

# Fundamental Safety Training for Offshore Personnel

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## Foreword

The protection of life and the environment are fundamental objectives for offshore operations. The high risks associated with offshore operations demand a corresponding emphasis on safety and environmental protection. Offshore operators and contractors meet this challenge by developing and implementing policies, standards, practices, and/or procedures that provide the necessary protection for offshore personnel and the environment.

A major component of these safety and environmental protection measures efforts includes defining and providing proper training for all personnel who work offshore. An issue of particular concern is one of personnel transiting and/or working offshore for the first time. Personnel who work in the offshore environment should receive fundamental safety training to assure that they have the knowledge, skills, and/or abilities necessary to safely perform their assigned roles and tasks.

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## Introduction

This recommended practice describes the elements of an effective training system, which includes the identification of training needs, the systematic implementation and review of training methods and content, and the assessment of training.

The offshore oil and gas industry has long recognized the need for ensuring that personnel working offshore are adequately prepared. Critical to this preparation is training that will provide for safe and consistent performance of activities and tasks in support of offshore operations.

To this end, a training system that methodically manages training requirements is key to assuring that work can be performed in a safe and environmentally responsible manner. Training should be systematically developed, delivered, reviewed, and improved to ensure that it can continue to support safe operations.

This recommended practice also describes recommended fundamental safety training for offshore personnel and the recommended frequency. This training is essential to working safely and in an environmentally responsible manner in an offshore environment.

The company should verify that the training (internal or external) is relevant, current, and supports achievement of desired outcomes.

# Fundamental Safety Training for Offshore Personnel

## 1 Scope

This recommended practice provides guidance on the components of an effective training system related to offshore health, safety, and environment (HSE). A common safety training matrix is provided that outlines the fundamental recommended HSE training for offshore personnel. This matrix can be used in conjunction with other applicable recommended training and company-specific requirements.

**NOTE** This recommended practice is focused on the components of an effective training system, which can be used to manage any type of training. Annex A lists the fundamental safety training and frequencies recommended to work offshore. The need for additional specific safety or technical training is outside the scope of this document.

## 2 Normative References

There are no normative references in this document.

## 3 Terms and Definitions

There are no defined terms in this document.

## 4 Determination of Training Needs

### 4.1 General

Training and development are an important part of a company's ability to effectively manage its risks, including operational, HSE, financial, and reputational risks. Determining the proper training is essential to ensuring that the appropriate knowledge, skills, and/or abilities are transferred to the workforce such that they can perform their duties proficiently, safely, and in an environmentally responsible manner. This determination should also result in training that is fit-for-purpose and meets the company's requirements.

### 4.2 Training Needs Considerations

Different types of work require different types of training. The nature, scope, and type of work should be the primary considerations when determining training needs. In addition to the nature and scope of the work, considerations should include other internal and external factors that can influence the type, delivery, and duration of the training. The following should be considered in determining the types and frequencies of training.

- a) The nature and scope of the work: Different types of work and/or tasks can lead to exposure to different types of risks and hazards (e.g. loss of containment, hydrogen sulfide [H<sub>2</sub>S], specific electrical hazards, tripping pipe, production, construction, etc.).
- b) The desired training outcomes: The desired outcomes of the training can influence the types of training delivered (e.g. awareness, practical demonstration, proficiency, safe execution of task/activity, compliance, etc.).
- c) The level of current knowledge, skills, and/or abilities: The level of knowledge, skills, and/or abilities currently possessed by the trainee(s).
- d) The types of knowledge, skills, and/or abilities being taught: The type of required knowledge, skills, and/or abilities can influence the type of training to be provided (e.g. physical endurance, language understanding, etc.).



