

**Americas Region HSE
Employee Handbook 2012
Version 11-01-2013**

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Personal Information:

Name: _____

Job Title: _____

Department: _____

Work Phone: _____

Emergency Contact Information:

Name: _____

Contact Number: _____

Other Contacts: _____



January 1, 2013

A Message to all Oceaneering – Americas
Region Employees

Our #1 goal is for each Oceaneering employee to return home from work each day uninjured. Our Operating Standards state, "Safety is our #1 ethic which will not be compromised." And, our management team is committed to make this a reality in our day-to-day work. We work hard to support you and we expect our employees to conduct their daily work activities in accordance with our Safety Standards as a condition of employment.

This Employee Handbook was developed to assist you in safely performing your daily work. It is our intent that this be a user-friendly handbook that provides ready access to information you may need on a daily basis. It is recognized that no handbook can possibly cover all of the situations that arise or answer all questions that you may have. And, no standard will ever exist which can substitute for common sense, sound judgement and a continuing concern for maximum safety. The term "Use your head" can often put you on the right path to the safe answer. Safe Operations ("Safer space") is an obligation we have to ourselves, to our contractors, and to our families.

This handbook was developed as a part of our continued commitment to the safety and welfare for each of our employees. Please take the time to read and use this important document.

Please remember – Safety is not a handbook or a “Standard”; it is a state of mind.

Sincerely,

Robert Mannina
Vice President/General Manager,
Americas Region

OII's HSE goal: "we want every employee to return home each day in the same shape as the start of the day - uninjured". This goal is timeless, and remains unchanged today.

Our philosophy (for attaining the goal) can be summed up as: incidents and injuries are to be prevented by assessing and controlling risk. Our HSE framework provides us with training and procedures by which to accomplish this, and includes the following:

- The toolbox or pre-job meeting provides for group discussion of the job at hand, to include the potential for risk, and the steps required to control risks identified.
- A JSEA is a written procedure to identify the steps in a job, the risks associated with each step, the risk control measures, and the person(s) responsible for implementing each control measure.
- DuPont's STOP for Supervision is a means for supervisors to mentor employees, encouraging safe behavior and correcting risky or unsafe behavior.
- Our recognition program is designed to encourage employees' safe behavior.
- Safety Safaris (facility audits) are utilized to assess and correct unsafe conditions
- Even though occurring after an incident, investigation, root cause analysis, and corrective action are proactive measures used to prevent future incidents of a similar nature.



Three important principles must govern our actions:

1. Supervisors are accountable for the safety of their employees. A supervisor, for example, needs to understand an employee's knowledge and skills in order to determine that employee's ability to safely perform the job at hand.
2. Employees are responsible for their safety and that of their co-workers. If, for example, tools or procedures are believed to be deficient to safely perform a job; the employee is expected to stop the job until the deficiency can be remedied.
3. We will not knowingly compromise safety (take short cuts) in order to achieve schedule, budget, or other objectives on or for any job.

Take time to familiarize yourself with this handbook. It is not intended to be a substitute for formal training of the topics covered. Please understand this handbook, by design, serves as a reminder of key aspects in our HSE program. Please work and live safely.

Robert Mannina, VP-General Manager Americas Region

Operating Standards:

Safety

Oceaneering's Number One Ethic is the safety, health and well being of its employees, contractors, customers and the public. Safety will never be compromised.

Customer Communications and Expectations

Before and during each significant operation, consult with the Customer to:

- Establish mutual expectations through appropriate communications in an atmosphere of cooperation
- Develop a thorough understanding of the upcoming program and the duties and obligations of everyone involved.
- Reach agreement as to the Customer's expectations concerning Oceaneering's contribution
- Devise plans that define and use, to best advantage, all available resources to complete the job safely, efficiently and in accordance with mutual expectations

Leadership and Teamwork

Operations are a team effort with direction and ultimate onsite accountability for results vested in the nominated Oceaneering employee. When deemed necessary, the nominated employee may require individual participation that goes beyond pre-assigned responsibilities.

Pride, Moral and Discipline

Personnel will receive sufficient training and supervision to:

- Understand what is expected of them and become proficient in their jobs
- Understand the relationship between individuals performance and operating objectives
- Understand the purpose and operation of all assigned equipment
- Act as a team in performing the tasks necessary for efficient operations with skill and safety
- Maintain, through personal appearance and conduct, a positive impression of morale, discipline and pride

Measure Performance

Performance must be measured to ensure that tasks/ jobs are executed as effectively as possible, successful without interruptions or surprises and in accordance with Company operating procedures and policies.

Review Results

Upon completion of a significant undertaking, Oceaneering supervisory personnel will review the results with the Customer to determine whether or not expectations were met. Any variance in performance will be reviewed and appropriate action taken.

Equipment

Equipment will be properly operated and maintained in accordance with Oceaneering's published "Maintenance Standards."

Administration

Clerical administration will be current and completed to Oceaneering requirements.

Employee Responsibilities

As well as your work duties and responsibilities, you have a continuous duty to ensure the Safety and Welfare of your colleagues, and to protect equipment and the environment as well as protecting your own well being.

To achieve this:

- Understand and comply with Health Safety and Environmental Management System
- Read, understand and comply with the procedures relevant to your operations
- Take an active part in the promotion of safe work practices
- Carry out work safely in accordance with specific project procedures; seek help from your supervisor if you are unsure
- Do not take short cuts or become complacent with regard to safety
- Maintain safety awareness at all times, even after work is complete; injuries can just as easily happen when you are off shift
- Be aware of Hazards and Risks to yourself and others
- Immediately discuss safety issues with your supervisor
- Report all events where safety has been compromised, however minor, and bring them to the attention of your supervisor
- Report all injuries, regardless of how minor, to your supervisor and obtain treatment promptly from the First Aid, Medical Center or Platform Medic as appropriate to the work location
- Stop any work when an unsafe condition or act could result in an undesired event ; If in doubt, stop the job

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***“Oceaneering’s #1 ethic
is the safety, health,
and wellbeing of it’s
employees, contractors,
customers, and the
public”***

Housekeeping

Housekeeping is the responsibility of every employee. A clean and well organized workplace is safe, efficient and environmentally responsible.



Due to the nature of our business we may find ourselves walking on wet, slippery, and uneven surfaces. Always look before you step. Keeping walkways clean and clear of debris is part of everyone's job.

I. Practices

- Keep roads, walkways, grounds, aisles, stairs, platforms, ladders, doors, breaker panels and fire extinguishers clear of obstructions and debris.
- Offshore operating regulations prohibit deliberately discarding containers and other similar materials (i.e., trash and debris) into the marine environment, and require durable identification markings on equipment, tools, containers (especially drums), and other material.
- Oily rags should be placed in closed metal containers until they can be cleaned or properly disposed of.

- Any oil, chemicals, liquids (drinks) spilled on floors, stairs, platforms, walkways, or roads should be cleaned up immediately. The cause of the spill should be corrected as soon as possible.
- Waste material should not be allowed to accumulate and should be disposed of in a timely manner.
- Floors should be kept clean and in good condition.
- Broken glass should be collected immediately and placed in containers. It should be collected in such a manner as to avoid injury.
- Surplus bolts, nuts, welding rod stubs, tools, etc. should be removed promptly from ground and floor areas.
- Excess materials, cuttings, and tools must not be allowed to accumulate and should be removed as promptly as possible from the job site after completion of work.
- All equipment, materials, products, or other items that are not currently in use but are being stored onsite for future use should be stored in a neat and orderly fashion in an appropriate area.
- Cuttings should be placed in proper containers for either disposal or recycling. Containers should be covered or stored under cover to prevent contamination of storm water run-off.
- Hoses, cords, and slings should be rolled up properly and should be returned after use to storage area.
- Conduct annual assessment of obsolete materials and remove as necessary.
- Eating and storage of food is allowed only in designated areas. Do not leave food or drink for an extended amount of time when storing in common refrigerators.

- Employee responsibility is to follow good housekeeping guidelines while at work.



A clean and orderly workplace is not only safer but also it often tends to be a more productive workplace.

II. Do's and Don'ts

Do Not:

- Store or leave items on stairways
- Block Emergency equipment or doorways
- Place materials in walkways and passageways
- Block walking or elevated surfaces

Do:

- Sweep up shavings from around equipment
- Mop up water around walking areas
- Wipe up coffee and other spilled liquids
- Straighten rugs and mats that do not lie flat on the floor
- Remove protruding nails on wood with a claw hammer
- Use proper cleaning chemicals
- Use caution signs, cones, or tape to barricade slippery areas
- Keep hoses and power cords off of floors and stored properly when not in use
- Use drip pans to catch excess or waste fluids

International Travel

The purpose of this chapter is to protect employees from unique hazards encountered while traveling to and working in international locations.



Developing nations often present the greatest risk for safety and health incidences. When traveling to such places take added precautions before departing.

I. Definitions

- **Disease** - Any deviation of the body from its healthy state.
- **Malaria** - A human disease that is caused by parasites in the red blood cells. It is transmitted by the bite of mosquitoes, and is characterized by periodic attacks of chills and fever.
- **Vaccine** - A preparation that is administered to produce or artificially increase immunity to a particular disease.

II. Pre-Mobilization

Documentation

Documentation can be obtained through the company. Your supervisor can instruct you the appropriate procedures for obtaining travel documents.

- **Passports** - Make sure your passport is current. This should be done well before traveling as the application process can take several weeks.

- **Visas** - Many countries require entry VISAs. Make sure this documentation is current. Check well in advance as the application process can take several weeks.

Other documents that may be necessary:

- Seaman's Card (If applicable)
- TWIC - Transportation Workers Identification Card
- Completion of Travel Training Course (available on LMS)

Always carry photocopies of your documentation, when asked for identification hand over the copies. **Never** give up your original document. You should scan the documents and send them to yourself via email attachment. Also, leave copies with your supervisor or subordinate and a family member.

Communication

- Local - Let the appropriate people in your office know your travel plans. Leave copies of all your travel documents in your local office including:
 - Airplane tickets
 - Passports
 - Entry VISA
 - Residential permits
 - Shot records

Country Manager - You must inform Oll's country manager of your travel plans. Information that should be known by the country manager:

- Date of arrival
- Hotel name, address, and phone number
- Date of departure



Always be aware of the expiration dates of your passports, residence permits, and visas. Do not expect Oceaneering to keep up with these important dates. Make a list of all of your documents and their expiration dates. Check this list periodically to see if renewals are forthcoming. Also, keep multiple copies of all your documents and be very cautious of handing your documents over to anyone. Be sure to view your passport before travel to ensure you have a blank page.

Vaccinations

Oceaneering employees are required to take the appropriate preventive medications and vaccines to help protect against illnesses. The particular medications and vaccines required for Oceaneering personnel are those that are recommended by the United States Center for Disease Control or the Foreign and Commonwealth Office in the United Kingdom.

All employees traveling to international destinations must have up-to-date medications and vaccinations before departure. Please check the status of your shots well before traveling.

Depending on the country you're planning to visit you may need to have an "In-Date" Yellow Fever certificate that is

kept with your passport. Other necessary vaccinations include:

- Typhoid Valid 3 years
- Meningitis Valid 3 years
- Malaria As needed upon travel requirement
- Hepatitis Valid 10 years (2 injections)
- Polio Valid 10 years
- Tetanus Valid 10 years

Both Hepatitis and Yellow Fever vaccinations should be arranged at least 2 to 4 weeks before departure.

III. In-Country

Getting through airport formalities and collecting your luggage can be a time consuming experience. It is important to remember the following tips:

- Remain calm with officials
- Do not allow others to carry your luggage
- Do not allow your passport or other important documents to visibly protrude from your pockets

Recommendations

- Do not drink the local water or ice (drink bottled water or a canned drink with no ice).
- Never go anywhere alone or with someone you're unfamiliar with.
- Carry your original passport and always have a photocopy on-hand.
- Rely on your driver when commuting, try not to drive in a foreign country.

Medical Emergencies

- Contact OII country manager/ local contact, they will initiate the local emergency response procedure.

Information that is provided to the Human Resource Department is treated in accordance with the Medical Information Privacy Act for offices in the United States, and in accordance with similar governing standards in other countries of operation.

IV. Information and Bulletins

To find the most up-to-date vaccination and medical alerts and other travel information please visit these web-sites:

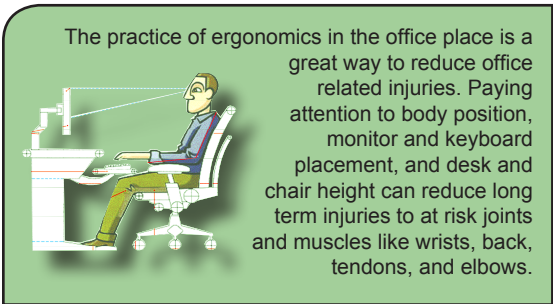
- www.travel.state.gov
- www.cdc.gov
- www.internationalsos.com



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International Travel
Angola Travel
Mosquito Zone
International SOS

Office Safety

Office safety is one of the most overlooked aspects of today's work environment. The purpose of this chapter is to inform you of the safety hazards in the office and steps to avoid injury.



I. Definitions

- **Carpal Tunnel Syndrome** - Painful squeezing of the median nerve in the wrist can cause loss of grip, muscle pain, weakness and numbness in the thumb and first two fingers.
- **Cumulative Trauma Disorder** - CTDs cover several physical disorders including carpal tunnel syndrome, tendonitis, muscle soreness, repetitive motion injuries.
- **Ergonomics** - An applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely.

- **Tendonitis** - Inflammation of the tendons. Can be caused by performing repeated motions incorrectly or in awkward positions.
- **Tenosynovitis** - A condition in which both the tendon and its covering become inflamed.

II. Practices

General Requirement

- Clean all spills immediately
- Sit on chairs properly
- Always use handrails on stairways
- Never use chairs or tables as ladders
- Avoid standing in front of swinging doors
- Use handles or knobs when opening doors
- Get help when moving furniture
- Keep floors clear of all electrical or telephone cords
- Be familiar with emergency response procedures
- Know your nearest muster point in the case of an emergency

Analyzing the Workplace

When analyzing the workplace consider the following:

- Posture of the person performing the task
- Force required by the employee to complete the task
- Repetition of work activity
- Vibration in the work area
- Various upper extremity factors
- Work positions that put employees at risk of developing CTDs
- The risk factors involved in performing the task



Employees mistakenly assume that they are out of harm's way because they are in the office environment. While most office personnel may not encounter the severe injuries which are possible on the shop floor or offshore, the frequency of injuries can be higher. Please do not take your safety for granted always be aware of potential risk.

Reducing and Eliminating Ergonomic Problems

Ergonomic hazards can be prevented by effective design of the workstation, tools, or work activity. Common techniques used include:

- Engineering controls
- Work methods
- Tool selection
- Personal protective equipment
- Administrative controls
- Employee training

Identifying the Development of CTDs

The following should be considered when identifying CTDs:

- Look at injury/illness records
- Question employees about ergonomic problems
- Identify jobs that may have repetitive motion problems

Below you will find a list of frequent office incidents. Take time now to review the list and think about how you can avoid these mistakes.

- Falls from chairs
- Slips, trips, and falls
- Lifting or moving heavy objects
- Repetitive or awkward movements
- Falling objects or encounters with fixed or moving objects
- Pinches, smashes, or abrasions
- Eye strain or muscle aches



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Office Safety

Reference Table

Section	Chapter	Title
VIII	27	Emergency Evacuation
III	12	PPE
III	11	Lifting and Back Safety

Waste Management

Managing waste and acting in an environmentally responsible manner is a high priority for Oceaneering. This chapter provides several guidelines to aid in waste management.



An important part of waste management is recycling. Through concerted efforts by all employees Oceaneering can make a positive impact on the environment. Take the time today to locate recyclable waste bins and use them next time you're disposing of recyclable materials.

I. Definitions

- **Characterization of Waste** - Obtaining information about the chemical and /or physical characteristics of waste. Chemical analysis does not need to be performed all the time, although it may be required in some cases.
- **Containment Storage Area** – An area with an impermeable surface and secondary containment.
- **Contaminant** - Any element or compound that contaminates a matrix or medium (causes it to be impure).
- **Hazardous Material** - Any substance determined

to be capable of posing an unreasonable risk to health, safety and property when transported in commerce. The Department of Transportation (DOT) has published a list of substances designated as hazardous.

- **Hazardous Substances** - Any substance assigned Reportable Quantity (RQ) limits. The RQ limit is the amount of that substance when, if released, requires the notification of Federal agencies. The hazardous substance classification does not apply to petroleum products that are in the process of being used as lubricants or fuels. For example, the gasoline in a vehicle's fuel tank would not fall under these requirements.
- **Hazardous Waste** - Any material that is subject to the hazardous waste manifest requirements of the Environmental Protection Agency (EPA). Consult the HSE Department to verify if a material is to be classified as hazardous waste.
- **SDS** - Safety Data Sheet. Includes information about chemical hazards, safe handling, storage, and disposal.
- **Non-Regulated Waste** - Any waste that is not regulated by the local, regional, or country agencies. These wastes generally have few, if any, management or disposal requirements. However, they must be managed and disposed of in accordance with sound environmental and safety practices.
- **Recycled Material** - Any by-product, material, or piece of equipment which is no longer useful for its intended purpose but is used again after reclaiming or reprocessing. Recycled materials are not considered waste.
- **Regulated Waste** - Any waste that is regulated by any government agency, require management and disposal in accordance with local, regional and/or country requirements.

- **Toxic** - Toxins are substances that cause either permanent or reversible injury to the health of a living thing on contact or absorption.
- **Waste** - Any material, product, or piece of equipment that has served its useful purpose and is to be disposed of.
- **Waste Stream** - A class or type of waste that is comprised of like waste or waste that is compatible and requires similar on-site management or disposal.



