.

Compliance shall be audited against the criteria of listed legal and other requirements in the Legislation and Other Requirements Compliance Register. The Legislation and Other Requirements Compliance Register should be specific to the business unit undertaking the Evaluation of Compliance Audit.

It should be ensured that the evaluation of compliance process encompasses all legal and other requirements subscribed to and listed in the Business Unit Legal and Other Requirements Register on at least an annual basis.

Conduct Audit

The audit leader shall conduct the audit with due professional care. The audit shall be initiated with an “opening meeting” for introduction and general information. The audit team will then continue the audit by examining work areas and interviewing personnel, using standard audit techniques.

For an Evaluation of Compliance Audit, the standard audit techniques employed may have to be extended and varied in order to provide evidence of compliance to a particular requirement.

Evidence of activities carried out shall be compared with relevant documented procedures and records. If any informal (not documented) procedures are in use, these shall be investigated to the extent necessary.

When non-conformities or non-compliances are detected, more detailed inspections shall be carried out in cooperation with the department and/or function in question, in order to identify the cause of the non-conformity.
Tips Regarding Auditing

It’s important that you know exactly why you are conducting an interview and which goal(s) you are aiming for. Stay focused on questions and techniques which will help you achieve these goals.

- Do your homework. You will be expected to have a basic knowledge of your subject. You wouldn’t turn up for an interview with a band and ask them how many albums they have released — you should know this already. If you show your ignorance, you lose credibility and risk being ridiculed. At the very least, the interviewee is less likely to open up to you.
- Have a list of questions. This seems obvious, but some people don’t think of it. While you should be prepared to improvise and adapt, it makes sense to have a firm list of questions which need to be asked.

Of course many interviewees will ask for a list of questions beforehand, or you might decide to provide one to help them prepare. Whether or not this is a good idea depends on the situation. For example, if you will be asking technical questions which might need a researched answer, then it helps to give the subject some warning. On the other hand, if you are looking for spontaneous answers then it’s best to wait until the interview.

Try to avoid being pinned down to a preset list of questions as this could inhibit the interview. However, if you do agree to such a list before the interview, stick to it.

- Ask the subject if there are any particular questions they would like you to ask.
- Back-cut questions may be shot at the end of a video interview. Make sure you ask the back-cut questions with the same wording as the interview — even varying the wording slightly can sometimes make the edit unworkable. You might want to make notes of any unscripted questions as the interview progresses, so you remember to include them in the back-cuts.
- Listen. A common mistake is to be thinking about the next question while the subject is answering the previous one, to the point that the interviewer misses some important information. This can lead to all sorts of embarrassing outcomes.
- Dialogue: Keep the dialogue clear, precise and professional whilst engaging the auditee and putting them at ease.
- Body language: ensure you keep a good body posture. Don’t appear too relaxed or too tense.
- Dress code: dress smartly and appropriately.
- Respect the role of the lead auditor.

Clearly communicate findings and document with specific accuracy were the deficiency has been found as well the specific requirement.

Key Readings

An Audit Interview is:

- A personal, controlled conversational meeting in which an auditor obtains the required information from the auditees
- An interview is a structured conversation with a clear agenda
- It is not a law enforcement interview
- It is not an interrogation
- It is not a survey
Interviewing Do’s and Do Not’s

Do’s

- DO test the interview schedule beforehand for clarity, and to make sure questions cannot be misunderstood.
- DO state clearly what the purpose of the interview is.
- DO assure the interviewee that what is said will be treated in confidence.
- DO ask if the interviewee minds if you take notes or tape record the interview.
- DO record the exact words of the interviewee as far as possible.
- DO keep talking as you write.
- DO keep the interview to the point.
- DO cover the full schedule of questions.
- DO watch for answers that are vague and probe for more information.
- DO be flexible and note down everything interesting that is said, even if it isn’t on the schedule.

Don’ts

- DO NOT say things that are judgmental.
- DO NOT interrupt in mid-sentence.
- DO NOT put words into the interview’s mouth.
- DO NOT show what you are thinking through changed tone of voice.
- DO NOT offend the interviewee in any way.