- e) Site-specific hazards: Site-specific hazards will impact the work and can require specialized training to account for new or different hazards (e.g. adverse weather, drill floor vs. galley, deep water vs. shallow water, indoor vs. outdoor, etc.).
- f) Internal and external requirements: There may be internal or external requirements beyond the work-specific training that may necessitate specific additional training (e.g. company requirements, customer requirements, local or regulatory requirements, industry practices, etc.).
- g) Roles, responsibilities, and authorities: Different job responsibilities may require different levels of training (e.g. roustabout vs. assistant driller, supervisor vs. non-supervisor, office vs. field, support vs. operational, etc.).
- h) Work and task frequencies: The regularity with which the work/task is performed may impact the ability to retain the knowledge, skills, and/or abilities being taught (e.g. routine vs. non-routine, planned vs. emergency, frequent vs. infrequent, routine operations vs. simultaneous operations [SIMOPs], etc.).
- i) Training time: The time it takes to complete all of the required training, and the time lapse between training, can impact the capacity to retain the knowledge, skills, and/or abilities being taught (e.g. employee rotations, when to deliver training, etc.).
- j) Training environment: The environment in which the training will take place (e.g. field vs. office, technological constraints, virtual vs. in-person, distance learning vs. classroom, etc.).

### 4.3 Identification of Training Needs

An analysis of training needs will help companies identify what types of training are necessary, as well as how often to deliver the training. This analysis should incorporate the considerations listed in 4.2, and can help provide the following.

- a) Assess the current level of proficiency: The analysis of training needs can help evaluate the current level of proficiency and if/where gaps exist.
- b) Confirm whether training is needed: The analysis of training needs should identify if training is the right solution to resolve identified gaps in knowledge, skills, and/or abilities.
- c) Determine the content and scope of training: The analysis of training can help determine the specific content, frequency, and extent of training content.
- d) Establish the basis of evaluating success: The analysis of training can establish the criteria on how to measure the effectiveness of training.
- e) Determine the methods of training: The analysis of training should include a determination of the best method of delivery, including the training environment, the training method, the required qualifications of trainers, etc.
- f) Identify and analyze training needs: A wide variety of methods may be used to identify and analyze the need for training (e.g. analysis of work to be executed, questionnaires, interviews, input from subject matter expert(s), internal and external learnings, etc.).

## 5 Components of Training Systems

### 5.1 General

Similar to the identification of training needs, the diversity of companies, operations, risk tolerances, and business needs in the offshore oil and gas industry do not allow for a single training program, system, or style. To be effective, training systems should be specific to a company's needs, operations, and desired outcomes.

However, effective training systems across companies share certain common components. Although these components vary in name, implementation, and management, they share a set of common characteristics that help ensure the identified training is current, accurate, and producing the intended results.

The minimum components of an effective and systematic training system are listed in the following and are described in more detail in the subsequent sections.

- a) Identification of learning objectives and performance objectives: determining the desired outcomes, including the knowledge, skills, and/or abilities the trainee(s) should be able to demonstrate at the conclusion of the training (see 5.2).
- b) Methods of delivery: understanding which techniques and materials should be used to convey instruction to facilitate learning experiences and achieve desired outcomes (see 5.3).
- c) Frequency and scheduling: identifying the periodicity of training to ensure that the knowledge, skills, and/or abilities necessary to perform offshore work are adequately retained and/or meet current requirements (see 5.4).
- d) Qualification of trainers and training providers: establishing the required knowledge, skills, and experience of those providing the training to assure that the trainers can effectively deliver the training content (see 5.5).
- e) Training records: identifying the records that should be retained, including the method, accessibility, and period of retention, that provide appropriate proof of the training (see 5.6).
- f) Continual improvement: discovering, evaluating, and implementing improvement opportunities to ensure that the training is focused on delivering the most current, accurate, and effective information (see 5.7).
- g) Evaluating training: determining a systematic method to evaluate both the trainee(s) and the training to ensure that the trainee(s) is learning the information and that the training is effective at achieving the intended results (see Section 4).

Companies should have a process to approve training, including training that has already been developed (i.e. training from an external source), and to assure that it meets the company's needs and desired outcomes. The company should also have a process to approve deviations and/or exclusions if deemed applicable. These processes may use accrediting bodies, generally recognized industry norms and standards, regulatory requirements, and other externally developed criteria, in addition to internal requirements.

The rest of Section 3 describes these components [items a) through f)] in more detail. Section 4 describes training evaluation [item g)] in more detail.

## 5.2 Identification of Learning and Performance Objectives

### 5.2.1 General

Learning and performance objectives are essential to good training design and set the expectations for the training. Learning and performance objectives define what knowledge each trainee is expected to know and/or demonstrate at the end of the training (or training module).

The company should verify that the learning and performance objectives are relevant, current, and achieve the desired outcomes.