Before use and disposal of any material make sure that you are abiding by the proper disposal procedures for that material. One way to know how to properly dispose of a material is by reviewing that material's SDS or Safety Data Sheet. SDS's contain vital information about the material such as:

- Safe Handling
- Safe Use
- Safe Disposal
- Emergency Response Criteria
- PPE Requirements

II. Practices and Procedures

Waste management and disposal is regulated in most nations and the practices and procedures can vary greatly from region to region. Please check with your manager or

the HSE department about the regulations regarding the specific waste your job may generate and how to properly dispose of it. The following are general guidelines.

General and Office Waste

All office waste and general non-regulated waste should be disposed of in the proper receptacles located throughout the OII facilities.

All materials that can be recycled should be stowed in the proper waste bin marked with the recycling symbol, these receptacles are generally blue in color.

No waste, office or otherwise, will be allowed to accumulate for an extended period of time. Regular trash pick up's should be scheduled at your job site.

Regulated Waste

Examples of regulated waste include (not limited to):

- Cleaning chemicals / solvents
- Used oil and filters
- Metal shavings
- Used coolant
- Off-spec or unusable materials
- Paint and paint thinner
- Batteries
- Fluorescent bulbs

The disposal of these materials are regulated by local and federal governments and OII. Before disposing of any of these materials check with your supervisor or the HSE department on the proper disposal methods.

Waste Storage

All containers must be compatible with the waste materials stored in them and remain closed when not in use.

The container must be in good condition (no signs of significant damage that will cause leaks or render the container unsuitable for transport).

Specific areas should be designated and cordoned off exclusively for waste storage.

Waste should be protected from storm water contact by storing indoors, storing covered, or the waste storage area should be bermed.

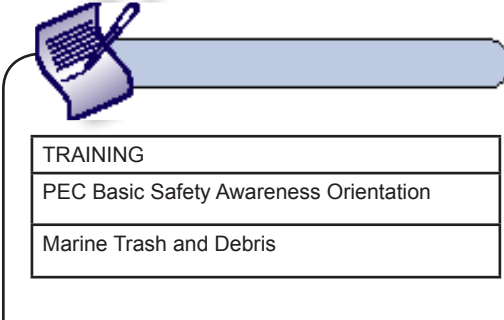
No storm drain or conduit to a storm drain should be inside a waste storage berm.

Smoking is not allowed within 50ft. of waste storage areas.

Spills, even minor ones, will be cleaned up promptly.

Container Labeling

All waste containers will be labeled. At a minimum the label will state: the contents, date, and name of person filling out the label.



The illustration shows a blue document with a pen resting on it. Below the document is a large, light blue rounded rectangular box. Inside this box is a white rectangular area containing a label with three rows of text.

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Marine Trash and Debris

Bloodborne Pathogens

Employees, when confronted with human blood and other body fluids, are to treat them as if known to be infected. Proper PPE (see p.19) and other controls are to be utilized when assisting the injured, cleaning an accident site, and all other instances of possible exposure.



Bloodborne Pathogen Infection Control Kits are available at all First Aid Centers throughout the OII facilities. Kits can also be ordered from the OII Inventory Department.

I. DEFINITIONS

- **Bloodborne Pathogens** - Microorganisms present in human blood that can cause disease in humans. Pathogens include, but are not limited to, Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).
- **Universal Precautions** - All human blood is to be treated as if known to be infected with HIV, HBV, and other Bloodborne Pathogens.

II. CONTROLS

Universal Precautions

As stated above, all human blood should be treated as if it is known to be infected. **Never** assume you know someone well enough to risk infection!

Personal Protective Equipment (PPE)

- Non-Permeable Gloves
- Dust Pan/Brush
- Red Biohazard Bags
- Face Shield
- Absorbent Pads
- Antiseptic Towelettes
- Encapsulated Sanitizer Material
- Shoe Covers

In case of potential exposure to human blood specialized PPE and proper clean-up materials are required and found in the Bloodborne Pathogen Infection Control Kit . The kits usually include: All of the above PPE and clean up items that are to be worn and/or utilized in the case of a medical or an emergency service that may cause the responder to come in contact with blood, human tissue, or contaminated surfaces. They should continue to be worn and/or utilized during the cleaning of the contaminated site. Only after all possible contamination has been thoroughly cleaned can the PPE be removed and disposed of in the red biohazard bag.

Engineering Controls

Engineering controls include hand-washing facilities and antiseptic towelettes or hand cleaners where hand-washing facilities are not feasible.



The risk of contracting a Bloodborne Pathogen increases if unprotected contact is made with human blood or blood products. Well known routes of exposure include:

- Unsafe Sex
- Needle Sharing
- Blood transfusions

Always take necessary precautions when the possibility of contact occurs.

III. Housekeeping Practices

Initial clean up of infectious materials should be followed with a chemical germicide or a solution of household bleach that is diluted one (1) part to ten (10) parts with water. The proper PPE should be worn during the cleaning process. No worker is allowed to leave the site wearing contaminated clothing, unless it is an emergency. All contaminated clothes and PPE should be removed and placed in the red biohazard bags. Once appropriately bagged, the HSE staff and/or the site manager can be contacted to facilitate further handling and disposal of the material. This should be done in accordance with local, regional, and/or federal regulations. Closable, leak-proof red containers or bags that are labeled or tagged with universal biohazard symbols should be used for infectious waste.

Incidental Exposure

If incidental exposure with Bloodborne Pathogens occurs, the following should take place:

- If contact with skin occurs, immediately wash contaminated area with antibacterial soap and water.
- If contact with eyes occurs, immediately flush the eyes with an abundant amount of eye wash or water for fifteen minutes.
- Seek professional medical attention.
- When dealing with any human body fluid protect yourself with barriers; this includes PPE and engineered barriers. After removing barriers, wash yourself thoroughly. Your skin is an excellent barricade, so protect any and all cuts and scrapes with bandages.
- Clean surfaces other than skin that have been in contact with infectious material with a ten (10) parts water to one (1) part bleach solution. Dispose of all possible infectious materials and equipment in the proper hazardous material container as soon as possible.
- Report all BBP exposures to your supervisor and the HSE Department.



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Bloodborne Pathogen

Reference Table

Section	Chapter	Title
II	6	First Aid/CPR/AED
III	12	PPE

First Aid, CPR, AED

Basic life saving skills are essential for everyone to have. This chapter briefly outlines basic First Aid, CPR and Automated External Defibrillator (AED) skills and techniques. Reading this chapter does not qualify as your training in these areas. Please check with your supervisor about upcoming training courses you may attend.

An illustration on a light green background showing a red cross with the words 'First Aid' written vertically on either side. Next to it is a white CPR sign with a red heart icon and the text 'CPR' and 'American Heart Association'. In the foreground is a yellow and black Automated External Defibrillator (AED) with a white electrode pad attached to it.

First Aid, CPR, and Automated External Defibrillators (AED) may be used when presented with an emergency situation. OII provides training for all three techniques. Find out today when the next training course will be held and sign up. You never know when you'll be called upon to save a life.

I. Definitions

- **Cardio Pulmonary Resuscitation (CPR)** - A method of resuscitation involving chest compressions coupled with mouth-to-mouth breathing.
- **Emergency Response Personnel (ERP)** - An employee who has successfully completed a training course in medical First Aid and CPR and has been designated by management to respond to injuries or illness onsite.

- **First Aid** - The immediate and temporary care given to the victim of an accident or sudden illness, until the services of a physician can be obtained.

II. First Aid

Emergency Response Personnel and First Responders have a higher level of training in first aid, CPR, and Bloodborne Pathogen containment and should be alerted in an emergency situation right after calling 911. Each facility and/or vessel shall maintain a list of qualified Emergency Response Personnel and First Responders.



Basic First Aid

First Aid stations should be located throughout OII work locations.

These stations are designed to provide basic First Aid needs. When faced with an emergency, first call 911 or medical personnel then attend to the injured.

Each OII work location should have a published list of ERPs along with the method by which they can be contacted.



Emergency First Aid and CPR may be administered for many different reasons; however, Cardiac Arrest is the number one reason emergency care is needed. In the case of Cardiac Arrest, the heart muscle quivers in an abnormal rhythm. This rhythm is called ventricular fibrillation. When this happens, blood flow stops to the body. While CPR will manually help keep a patient alive, the heart will not resume a normal rhythm until it has been defibrillated. Some OII facilities have been equipped with Automatic External Defibrillators (AEDs) which will apply this shock. Determine if there is an AED in your work area today.

CPR

How to recognize cardiac arrest:

- Non-responsive
- Not breathing normally
- No signs of circulation

The ABCs of CPR

A - Airway

Use the head tilt, chin lift to gently tilt the head backward and open the airway (wind pipe)

B - Breathing

Assess for breathing by looking for chest movement, listening for breath sounds, and feeling for breath for 5 seconds. If no breathing is detected, deliver 2 full breaths in the patient's mouth while pinching the nose closed.

C - Circulation

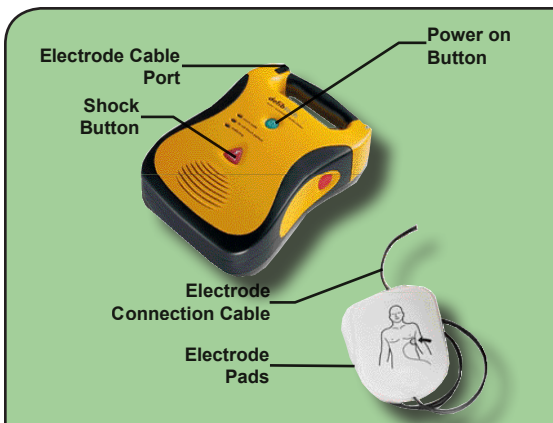
After giving 2 rescue breaths, check for the signs of circulation. If the patient is not moving, breathing normally, or coughing, begin giving compressions.

To provide chest compressions, place the heel of one hand on the center of the breastbone right between the nipples. This positions the hand on the lower half of the breastbone. Then, place the heel of the second hand on top of the first hand. Once in position, follow the chart below.

	ADULT	CHILD	INFANT
AGE	12 + years	1 - 12 years	0 - 1 year
METHOD	2 hands	2 hands	2 fingers
COMPRESSION DEPTH	At least 2 Inches	About 2 Inches	About 1/2 Inch
COMPRESSION RATE	As fast as you can, and still perform them correctly		
COMPRESSION TO VENTILATION RATIO	30:2	30:2	30:2

III. Automatic External Defibrillator (AED)

Early defibrillation is key for the survival of a Cardiac Arrest victim. If the response time of the defibrillator is longer than 8 minutes virtually no one survives Cardiac Arrest. Please refer to the operations manual located with each AED.



*AED must be regularly checked for condition, operation and the battery checked and swapped out as required.

Once you have a patient connected to the AED machine, do not remove the electrode pads. The AED machine will continue to monitor the patient and instruct you to either continue CPR or administer a shock. This process should be continued until emergency response personnel arrive.

AEDs are to be used by trained personnel. Do not use without the proper training.



TRAINING

PEC Basic Safety Awareness Orientation

First Aid

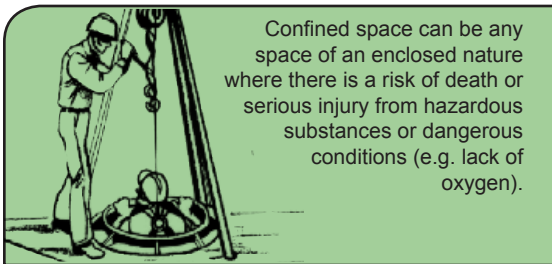
CPR/AED

Reference Table

Section	Chapter	Title
II	5	Bloodborne Pathogens

Confined Space Entry

This section specifically applies to Oceaneering operations that have confined spaces and employees who enter these spaces. It should be noted that if Oceaneering personnel are to enter a confined space outside of an Oil work location, the confined space entry program of the company owning or managing that facility or location should be followed, unless it is less stringent than that of Oceaneering's program.



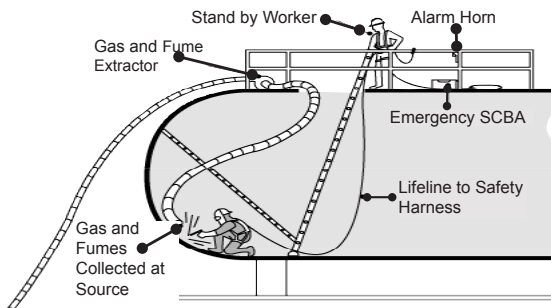
Some confined spaces are fairly easy to identify:

- Fuel tanks
- Storage tanks
- Silos
- Reactions vessels
- Enclosed drains
- Sewers

Others may be less obvious, but can be equally dangerous, for example:

- Open-topped chambers
- Vats
- Combustible chambers in furnaces
- Duct work
- Unventilated or poorly ventilated rooms

Well Organized Confined Space Entry



I. Definitions

- **Attendant** - An individual stationed outside the permit-required confined space who monitors the authorized entrant.
- **Authorized Entrant** - The only people who are allowed to enter confined spaces. Entrance is allowed only during the period that is stated on the permit.
- **Permit Required Confined Space** - A confined space that has one or more of the following characteristics:
 1. Contains or has the potential to contain a hazardous atmosphere

2. Lack of oxygen
 3. Contains a material that has the potential for engulfing an entrant
 4. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section
 5. Contains any other recognized serious safety or health hazard
- **Confined Space Entry Supervisor** - Any individual who is qualified by training and experience and is assigned by a site supervisor to supervise and/or authorize confined space entry.

II. Confined Space Checklist

Confined space entry requires careful planning and preparation. The confined-space-entry supervisor must ensure that the following issues are addressed in a JSEA before work begins:

- **Assignment of Personnel**
 1. The confined-space-entry supervisor will determine numbers, duties, and qualifications of personnel involved in the confined space entry. Each individual selected must be adequately trained and qualified to perform the assigned duties.
- **Isolation- Lockout/Tagout (LOTO)**
 1. Ensure LOTO procedures are carried out as required
 2. Blank/blind ventilation systems where necessary to prevent entry of hazardous gasses and fumes
- **Cleaning before entry - as required**

- **Check the size of the entrance- sufficient size to allow**
 1. Entry wearing all necessary equipment
 2. Ready entry and egress during an emergency
 - **Provision of ventilation**
 1. Good ventilation is required for a confined space entry, in most cases natural ventilation is not adequate.
 2. Increase the number of openings
 3. Use mechanical ventilation
- Warning:** Carbon monoxide in the exhaust from internal combustion engines is so dangerous that use of such equipment in confined spaces should never be allowed.
- **Testing the air**
 1. An authorized person, using a suitable calibrated gas detector, should carryout testing.
 2. Where the risk assessment indicates that conditions may change, or as a further precaution, continuous monitoring of the air may be necessary.
 - **Provision of special tools and lighting**
 1. Ensure the tools and lighting are correct for the hazards identified.
 - **Provision of breathing apparatus**
 1. This is essential if the air inside the space cannot be made fit to breathe.

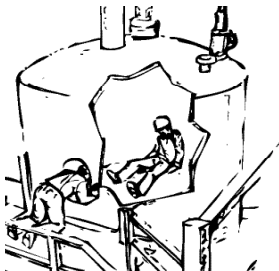


Is a 'permit-to-work' necessary?

A permit-to-work ensures a formal check is undertaken to ensure all the elements of a safe system of work are in place before people are allowed to enter or work in the confined space. It is also a means of communication between site management, supervisors, and those carrying out the hazardous work.

Essential features of a permit-to work are:

- Description of work
- Safety precautions
- Atmospheric test
- Posting of the permit
- Entry permit is not a permit for hot work; this is a separate permit
- Monitoring for the development of potentially hazardous conditions



III. Emergency Procedure

Provisions for rescue will be determined prior to starting any work. Necessary rescue equipment such as ropes, tripods, lanyards etc. must be on site prior to entering a confined space. Rescue procedures must be discussed during the pre-job meeting.



TRAINING

PEC Basic Safety Awareness Orientation

Safe and Unsafe Using of Rigging Hardware & Slings

Basic Rigging Concepts

Reference Chart

Section	Chapter	Title
II	6	First Aid
III	12	PPE
III	13	Respiratory Protection
V	21	Fall Protection

Drug and Alcohol Awareness

Oceaneering is committed to providing a drug and alcohol-free work environment for its employees, customers, and vendors. Oceaneering reserves the right to test any employee for the presence of alcohol and/or illegal drugs at any time.

The Employee Assistant Program (EAP), also known as My Guidance Resources Program, provides employees and their families with confidential counseling services in many life areas including drug and alcohol addiction. If you need help in this area please contact, confidentially, My Guidance Resources at (800) 311-4327 or ask about their services with the Human Resource Department. (Available in US only).

Online: guidanceresources.com

Company ID# MGR311

I. Definitions

- **Alcohol** - Any substance, which contains ethyl alcohol, the intoxicating agent in beer, wine, and distilled liquors. It includes all beverages, mixtures or preparations which contain ethyl alcohol.
- **Illegal Drug** - All prescription medications not prescribed to the individual taking the medication, all psychoactive substances, all controlled substances, and all substances illegal under federal law.

- **Possession** - To have on one's person, in one's personal effects, in one's personal vehicle, under one's control, or on/in any company property used by the employee.
- **Sale, Distribution, or Dispensation** - Any exchange, transfer, conveyance, or sharing of any illegal drug whether for money or otherwise.
- **Use** - Consuming, ingesting, injecting, inhaling, smoking, or otherwise using any illegal drug.

II. Controls

Testing

Oceaneering employees are subject to controlled substance and alcohol testing rules. As a condition of employment, employees consent to drug and alcohol testing. Employee refusal to be tested will result in termination.

Testing Events:

- **Pre-Employment** - No supervisor shall allow an employee to perform any function until they have received a negative controlled substance test result.
- **Post Incident** - employees involved in an incident
- **Random** - Anytime and anyplace
- **Reasonable Suspicion** - An employee is required to submit to an alcohol and/or controlled substance test when a properly trained company official (HR, HSE) or supervisor has observed and documented the employee's behavior that may indicate alcohol or controlled substance abuse.



Any employee can be randomly selected at anytime and any place to be tested for alcohol or drugs. Oceaneering has the right to search your personal gear, including your vehicle, to check for the possession of alcohol, illegal drugs, or controlled substances. Any employee violating Oceaneering's Substance Abuse Policy is subject to appropriate sanctions up to and including termination, even for the first offense.