Define and Communicate Findings

Upon completion of the audit, the preliminary results shall be summarised and presented to the auditee: This is normally done in a summary or audit closing meeting.

The audit leader shall ensure that the difference between non-conformities and improvement actions are fully understood and that all findings are agreed upon with the auditee. Target dates for implementation of corrective actions can also be agreed upon. Should it not be practical to establish the date(s) for implementation, then such dates shall be advised by the auditee to the auditor within five working days. Each finding shall preferably have a person’s name indicated; the person responsible for corrective action.
**Questioning Techniques**

The prepared checklist should provide the basic questions to which the auditor seeks answers. Nevertheless it is only an aide memoir. If asked the right questions in the right way, an auditee will often provide much of the information required. Auditors will develop their own style of investigation, but in the use of questioning there are some well proven approaches.

<table>
<thead>
<tr>
<th>Technique</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation to Talk</td>
<td>Try asking for a description:</td>
</tr>
<tr>
<td></td>
<td>“Would you please explain to me what happens here?”</td>
</tr>
<tr>
<td>Direct Questions</td>
<td>Six simple words:</td>
</tr>
<tr>
<td></td>
<td>“What do you do next?”</td>
</tr>
<tr>
<td></td>
<td>“How are these reports distributed?”</td>
</tr>
<tr>
<td></td>
<td>“Who approves the issues of these licences?”</td>
</tr>
<tr>
<td></td>
<td>“When (or how frequently) is this plan reviewed?”</td>
</tr>
<tr>
<td></td>
<td>“Where are these items stored when not in use?”</td>
</tr>
<tr>
<td></td>
<td>“Why is it done that way?”</td>
</tr>
<tr>
<td>Closed Question</td>
<td>If the auditee’s reply to a question is vague a closed question bridges</td>
</tr>
<tr>
<td></td>
<td>the gap:</td>
</tr>
<tr>
<td></td>
<td>“Does the department keep any records or customer complaints?”</td>
</tr>
<tr>
<td></td>
<td>(Auditor)</td>
</tr>
<tr>
<td></td>
<td>“Yes” (Auditee)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technique</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silent Questions</td>
<td>The silent question is surprisingly effective in getting the auditee to</td>
</tr>
<tr>
<td></td>
<td>volunteer information. The auditor, simply by asking a question and</td>
</tr>
<tr>
<td></td>
<td>then waiting, (while looking directly at the auditee) exerts</td>
</tr>
<tr>
<td></td>
<td>psychological pressure which encourages a reply.</td>
</tr>
<tr>
<td>Naïve Questions</td>
<td>By “playing dumb” the auditor may succeed in throwing off the image of</td>
</tr>
<tr>
<td></td>
<td>a fault-finding policeman.</td>
</tr>
<tr>
<td></td>
<td>“I’m afraid this looks very complicated to me.</td>
</tr>
<tr>
<td></td>
<td>Do you think you could explain it in terms I can understand?”</td>
</tr>
<tr>
<td></td>
<td>Most people will respond helpfully to such a question.</td>
</tr>
<tr>
<td>Hypothetical Questions</td>
<td>In trying to determine whether or not a process will continue to meet</td>
</tr>
<tr>
<td></td>
<td>requirements under unusual circumstances, it is worth asking:</td>
</tr>
<tr>
<td></td>
<td>“What if so and so occurs?”</td>
</tr>
<tr>
<td></td>
<td>“How would the office cope in the event of a power failure?”</td>
</tr>
<tr>
<td></td>
<td>Of course this form of question is appropriate only where the</td>
</tr>
<tr>
<td></td>
<td>potential circumstance are realistic and relevant to the activity</td>
</tr>
<tr>
<td></td>
<td>being examined.</td>
</tr>
</tbody>
</table>
Active listening techniques

- Encourage
- Restate
- Reflect
- Summarize

## Encourage

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Convey interest. Keep person talking.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Do not agree or disagree. Non committal with a positive tone of voice.</td>
</tr>
<tr>
<td>Example</td>
<td>I see. Uh-huh…That is interesting.</td>
</tr>
</tbody>
</table>