Learning objectives and performance objectives are typically differentiated by the areas of knowledge, skills, and abilities they address, as follows.

- a) Learning objectives address knowledge, specifically how well the content of the training is understood and retained. This is typically a cognitive exercise. Learning objectives cover the information that the trainee(s) needs to understand at the end of the training and should answer the question: "What do you need to know?"

EXAMPLE "Trainee(s) will be able to explain the procedure to safely operate a forklift."

- b) Performance objectives address skills and abilities, specifically how well the knowledge can be demonstrated in performing a task. This area is typically a physical exercise. Performance objectives are the success

criteria that must be demonstrated by the trainee(s) and should answer the question: “What do you need to do?”

EXAMPLE “Trainee(s) will be able to operate a forklift safely per procedure.”

- c) Performance criteria are the measures by which the learning and performance objectives are assessed against the desired outcomes, and should not be confused with performance objectives. The performance criteria help evaluate how well the knowledge is understood and the level to which skills and abilities are demonstrated and answer the question: “How well can you do what you need to do?”

EXAMPLE “The degree to which the trainee(s) operated the forklift safely per procedure.”

Learning and performance objectives should be communicated to the trainee(s) before the training starts so the trainee(s) knows what the training content is, what the trainee(s) is expected to know and demonstrate at the end of the training, and how the learning will be evaluated.

Learning and performance objectives should be linked to the identified training needs, and should be assessed to ensure that they are meeting the company’s desired outcomes.

### 5.2.2 Structure of Objectives

Learning and performance objectives should be specific, measurable, and documented to ensure that the desired results are clear, well-understood, and assessable. The objectives should include the following components.

- a) The specific knowledge, skills, and/or abilities the trainee(s) is expected to demonstrate—the what.
- b) A verb that indicates how the trainee(s) will demonstrate acquisition of the new knowledge, skill, and/or ability—the how.
- c) The timeframe (if appropriate) by which the trainee(s) will have acquired the knowledge, skill, and/or ability—the when.

## 5.3 Methods of Delivery

### 5.3.1 General

Training delivery methods consist of techniques and materials used by instructors to structure learning experiences and achieve the identified learning objectives. Training on a specific subject may use more than one delivery method to deliver the training; the company should determine the best method(s) to use. The delivery method typically takes into account:

- a) the content being delivered;
- b) the desired level of understanding of the learning objectives;
- c) who is being trained;
- d) organizational, customer, and regulatory requirements;
- e) other factors that may impact how the trainee(s) learns and retains information.

Training delivery methods include, but are not limited to, the methods described in 5.3.2 through 5.3.6.

### 5.3.2 Instructor-led training

Instructor-led training is led or facilitated by an instructor in a classroom (ILT) or through the use of technology conferencing (virtual ILT). ILT involves an instructor delivering the training directly to the trainee(s), either face-to-face or virtually. Common ILT methods include, but are not limited to:

- a) lecture,
- b) discussion,
- c) facilitation,
- d) role play, and
- e) case studies.

### **5.3.3 e-Learning**

e-Learning is training that is interactive and delivered through a computer, mobile device, tablet, simulator, virtual-reality device, or other technological/electronic means. Common e-learning methods include, but are not limited to:

- a) computer-based training (CBT),
- b) simulation (through either a virtual simulator or a standalone, lab-based simulator),
- c) virtual-reality software and devices,
- d) online case studies, and
- e) multimedia (i.e. videos).

### **5.3.4 Hands-on Training (Experiential Learning)**

Hands-on training is delivered through active, physical participation by trainee(s) that provides practical experience that typically is task-based. Training is typically delivered at a job site, simulated job site, or lab, using equipment, products, and/or processes similar to those that will actually be used. A common hands-on training method includes on-the-job training (OJT), which involves the trainee(s) performing actual work under the direction of more experienced personnel who provide mentoring, instruction, and supervision. Other hands-on training methods include, but are not limited to,

- a) practical demonstrations,
- b) simulated performance, drills, and
- c) field coaching.

### **5.3.5 Self-Paced Training**

Self-paced training is conducted independently or with a small group or team, without direct instructional guidance. Typically, self-paced, non-electronic learning is conducted on the trainee's own time. Common methods include, but are not limited to:

- a) handbooks,
- b) handouts,
- c) worksheets,
- d) a "field trip" or tour, and
- e) assigned projects.