Record Retention

All records will be maintained in a secure location with limited access and made available for inspection by authorized representatives. Those records will include:

- Records of employee drug test results that show the employee passed a drug test must be kept for at least 1 year.
- Records of employee drug test results that show employees who had a positive test, and type of test, and records that demonstrate rehabilitation, if any, must be kept for at least 5 years.
- Records of supervisors and employees trained on company policies and procedures will be kept for at least 3 years.

If you feel you have a problem with substance abuse please consult the Human Resources Department or the employee assistance program. They are staffed by professional, experienced counselors who will provide information, immediate assistance or, if you desire, referral to other sources. Of course, all contact with either the HR department or EAP is confidential. It's never too late to get help. Don't let substance abuse effect your career, or worse your life, when help is at your finger tips.

III. Training

Training topics are listed below followed by the appropriate response:

- The identity of the person designated to answer drug and alcohol questions:
 1. HR Department
 2. HSE Department
- Which employees are subject to these requirements:
 1. All employees, including management and supervisors, are subject to Oceaneering's Substance Abuse Policy
 2. The circumstances under which an employee will be tested, and the procedure that will be used for the testing.
- Explanation of the requirement that an employee submit to the testing, as well as, what constitutes an employee's refusal to submit to testing:
 1. As a condition of employment Oceaneering requires all employees to submit to testing pre-job, random, post-incident, if reasonable suspicion exists, as follow up on returning to work and any other time designated by Oceaneering. If an employee fails to submit to a requested test that employee is subject to termination immediately.

Absolutes

- You must be drug and alcohol free
- If you fail a quick test, you will be sent home
- If you are taking medication that impairs your judgement, you are required to inform your supervisor. You may not be able to perform your job/ task until cleared by OII's company physician
- If you bring medication to the job site, it must be in the original container
- You cannot take someone else's prescribed medication

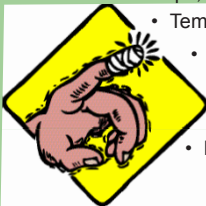
Reference Table		
Section	Page	Title
VII (HR Handbook)	31 (HR Handbook)	US Employee HR Handbook

Hand Safety

It has been established that almost 20% of all disabling accidents on the job involve the hands. The workplace is full of hand traps. Protect your hands and fingers by planning your work, wearing proper PPE, and avoiding those situations and actions that carry a potential for injury. Without your fingers or hands, your ability to work and play would be greatly reduced.

Common Hand Injury Contributory Factors

- Hand and powered tools
- Slips, trips, & falls
- Vibration
- Temperature extremes
- Crushing/ pinch points
- Electricity
- Dropped objects
- Jewelry
- Struck by moving parts
- Sharp objects
- Contact with substances
- Entanglement



I. Practices

- Identify the potential hand hazards in every task, and eliminate and/or mitigate those hazards prior to starting the task.
- Replace and properly adjust machine guards following any repairs and prior to use.
- Prior to working on equipment or parts that have the potential of falling or “breaking loose”, properly secure the equipment or part.
- When opening and closing doors, keep your hands and fingers clear.
- If the work being performed requires gloves, use them.

Refer to Table 1 on following page.

Table 1

Job Tasks Requiring Hand Protection	Cotton or Leather	Chemical Resistant	Welders/ Therm. Insulating	Cut Resistant	Voltage Rated
Abrasive blasting	✓				
Biological substances -exposure To		✓			
Chemical handling		✓			
Chipping, chiseling, grinding, ect.	✓				
Compressor/pump/engine/crane maint.	✓				
Cutting and sawing	✓			✓	
Electrical work	✓				✓
Housekeeping (moving equip. or debris)	✓				
Hydrocarbon, engine oil exposure	✓	✓			
Ladders - use of	✓				
NORM - exposure to		✓			

Job Tasks Requiring Hand Protection	Cotton or Leather	Chemical Resistant	Welders/ Therm. Insulating	Cut Resistant	Voltage Rated
Pipe/tubing handling	✓				
Pressure washing	✓	✓			
Process equipment modification	✓				
Rigging loads for lifting operation	✓				
Handling of wire rope	✓				
Scaffolding - erection and use of	✓				
Sharp objects/materials	✓			✓	
Temperature extremes - exposure to	✓		✓		
Tool use	✓				
Welding, cutting, and brazing	✓		✓		

Employee Responsibility


- Wear gloves, and ensure that they are properly fitted and in good condition.
- Inspect tools prior to use, and ensure that they are in good condition.
- Anticipate that a tool might slip or the object to which pressure is being applied may suddenly give way.
- Identify sources of heat, and avoid touching or working near them if possible.
- Use alternative cutting devices instead of bladed or razor knives.
- Use proper technique when using any sharp tools.
- Avoid work on moving equipment unnecessarily.
- Do not work on equipment without first de-energizing it.
- Do not wear gloves when working directly around moving parts or rotating machinery.

Reference Chart

Section	Chapter	Title
III	12	PPE

Hearing Conservation

The purpose of this chapter is to manage employee noise exposure and prevent hearing loss by performing employee education, noise level assessments, implementing noise reduction through engineering and administrative controls, and the use of hearing protection to control noise levels.



Noise is one of the most common health problems in American workplaces. OSHA estimates that 30 million workers in the U.S. are exposed to hazardous noise. Exposure to high levels of noise may cause hearing loss, create physical and psychological stress, reduce productivity, interfere with communication and contribute to incidents and injuries by making it difficult to hear warning signals.

I. Definitions

- **Audiometer** - A signal generator or instrument for measuring objectively the sensitivity of hearing in decibels referred to audiometric zero
- **dBA** - Adjusted decibel - Unit of Sound
- **Decibel (dB)** - A dimensionless unit used for expressing a unit of sound
- **Ear Protection** - The use of devices, e.g., earplugs, to protect an individual's hearing in high noise level areas
- **Frequency** - The time rate of repetition of a periodic sound expressed in units of Hertz (Hz)

- **Hearing Loss** - The amount, in decibels, by which the threshold of audibility for the ear exceeds a standard threshold

II. Practices

Area monitoring should be conducted periodically to determine the areas where noise exposures equal or exceed the established safe noise levels.

Area noise monitoring should be conducted when facility modifications or the addition of new equipment or a process may impact the area noise level.

All employees and visitors must wear hearing protection in areas where equipment is being operated and where signs are posted that warn of excessive noise levels.

Keys for determining if hearing protection should be worn in areas not posted:

1. If there is a potential for temporary elevated noise levels, such as when high pressure gases are released
2. If it is necessary to raise one's voice in order to talk to others at a distance of an arm length away
3. Hearing protective devices shall be worn at all times in designated high noise level areas by all employees performing the following high noise job tasks or tasks performed within the specified distance.
4. Any work within 10' of a hand grinding operation
5. Hand grinding (air or electric)
6. Chipping with an air powered chipping or scaling gun
7. Any work within 10' of chipping operation

8. Machine operators involved in milling hard steels
9. Crane operators working on cranes not equipped with engine room doors
10. Any work within 10' of an air compressor
11. Any work within 10' of any machinery or area posted as a "Hearing Protection Required" area of "High Noise Level Area"
12. While in engine room

(Additional job tasks may be added which will be determined by the results of on-going monitoring)

Hearing protection shall be made available to employees through on-site stores, satellite stations in work areas and from supervisors.

Hearing protection equipment ordered must have a Noise Reduction Rating (NRR) of at least 28dB and be able to lower the noise level to below the 85db level. Employees should be able to choose between the following types of devices:

1. Disposable earplugs (Ex: EAR disposable earplugs, North Decidamp disposable earplugs, etc.)
2. Permanent earmuffs (Ex: Bilsom 2318 Viking earmuffs, Peltor 117-B earmuff, etc.) NOTE: Earmuffs must be properly maintained by the employee including regular cleaning, inspection, and replacement of worn or defective parts.
3. Contact the HSE Department if additional/special hearing protection is needed.



TRAINING

PEC Basic Safety Awareness Orientation

Hearing Conservation

Reference Chart

Section	Chapter	Title
III	12	PPE

Lifting and Back Safety

Back injuries are one of the leading sources of injury in the workplace. The best way to prevent back injury is to develop habits that reduce the strain placed on the back. This chapter will inform you of common lifting mistakes, the effects they have on your back, and the proper techniques you should use to avoid injury.



Knowing how to properly lift objects is the best defense against lower and middle back trauma. Always lift with your legs, bending at the knee and pulling the load towards your chest. **Never** bend at the waist to pick up objects no matter how small.

I. Definitions

- **Lumbar** - The lower part of the spine between the thoracic region and the sacrum. The lumbar spine consists of five vertebrae (the five moveable spinal segments of the lower back) and is also the largest of the spinal segments. This tends to be the most injury prone region of the spine. Improper lifting can cause extreme pressures in this area.

- **Spine** - The flexible bone column extending from the base of the skull to the tailbone. It is made up of 33 bones, known as vertebrae. The first 24 vertebrae are separated by discs, known as intervertebral discs, and bound together by ligaments and muscles. Five vertebrae are fused together to form the sacrum and four vertebrae are fused together to form the coccyx. The spine is also referred to as the vertebral column, spinal column, or backbone.
- **Mechanical Lifting Devices** - Devices such as bridge cranes, chain hoist, forklifts, pallet jacks, handtrucks, jib cranes, and drum dollies that are designed specifically for lifting objects. Mechanical lifting devices are used to minimize risk of injury associated with manual lifting and transportation. These devices should be readily available throughout OII work locations.



Lower back pain is the most prevalent cause of disability in people under the age of 45. Some symptoms of lower back trauma include:

- Pain when you cough or sneeze
- Pain or numbness travels down one leg or both legs
- Pain awakens you from sleep
- You are finding it difficult to pass urine or have a bowel movement

If you experience any of these symptoms please see a doctor immediately.

II. Practices

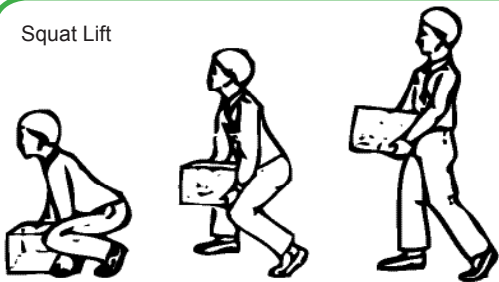
Proper Lifting

The best practice is to avoid manual lifting by using a mechanical lifting device when practical. Sometimes you cannot avoid manual lifting, in this case you should use the following steps to avoid injury:

1. Inspect the area around the object to be lifted. Scan expected transportation routes for any obstruction or spillage.
2. Take a balanced stance with your feet about a shoulders-width apart. One foot can be behind the object and the other next to it.
3. Squat down to lift the object, keeping your heels off of the floor. Get as close to the object as you can.
4. Use your palms (not just fingers) to get a proper grip on the load. Make sure you can maintain a hold on the object without switching your grip later.
5. Lift gradually (without jerking) using your leg, abdominal, and buttocks muscles, and keep the load as close to you as possible. Keep your chin tucked in, maintaining a relaxed straight back and neck line.
6. Once you're standing, change directions by pointing your feet in the direction you want to go and turning your whole body. Avoid twisting at your waist while carrying a load.
7. When you put a load down, use these same guidelines in reverse.

8. Reduce the amount of weight lifted. If you're moving a bunch of books it is better to load several small boxes than one large box.
9. Use handles and lifting straps when available.
10. Get help if needed. Never try and move more than you can handle. If in doubt, error on the side of caution; you only have one back.
11. Shown here are several approved lifting techniques. Please familiarize yourself with them and use them anytime you have to do manual lifting.

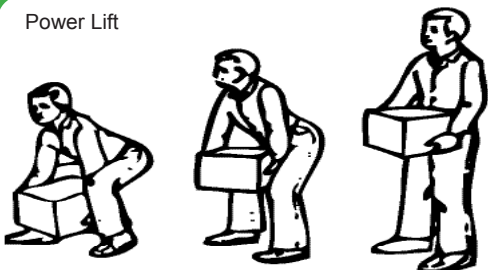
Squat Lift



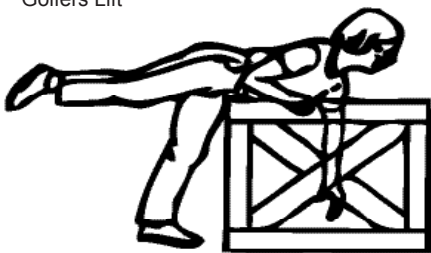
Tripod Lift



Power Lift



Golfers Lift



The above technique is to be used when reaching light weight objects at the bottom of a large container or can be used when bending down to pick an object off the ground when you have something such as a desk to use as support. The most important part of this technique is to always use one hand for support on a solid surface.

Using these techniques will reduce your chances of injury when manually lifting objects. However, the best practice is to avoid lifting and bending by using mechanical lifting devices whenever possible.

NEVER BEND YOUR BACK WHEN LIFTING !

Manual lifting restriction information: 50 lbs one man lift.



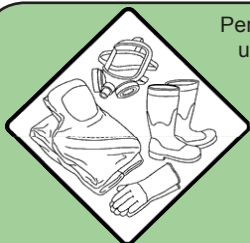


TRAINING
PEC Basic Safety Awareness Orientation
Back Safety

Reference Chart		
Section	Chapter	Title
III	12	PPE
IV	16	Forklift Safety
V	20	Crane and Rigging Safety

Personal Protective Equipment (PPE)

The purpose of this chapter is to provide information about personal protective equipment to employees for identified hazards that cannot be reasonably controlled by other means.



Personal protective equipment, unlike most safety devices, is designed to prevent injury or illness rather than to prevent incidents. Therefore, the use of PPE should not be considered the primary method of employee protection.

I. Practices

Eyes

- **Hazards** - Chemical or metal splash, dust, projectiles, gas and vapor, radiation
- **Options** - Safety glasses, goggles, faceshields, visors

For employees wearing prescription eye wear they should be approved for use in the workplace. Side shields should be in place, or safety glasses placed over the prescription eye wear.

Head

- **Hazards** - Impact from falling or flying objects, risk of head bumping, hair entanglement
- **Options** - Hard hats

Breathing

- **Hazards** - Dust, vapor, gas, oxygen-deficient atmospheres
- **Options** - Disposable filtering facepiece or respirator, half- or full-face respirators, air-feed helmets, breathing apparatus

Protecting the body

- **Hazards** - Temperature extremes, adverse weather, chemical or metal splash, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing
- **Options** - Conventional or disposable overalls, specialist protective clothing, i.e. chain-mail aprons, high-visibility clothing

Hands and arms

- **Hazards** - Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, skin infection, disease or contamination
- **Options** - Gloves, gauntlets, mitts, wristcuffs, armlets

Work Vest

- **Hazards** - Accidental falls into water due to working beyond handrails or where no handrails are provided on vessels or structures over water
- **Options** - Coast Guard approved work vest type IV

Feet and legs

- **Hazards** - Wet, electrostatic build-up, slipping, cuts and punctures, falling objects, metal and chemical splash, abrasion
- **Options** - Safety boots and shoes with a defined heel, protective toe caps and penetration-resistant mid-sole, gaiters, leggings, spats

Fall Protection

Employees working at elevated heights must wear an approved safety harness with lanyard unless working in a guarded area.

Harnesses and lanyards must be carefully inspected before each use and replaced if defective.

II. Maintenance

Make sure PPE is well looked after and properly stored when it is not being used, for example in a dry, clean cupboard, or in the case of smaller items, such as eye protection, in a box or case.

Kept clean and in good repair - follow the manufacturer's maintenance schedule (including recommended replacement periods and shelf life). Simple maintenance can be carried out by the trained wearer, but more intricate repairs should only be done by specialists.



TRAINING

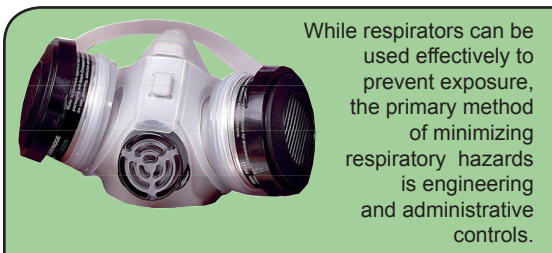
Personal Protective Equipment

Reference Chart

Section	Chapter	Title
III	10	Hearing Conservation
III	13	Respiratory Protection
IV	19	Welding, Cutting, Brazing, Radiation
VI	24	Electrical Safety
IX	33	JSEA

Respiratory Protection

This chapter briefly outlines some practices and procedures used in respiratory protection. If you are an employee and your job requires the use of a respirator or other respiratory protection devices, know that this chapter does not substitute for proper and required training.



While respirators can be used effectively to prevent exposure, the primary method of minimizing respiratory hazards is engineering and administrative controls.

I. Definitions

- **Breakthrough** - A condition in which a mass of intended filtered media passes through the filter.
- **Fit Test** - A method to qualitatively or quantitatively evaluate the fit of a respirator to ensure that a good seal exists.
- **Hazardous Atmosphere** - An atmosphere that contains known or potential health hazards.
- **Respirator** - A personal device designed to protect the wearer from the inhalation of hazardous atmospheres.

- **Self-contained Breathing Apparatus (SCBA)** - An air-supplying respirator for which the source of breathing air comes from a tank that is carried on the back of a user

II. Practices

Respiratory protection must be worn whenever it is necessary to enter a work environment that has or is suspected of having harmful concentrations of gas, dust, smoke, vapor, mist, or when there is an oxygen deficiency.

Minimum respiratory protection as listed in **Table 1** must be worn at all times when these activities are performed in open air. Additional respiratory protection may be required in areas where these and other activities are performed with inadequate ventilation. The required respiratory protection in these areas will be determined on a case-by-case basis by the HSE Department.

Hot work performed in any confined space requires, as a minimum, the use of a half-face negative pressure respirator unless the HSE Department determines that a different level of protection is appropriate.

All employees who wear respirators must be clean shaven in order to assure a tight fit.