## Restate

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Shows that you are listening and that you grasp the fact.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Restate person’s basic ideas, emphasize facts.</td>
</tr>
<tr>
<td>Example</td>
<td>If I understand, your idea is to….? In other words, this is your decision.</td>
</tr>
</tbody>
</table>

## Reflect

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Shows that you are listening and understand how they feel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Reflect the person’s basic feelings.</td>
</tr>
<tr>
<td>Example</td>
<td>I got the impression that You feel that …. Is not functioning as intended?</td>
</tr>
<tr>
<td>Summarize</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td></td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Pull import and ideas, facts etc. Establish a basic for further discussions.</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Restate, reflect and summarize major ideas and feelings.</td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td>These seems to be the key ideas you have expresse.</td>
</tr>
</tbody>
</table>

### Task

**A** – Practice an interview around a self chosen theme with your friend/colleague.

**B** – Exercise on using the four active listening techniques demonstrated in class;
- Encourage
- Restate
- Reflect
- Summarize

**C** – Present your experience in plenum.

**Time:** 10 minutes x 2 = 20 minutes
Write and Distribute Audit Report

The Audit Report shall faithfully reflect both the tone and content of the audit. The Audit Report template shall be used. Once complete it shall be checked by the co-auditors and the HSEQ Manager, signed and dated by the audit leader and the HSEQ Manager and then issued to the auditee. The report shall clearly identify:

- Audit Report Number
- Audit Date
- Audited Organisation & the Representative
- Audit Team Members
- Purpose and Scope of the Audit
- Persons Interviewed
- Identification of audited systems, activities, legislative or ‘other’ requirements and documents
- Description of findings, non-conformities, non-compliances and areas for improvement

Task

Group of 3-4 persons:
- Fill in a call for audit
- Make a checklist either for a supplier audit / project audit
- Make a final report

Ice-breaker:
- Take one participant into the corridor and make him read a written notice.
  - The participant tells another participant what was on the note, and then the next etc.
  - The last person to receive the message writes the message down and the group sits down to compare their notes.
What are monitoring and evaluation?

Although the term “monitoring and evaluation” tends to get run together as if it is only one thing, monitoring and evaluation are, in fact, two distinct sets of organisational activities, related but not identical.

Monitoring is the systematic collection and analysis of information as a project progresses. It is aimed at improving the efficiency and effectiveness of a project or organisation. It is based on targets set and activities planned during the planning phases of work. It helps to keep the work on track, and can let management know when things are going wrong. If done properly, it is an invaluable tool for good management, and it provides a useful base for evaluation. It enables you to determine whether the resources you have available are sufficient and are being well used, whether the capacity you have is sufficient and appropriate, and whether you are doing what you planned to do.

Evaluation is the comparison of actual project impacts against the agreed strategic plans. It looks at what you set out to do, at what you have accomplished, and how you accomplished it. It can be formative (taking place during the life of a project or organisation, with the intention of improving the strategy or way of functioning of the project or organisation). It can also be summative (drawing learning from a completed project or an organisation that is no longer functioning). Someone once described this as the difference between a check-up and an autopsy!
What monitoring and evaluation have in common is that they are geared towards learning from what you are doing and how you are doing it, by focusing on:

| **Efficiency** | Tells you that the input into the work is appropriate in terms of the output. This could be input in terms of money, time, staff, equipment and so on. |
| **Effectiveness** | Is a measure of the extent to which a development programme or project achieves the specific objectives it set. |
| **Impact** | Tells you whether or not what you did made a difference to the problem situation you were trying to address. In other words, was your strategy useful. |

**Monitoring HSEQ**

A set of Key Performance Indicators (KPI) has been developed to effectively monitor HSEQ performance.

The metrics are aimed at driving further improvements in our HSEQ performance. This is achieved by maintaining a balance of leading and lagging indicators that will be used to monitor overall performance throughout the year.