### 5.3.6 Blended Training

Blended training uses a combination of training delivery methods. The blended approach is typically recommended in order to address the different learning styles and the trainee's responsiveness to different training modes and methods. Blended training typically more closely resembles the way people learn and retain information. Common ways to blend training include, but are not limited to:

- a) combining ILT with e-Learning,
- b) combining ILT with hands-on training, and
- c) combining hands-on training with self-paced training.

## 5.4 Frequency and Scheduling

### 5.4.1 General

A company should determine when training is initially required and the frequency of retraining, if applicable. Companies may refer to accrediting bodies, generally recognized industry norms and standards, regulatory and/or legal requirements, industry and incident learnings, and other externally developed criteria to help in these determinations, as well as a company's internal requirements.

When determining when and how often to train, companies should consider 5.4.2 through 5.4.5.

### 5.4.2 Timing of Initial Training

The knowledge and skills required by affected personnel should be identified and documented prior to initial training. Initial training shall be provided to affected personnel before the first assigned duty. The desired level of information retention should be considered when determining the timing of the initial training.

### 5.4.3 Site-specific Orientation

Initial site-specific orientation shall be provided to personnel prior to or after arriving at the site. Site-specific orientation shall include reference to the relevant HSE risks. Site-specific orientation should consider training identified by the site. Typically, site-specific orientation should be used as an awareness-raising tool and should not be used to train personnel on requirements.

### 5.4.4 Frequency of Training

The frequency of training should be identified and documented at the time the training is initially developed. The following should be considered when determining training frequencies:

- a) generally recognized industry norms and standards;
- b) externally developed criteria, including regulatory requirements, customer requirements, learnings, and/or other externally developed criteria;
- c) the desired level of information retention;
- d) the type of equipment or technology being used;
- e) the risk, complexity, and frequency of the task or activity being performed;
- f) learnings from incidents, events, or industry.

The availability of training time, personnel, and resources should be considered when determining the training schedule.

### 5.4.5 Managing Changes in Timing and/or Frequency

The following should be considered when reviewing the timing and/or frequency of training:

- a) changes in generally recognized industry norms and standards;
- b) changes in externally developed criteria, including regulatory requirements or customer requirements;
- c) changes to a company's operations, equipment, or processes and procedures;
- d) learnings from incidents, events, or industry that indicate that personnel may not have the necessary knowledge, skills, and abilities;
- e) the results from training assessments (see Section 4).

## 5.5 Qualifications for Trainers and Training Providers

### 5.5.1 General

Qualified trainers are required to effectively convey training content in a manner that is understood by the trainee(s) and meets the learning objectives. Such qualifications may be developed internally or may come from accrediting bodies, generally recognized industry norms and standards, regulatory and/or legal requirements, and other externally developed criteria.

Companies should determine what qualifications are necessary to deliver training that is current, reliable, and achieves the intended results. Companies also should determine how these qualified trainers are selected and approved. The company is ultimately responsible for verifying that the training is being delivered, the training is meeting the company's requirements, and that the desired outcomes are being achieved.

An effective training system should help facilitate the selection of qualified trainers and training providers. It will also help assess the trainers to assure that they are meeting applicable requirements and are effective in delivering the training.

### 5.5.2 Selecting Trainers

Effective training systems should consider the following when determining, selecting, and approving qualifications and qualified trainers:

- a) the company's requirements, including the definition of qualified training and who can provide that training (i.e. qualified trainer);
- b) the learning and performance objectives for the training;
- c) the availability of appropriate training resources that can meet the company's qualification and scheduling requirements;
- d) the roles and responsibilities of those providing training;
- e) the roles, responsibilities, and authorities of those approving trainers and verifying qualifications and/or certifications;
- f) how changes to qualification requirements will be incorporated;
- g) how trainers will be assessed to ensure quality and consistency.