Disposable respirators (dusk mask) are available to all employees on a voluntary basis while working in open areas where dusts or fumes become a nuisance. Disposable respirators are not permitted while performing any of the tasks listed in **Table 1**.

Table 1	
WORK ACTIVITY	MINIMUM RESPIRATOR
General spray painting	Half-face negative pressure with organic vapor cartridge
Painting with paint containing isocyanates	Air-supplied paint hood
Abrasive blasting	Air-supplied blasting hood
Welding, cutting, or any hot work on galvanized surfaces	Half-faced negative pressure respirator with HEPA (P100) cartridges
Any hot work on surfaces coated with lead paint	Air-supplied full or half-faced respirator

Because the need to perform the tasks above are either infrequent or not our core business, Oll's practice is to subcontract these activities to contractors better equipped to control and mitigate the hazards.

Any employee who is required to wear a respirator as identified by the Supervisor and/or HSE Department must be trained on the use of the respirator, medically cleared by the company doctor, and fit tested. In addition, the employee must be trained and fit tested annually.

Once an employee has been medically cleared to wear a respirator and fit tested, he/she is responsible for notifying the HSE Department of any of the following changes:

1. Changes in health and/or physical conditions related to the ability to wear a respirator (i.e. blood pressure illness, respiratory illness, heart disease, significant weight gain/loss)
2. Significant changes in working conditions or job assignment
3. Cosmetic surgery of the face

4. Significant dental changes including dentures

Safety Data Sheets must be reviewed before handling a product to determine if respiratory protection is required.

Employees assigned respirators are responsible for inspecting, cleaning, and properly storing the respirator.

Organic vapor cartridges must be replaced by the employee after about 8 hours of use. Particulate filters must be replaced by the employee whenever breathing resistance increases, irritation develops, or excessive contamination builds up.



TRAINING

Oil Industrial Based Safety

Respiratory Protection

Reference Chart

Section	Chapter	Title
III	7	Confined Space Entry
III	12	PPE
IV	19	Welding, Cutting, Brazing & Radiation
XII	26	Chemical Safety/ HAZCOM
IIX	28	Fire Protection
IX	34	Permitting

Temperature Related Illness

Prevention of heat-related illnesses centers on keeping ample fluids in the body and reducing extreme body temperature elevations in the workplace. Prevention of cold related illness centers on protecting the body from the cold.



Heat exhaustion is a precursor to the more serious condition of heat stroke. Recognizing the symptoms of heat exhaustion and taking action at that time may stop the situation from escalating.

I. Definitions

- **Heat cramps** - Localized response to fluid loss and increased body temperature, one of the first indicators of heat related illness
- **Heat exhaustion** – The body's response to excessive heat due to loss of fluid.
- **Heat stroke** - Is a medical emergency with body temperature rapidly rising to over 105 degrees F (>40.6 C) with lethargy, disorientation, then delirium and coma.
- **Frostbite** – The freezing of body parts exposed to the cold. Severity depends on the air temperature, length of exposure, and the wind. Frostbite can cause loss of extremities.

- **Hypothermia** – The cooling of the body below normal temperatures from exposure to freezing or rapidly dropping external temperatures. Death can occur if care is not given promptly.

II. Heat Related Illness

Prolonged or intense exposure to hot temperatures can cause heat-related illnesses, such as heat exhaustion, heat cramps, and heat stroke (also known as sun stroke). Heat exhaustion, heat cramps and heat stroke all occur when your body cannot cool itself adequately; each is slightly different.

Heat Cramps

Symptoms

- Severe, sometimes disabling, cramps that typically begin suddenly in the hands, calves or feet
- Hard, tense muscles

Treatment

- Get out of the sun, preferably into an air-conditioned room
- Drink plenty of fluids
- Massage cramps

Heat Exhaustion

Symptoms

- Fatigue
- Nausea
- Headaches
- Excessive thirst
- Muscle aches and cramps
- Weakness

Treatment

The primary treatment for heat exhaustion is replacement of lost fluids. Victims should move to cool environment, lie flat or with feet raised slightly above head level, and sip cool water or a diluted (half-strength) balanced electrolyte solution, such as Gatorade. In most cases, plain water is the most useful. Do not give salt tablets or solutions that have a high salt concentration.

Heat Stroke

The most severe form of heat illness, heat stroke is a medical emergency and should be treated as such.

Symptoms

- Nausea and vomiting
- Headache
- Dizziness or vertigo
- Fatigue
- Hot, flushed, dry skin
- Rapid heart rate
- Shortness of breath
- Decreased urination
- Decreased sweating
- Increased body temperature
- Confusion
- Convulsions

Treatment

- First, GET HELP. It is critical that emergency medical assistance be called as soon as possible. Then, if possible, get the victim to drink, but don't force fluids if the person is confused or has passed out.
- Move the victim to a cooler environment
- Remove outer clothing, then do one of the following:
 1. Continually sponge the victim with cool water
 2. Repeatedly administer cold packs
 3. Immerse in a tub of cool (not ice) water
 4. If no water is available, fan the victim to promote cooling



III. Cold Related Illness

Prevention of cold related illness centers on protecting the body from the cold. Particularly important is frostbite prevention, which can occur to extremities (hands and feet) when they are exposed to temperatures below freezing for extended periods of time.

Frostbite

Frostbite is simply a freezing of body tissue. In most cases frostbite occurs to exposed skin and is similar to a burn in nature. However, in cases in which people are exposed to extreme cold for extended periods, frostbite of entire extremities may occur. If the frostbite is severe enough, amputation of the affected extremities may be required.

Symptoms

- Skin that appears waxy
- Skin is cold to the touch
- Skin is discolored (flushed, white, yellow or blue)
- Skin of affected areas can be firm, and in severe frostbite can be solid

Treatment

- Treatment for frostbite is limited and once it has occurred little can be done to reverse the damage. If

frostbite has occurred:

1. Get medical help as soon as possible
2. Handle the area gently
3. Soak affected area in water no warmer than 40.5 C (105 F) until skin becomes flushed
4. After skin becomes flushed, loosely bandage the area with dry, sterile dressings
5. If fingers or toes are frostbitten, place cotton or gauze between them
6. Give warm liquids to victim if conscious
7. Do not break any blisters
8. Do not rub affected area
9. Do not give the victim stimulants, including alcohol or tobacco
10. Do not leave victim unattended

Hypothermia

Hypothermia occurs when the body is cooled below normal temperatures causing some functions to become impaired or shut down completely. Hypothermia is serious and if allowed to continue for an extended period, can cause death.

Symptoms

- Shivering
- Cold, pale, or blue-gray skin
- Lack of interest or concern (apathy)
- Poor judgment
- Mild unsteadiness in balance or walking
- Slurred speech

- Numb hands and fingers and difficulty performing tasks

Treatment

- Get medical attention immediately
- Be prepared to start CPR if the victim stops breathing
- Remove any wet clothing and dry the victim
- Gently move the victim to a warm area, keeping them in a horizontal position
- Warm the victim as soon as possible by applying warm packs to the neck, armpits and groin, or use your body heat to warm victim if warm packs are not available
- If possible, submerge the victim in water no warmer than 40.5 C (105 F)
- Do not leave victim unattended
- Do not use hot water to warm the victim
- Do not give hot liquids, alcohol, or anything by mouth
- Do not allow the victim to move
- Do not rub or manipulate the extremities



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Workplace Violence

Workplace violence is any physical assault, threatening behavior, or verbal abuse occurring in the work setting. Oceaneering is committed to providing a work environment that is free from any form of workplace violence. The company maintains a strict policy of “zero-tolerance” with respect to unlawful employee harassment.



Violence in the workplace is a serious safety and health issue. Its most extreme form, homicide, is the third-leading cause of fatal occupational injury in the United States. Violent behavior comes in many shapes, sizes, and severity. It can range from starting rumors and exchanging angry words to verbal or written threats and physical actions.

I. Definitions

- **Workplace** - May be any location either permanent or temporary where an employee performs any work related duty. This includes, but is not limited to, the buildings and surrounding perimeters, including the parking lots, field locations, drilling platforms, clients' homes and traveling to and from work assignments.
- **Assault** - Any violent attack, as an act, speech, or writing assailing a person or institution. Also, an unlawful attempt to do bodily harm to another.

- **Harassment** - Refers to a wide spectrum of offensive behavior. When the term is used in a legal sense it refers to behaviors that are found threatening or disturbing, and beyond those that are sanctioned by society.

II. Prevention

1. Pre-Employment screening - Oll uses pre-employment screenings in order to screen for prospective employees who may have a criminal record for violent behavior.
2. Employee dialogue with supervisors (through our open door policy) and or HR in order to defuse tense situations in the work place.
3. Availability of counseling for troubled employees through Employee Assistance Program.
4. Termination of employees demonstrating aggression in the workplace.
5. Security/ Engineering Controls to deter unauthorized personnel entry into the workplace or work locations.



Any employee who believes he or she has been harassed by anyone should report it promptly to their supervisor, Regional Human Resource Administrator, or Director of Human Resources. Complaints of harassment or violence of any form are taken seriously and will be investigated promptly. Employees are required to cooperate in any investigation and there will be no retaliation against any person who reports an incident.

III. Sources of Assistance

- Employee Assistance Program
- OSHA Consultation Program
- OSHA Internet site WWW.OSHA.COM
- Public Safety Officials (Law Enforcement)
- Human Resources and Employee Assistance Professionals



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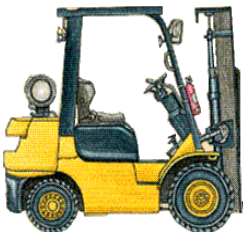
With All Due Respect

Reference Chart

Section	Chapter	Title
X	39	Security

Forklift Safety

Only trained and authorized personnel are permitted to operate a powered industrial truck (forklift). This chapter contains practical information for the safe operation of a forklift.



Forklift operators frequently underestimate the damage that can be caused by careless operation of a forklift. Under no circumstance are untrained individuals allowed to operate a forklift.

I. Definitions

- **Forklift** - Industrial truck powered by an electric or internal combustion engine, and used to lift, carry or stack materials
- **Unattended** - A forklift is considered unattended if the operator is 25 feet (7.5 meters) or more away from the forklift that remains in his view, or whenever the operator leaves the forklift and it is not in his view.
- **Upgrade** - With the forks pointing upward, and the load leaning back against the mast.

II. Practices and Procedures

Inspection

The first step in safe forklift operation is to have a safe unit to operate. This is accomplished by conducting pre-operational inspections. Each operator is required to complete a daily check list to ensure the proper functioning of their unit. At a minimum the inspection will include:

• Brakes	• Tires
• Lights	• Lift System
• Fluid Levels	• Emergency Brake
• Seat Belt	• Steering Mechanism
• Fuel	

Mounting and Dismounting

- Face the vehicle (never jump off)
- Use a three point stance (always have two hands and one foot or visa versa in contact with the unit)
- Wear proper PPE and seat belt

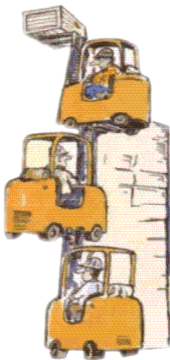
Forklift Operations and Guidelines

1. Do not make modifications or additions to forklifts that may affect the capacity and safe operation of the equipment.
2. Make sure that all name/date plates and markings on the forklifts are in place and in legible condition.
3. Only approved forklifts can be used in hazardous locations.
4. Contact HSE department to find out what kind of forklift is appropriate for a specific hazardous environment.

5. The right-of-way must be given to all vehicles and pedestrians.
6. No forklift is to be used for any purpose other than the one for which it was designed for, and which you have been trained to perform.
7. Only loads within the rated load capacity of the forklift can be carried.
8. Spotters shall be used whenever the load or forklift obscures the operator's view.

Picking Up a Load

1. Forks must be spaced properly.
2. Be sure the load is stacked properly and is balanced.
3. Secure the load to the pallet.
4. Check fork height before driving into pallet.
5. Drive forks as far into the load as possible.
6. Tilt the load back slightly and then lift it (Load in the **UPGRADE** position).
7. Watch for overhead objects or obstructions to the sides.
8. The load should be two to four inches off of the floor for traveling.



Traveling with a Load

1. Look in the direction of travel.
2. Mast should be angled slightly back.
3. Slow down and sound horn when approaching blind corners and aisles.
4. Avoid running into racks or stock.
5. Do not lift or lower the load while traveling.
6. Go down an incline in reverse and up an incline going forward.
7. Starts and Stops should be gradual.
8. Never let anyone ride on the forklift.
9. Maximum speed is 5 mph.



Stacking and Dropping a Load

1. Never stand under a load that is raised or let anyone else stand under it.
2. Always move slowly when a load is raised.
3. Be sure that when you are stacking the load is level and secure.
4. Tilt the load forward only when you are over the stack.
5. Be sure the forks are clear of the pallet before pulling out or turning.
6. Always stack loads straight and square.

When you leave your forklift unattended, LOWER THE FORKS, disengage the controls, shut off the engine, and set the brake. Block the wheels if you are parking on an incline. Never park in front of doorways, emergency exits, aisles, or fire extinguishers.



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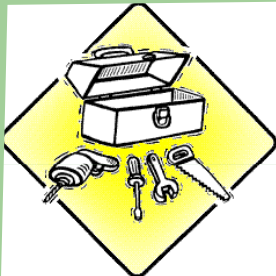
Powered Industrial Trucks/Forklift

Reference Chart

Section	Chapter	Title
III	12	PPE

Tool Safety

Proper use and maintenance is the key to safely operating any tool. This chapter will address some do's and don'ts of proper tool usage. It is not an exhaustive resource. Please consult with your supervisor and the manufacturer for instructions before using any tools which you may be unfamiliar with.



Always think when using a tool:

- Is it the proper tool for the job?
- Is it in good condition?
- Is it sized right for the job?
- Is it in the proper working condition?

I. Practices

Basic Rules for Hand Tool Safety

- Every tool was designed to do a certain job. Use it for its intended purpose.
- Keep your tools in good condition: sharp, clean, oiled, dressed and not abused.
- Worn tools are dangerous. For example the teeth in a pipe wrench can slip if worn smooth, an adjustable wrench will slip if its jaws are sprung and hammerheads can fly off loose handles.

- Tools subject to impact (chisels, star drill, punches, etc.) tend to “mushroom”. Keep them dressed to avoid flying chips. Use tool holders.
- Do not force tools beyond their capacity or use “cheaters” to increase their capacity.
- Secure your work in a vice whenever possible. Never hold small work in your hand when using a screwdriver or cutting devices.
- Chisels, screwdrivers or other pointed tools should never be carried in clothing pockets. Use tool belts designed for carrying tools.
- Hammers should have heads ground properly and should not have broken claws or handles. Check for loose handles. Always use proper size and weight for the job.
- Cutting tools should be kept sharp to ensure good smooth cutting. Always use proper handles.
- At no time are pocketknives or multiuse tools (e.g.- Leatherman© & Gerber Multi-Plier©, etc.) to be used in the work environment.
- Drill bits should be kept sharp, not dull, chipped or rounded.
- Screwdriver points should not be worn and handles should be in good condition. Use the proper size and type of screwdriver for the job.
- Wrenches, if adjustable, must work freely and adjust properly. Gripping teeth or smooth jaws should not be worn. Always use the proper size for the job.
- Always wear the PPE required for the job. Protect your eyes, hands, ears and other body parts. Keep clothing out of your work.
- Never use homemade or modified tools.
- Extreme caution should be used when working with knife edges or sharp pointed tools. **Never** carry cutting tools in your pocket.

Vice Safety

ALWAYS use vice of proper size and capacity to hold work object.

NEVER use hammer, extension pipe, or cheater bar on spindle handle of vice.

NEVER unscrew movable jaw beyond maximum specified opening of vice.

NEVER use a vice to press an object into or out of another object.

ALWAYS wear eye and face protection when striking or using power tools with a vice.

Power Tool Safety

Drills

- Do not use hand drills or battery powered drill motors in muddy or wet locations if possible. If not, stand on something dry and avoid contact with a grounded object.
- Use double-insulated or properly grounded drills.
- Use only good quality bits. Select the proper size and type of bit for the job.
- Make sure the bit is sharp and not damaged.
- Do not over-force the drill into hard material as the bit might break. If the speed can be varied, operate the drill at the correct speed, and do not lock the switch of a hand-held drill in the on position.
- When feasible, side handles should be properly affixed and utilized during drill operation.



Table Saws

- Adjust the table saw blade to project about 1/8 inch above the thickness of the material being cut.
- Make certain the work piece is out of contact with the blade when starting or stopping the saw.
- Keep your body out of the way.
- Use a push stick when ripping narrow strips.
- Lower the saw blade below the tabletop when work is finished.
- Ensure that the proper blade is used for the material being cut.

Band Saws

- Keep the saw blade set evenly and with the correct tension.
- Push the stock through the blade with the hands on both sides of the line of cut.
- Ensure that the proper blade is used for the material being cut.



Grinders (General)

- Never operate grinders without protecting your eyes with safety glasses and a face shield.
- Clean work area as necessary.
- Be sure that the grinding wheel is made for the type of material being worked on.
- Periodically check for soundness of grinding wheels.
- Replace badly worn, cracked or out-of-round wheels.

- If the material being worked on will produce a lot of dust or other particles, wear a dust mask or filter respirator.
- Allow the wheel to stop naturally when turning it off.

Bench Grinders

- Make sure the grinder has a guard housing.
- Place the tool rest 1/8 from the wheel on bench-mounted units.
- Move the work piece slowly across the wheel face.
- Ensure bench grinders are properly affixed to the work surface.

Hand Grinders

- Before starting a portable grinder, look to see where the sparks might fall and erect barriers as required.
- Allow the wheel to reach full speed before stepping into the grinding position.
- Grind on the face of the wheel unless otherwise designed.
- When feasible, side handles should be properly affixed and utilized during grinding operation.
- Use vice-grip pliers or clamps to hold small pieces.
- Guards shall be properly affixed to all hand grinders.