- **Lagging safety statistics** – Total recordable incident rate (TRIR)
  - Fatal accident rate (FAR)
  - Lost time incident frequency rate (LTIFR)
  - A breakdown of direct causes of LTIs into a number of categories
  - Direct causes of lost time injuries (LTIs)

- **Leading safety statistics** – Safety observations frequency rate (SOFR)
  - Injury events, reporting activity level (RAL)
  - Management visits rating (MVR)
  - Lessons learnt rating (LLR)

The Global inputs and outputs for HSE, Quality and product realisation are provided in the tables on next page.
## HSE Metrics

<table>
<thead>
<tr>
<th>HSE Input/Outputs</th>
<th>Global Targets 2013 Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of LTIs</td>
<td>0</td>
</tr>
<tr>
<td>Lost Time Injury Frequency Rate (LTIFR)</td>
<td>&lt; 0.4 / 1,000,000 man-hours</td>
</tr>
<tr>
<td>Total Recordable Case Frequency Rate (TRCF = LTI, RWC, MTC)</td>
<td>&lt; 1.5 / 1,000,000 man-hours</td>
</tr>
<tr>
<td>First-Aid Cases</td>
<td>&lt; 10 / 1,000,000 man-hours</td>
</tr>
<tr>
<td>Accidental Spill of more than 100 litres to external environment</td>
<td>0</td>
</tr>
<tr>
<td>Safety Observation Rate</td>
<td>400 / 200,000 man-hours</td>
</tr>
<tr>
<td>Observation Close-Out</td>
<td>90% of observations closed by Worksite Management within 90 days</td>
</tr>
<tr>
<td>Environmental Aspects</td>
<td>&gt; 2 significant environmental aspects under active improvement regime in all regions</td>
</tr>
<tr>
<td>Working Environmental Surveys</td>
<td>Conduct bi-annual working environment survey and establish regional goal accordingly</td>
</tr>
<tr>
<td>Emergency Response Exercises - Level 2s</td>
<td>2 per region per year</td>
</tr>
<tr>
<td>HSEQ Management Visits</td>
<td>4 visits / 200,000 man-hours</td>
</tr>
</tbody>
</table>
### Quality Metrics

<table>
<thead>
<tr>
<th>Quality Input/Outputs</th>
<th>Global Targets 2013 Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Learned</td>
<td>6 reports / 200 000 man-hours</td>
</tr>
<tr>
<td>Internal Audits</td>
<td>90% of audits completed by the end of the year</td>
</tr>
</tbody>
</table>

### Product realization metrics

<table>
<thead>
<tr>
<th>Quality Input/Outputs</th>
<th>Global Targets 2013 Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available operative time for VESSEL - Time in % when vessels are in an operating mode and under contract with a client = &lt; 3 %. Downtime for client due to vessel availability.</td>
<td>&gt; 97%</td>
</tr>
<tr>
<td>Available operative time for ROV - Time in % when ROV is in an operating mode and under contract with a client = &lt; 3 %. Downtime for client due to ROV availability.</td>
<td>&gt; 97%</td>
</tr>
</tbody>
</table>
Lessons learned

Management within the DOF Group should continually seek to improve the effectiveness and efficiency of the processes within the organization, rather than wait for a problem to reveal opportunities for improvement. Improvements can range from small-step ongoing continual improvement to strategic change required within an organisation or a worksite. The DOF Group manage this through Experience Transfer and this should be performed regularly during operations and always after a completed project.

The Experience Transfer allows us to identify and manage improvement activities. These improvements may result in change to the product or processes and even to the quality of documentation within the Business Management System. It is also important that the lessons learned are shared within specific areas of the group.

An organization is genuinely committed to living the Lessons Learned philosophy, if:

- They use the Lessons Learned process to develop and improve procedures, practices, and processes to an optimised level.
- They commit sufficient and appropriate resources and time to develop suitable solutions to eliminate problem areas and to embed best practice initiatives.
- The Lessons Learned can be properly qualified, accurately and consistently quantified in order to manage and implement the necessary changes associated with the area(s) under review.
- The outcomes / solutions to be implemented are pertinent to, and fully address, the area(s) under review.