### 5.5.3 External Training Providers

Training may come from a variety of approved sources, including external (i.e. third party) training providers. Effective training systems should consider the following when determining, selecting, and approving external training providers:

- a) the company's requirements, including the requirements for use of external training providers;
- b) accrediting bodies, generally recognized industry norms and standards, regulatory and/or legal requirements, and customer-specific criteria;
- c) the training provider's processes, including those used to develop, approve, and maintain training, and conduct training in a safe and effective manner;
- d) the training provider's processes to qualify and verify trainers, including any credentials and certifications;
- e) the availability of appropriate training resources, including qualified trainers, who can meet the company's qualification and scheduling requirements;
- f) how the training provider assures that the training content is current, accurate, and relevant;
- g) how training equipment and facilities are verified to be safe and fit-for-purpose;
- h) how changes to training are incorporated, including those identified as improvement opportunities;
- i) how training providers assess the trainee(s), trainer(s), and training to ensure that the intended results are being achieved and how the need for training remediation (if necessary) is determined;
- j) how records are managed.

## 5.6 Training Records

### 5.6.1 General

An effective training system establishes and implements a system(s) for recordkeeping to ensure that training records are maintained in a manner sufficient to verify training and that the records are retained for the appropriate amount of time. Companies may refer to accrediting bodies, generally recognized industry norms and standards, regulatory and/or legal requirements, customer requirements, and other criteria in determining how long and in what form to retain training records.

Other factors to consider when designing, implementing, and maintaining the training records system(s) are discussed in 5.6.2 through 5.6.7.

### 5.6.2 Availability

Training records should be easy to locate, readily identifiable, quickly retrievable, and legible to those that check, review, update, and/or use the training records. Training records should be easily accessible at the location(s) that require such access.

### 5.6.3 Accessibility

Training records often contain confidential information that is not meant for general industry use. The training records system(s) should be designed to manage records and restrict access to specific confidential information to those with authority to retrieve, including those records that are portable or employee-specific (vs. company-specific).

#### **5.6.4 Retention**

Training records should be stored in a manner and for a time consistent with applicable industry norms and standards, regulatory and/or legal requirements, and customer requirements. Records should be accessible during the record retention period. Different trainings may have different retention times; these should be identified in the system.

#### **5.6.5 Reviewability**

Training records should be retained in a manner that allows for periodic review and revisions as necessary.

#### **5.6.6 Tracking**

The training records system should track training and training frequencies, and indicate when refresher or periodic training is required. This may be done automatically or manually.

#### **5.6.7 Form/Type**

Training records may be stored in many different forms, including paper records, electronic records, or other forms deemed acceptable. Regardless of the form chosen, all records should be available.

### **5.7 Sustainability and Continual Improvement**

#### **5.7.1 General**

Sustainability involves the systematic review of training systems, identifying needs or opportunities to assure that the training continues to meet the desired objectives. Continual improvement refers to assessing the training to identify opportunities for improvement, including improvements to the training, trainers, and training system.

#### **5.7.2 Improvement Cycle**

##### **5.7.2.1 General**

A cycle based on planning, doing, reviewing, and improving can be used to continuously manage the training system to assure that it remains effective and to verify that opportunities for improvement have been identified and resolved.

##### **5.7.2.2 Planning Stage**

The Planning stage is where a strategy is created to deliver the highest-quality training current with regulatory and/or legal requirements or industry-proven practices. This stage includes the potential to introduce new training, revise existing training, and remove obsolete training. Factors include the training-needs considerations listed in Section 4, the systemic training system component recommendations listed in Section 5, and the results of the training assessments described in Section 6.

##### **5.7.2.3 Doing Stage**

The Doing stage is where training is scheduled and conducted. This stage includes implementation and delivery of the training. Factors include the identification of learning and performance objectives (see 5.2) and the methods of delivery (see 5.3).

##### **5.7.2.4 Reviewing Stage**

The Reviewing stage is where training systems, including the training content and training outcomes, are systematically examined with the purpose of identifying opportunities for improvement. This stage includes the training assessment and management review of both specific training and the training system as a whole. Factors include the results of the training assessments and evaluations described in Section 6, and the review of actual performance.



### 5.7.2.5 Improving Stage

The Improving stage is where improvement opportunities are identified and appropriately resolved. This stage includes identifying, evaluating, and resolving identified opportunities for improvement; recognize that not all identified opportunities will lead to changes in the training. Factors include the results of training assessments, evaluations described in Section 6, and the review of actual performance.