Uncommon Power Tools

Such as:

- Torque wrench, hammer drill, portable bandsaw
- Ensure operation manual is read and understood
- Get instruction on proper use
- Inspect equipment prior to use

Ground Fault Circuit Interrupters (GFCI) will be used when using electric power tools in damp or wet conditions. GFCI's should be available outdoors where electric power tools will be used.



TRAINING
PEC Basic Safety Awareness Orientation
Hand & Power Tool Safety

Reference Chart		
Section	Chapter	Title
II	6	First Aid/CPR/AED
III	12	PPE
IV	19	Welding, Cutting, Brazing & Radiation
IX	33	JSEA

Vehicle Safety

Company vehicles and private vehicles used for company business must be operated in full compliance with applicable laws. Such vehicles must only be operated by qualified persons holding a valid license appropriate for the type of vehicle being driven.



Each company vehicle shall be equipped with disposable camera, first aid kit, fire-extinguisher, road flares, and weekly vehicle inspection checklist.

I. Practices

- Seat belts must be worn by persons operating or riding in any company vehicle.
- Company vehicles must be driven defensively and in a safe and courteous manner, taking extra safety precautions during poor road and weather conditions.
- A daily inspection must be performed on company vehicles prior to first use of the day.
- It is the responsibility of the operator to assure that all materials being transported are properly loaded and secured to prevent accidental shifting.

- Employees are expected to refrain from using cellular phones while driving company vehicles. Employees are expected to pull off to the side of the road and safely stop the vehicle before placing or accepting a call. If using a cell phone is unavoidable while operating a company vehicle a hands-free device must be used.
- Texting and the checking and/or sending of emails is strictly prohibited.
- Company vehicles must not be operated by anyone who is under the influence of alcohol, illegal drugs, or narcotics. To do so will subject the employee to immediate termination.
- It is the responsibility of the operator to follow all Department of Transportation (D.O.T.) Regulations, some of which include inspection, manifesting, placarding and maintaining the proper licensing.
- The employee's supervisor must be notified immediately following an accident involving a company vehicle.
- The number of passengers is limited to the number of factory installed seat belts, which must be worn by ALL passengers and the driver anytime the vehicle is in motion.
- Any equipment handling a load or any equipment or vehicle restricted in maneuverability has the right of way over all non-emergency traffic.
- Do not give rides to hitchhikers while driving company vehicles.
- If the vehicle is a pool unit, the employee shall report the unsatisfactory condition immediately to the person in charge of the pool equipment.
- It is the driver's responsibility to ensure the vehicles

have the proper amount of tie-down straps and the straps are in safe condition. Before leaving with a load, the driver shall ensure the load is properly secured to the vehicle. Only ratchet straps or safety binders should be used.

- The certificate of registration and other required documents, along with accident forms, should be carried in all company owned vehicles.
- If an employee driving a vehicle should feel drowsy, another approved licensed employee should drive. If there is no other qualified driver available, the employee should not operate the vehicle until capable of doing so safely.
- Driving at the maximum posted speed limit can be too fast for safety in some situations. The driver of a vehicle should use good judgment and proceed at a pace suitable to the conditions of the vehicle, road, traffic, and weather.
- Gasoline or diesel fuel shall not be added to the fuel tank of a motor vehicle while the engine is running. If a servicing unit equipped with an engine is used to fuel the vehicles, the engine of that unit is also to be shut off unless its power is needed to deliver the fuel.
- When the weather is extremely cold, employees sometimes seek warmth from a heater inside a parked motor vehicle that has its engine running. To avoid carbon monoxide poisoning in such instances, the employee should open a vent or window at intervals enough to ensure ample fresh air or should open a door wide enough to expel the potential carbon monoxide fumes.

- All vehicle incidents should be reported to management immediately (or not later than the next scheduled shift). If the driver is unable to submit the report in a timely manner, telephone pertinent information to management to complete a preliminary report.




Park vehicles in a safe area or in designated areas. Whenever possible vehicles should be parked so the driver can exit by driving forward. When leaving a vehicle, make sure the vehicle is secure, i.e. the brake set, in park, doors closed, and engine off. When the engine must remain running, chock blocks and the emergency brake are to be used to help prevent the vehicle from moving. All Company Vehicles should be equipped with a hand-held dry-chemical fire extinguisher and a first aid kit.



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PEC Basic Safety Awareness Orientation
Defensive Driving

Welding, Cutting, Brazing, and Radiation

This chapter is presented to minimize potential hazards created by sources of ignition while working in areas where there is the potential for fire, explosions, or if the creation of toxic fumes exists.



Everyone in the welding or cutting area must wear the correct personal protective equipment. Always inspect your personal protective equipment prior to beginning work. Helmet, gloves, and clothing should be dry, free of hydrocarbons, in good repair and must cover exposed parts of your body.

I. Definitions

- **Exhaust Hood** - A local ventilation system that extracts gases and fumes from a specific work area.
- **Hot Work** - Any work or the operation of any equipment that may create a source of ignition such as, but not limited to:
 1. Electric or gas welding
 2. Gas cutting torch, gas torch soldering, brazing
 3. High speed grinding with abrasive disk
 4. Any use of open flames

- **Fire Watch** - The person required to stand by, watch for and prevent situations that might develop into fires or other control conditions during the course of hot work. A fire watch is mandatory when performing work in locations where major fires might develop. (Not applicable in fab shop).
- **Flammables** - Any material that can be ignited by sparks or flames
- **Flashback Arrestor** - A device designed to prevent gases from backing up and mixing in the supply system, and reduces the likelihood of a flame traveling back into the supply system
- **Friction Lighter** - A hand operated device that produces sparks for igniting fuel-gas
- **Fuel-Gas** - Gases that are used to produce heat for welding, cutting, and brazing (e.g. Acetylene, Propane)
- **Shielding Gas** - An inert gas used in some types of arc welding

II. Safety Equipment (PPE)

PPE For Arc Welding

- Leather gloves
- Approved helmet
- Hood with filter lens or plates

PPE For Using a Fuel-Gas Torch

- Long cuff leather gloves
- Approved dark goggles that seal around the eye or tinted face shield

PPE For Observing Welding

- Welding goggles or a shaded shield

III. Ventilation

Welding or cutting may produce toxic materials depending on the types of metals or paints involved. The worksite must be properly ventilated or all employees involved with the work must wear suitable respirators that are approved for welding. Only personnel who are trained and authorized will perform work requiring a respirator.

Types of compound that can produce toxic materials included:

- Fluorine
- Lead
- Cadmium
- Zinc
- Beryllium
- Mercury

IV. General

Protect cables from damage caused by sharp objects, welding sparks, being run over, or from contacting water. Make sure that sparks from welding or cutting can not come into contact with nearby electrical cords or hoses. If needed, repairs to equipment will only be carried out by qualified personnel.

A proper barrier should be available for welding operations. Never use the torch as an air hose to blow away and clear rust, dust or other debris. Flashback arrestor shall be used on all supply systems.

When finished welding, cutting, or brazing:

1. Close the valves of the fuel gas and oxygen cylinders.
2. Open the torch valves to relieve pressure from hoses and regulators.
3. Close the torch valves again and release the regulator pressure-adjusting screw.
4. Check area for smoldering fires and extinguish them, roll up the cables, and clean the area.

V. Safe Cylinder Handling and Storage

All cylinders will be stored in a well-protected, well-ventilated, dry location at least 20 ft. from highly combustible material. Cylinders will be stored up right and secured in a manner so that they are not allowed to tip over. Oxygen cylinders in storage must be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high. Where possible, cylinders will have valve caps fitted while in storage or transit. Cylinder valves must be closed before moving. Cylinders must be handled carefully. Rough handling, knocks, or falls are liable to damage the cylinder, valve or safety devices and cause leakage.

VI. Radiation Safety

There are two types of radiation commonly found in the workplace. Exposure to both can result in adverse affects to humans and prolonged exposure can ultimately cause irreversible damage. The two types of radiation are:

1. Ionizing Radiation- X-rays (Gamma Rays)
2. Non-Ionizing Radiation-Electric Arcs (Light Emission)

Ionizing Radiation-X-rays

High-energy radiation capable of producing ionization in substances through which it passes. This includes nonparticulate radiation, such as x-rays, and radiation produced by energetic charged particles, such as alpha and beta rays, and by neutrons, as from a nuclear reaction.

Hazards

Photons of specific energies can penetrate opaque materials of various chemical compositions e.g. air, water, bone, steel, etc. In tissue and bone this ionization can produce damage on the molecular level due to the energy absorbed. Radioactive contamination is the presence of radioactive materials which emits alpha, beta and gamma rays.

Protection

The guiding principle of radiation safety is to keep exposure as low as reasonably achievable (ALARA). The basic radiation protection methods use the concept of time, distance, shielding and quantity.

Non-Ionizing Radiation- Electric Arcs in Combination with Shielding Gas

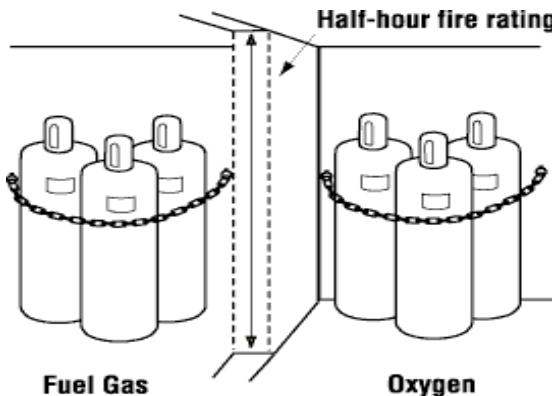
Electric arcs produce ultraviolet and infrared radiation. These levels are high in gas-shielded arc welding where argon gas intensifies the ultraviolet radiation.

Hazards

The usual effect of ultraviolet radiation is to sunburn the surface of the eye. It is recommended to never look directly into powerful arc without the appropriate eye protection. Infrared radiation has only the effect of heating the tissue with which it comes in contact.

Protection

Whenever possible, arc-welding stations should be isolated so that other workers will not be exposed to either direct or reflected radiation. Work stations can be enclosed in booths made of flameproof screens. The screens are normally coated with non-reflective paint to protect the individuals inside the booth.



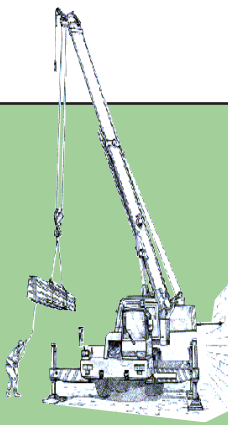
EXAMPLE OF NONCOMBUSTIBLE BARRIER SET -UP

Reference Chart		
Section	Chapter	Title
III	12	PPE
III	13	Respiratory Protection
IIX	28	Fire Protection
IX	34	Permitting

Crane and Rigging Safety

This chapter will discuss safe crane and rigging practices. It is not a substitute for crane and rigging training courses. Only trained and certified personnel are allowed to operate lifting devices.

Improper handling of materials is one of the major causes of injury in industry. Therefore, only those individuals specifically trained in the operation of cranes and safe rigging practice will be allowed to operate such equipment.



I. Definitions

- **Affected Employee** - An employee that is required to use a crane or hoist
- **Qualified Employee** - An employee that has received appropriate training to be competent in lifting device inspection
- **Lifting Equipment** - All equipment that is used in lifting the load; includes crane/hoist block, slings, hooks and shackles

- **Load Chart** - A document that specifies maximum allowable loads for particular slew and boom angles of a crane
- **Critical Lift Plan** - a detailed document that specifies the capabilities of the crane being used, the total weight of the load being lifted, and specifics about the equipment being used
- **Load Mat** - A device usually constructed from steel that is placed under the outriggers of a mobile crane to increase stability

II. Practice and Procedures

Cranes and Hoists

Lifting equipment/apparatus will be inspected daily by the operator. Cranes will be inspected daily by the operator and any known defects will be reported and repaired before the crane may be operated. The operator performing the daily inspection shall ensure that the crane has:

1. Posted load limits and boom angle indicator charts in clear view of the operator
2. Safety closing of latching device on all hooks
3. Emergency shutdown devices
4. At least 5 foot of boom tip, block, and headache ball painted with highly visibility paint

Lifting equipment/apparatus will be inspected monthly by Maintenance or by the department's Supervisor designee. The monthly inspection will be documented using the Monthly Crane and Lifting Equipment Inspection Form. Annual documented inspections and load tests will be conducted by an approved vendor.

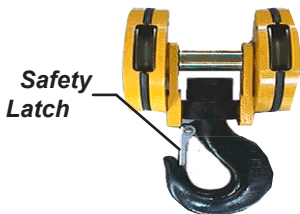
All persons on site during crane operations shall be briefed in the work to be performed during the pre-job or toolbox meeting. A qualified person shall be designated as a signal person. The signal person shall be uniquely identified (i.e.- special hard hat, vest). A chart of industry hand signals can be found at the end of this chapter.

Tag lines should be used on all lifts. Slings, fittings, and shackles shall be inspected prior to use. Crane loads are not to be lifted or swung over personnel. If it is necessary to perform an overhead lift, an alert warning should be given and employees not involved in the crane/hoist operation should clear the area. Weights of all cargo shall be known. A Critical Lift Plan is required for lifts greater than 75% of the crane's rated capacity or other critical lifts (i.e.- lifting of employees in a personnel basket).

NOTE: Do not paint crane hooks



Digital Angle Indicator



Rigging

- Only use rigging that exceeds the capacity of the load to be lifted
- Never use field-fabricated wire rope slings
- Use multi-leg slings when required rather than multiple single slings
- Avoid sharp bends in slings, know the appropriate load-to-sling angle (see diagram on following page)
- Do not stand or walk under suspended loads
- Do not leave loads unattended at anytime
- Tag lines of sufficient length (minimum 10-feet) should be used on all lifts
- Tag lines should not have knots tied in them and should never be wrapped around a hand or wrist
- Shackles shall be a bolt type with a nut and a cotter pin
- Shackles and other connecting devices shall be completely closed/bolted
- Know the safe carrying capacity of slings, chains, wire rope, and other lifting devices and do not overload them



All lifting equipment must be initially certified by a Qualified Employee or third party inspector, with certificates maintained by each operating group. All lifting devices must be identified by a stamp or tag that contains the following information:

- Identification Number
- Safe Working Load (SWL)
- Size
- Name of Manufacturer and grade of chain (for all lifting chains)

Care and Maintenance

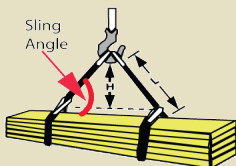
All lifting equipment must be properly maintained and stored. Guidelines for proper care and maintenance include:

- Do not use or store nylon or polypropylene web slings where fumes, vapors, sprays, mists, or liquids of acid are present
- Do not use or store polyester or nylon slings in temperatures in excess of 180° F
- Do not store polypropylene web slings in temperatures in excess of 200° F

Note: At a minimum, all shackles shall meet ASME B30.26 requirements.

- Do not store any type of web sling in a damp area
- Never heat or modify lifting equipment

The capacity of a sling to lift weight **DECREASES** as the angle of the sling moves away from being vertical. If the angle of the sling is not taken into consideration before selecting a sling to lift a load, **SERIOUS INJURY** could occur.



SLING ANGLE CHART

Angle from Horizontal	Capacity Reducer	Load Multiplier
90°	1.000	1.000
85°	.996	1.005
80°	.985	1.016
75°	.966	1.036
70°	.940	1.064
65°	.906	1.104
60°	.866	1.155
55°	.819	1.222
50°	.766	1.306
45°	.707	1.415
40°	.643	1.556
35°	.574	1.743
30°	.500	2.000

Reference Chart		
Section	Chapter	Title
IX	28	Fire Protection

CRANE HAND SIGNALS



DOG EVERYTHING



LOWER LOAD



HOIST LOAD



RETRACT BOOM



EXTEND BOOM



SWING



SLOWLY LOWER LOAD



SLOWLY RAISE LOAD



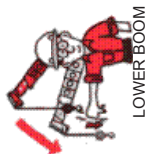
ONE-HANDED RETRACT BOOM



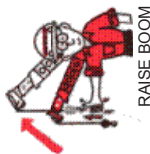
ONE-HANDED EXTEND BOOM



STOP



LOWER BOOM



RAISE BOOM



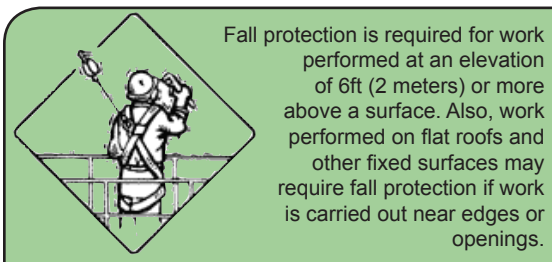
LOWER BOOM & RAISE LOAD



RAISE BOOM & LOWER LOAD

Fall Protection

It is the responsibility of each supervisor and employee to evaluate each activity for the need of fall protection equipment. Employees are responsible for following all requirements relating to fall protection and for wearing the necessary fall protection equipment to prevent falls.



I. Definitions

- **Anchorage** - A secure point of attachment for lifelines or lanyards (often referred to as the “tie-off point”) that are independent from any means of supporting or suspending a work platform
- **Body Harness** - A series of straps secured about the worker in a manner to distribute the fall arrest forces over the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a personal fall arrest system
- **Lanyard** - A flexible line of wire rope or strap that is used to secure the body harness to a lifeline or anchorage point

- **Lifeline** - A flexible line used for connection to an anchorage at one end to hang vertically or for connection to an anchorage at both ends to span horizontally

II. Working at Heights

Tie Off Points

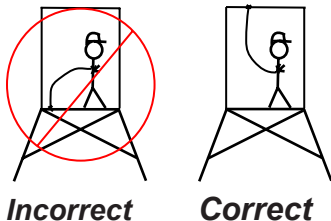
When fall protection is to be used for a job the most important decision to be made is where to tie off. Improperly tied off lanyards are as bad as not using fall protection at all. A properly tied off lanyard is one that takes three considerations:

- The length of the lanyard
- Height of the working surface
- Employee's height

If your height plus the length of the lanyard is longer than the height of the working surface then you will hit the ground before the fall protection will help you. Proper use of fall protection will do one of two things:

1. Prevent the fall
2. Decelerate the employee's fall before harm is caused

Below is a diagram of two fall protection setups, one tied off incorrectly and the other tied off correctly.