Statement from Edward Leet – Quality Manager Asia Pacific.
Lesson learned

Yes, I was burned but I called it a lesson learned
Mistake overturned so I called it a lesson learned
My soul has returned so I call it a lesson learned
Another lesson learned

It's alright, it's alright, it's alright
It's alright, it's a lesson learned
It's alright, it's alright, it's alright

_Song lyrics by Alicia Keys_

Photo: Victoria Will / Invision / AP / NTB Scanpix.
Management Review

Purpose

The purpose of the Management Review is to ensure the continued suitability, adequacy, effectiveness and improvement of the BMS. This section describes how the Management Review is organised, planned, executed and how decisions are followed-up.


What should be discussed during Management Review Meetings?

Management review is an extremely important criterion for the success of your management system and your most significant source for improvements. You should focus your attention on “trends, objective evidence and data-based decisions”, not on daily operations.

We recommend the following topics be included in your management review agenda:

- Follow-up Actions: from previous management review meetings
- Quality Assurance Report: including non-conforming/hold/rework product data, and regulatory issues
- Equipment/Maintenance: may include calibration information, repair & maintenance trending data, equipment downtime
- Subcontractors: subcontractor problems and actions, subcontractor trends
- Customer Complaints: summary of complaints for trending of feedback, issues and resulting actions
• Corrective and Preventive Actions: type & source of issues, areas most commonly having issues, trends of root causes, reoccurring problems
• Internal Auditing: audit results, audit schedule, non-conformances by area and ISO clause
• Planning: upcoming projects, status of ongoing projects, significant changes including staffing
• Resources: people & training, facility, and equipment
• Improvement: review of management system policy, objectives and overall management system effectiveness and improvement of the system and your product.

Different standards do require some additional topics for management review. Please review your standard requirements.

How often should we have Management Review Meetings?

There is no specific requirement for the frequency of management review meetings. We recommend quarterly meetings. This allows you to stay on top of upcoming issues and collect data between meetings that is meaningful. We have found that annual meetings are not adequate for all business units. With annual meetings, you may not be able to prevent issues or resolve issues in a timely manner.

What record do we need of our Management Review Meetings?

Try to keep good, detailed records of what was discussed, what conclusions were reached and what actions are needed. If you have set up your meetings around your objectives, then for each topic at the meeting ask the following questions:

• What is your measurement?
• What is your objective?
• How are you doing?
• Are there any trends?
• Is there any action needed (e.g. people, process, materials, equipment)?
• Is there anything else we should consider?

This allows you to spend time on the items needing attention. Keep notes of your answers.
Agenda used for management review in the DOF Group

1. Action items from previous Management Review meeting
2. Suitability of Policies and Current Objectives
3. Results of Internal and External Audits
4. Safety & Occupational Health Performance of the Organisation
5. Quality Performance of the Organisation
6. Environmental Performance of the Organisation
7. Results of Evaluations of Compliance with Legal and Other Requirements
8. Process Performance - Conformity/Non-Conformity
9. Product Performance - Conformity/Non-Conformity
10. Customer Feedback - Positive & Negative
11. Corrective Action Status
12. Preventive Action Status
13. Changes that Affect BMS & EMS
14. Recommendations for improvement, including customer related requirements, & resource needs
15. AOB
Further Readings
For further information about audits, search for Audit in our BMS system:
• Internal Audit Schedule
• External Audit Schedule
• Template - Audit Notification and Agenda
• Checklist - Audit
• Form - Legislation and Other Requirements Compliance Register
• Template - Audit Report
• Checklist - Internal Quality Management System Audit (ISO 9001: 2008) - Clause 8.2.2 Internal Audit
• Checklist - ISO 14001: 2004 audit - Clause 4.5.5 Internal Audit
• Checklist - OHSAS 18001: 2007 audit - Clause 4.5.5 Internal Audit

Key points from this module are
• Periodic audits of procedures and systems of work are key to ensure that objectives, targets and operational plans are being appropriately implemented and maintained
• There are several different types of audit;
  - Quality Audits
  - Project Audits
  - Supplier Audits
  - Global Audits
  - Marine Audits
  - Compliance Audits
• Being well prepared and aware of the Do's and Don't's is vital to conduct successful audit interviews
• Lessons Learned
• Monitoring and Evaluation
• Management Reviews are conducted on a regular basis to ensure the continued suitability, adequacy, effectiveness and improvement of the BMS.
## Audit Notification / Agenda