### 5.7.3 Sources for Improvement Opportunities

Opportunities to sustain and improve training may come from the following sources:

- a) audits and assessments;
- b) performance reviews;
- c) ongoing engagement with regulatory bodies;
- d) industry practices;
- e) training assessments;
- f) analysis of feedback from stakeholders, including the trainee(s);
- g) analysis of complaints/concerns;
- h) lessons learned, including from incident investigations, industry learnings, and other sources;
- i) changes in work scope and nature;
- j) changes in customer requirements.

## 6 Evaluating Training

### 6.1 General

Assuring the adequacy and effectiveness of training systems is a significant contributor in ensuring that the training is, and continues to be, effective at achieving the desired results. This is primarily done via training assessments, including assessments of the trainee(s), trainer(s), the training content, and the training system. These assessments should be focused on understanding how well the training objectives have been achieved.

### 6.2 Training Assessment

#### 6.2.1 General

Training assessments are as varied as the training recommendations and methods already described, but share certain common characteristics. These characteristics focus on evaluating the level of retention and understanding, evaluating the training content, and evaluating the effects and outcomes of the training.

The data that is generated as a result of the training assessments should be used to assure that the training is continuing to achieve the desired outcomes and to identify opportunities for improvement, as described in 5.7. The data can be quantitative, qualitative, or a mix of both types.

Each of these characteristics is described in more detail in 6.2.2 through 6.2.4.

### 6.2.2 Evaluating Training—Retention and Understanding

Evaluating the retention and understanding of the material being trained is key to ensuring that the knowledge, skills, and/or abilities are being taught in a way that is usable by, and useful to, the trainee(s). These evaluations should answer the question: “What was understood?”

Methods that are commonly used to evaluate retention and understanding include testing (both oral and written), trainee surveys, outside evaluations, practical demonstrations, testimonials, and interviews (either individual or group).

These evaluations can be conducted at any time, though they will provide different information depending on when they are administered.

- Prior to training, these evaluation methods can be used to understand the level of knowledge, skills, and/or abilities that the trainee(s) already possesses, which can be used to help tailor the learning experience.
- During the training, these evaluation methods can be used to gauge if the material is being impactful and if the audience is engaged.
- After the training, these evaluation methods can be used to evaluate the level of enhancement to knowledge, skills, and/or abilities that the training provided and the relevance of the training content.

This type of training evaluation should focus on the following areas.

- Practical understanding: the degree to which the training is understood and can be accurately recalled.
- Engagement: the degree to which a trainee(s) is actively involved in and contributing to the learning experience.
- System impacts: the degree to which the training system impacts the ability to learn, including the training material, the frequency of training, the method of delivery, and the actual trainer(s).

### 6.2.3 Evaluating Training—Training Content

Evaluating the content of the training is key to assuring that the knowledge, skills, and/or abilities being taught are accurate, useful, and relevant. These evaluations should answer the question: “Was it fit for purpose?”

Methods that are commonly used to evaluate training content include subject-matter expert reviews, trainee and trainer surveys, interviews (either with the trainee[s] or their supervisor), practical demonstrations, and learnings (i.e. incident investigations).

This type of training assessment should focus on the following areas.

- a) Accuracy: the degree to which the information provided in training is correct.
- b) Usability: the degree to which the information provided is presented in a usable, integrable, and comprehensible manner.
- c) Specificity: the degree to which the training focuses on the knowledge, skills, and/or abilities vs. the amount of extraneous or nonrelevant information.
- d) Relevance: the degree to which the training is relevant, including the degree to which the training will be useful in executing job responsibilities and if there are any gaps in the information.
- e) Method: the degree to which the training methodology—including the training environment, method of delivery, and training frequency—impacts the effectiveness of the training.

## 6.2.4 Evaluating Training—Outcomes and Effects on Performance

Evaluating the effect that training has on performance is key to assuring that learning and performance objectives are correct and are being achieved. These evaluations should answer the question: “Was the training effective?”

Methods that are commonly used to evaluate training’s effects on performance include trainee surveys, interviews (either with trainee[s] or their supervisors), practical demonstrations, field observations, testimonials, and learnings (i.e. incident investigations)

This type of training evaluation should focus on the following areas.

- Results: the degree to which the training has impacted both tangible (i.e. cost, quality, operational execution) and intangible (i.e. behaviors, attitudes, culture) performance.
- Application: the degree to which the trainee(s) is actually using the training.