Steps for Correct Fall Protection

- Assess the risk: Do I need protection?
- Choose the correct harness and lanyards
- Inspect the webbing and buckles of the harness.
- Fit harness correctly
- Inspect the webbing, deceleration device and hooks on the lanyard
- Ensure the anchor point is overhead and is capable of supporting 5000 pounds
- Develop a rescue plan
- If everything is OK, you may begin to climb safely

Examples where you will need fall protection (not comprehensive):

- Climbing on ROV system
- Working on top of facility roofs or structures
- Working near or over the side of a vessel or installation

III. Examples of defects and damage

- Cuts of 1 mm or more (1/2 the thickness of typical webbing) at the edges of webbing lanyards (i.e. where the lanyard may have been choke-hitched around steelwork)
- Surface abrasion across the face of the webbing and at the webbing loops, particularly if localized
- Abrasion at the edges, particularly if localized
- Damage to stitching (i.e. cuts or abrasion)
- A knot in the lanyard, other than those intended by the manufacturer

- Chemical attack which can result in local weakening and softening - often indicated by flaking of the surface
- A change to the color of the fibers
- Heat or friction damage indicated by fibers with a glazed appearance, which may feel harder than surrounding fibers
- UV-degradation which is difficult to identify, particularly visually, but there may be some loss of color (if dyed) and a powdery surface
- Partially deployed energy absorber (e.g. short pull-out of tear webbing)
- Contamination (e.g. with dirt, grit, sand etc) which may result in internal or external abrasion
- Damaged or deformed fittings (e.g. carabiners, screw link connectors, scaffold hooks)
- Damage to the sheath and core of a kernmantel rope (e.g. rucking of the core detected during tactile inspection)

If damage or defects are seen or noted on any fall protection equipment, take out of service immediately and notify your supervisor and/or HSE. Remember: **INSPECT BEFORE EVERY USE!**



Personal Fall Protection is to be inspected before each use. Inspection should include evaluation of strength to provide the required support, visible wear, damage, defects or other deteriorations.

- Remember, when inspecting think: WEBBING-STITCHING-HARDWARE

Emergency Planning

When fall arrest systems are used, emergency rescue shall be planned to assure that workers can be promptly rescued or can rescue themselves should a fall occur. The availability of rescue personnel, ladders, or other rescue equipment must be evaluated prior to using any fall protection. A JSEA shall cover specific rescue plans, e.g.- self-rescue, use of rescue personnel, rescue equipment, etc. This information shall be presented during the pre-job meeting or toolbox talk.

Remember to use the buddy system when working at heights. Employees shall never work at heights alone.

Dropped Objects

The scope of this program is to provide guidance to eliminate dropped objects through:

- Identification and understanding of potential workplace hazards
- Understanding the levels of protection available
- Selecting and supplying the right levels of mitigation
- Raising overall awareness

I. Definitions

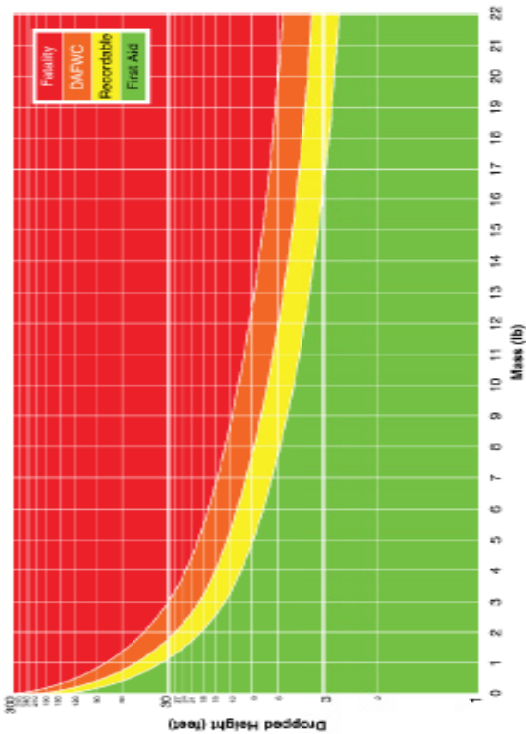
- **Dropped object** - Any object, with the potential to cause death, injury or equipment/environmental damage that falls from its previous static position under its own weight
- **Hazard ID** - A condition or action that has the potential for an unplanned release of, or unwanted contact with, an energy source that may result in harm to injury to people, property, or the environment
- **Secondary Safety Systems** - Fail-safe systems incorporated into equipment to ensure integrity of that equipment if the primary safety system fails
- **Secondary Securing Devices (SSDs)** - The securing of a component at height, if the primary securing method fails
- **Secondary Safety Wire (SSW)** - A safety net or some other engineered method designed for this function

II. Practices

Small objects falling from a height can cause serious or fatal injuries. Some specific areas/events that create environments for dropped objects are:

- Poor housekeeping
- Scrap and debris left aloft
- No site inspections
- No equipment maintenance
- Poor designs
- Weather
- No restraints
- No planning
- Load miscalculation
- Lack of risk assessments
- Errors in space requirements
- Instability
- Ineffective control of equipment or tools taken aloft
- No lanyards on tools used at heights
- Improperly secured or inappropriate loads
- No regular inspection procedures
- Becoming blind to changes in activity (dynamic risk assessment)
- Carrying equipment while at height

Potential harm/damage to the environment or individual can be determined by using the Dropped Object Calculator:



The Dropped Objects Calculator was developed with a mathematical model based upon the mass of the object and the height from which it falls. This calculator can also be found at <http://www.dropsworkpack.com>

Recommended Actions

Some recommended actions to minimize the potential for dropped objects within our work environments are:

- Make observations and report all incidents and near hits
- Incorporate dropped objects into your working at heights procedures
- Inventory tools before working at heights and ensure all tools are accounted for after the task is completed
- Maintain good housekeeping
- Stop all unsafe activities (Stop Work Authority)
- Use specific toolkits for working at height
- Check all work areas after all work is completed
- Raise overall dropped objects identification and mitigation among the workforce
- Secure tools from dropping to lower levels
- Consider dropped objects in Toolbox Talks and Safety Meetings
- Follow JSEA guidelines, erect signage and physical barriers to restrict access before work is conducted overhead
- Review and revise JSEAs for dropped objects potential
- Schedule regular Hazard Hunts for possible dropped objects
- Inspect PPE, for example, (safety harnesses, lanyards, etc.)
- Inspect all overhead equipment and locations for loose items that may present a hazard during maintenance activities

Ladders & Scaffolding

Use only approved ladders made of wood, metal, or fiberglass. Do not use homemade ladders or metal ladders around electrical equipment. All materials to be used must be inspected to verify that they are of good quality and in good condition.

As with all elevated activities, special attention is to be paid to your safety and the safety of others around you. Before you use a ladder or scaffold ask yourself if there is a better way to get the job done. If not, follow the steps outlined in the chapter and in your training as to the proper use of each.



I. Practices

Ladders

When ascending and descending a ladder you must maintain 3 points of contact at all times. If you are following this rule it is difficult to carry or use most tools while on a ladder. You should always inspect the cleats, rungs, side rails, etc. for grease, deformities, cuts, bends in the metal and any other abnormalities prior to use.

1. Leaning Ladders

- Do a daily pre-use check
- Secure it (tie-off or held by co-worker)
- Ground should be firm and level

- Have a strong upper resting point (not plastic guttering)
- Floors should be clean, not slippery

2. Leaning Ladders in use

- Short duration work (maximum 30 minutes)
- Light work (up to 10 kg or 22 lb)
- Ladder angle 75 ° – 1 in 4 rule (1 unit out for every 4 units up)
- Always grip the ladder when climbing
- Do not overreach - make sure your belt buckle (navel) stays within the uprights and keep both feet on the same rung or step throughout the task
- Do not work off the top three rungs – this provides a hand hold

3. Step Ladders

- Daily pre-use check
- Ensure there is space to fully open
- Use any locking devices
- Secure it (tie-off or held by co-worker)
- Ground should be firm and level
- Floors should be clean, not slippery

4. Step Ladders in use

- Short duration work
- Light work (up to 10 kg or 22 lb)
- Do not work off the top two steps (top three steps for swing-back/double-sided stepladders) unless you have a safe hand hold on the steps

- Avoid side-on working
- Do not overreach – make sure your belt buckle (navel) stays within the uprights and keep both feet on the rungs

Scaffolding

Only certified and trained personnel are approved to erect scaffolding.

There are many different types of scaffolding in use today. All scaffolds have the same basic rules:



1. Employees must wear a minimum of a hard hat and body harness at all times while working on scaffolding.
2. A daily/pre-use inspection will be done by a competent person and a tag fixed to the scaffold.
3. Check that the platform is fully boarded out.
4. Check that all necessary guardrails are fitted.
5. Check that all toe boards are fitted and in position.
6. Check that all brick guards are in place.
7. Check that the ladder provides suitable access and is tied to the scaffold.
8. Check the scaffold has been erected on a sound base and that base plates and sole boards have been used.
9. Never use a scaffold if you think it is unsafe.
10. If you find that a scaffold is unsafe, report the faults to your supervisor so he can have them put right.

11. Do not overload platforms with materials and keep platforms clear of debris.
12. Alterations to scaffolds must only be carried out by persons who are authorized to do so.
13. At the end of each shift, remove access ladders or board them out to prevent unauthorized use this is in addition to site fencing.



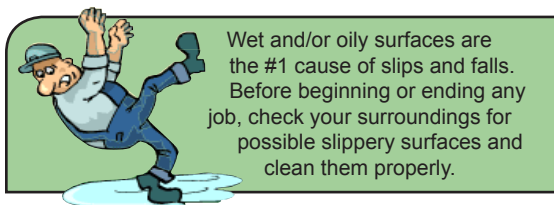
TRAINING

PEC Basic Safety Awareness Orientation

Reference Chart		
Section	Chapter	Title
III	12	PPE
V	21	Fall Protection

Walking Surface Awareness

Working and walking surfaces are a very important part of a safe working environment. This chapter will outline potential walking surface hazards and the proper way in which to deal with them.



I. Practices

All working and walking surfaces must be suitable for the work being performed. Surfaces should be free from water and oil; all spills must be cleaned up immediately. Designated walkways and exit routes should be free from obstructions and clearly identified. Walkways are not to be used to store materials.

PREVENTING SLIPS, TRIPS AND FALLS

Hazard	Suggested Action
Spillage of wet or dry substances	Clean spills immediately, ensure that a suitable cleaning agent is used. (Refer to MSDS)
Slippery surfaces	If the floor is slippery (floor after cleaning is likely to be wet for some time), provide signs warning people of the hazard or redirect passage via alternate routes. Apply non-skid materials (paint applied or other) in areas where slippery surfaces are consistently an issue.
Change from wet to dry floor surfaces	Warn of hazard by using signs. Place doormats next to wet area on dry side to reduce incidence of leaving wet footmarks.
Rugs / mats	Ensure mats are securely fixed and do not have curling edges. Replace mats if significantly contaminated by oil or grease.
Trailing cables	Position cables so they avoid crossing walkways if possible. Use signs to warn people of loose cables; restrict access to minimize traffic over them.
Steps or changes of level	Ensure good levels of lighting to ensure steps or changes in level are not in shadow. Fit highly visible edge markings.
Stairways	Ensure good levels of step visibility; use tread markings at start point as a minimum. Remind personnel to use the handrails at all times when ascending or descending stairs.

Hazard	Suggested Action
Lighting levels	Ensure lighting levels are adequate in walkways and working areas so that potential trip hazards are not in shadow.
Protrusions	Clearly identify protrusions on deck or in walkways by highlighting them with brightly colored paint.
Miscellaneous rubbish	Remove rubbish, put it in designated waste containers, and prevent any build up within the normal working areas.

Employee Responsibility

- Immediately clean up any spills or loose rubbish
- Be aware of your surroundings
- Keep your work area orderly

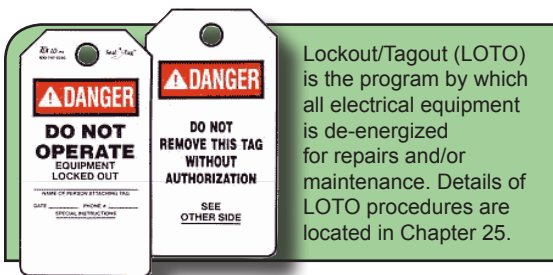


TRAINING

PEC Basic Safety Awareness Orientation

Electrical Safety

Only qualified and trained personnel are allowed to repair or install electrical equipment or work around live electrical circuits.



I. Definitions

- **Energized** - Containing or having the potential to contain electric current
- **Grounding** - Method for directing current to the ground
- **Ground Fault Circuit Interrupter (GFCI)** - A protective device designed to break the connection to the electrical supply if the electrical equipment comes into direct or indirect contact with ground
- **Lockout/Tagout (LOTO)** - The placement of a LOTO device on an energy isolating device ensuring that the energy isolating device and the equipment being controlled cannot be operated until the LOTO device is removed

- **Hazardous Energy Control** - Often referred to as Lockout/Tagout; the terms are interchangeable
- **Working Clearance** - The minimum safe distance between a person and any exposed, energized electrical parts

II. Precautions

- Consider all electrical conductors energized
- Use suitable PPE when working on energized equipment
- Wearing of personal jewelry of any kind is prohibited
- Never render safety guards / switches inoperative by removing, modifying, or destroying them
- Use non-conductive ladders when working at elevation
- Never use defective electrical equipment or extension cords
- GFCI's shall always be utilized in damp areas; it is best practice to use GFCI's whenever possible

III. Controls

1. PPE

The proper PPE is not limited to the list below, check all hazards and appropriate guards before starting a job.

- Insulating gloves
- Hard hats
- Eye and face protection
- Safety shoes with non-conductive hard toes

Before starting a job, remember to check your personal effects. Remove all jewelry, make sure your hands and feet are dry, and remove any metal objects from your pockets.

2. Tools

Use double - insulated or grounded electrical tools, including insulated fuse pullers, hand tools, and drills.

3. Working on Electrical Equipment

- Mark work area with yellow tape
- Do not remove, bypass, modify, or destroy guards
- Consider all electrical equipment energized
- Never leave exposed electrical parts unattended
- Never work on electrical equipment by yourself



4. Hazardous Energy Control

Also known as Lockout/Tagout. Before working on any electrical equipment you must de-energize the equipment and “lock” it out by following the procedures of the LOTO system described in detail in Chapter 25.



TRAINING

PEC Basic Safety Awareness Orientation

Lockout/Tagout

Reference Chart

Section	Chapter	Title
VI	25	Lockout/Tagout
III	12	PPE

Lockout / Tagout (LOTO)

Lockout/Tagout is designed to protect employees from the unexpected energizing/start up of machines and equipment, or the unexpected release of all stored energy (i.e.-pressure, motion, chemical, radiation, electrical, gravity, heat/cold, biological).



There should never be an instance where a piece of machinery or equipment (capable of being energized) is repaired by a non qualified worker or workers without using proper Lockout/Tagout procedures.

I. Definitions

- **Affected Employee** – Employees who are required to enter areas where Hazardous Energy Control procedures are utilized must receive training on Hazardous Energy Control procedures
- **Authorized Employee** – Employees who are authorized to lockout and tagout machines and equipment in order to perform service or maintenance; an Affected Employee becomes an Authorized Employee when that employee's duties include performing servicing or maintenance covered under this process

II. Practices

Only Authorized Employees are permitted to work on machines or equipment where unexpected energizing or energy release could injure them.

1. Preparation for Shutdown

- The Authorized Employee will survey the area and review the procedure
- Affected Employees must be notified that equipment is to be locked out

2. Shutdown and Deactivation

- The machine or equipment will be shut down using the established procedures for that machine or equipment

3. Isolation of Energy to the Equipment

- All energy-isolating devices (circuit breakers, power cords, air lines, hydraulics, etc.) that control the flow of energy to the equipment must be identified, and configured so that they isolate the machine or equipment from the source of energy
- If there is any stored hazardous energy within the equipment, use the proper procedure to prevent that stored energy from releasing inadvertently

4. Attachment of a Lockout Device and a Tag

- A lockout device and a tag will be affixed to isolate each source of potential energy
- When using a lockout device and tag, the device is to be affixed in a manner that will hold the energy-isolating device in a safe or off position
- A "Danger - Do Not Operate" tag (or a danger tag with similar wording) must be attached to each lockout device
- The tag contains the name of the person who applied the lock, the date, and the reason why the lockout device was attached

5. Attachment of a Tagout Device

- When a machine or piece of equipment is incapable of accepting a locking device, a tagout device will be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the “safe” or “off” position is prohibited
- Where a tag cannot be affixed directly to the energy isolating device, the tag must be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device

6. Release of Stored Energy

- After the lockout device and tag have been attached, all potentially hazardous stored energy should be released. This may include the discharge of capacitors, the bleeding of hydraulic or gas pressure, and the securing of weights against physical stops so that no potential energy remains downstream of the point of isolation

7. Verification of Isolation

- Verify that equipment is deenergized (check with voltage meter, attempt to energize equipment)
- The control of hazardous energy is not complete until authorized personnel verify isolation
- Verification should be done, as a minimum, at the beginning of the workday and following breaks when activity has not been monitored

8. Release from Lockout

- A lockout device may only be removed by a person who attached it
- Before lockout devices are removed and energy restored to the machine or equipment, the actions

listed below are to be taken by an Authorized Employee:

- The work area must be inspected to ensure that tools and parts have been removed, guards restored, and the equipment components are operationally intact
- The work area must be inspected to ensure that all personnel are safely positioned
- All affected employees must be notified that the lockout device will be removed
- Verify all controls are in the safe or off position to prevent unexpected start up upon re-energization
- Reenergize equipment and test all functions
- In situations that require that the equipment be energized for testing, the above actions should be taken prior to the removal of locking devices and energizing
- Following the testing, the machine or equipment will be de-energized and energy control measures reapplied
- If a lockout device must be removed, the employee who attached the lockout device is to be located and requested to remove the locking device
- If the employee is unavailable, then only another authorized employee may remove a locking device, provided a local written procedure for lockout device removal is followed
- Attempt to contact the employee to inform him/her that the lockout device has been removed
- Ensure that the employee has knowledge of the removal before he/she resumes work at the facility
- Unauthorized or improper removal of a lockout device is grounds for serious disciplinary action

Examples:



III. Hydraulic Safety

Hydraulics is the powerful form of energy that, when properly controlled, produces useful work. The force required to do the work can range from just a few pounds to tens-of-thousands of pounds. Disastrous results can occur if this pressure is not properly contained and controlled.