### NOTIFICATION

<table>
<thead>
<tr>
<th>To:</th>
<th>Insert Name / Title, Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>From:</td>
<td>Insert Name / Title, Company</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit class:</th>
<th>Internal</th>
<th>Supplier (External)</th>
<th>(Tick off)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>AUDIT ORGANISATION:</th>
<th>Insert organisation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DATE(S) OF AUDIT AND PLANNED DURATION:</th>
<th>Insert date(s) and time/duration</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>AUDIT LOCATION:</th>
<th>Insert location (address)</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>REPRESENTATIVE OF AUDITED ORGANISATION:</th>
<th>Insert name and position (title)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>REFERENCE DOCUMENTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Insert document no. and title</td>
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<table>
<thead>
<tr>
<th>DISTRIBUTION:</th>
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</thead>
<tbody>
<tr>
<td>• Insert name, position (title) and company</td>
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<table>
<thead>
<tr>
<th>AUDIT CRITERIA:</th>
<th>(Tick off the criteria used)</th>
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<tbody>
<tr>
<td>□ ISO 9001</td>
<td>□ Business Management System</td>
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<tr>
<td>□ ISO14001</td>
<td>□ Purchase Orders</td>
</tr>
<tr>
<td>□ OHSAS 18001</td>
<td>□ Frame Agreements</td>
</tr>
<tr>
<td>□ ISO 20000</td>
<td>□ Client Contracts</td>
</tr>
<tr>
<td>□ ISO 27002</td>
<td>□ Financial Standards</td>
</tr>
<tr>
<td>□ Laws and regulations</td>
<td>□ Best practice</td>
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<tr>
<td>□ Other criteria, specify:</td>
<td></td>
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<table>
<thead>
<tr>
<th>AUDIT OBJECTIVE:</th>
<th>Insert description of audit objective</th>
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<thead>
<tr>
<th>AUDIT TEAM:</th>
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<tbody>
<tr>
<td>• Insert audit team members (identify lead auditor)</td>
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</table>

<table>
<thead>
<tr>
<th>PARTICIPANTS:</th>
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<tbody>
<tr>
<td>• Insert participant's name and position (title)</td>
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<table>
<thead>
<tr>
<th>REQUIRED INFORMATION:</th>
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</thead>
<tbody>
<tr>
<td>• Required information for preparation/document control</td>
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<tr>
<th>HSE:</th>
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<tbody>
<tr>
<td>• Insert any HSE related expectations if applicable</td>
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Appendix – Audit Report

AUDIT – GENERAL IMPRESSION
➢ Insert key points of overall impression from audit

AUDIT – RESULTS

<table>
<thead>
<tr>
<th>No. of NCR’s:</th>
<th>No. (No. Major / No. Minor)</th>
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<tbody>
<tr>
<td>No. of Observations:</td>
<td>No.</td>
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<tr>
<td>No. of Noteworthy efforts:</td>
<td>No.</td>
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<table>
<thead>
<tr>
<th>Degree of control</th>
<th>High 5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>Low 1</th>
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MAIN FINDINGS (Main NCR’s and Observations):
➢ Insert main findings

POSITIVE INDICATORS (Main Noteworthy efforts):
➢ Insert main positive indicators

AUDIT – INSTRUCTIONS FOR CLOSURE

Deadline for feedback: dd.mm.yyyy (See also attached findings list)

Required feedback on non-conformities (Major / Minor):
➢ Corrective action and implementation plan to be presented.

Feedback on observations:
➢ Response requires comments or intention of follow-up. Area can be subject for next audit.
Appendix – Audit Checklist

<table>
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<th>REFERENCE</th>
<th>AUDIT QUESTION</th>
<th>FINDINGS</th>
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Appendix – Audit Checklist

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Acknowledgement

This workbook has been developed by Camilla Heggøy, David Filshie, Stener Irgens, Stein-Håkon Halmøy, Jacqui Newman, John Burnham, Anita Martinsen, Stig Clementsen and MK Norway.

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