## 6.3 Training Effectiveness

The end goal of any training is to ensure that the desired outcomes are being achieved. These desired outcomes may vary from simple information transfer (i.e. a computer-based awareness) to more complicated objectives, such as the transfer of new knowledge, the teaching of new skills, or the demonstration of new abilities. Effective training is defined as training that is demonstrably and verifiably achieving the desired results.

Methods to determine if training is effective are as varied as the rest of training, and should be designed for the company’s overall goals, desired outcomes, operational needs, and risk profile. These methods may vary internally and between trainings, though there should be a systematic understanding of how these methods are derived and why they are used. Companies should not measure the same training using new methods each time, but may use different methods for different types of training.

Training effectiveness should be measured using data from a variety of sources, including, but not limited to:

- a) training assessments,
- b) learnings (i.e. incident investigations, safety alerts, etc.),
- c) feedback (both internal and external),
- d) field observations, including testimonials, and
- e) assessment and evaluations activities (i.e. audits, performance reviews, etc.).

## 6.4 Remediation

Different types of training assessments may lead to different types of training remediation. Training remediation is defined as the actions taken when a trainee(s) does not achieve the intended learning and performance objectives. Training remediation activities vary widely and are dependent on many different factors. Companies should determine the appropriate training remediation activities, assess if they are effective, and verify that they are being implemented.

## **Annex A**

(informative)

### **Recommended Training and Frequencies**

**NOTE** Table A.1 is a recommendation and is not meant to supersede local regulatory and/or legal requirements or internal company requirements. Training must comply with regulatory and/or legal requirements and internal company requirements.

Table A.1 describes the recommended fundamental safety training for offshore personnel and their recommended frequencies, regardless of role. Additional training may be required to work safely, depending on the work, the environment, internal and external requirements, etc.; companies should determine this additional training prior to work. For example, training is typically required for work permits and job safety analyses. However, these processes are company-specific, and therefore outside the scope of this document.

The training listed in Table A.1 is recommended as being essential to working safely and in an environmentally responsible manner in an offshore environment. Companies should determine how and to whom the training recommendations apply, as well as how the training is delivered. Training may occur individually, in batches or combined courses, or in some combination.

The frequencies are intended for the work conditions and the local, legal, and company requirements for which the training was specifically designed and delivered. If these conditions and/or requirements change, the training should be evaluated to determine if new training or retraining is necessary to assure that personnel are trained to the most current standards and operational conditions. This evaluation may occur as part of the training-needs analysis, via a more formal method (i.e. management of change), or at the work site. Companies should determine the how to deliver this additional training. For example, if there is a change in welding material, technique, or site environmental and operational conditions, the hot-work training should be reviewed to assess whether the training that was provided is still accurate, current, and applicable. If not, additional training should be provided prior to work.

**Table A.1—Recommended Fundamental Safety Training Matrix**

<b>Recommended Safety Training</b>	<b>Frequency</b>	<b>Retraining Required</b>
Accident prevention signs, tags, and labels	Once	When work conditions change When requirements change
Drug and alcohol	Once	When requirements change
Electrical safety (non-qualified)	Once	When work conditions change When requirements change
Emergency response and evacuation	Annual	Time-based When work conditions change When requirements change
Ergonomics/injury prevention	Once	When work conditions change
Fall protection	Once	When work conditions change When requirements change
Incipient fire protection (for those roles with specific firefighting responsibilities)	Annual	Time-based When requirements change
Hand injury safety	Once	Tool-based (if specific tools are being used) When work conditions change
Hazard communication	Annual	Time-based Hazard-based When requirements change
Hearing conservation	Annual	Time-based When work conditions change When requirements change
Hot work	Once	When work conditions change
Incident reporting	Once	When requirements change
Lock-out/tag-out	Once	When work conditions change
Marine trash and debris	Annual	Time-based When requirements change
Offshore awareness training	Once	When requirements change
Personal protective equipment (PPE)	Once	When work conditions change When requirements change
SEMS awareness (U.S. only)	Once	When requirements change
Short-service employee	Once	When requirements change
Water survival—HUET	Periodic (every 4 years)	Time-based When work conditions change When requirements change

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