NOTE:

The worst, most dangerous condition that any hydraulic system could be found in is, out of control.

Lock/Tag Out Procedures

The purpose behind a lock/tag out procedure is to recognize and isolate all sources of energy so that a piece of equipment can be safely serviced. The sources are:

- Electrical - Don't forget that there may be more than one source involved
- Stored pressure - Do not bleed to atmosphere
- Trapped pressure - Identify all points that could trap pressure
- Gravity - Never trust any hydraulic valve as an absolute means of holding a load

Improper Operation

Not being familiar with the proper operation of a piece of hydraulic equipment can lead to unexpected movement, which in turn can cause injury or property damage. Just because you think you can operate a machine, does not mean you can. If you have not been trained to operate the machinery, including emergency procedures, do not attempt operating it.



NOTE:

Never use hands to locate the source of a leak on a pressurized line! Oil from a pinhole leak, at pressures as low as 200psi, can penetrate the skin and cause serious internal problems. Oil coming from the same pinhole at 3000 psi can amputate fingers even through gloves.

HAZARD	POSSIBLE CAUSE	CONSEQUENCES
Unexpected movement	<ol style="list-style-type: none"> 1. Improper lock/tag out procedure 2. Not following lock out/tag out procedure 3. Improper operation 4. Accidental or wrong command to a valve 5. Improperly adjusted valve(s) 6. Improper selection of valves or components 7. Sudden release of oil from the system 	<ol style="list-style-type: none"> 1. Bodily injury 2. Damage to equipment
Sudden, unexpected, release of pressurized oil from the system	<ol style="list-style-type: none"> 1. Improper lock/tag out procedure 2. Not following lock out/tag out procedure 3. Improperly adjusted valve(s) 4. Improper selection of valves or components 5. Unauthorized modifications 6. Improper selection of fluid conductors 7. Improper plumbing practices 8. No hose inspection schedule 9. Improper troubleshooting technique 0. Improper design 	<ol style="list-style-type: none"> 1. Bodily Injury 2. Damage to equipment 3. Environmental damage 4. Fire
Intentional release of pressurized oil from the system	<ol style="list-style-type: none"> 1. Improper lock/tag out procedure 2. Not following lock/tag out procedure 3. Improper troubleshooting technique 4. Poor design 	<ol style="list-style-type: none"> 1. Bodily injury 2. Damage to equipment 3. Environmental damage 4. Fire

Reference Chart		
Section	Chapter	Title
6	24	Electrical Safety



TRAINING

LOTO

**Chemical Safety /
HAZCOM**

This chapter is designed to communicate the proper storage, safe handling, and labeling requirement for chemicals in the workplace. These chemicals can range from common household cleaners to highly dangerous chemicals that require special PPE. Regardless, all chemicals should be treated with the proper attention and respect.



All chemicals should be labeled at all times. Labeling is the primary warning system that allows people working with or near hazardous materials to identify these substances, the associated hazards, and level of protection required.

I. Definitions

- **Fumes** - Gas-like emanation containing minute solid particles arising from heating of a solid body such as lead
- **Hazard** - A consequence to health when in contact with a chemical or biological substance. The words “toxic”, “corrosive”, “harmful”, etc. define particular types of hazards
- **Hazardous Material** - Any material or mixture of materials that presents a physical hazard or health hazard

- **Health Hazards** - Hazards caused by materials that cause harm upon entering or contacting the body
- **HMIS - Hazardous Material Identification System** - A universal container labeling system that provides health, flammability, and reactivity, as well as other pertinent information
- **SDS** - Safety Data Sheets - Includes information concerning chemical hazard safe handling, storage, and disposal
- **Toxic** - Toxins are substances that cause either permanent or reversible injury to the health of a living thing on contact or absorption
- **Vapor** - Gases given off by a substance normally encountered as liquid or solid at standard temperature and pressure

II. Practices

Identification

Any material that is a physical or health hazard is considered to be hazardous, including:

- Explosives, flammable, or combustible
- Compressed gas
- Oxidizers
- Organic peroxides
- Irritants
- Corrosives
- Carcinogens

All work areas must compile and maintain a chemical inventory list. The master list is available through the HSE department.

SDS

Safety Data Sheets give details on chemical and physical dangers, safety procedures, and emergency response.

1. Identification
2. Hazard identification
3. Composition/information on ingredients
4. First aid measures
5. Fire fighting measures
6. Accidental release measures
7. Handling & storage
8. Exposure Controls/ PPE
9. Physical & chemical properties
10. Stability & reactivity
11. Toxicological information
12. An online SDS database that includes the specific chemicals used at Oceaneering can be found in the HSE section of the Oceanet under the header SDS. CDs with the database contents can be requested from the HSE Department.

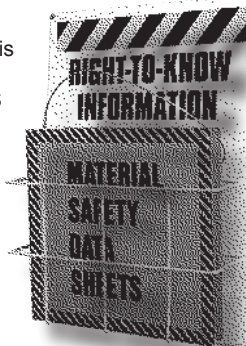
Chemical Handling

- Read the reference material that is available concerning chemical hazards, safe handling, storage, and disposal. This reference material includes a current SDS for all chemicals stored or used on the facility or your work location.
- Understand the hazards a chemical presents before using it
- Do not smell or taste chemicals
- Work in pairs when handling toxic or extremely hazardous chemical.

Labeling

Labels or tags must be affixed to any chemical container entering an Oceaneering facility. The labels and tags should be at minimum, written in English and contain the following information:

1. The identity of contents
2. Have appropriate hazard warnings, including health hazards, fire hazards, and reactivity hazards. See the National Fire Protection Agency (NFPA) Hazardous Material Identification System and the Hazardous Index Label on the following pages
3. The name and address of the manufacturer, importer, or other responsible party
4. Oceaneering uses both the HMIS and NFPA labeling systems. At first glance, both labeling systems appear quite similar. Both have four sections colored blue, red, yellow and white. HMIS uses colored bars, while NFPA uses colored diamonds. In the NFPA system, the white area is used to convey special hazards whereas HMIS uses the white section to indicate what personal protective equipment (PPE) should be used when working with the material.



Hazardous Index Label**HEALTH****FLAMMABILITY****REACTIVITY****TARGET ORGAN EFFECT****PROTECTIVE EQUIPMENT REQUIRED****PERSONAL PROTECTIVE SYMBOL**

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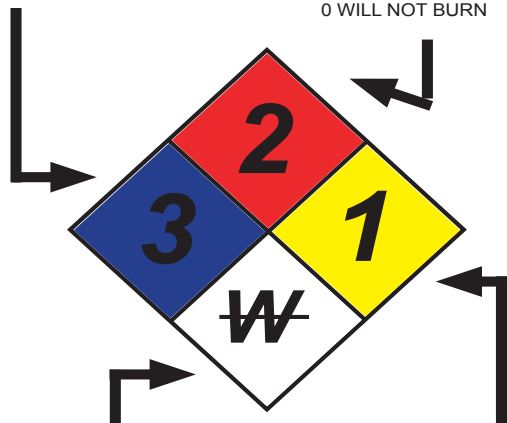
NFPA Hazardous Material Identification System

HEALTH HAZARD


- 4 DEADLY
- 3 EXTREME DANGER
- 2 HAZARDOUS
- 1 SLIGHT HAZARDOUS
- 0 NORMAL MATERIAL

FIRE HAZARD

- FLASH POINT
- 4 BELOW 73° F
- 3 BELOW 100° F
- 2 FROM 100°-200° F
- 1 ABOVE 200° F
- 0 WILL NOT BURN



SPECIFIC HAZARD

- | | |
|--------------|---|
| OXIDIZER | OXY |
| ACID | ACID |
| ALKALI | ALK |
| CORROSIVE | COR |
| USE NO WATER | W |
| POLYMERIZERS | P |
| RADIOACTIVE |  |

REACTIVITY

- 4 MAY DETONATE
- 3 SHOCK AND HEAT MAY DETONATE
- 2 VIOLENT CHEMICAL CHANGE
- 1 UNSTABLE IF HEATED
- 0 STABLE

GHS – Hazard Pictograms and correlated exemplary Hazard Classes

Physical Hazards



Explosives



Flammable Liquids



Oxidizing Liquids



Compressed Gases



Corrosive to Metals

Health Hazards



Acute Toxicity



Skin Corrosion



Skin Irritation

CMR¹⁾, STOT²⁾,
Aspiration Hazard

Env. Hazards

Hazardous to the
Aquatic Environment

1) carcinogenic, germ cell mutagenic, toxic to reproduction / 2) specific target organ toxicity

Storage Containers

The container must be compatible with the chemical. The container must be in good condition. The container must be properly labeled as specified in previous section.

The container must be marked as specified by the rules and regulation of local governing officials. Once at an Oceaneering facility the container must remain labeled. If a container is found to be damaged in anyway, that container is to be taken out of service immediately. Chemical drums shall be stored on secondary containment with the capacity of 110% of the largest container.

Purchasing

Only chemicals on the approved list are to be used and purchased. Please contact your purchasing agent or the HSE department with questions concerning approved chemicals.

Emergency Procedures

The people who respond to emergencies must be properly trained and equipped. In a chemical emergency the first priority is to protect people from the unsafe conditions by using a pre-established evacuation procedure. After the immediate danger has passed and the situation has been brought under control, clean up of the area should begin. Report all chemical incidents to HSE. In response to chemical spill, release, or incident, the following steps should be taken:

1. Tell everyone to turn off any ignition sources.
2. Evacuate people to a safe location. If necessary, initiate a general evacuation of the facility or work area.
3. Decontaminate anyone who has been directly exposed and treat first aid cases.

4. Once everyone is in a safe location, the emergency response team should assemble under the authority of the team leader.
5. Implement control measures and clean up.



TRAINING
Hazard Communication
Hazardous Waste Generator (Awareness)
Hazard Communication

Emergency Evacuation



Muster points shall be designated at various points throughout all OII facilities, vessels and work locations. Emergency Evacuation Maps should be placed throughout the facilities and vessels to instruct employees to their nearest muster point. You need to locate yours today.

I. Definitions

- **Contingency Planning** - The identification and categorization of emergency scenarios that could occur and preparation to mitigate them
- **Emergency Response Personnel (ERP)** - An employee who successfully completed a training course in medical first aid and CPR, and has been designated by facility management to respond to injuries or illness
- **Emergency Situations** - Emergency situations may include evacuation, medical contingencies, environmental incidents, shelter-in-place contingencies, and spills or leaks.
- **Emergency Planning** - includes, first aid provisions, planning for media relations, and emergency training.

II. Controls

Muster Areas are designated sites located on OII facilities, vessels and work locations for employees to gather in the case of an emergency. Please refer to emergency evacuation maps located around OII work locations to find the closest muster point to you.

III. Emergency Action Plan

Alarms

- If alarms are used for more than just notifying employees of the need to evacuate, each alarm shall have a distinctive signal for each purpose
- Be aware of all site alarms

When alarm is activated

- Establish wind directions
- Report to your specific muster point
- Take necessary precautions for employee safety

Possible reasons for evacuation

(not limited to)



Fire



Weather
Event



Illness

The use of portable music devices, such as, MP3 players, iPods, cell phones, etc. is prohibited within any work environment due to multiple audible alarming devices used in or around the workplace.



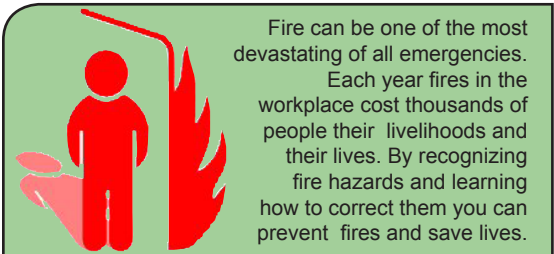
TRAINING

PEC Basic Safety Awareness Orientation

Reference Chart		
Section	Chapter	Title
IIX	28	Fire Protection

Fire Protection

Fire protection is essentially policies, equipment, systems, features, buildings and other structures designed to reduce damage to property and injury to personnel by detecting, extinguishing or containing fire.



Fire can be one of the most devastating of all emergencies.

Each year fires in the workplace cost thousands of people their livelihoods and their lives. By recognizing fire hazards and learning how to correct them you can prevent fires and save lives.

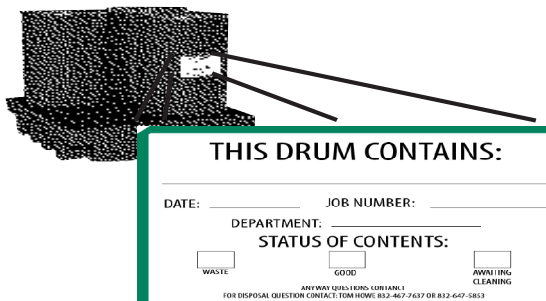
I. Prevention

Common approaches to prevent the many different causes of fires:

- Electrical installations should be done by qualified electricians
- Temporary wiring should be just that, temporary
- Smoking is allowed in designated areas only
- Electrical equipment should be checked for unsafe conditions including overloading and loose or damaged connections

Flammable Liquids

Flammable liquids must be stored in flammable storage cabinets.



II. Housekeeping

The workplace should be neat, with tools and equipment in good condition. Following is a checklist for good housekeeping:

- Oily waste and oil-soaked materials in properly covered metal waste containers
- Combustible waste not allowed to accumulate in the workplace
- Weeds and grass must be kept cut inside of firewalls, around tanks, buildings, wells, heaters, power poles and other stationary objects to reduce the possibility of fire
- “No Smoking” signs must be posted in all areas where smoking is prohibited (for example, explosives storage areas, flammable material storage areas, and fuel tanks)

II. Evacuation and Escape Routes

The fire alarm varies at different locations; know the alarm at the location you are at, which will be followed by voice commands giving instructions for evacuation. Escape routes are posted throughout OII work locations.

- Always know your closest escape route
- Escape routes must be kept clear
- Exit signs must be working and visible
- Exit doors must be unlocked

III. Smoking

Smoking is prohibited in all buildings.

Smoking is allowed in designated smoking areas only. These areas are posted with signs reading “Smoking Area.”

Contact your supervisor immediately should you have any questions or concerns regarding fire protection.



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Safegulf: Orientation
Fire&Emergency Training

Employee Observation Program

This is a proactive effort to identify and reduce or eliminate hazards before an incident occurs. Studies show that many more near hits occur than incidents involving injury or property damage. Reporting near hits allows for corrective action, preventing circumstances leading to more serious incidents in the future. The employee observation program is not to be used for disciplinary purposes.



The intent of the Observation Program is to:

1. Observe, report and correct unsafe behaviors or unsafe conditions.
2. Recognize safe practices and commend them.
3. First report of an injury, near hit, equipment damage, or environmental incident.

I. Basic Characteristics

What are the basic characteristics of an effective Observation Program?

- The program encourages prevention or elimination of unsafe conditions and behavior and properly recognizes when safe practices occur
- Root causes of problems are identified and corrected
- Communication is open and honest

- Observations are tracked to ensure timely and appropriate resolution

II. Observation Benefits

- Decreases substandard practices and conditions
- Reduces incidents
- Encourages a safer work environment
- Helps identify unsafe behavioral trends, training deficiencies, additional training needs, or needed work processes or environment changes

III. What to report

- First Aids - Paper cut, bruised hand, etc.
- Unsafe Condition - Hose lying across the walkway
- Unsafe Behavior - Working without wearing required PPE (safety glasses, hard hat, etc.)
- Near Hit - Piece of metal falls near employee missing them by inches. (Potential of injury was present but did not occur)
- Safety Suggestion - Recommending a newly designed sling to aid in manually handling a heavy object
- HSE Recognition - Observing crew member going above and beyond safety expectations
- SWA - You observe an employee working on energized equipment. You stop all work and implement LOTO practices before the task resumes
- Environmental - You discover oil absorbent pads in a trash can. They are removed from the trash can and placed in the container designated for used oil absorbent pads

•IV. Observation Program Steps

- Document the situation on an Observation Card
- Discuss the observation card with your immediate Supervisor
- Investigate as needed
- Take appropriate corrective action
- If possible, resolve the observation
- If observation can't be immediately resolved, Supervisor identifies the appropriate person or department needed for resolution and assigns actions accordingly
- Document actions taken
- Audit/ follow-up to ensure corrective action(s) remain effectively implemented

V. The Observation Card

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Back



Observation Program

- FIRST AID
- UNSAFE CONDITION
- UNSAFE BEHAVIOR
- NEAR HIT
- SAFETY SUGGESTION
- HSE RECOGNITION
- SWA- STOP WORK AUTHORITY
- ENVIRONMENTAL

Observer's Name _____

Action Taken _____

Dept./Shift _____

Location _____

Responsible Party for Closure _____

Date/Time _____

Summary of Closure _____

Description of Observation _____

Closed _____

*Per SEMS requirement keep card for 6 years.

Rev. 2

Dupont's STOP[®] for Supervision

STOP for Supervision is designed to help supervisors encourage the safe behavior of their employees, and correct the unsafe behavior constructively. Supervisors observe their employees while they work and discuss what was observed. Safe practices are reinforced and unsafe practices addressed by discussing safe alternatives.



By utilizing the principles in the STOP program you and your employees benefit from a safer workplace. The STOP system is a proven approach to lowering safety incidents at work.

I. Definitions

- **STOP Observation Card** – This card is used by managers and supervisors to report what was observed during a formal STOP audit. This is used for trending and analysis and is not used for disciplinary means. Observed employee's name or gender is omitted from completed cards.

II. Practices

Principles of STOP

1. All injuries and occupational illnesses can be prevented.
2. Safety is everyone's responsibility.

3. Management is directly accountable for preventing injuries and occupational illnesses.
4. Training is an essential element for a safe workplace.
5. Safe work practices should be reinforced and all unsafe acts/conditions must be corrected promptly.
6. It is essential to investigate injuries and occupational illnesses as well as incidents with the potential for injuries.
7. Safety off the job is an important element of overall safety effort. Preventing injuries and occupational illnesses is good business.
8. People are the most critical element in the success of a safety and health program.
9. Safety audits must be conducted.
10. Incident investigation is essential.
11. Employee involvement is essential.
12. Safety is a condition of employment.

STOP Cycle

- **Decide** - to observe (pre-planned observation)
- **Stop** - near people and systematically observe employee(s) working
- **Observe** - employee's work behavior using the categories on the STOP card. Remember you're looking for both safe and unsafe behaviors and conditions. The following are the 6 categories that we're observing for:
 - Reactions of People
 - Personal Protective Equipment
 - Positions of People

- Tools and Equipment
- Procedures
- Orderliness Standards
- **Act** - This involves talking with the employee (s) about what has been observed. The goal is to reinforce safe work practices and to get agreement to improve change unsafe behaviors or conditions.
- **Report** - using the STOP Safety Observation card. This is done after the Supervisor has had the discussion (Act) with the employee (s).

Front

THE STOP™ SAFETY OBSERVATION CYCLE			
DEBRIEF	STOP	REPORT	
	STOP	ACT	
			OBSERVE
The STOP™ Observation Checklist			
		Actions	
Unsafe	Safe	Unsafe	Safe
Reactions of People	All Safe <input type="checkbox"/>	Personal Protective Equipment	All Safe <input type="checkbox"/>
— Adjusting Personal Protective Equipment		Head-to-Toe Check	
— Changing Position		— Head	—
— Rearranging Job		— Eyes and Face	—
— Stopping Job		— Ears	—
— Attaching Grounds		— Respiratory System	—
— Performing Lockouts		— Arms and Hands	—
		— Trunk	—
		— Legs and Feet	—
Positions of People	All Safe <input type="checkbox"/>	Tools and Equipment	All Safe <input type="checkbox"/>
Injury Causes		— Right for the Job	—
— Striking Against or Being Struck by Objects		— Used Correctly	—
— Caught In, On, or Between Objects		— In Safe Condition	—
— Falling			
— Contacting Temperature Extremes		Procedures	All Safe <input type="checkbox"/>
— Contacting Electric Current		— Available	—
— Inhaling, Absorbing, or Swallowing a Hazardous Substance		— Adequate	—
— Repetitive Motions		— Known	—
— Awkward Positions/Static Postures		— Understood	—
		— Followed	—
		Orderliness	All Safe <input type="checkbox"/>
		Standards	
		— Known	—
		— Understood	—
		— Followed	—
STOP00-OCL-ENG-0002			

The STOP™ Observation Checklist			
ELIMINATE UNSAFE CONDITIONS... PREVENT INJURIES		THE STOP™ SAFETY OBSERVATION CYCLE	
DEBRIEF	STOP	REPORT	
	STOP	ACT	
			OBSERVE
Conditions		Unsafe	Safe
Tools and Equipment	All Safe <input type="checkbox"/>		Safe acts observed
Are They		— Right for the Job	—
		— In Safe Condition	—
Structures and Work Area	All Safe <input type="checkbox"/>		Unsafe acts observed
Are They		— Clean	—
		— Orderly	—
		— Right for the Job	—
		— In Safe Condition	—
Environment	All Safe <input type="checkbox"/>		
Is It		— Clean	—
		— Orderly	—
		— In Safe Condition	—
			Name
			Date
Orderliness	All Safe <input type="checkbox"/>		Site
			Area
Standards		— Available	Shift
		— Adequate	
			Time spent on observation
			# of People Contacted <input type="checkbox"/>
			# of People Observed <input type="checkbox"/>
Additional STOP™ Observation Checklists can be obtained by contacting DuPont. Please visit www.safetysupport.com for contact information or to place an order on-line. Copyright © 2011 DuPont. All rights reserved. STOP™ and the STOP™ logo are registered trademarks of DuPont.			

Back

Contact your Supervisor or HSE should you have any questions or concerns regarding STOP for Supervision and its usage.



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PEC Basic Safety Awareness Orientation
STOP for Supervision

Short Service Employee Program

The purpose of this is to establish the minimum requirements for managing newly hired, transferred, or temporary employees.

I. Definitions

- **Short Service Employee (SSE)** - Employee with less than 6 months (unless working on customer locations- see below) of continuous service with Oceaneering, and/or experience working in the capacity/position assigned
- **Mentor** - An experienced person who is assigned to look out for and teach SSE the correct method of performing the tasks associated with their job until they have been taken off the SSE status. The mentor must have at least 12 months experience on the job with no recordable incidents within the prior year

II. Practices and Procedures

Identification

SSE must wear a visible indicator that denotes they are an SSE. Common practice is for SSEs to wear high visibility orange hardhats. Another method to accomplish this is to wear stickers on each side of their hard hat. SSE stickers can have yellow letters on a reflective red background. Sticker size should be approximately 2 in (5 cm) high, and 3 1/2 in (9 cm) long.



Example:

When hard hats are not required, an option for visual identification may be to wear shirts with colors that stand out from regular uniforms. Another option for visual identification is to have SSE wear brightly colored vests over their shirts. When using this method, pay particular attention to jobs that require work around machinery. Loose vests can become entangled in machinery. Also, adding a layer of clothing is not advisable in extremely hot weather.

General Requirements

Prior to commencing work, the SSE must:

- Complete the required training for their position
- Be assigned and introduced to a mentor
- Receive a pre-job orientation by their supervisor and mentor
- Be instructed on how to conduct a JSEA
- Be educated on the observation process

To be removed from SSE status, the employee's supervisor must verify that the employee has a working knowledge of the company's HSE practices and procedures, and has demonstrated safe behavior for six months (unless working on customer locations- see below).

SSE Crew Staffing Guidelines

1. Four(4) Person Crew or Less
 - A single person crew cannot be a SSE
 - 2 to 4 Person crew can only have one SSE
2. Five (5) Person Crew or Greater
 - Total SSE cannot exceed 20%

Mentor Guidelines

- Explain the process or procedure to the SSE
- Show or demonstrate the procedure or task to the SSE
- Have the SSE ask or discuss any questions about the process or task that is to be performed
- Have the SSE demonstrate the task or procedure to you
- Discuss and correct any deficiencies in the task or procedure that has been demonstrated by the SSE
- Always observe the SSE throughout the task or procedure until the SSE is proficient

Customer Location Procedures

When required to do so by the customer, notifications will be made signifying the intent to use SSE's on proposed jobs.

The customer may have certain requirements that have to be fulfilled prior to those employees arriving on location. Check with the company representative on location for specific requirements.

Once at the job site, the mentor must review the emergency response procedures and equipment at that location with the SSE.

The mentor will provide close supervision, and not allow the SSE to perform any task for which he/she is not properly trained.

The mentor must review, with the SSE, the hazards & risks associated with the tasks he/she is required to perform, along with safety precautions and required PPE.

Incident Management

I. Definitions

- **Incident** - An event which results in unintended harm or damage or which could have resulted in unintended harm or damage given a small difference in time or place
- **Near Hit** - an incident that does not result in injury, death, property damage or damage to the environment but could have, given slightly different circumstances

Example of a Near Hit:

A tool fell from a scaffold and **ALMOST** hit a worker (the wrench still works)

II. Practices

Incident Response

After an incident occurs, the following steps must be taken (depending on severity, some steps may vary):

- Respond to any emergency situation promptly and positively. Upon report of or witnessing an incident, the supervisor (or his designee) must:
 1. Ensure that first aid is provided and the emergency services are summoned if required.
 2. Go to the scene immediately. Survey the scene, take control of the situation, and give specific instructions to responders.

Caution

- Do not endanger your own safety or well-being
- Clear the area of additional people and decide if evacuation must be implemented or if work should resume

- Control potential secondary injuries and preserve evidence
- Contain spills or leaks and arrange for clean-up, estimate the loss potential and decide who must be notified
- Ensure the incident is reported and the appropriate management personnel are notified

Why do we Investigate Injuries?

We identify circumstances leading to the incident, to minimize recurrence and NOT PLACE BLAME. Incident investigation is FACT finding not FAULT finding.

Responsibilities

- Know where or who to call in the case of an incident (Supervisor, HSE Department, 911)
- Care for the injured
- Preserve the incident site
- Report incidents (a near hit is an incident) immediately

Investigate

Collect information about the incident. Ask yourself the following fundamental questions:

- What appears to have happened?
- Who should be interviewed?
- What equipment, tools, materials, or people are missing that should be present?
- What items might have failed or malfunctioned?
- What do you need to know about training, repair, maintenance and other items that are in the records?

- Interview all witnesses to determine actual events that happened during the incident.
- Document all information.

Develop and implement the following remedial actions, if needed:

- Systems may need to be shut off or locked out to prevent further incidents from occurring
- Barriers may need to be erected
- Work orders may need to be written
- Recommendations may need to be developed for engineering changes, purchase requisitions or some program activity deployment
- Some of these may need approval for funding, hiring or personnel transfer
- Based on the information identified in the previous steps, write the investigation report and review the findings and recommendations

Follow up on the actions. The follow-up is to ensure that the intended actions are completed and that there are no unexpected or undesired events resulting from the corrective actions

Reporting Incidents



All employees are required to notify their supervisor immediately upon discovery of any incident. This includes minor injuries, near hits, fires, equipment damage, spill or other types of environmental incidents. Supervisors should ensure that all incidents are investigated and that an Incident Report form is completed and submitted to Management within 24-hours of the incident occurring.

We must report all incidents no matter how small, this includes; **NEAR HITS, FIRST AID, RECORDABLES, ENVIRONMENTAL RELEASES.**

Why report Incidents?

We must do this in order to:

- Determine the sequence of events leading to incident
- Identify the root cause of the incident
- Develop & implement corrective actions to prevent future incidents

What is First Aid?

- Any one-time treatment and any follow-up visit for the purpose of observation of minor scratches, cuts, burns, splinters, and so forth

What is a recordable incident?

- All work-related cases are recordable if they involve
- Death
- Injuries & ALL occupational illnesses resulting in any of the following:
 1. Restricted duty
 2. Days away from work
 3. Medical treatment (past first aid)
 4. Fracture of a bone
 5. Prescription of medication



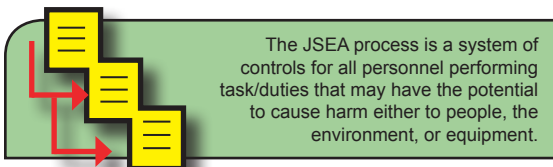
TRAINING

PEC Basic Safety Awareness Orientation

JSEA

Job Safety and Environmental Analysis

JSEA is a checklist that breaks a job into steps, identifies the hazards for each step and the control measures for each hazard. The purpose of this chapter is to describe the practice and procedures of the JSEA process.



I. Responsibility:

- **Managers and Supervisors** – Participate in the writing and approval process
- **Employees** – Participate in the creation of JSEA and follow them once implemented
- **All employees** – Be proactive in the JSEA process – A JSEA is a living document and can be changed as necessary; your input is welcome and expected

II. Jobs requiring a JSEA

- One that is new (creating uncertainty)
- One that has a history of incidents
- One that involves numerous participants (creating opportunity for miscommunication)
- A routine task that has the potential for serious injury

Task Assessment					
	Skill of the trade	Routine task (More than once per week)	Routine task (Less than once per week)	History of incidents occurring while performing task	Complex Task
Personnel Involved					
One Worker	<p>Personnel/Team Risk Assessment Tool (see tool, Page 2 for Safety, etc.)</p> <p>Formal JSEA Process</p>				
2-3 Workers Same Division					
2-3 Workers Same Company					
4+ workers Same Division					
4+ Workers Same Company					
2+ Workers Different Company					

III. Steps in creating a JSEA once the need has been established.

1. Break the job into steps
2. Identify the hazards involved with each step (examples):
 - Can a person be struck by, struck against, caught in, on, or between anything?
 - Can a person possibly overexert themselves?
 - Is it possible to slip, fall, or trip?
 - Will anyone be exposed to gas, heat, fumes, pressure, or chemicals?
 - Is it possible for an individual to injure other people while carrying out the task?
 - Can damage occur to equipment or the installation?
 - Is there a potential for equipment to become energized or for any stored energy to be released?
3. Assign control measures for each hazard using the following hierarchy of controls:
 - Elimination - ex: Ask yourself; is this step or task really necessary? If not, eliminate the risk by not performing that step or the task at all.
 - Substitution - ex: Change a hazardous chemical to a non hazardous alternative.
 - Engineering controls - ex: Use a barrier around a piece of equipment being pressure tested.
 - Administrative controls - ex: Following existing Standard Operating Procedures.
 - Personal Protective Equipment - ex: Assign the proper PPE. PPE is usually necessary but not a substitute for the above.

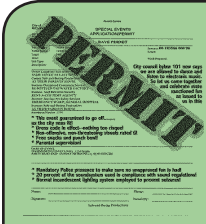
4. Assign responsibility for each control measure. This will ensure that everyone is aware of what they are responsible for (i.e.- Tony Electrician will secure the ladder prior to it being used.)
5. Submit the JSEA for approval or review if required.
6. The approved JSEA is then used for the job as follows:
 - Review with participants in toolbox or pre-job meeting
 - Modify JSEA if/as circumstances dictate



TRAINING
PEC Basic Safety Awareness Orientation
JSEA

Permitting

A permitting system has been established to help control certain types of potentially hazardous work. Do not operate any valve, switch, or process equipment without the proper authorization from operational personnel.



Work permits are used to ensure communications between operations and maintenance personnel. They are issued to specifically address hazards for current job activities, and grant authorization.

I. Types of Permits

Make sure you read the permit carefully before signing and that you follow all the instructions written on the permit.

- Work permit
- Hot work permit
- Confined space entry permit
- Working at heights permit

Hot Work Permit

- Hot work is defined as any heat producing work, welding, cutting, grinding, or any other activity involving open flames, sparks or other ignition sources, which may cause smoke, fire, or may trigger fire detection systems.
- Before doing any hot work:
 1. You must be qualified
 2. You must be authorized and have the proper permit

Confined Space Entry

- A confined space entry permit is required for any work area where personnel are confined by restricted access or egress
- A confined space attendant is required for confined space entry
- Entrants shall participate in the planning, monitoring and permitting process
- Ventilation shall be used and testing shall be conducted before and during entry

Employee Responsibility

- Identify the work activities in your workplace that require permits
- Ensure that permits are properly used for all required activities every time that they are required

Offshore Safety

When entering the offshore environment, each employee is expected to possess the necessary professional qualifications, competencies, skills, and experience to undertake the role within his or her group and will also have received the minimum HSE training (SafeGulf, PEC or equivalent, water survival). They will be given instructions and guidance on the particular features and activities on the vessel, platform, or worksite. Each employee will receive an onsite induction or orientation from a competent representative on the worksite.



Oceaneering requires that each employee traveling offshore has access to an approved personal flotation device (PFD). Each employee will be issued a life jacket or work vest if assigned to marine operations. When working at Client locations OII employees should follow the more stringent PFD policy.

This is especially applicable when working around unguarded offshore platforms, rigs, or barges.

I. Definitions

- **Hypothermia** – Subnormal temperature of the body, fatal if uncorrected
- **Offshore Installation** – A permanently placed structure offshore
- **Vessel** – A ship or semi-submersible platform
- **Marine Debris** - Any object or fragment of wood, metal, glass, rubber, plastic, cloth, paper or any other man-made item or material that is lost or discarded in the marine environment

II Practices

The orientation shall include, but not be limited to:

- Roles and responsibilities
- The Emergency Plan and its location
- Emergency alarms and responses
- Overview of work areas, “no go”, and general traffic areas
- Muster points
- Escape routes
- Survival craft locations(s)
- Man overboard actions
- Fire fighting equipment location(s)
- First aid treatment and location of equipment
- Review of safety notice board
- Smoking policy and smoking/no smoking areas
- Project/location specific information
- Documentation and procedures relevant to location
- Hazard Identification and Risk Assessment System at the site

- Permit to Work system and type of work which requires permits
- Hazardous areas and precautionary measures
- Confined space areas
- Review of the chemical inventory and the location of Safety Data Sheets
- Protective clothing, equipment and what you must use in your job
- Reporting of incidents (i.e.- Injuries, Near Hits, Spills, etc.)
- Reporting of Safety Observations
- Secure all materials to prevent them from becoming marine debris
- Report all materials accidentally lost overboard in accordance with regulations

We encourage everybody working in the offshore environment to bring issues concerning matters of safety to the attention of any of the following:

- Immediate Supervisor
- Vessel Captain
- Offshore Installations Manager
- A member of the worksite safety committee
- Your team when participating in safety meetings or toolbox talks
- HSE Department

Do's

- Remain alert to operations going on around you
- Remain alert to conditions, especially those circumstances which affect the stability of the vessel or platforms

- Remain alert to the conditions of working and walking surfaces to prevent slips, trips, and falls
- Know all emergency evacuation routes and procedures
- Use handrails while ascending and descending stairways and steps
- Complete all required training
- Safety signs and their meaning
- Identification of safety representatives

Dont's

- Never take shortcuts which will jeopardize your own safety or the safety of others



TRAINING
PEC Basic Safety Awareness Orientation
Water Survival with Helicopter Egress
Marine Trash and Debris
Personnel Transfer Basket/Swing Rope Training

Management of Change (MOC)

To explain the practices and/or procedures required in making sure that safety is maintained when changes are made in personnel, processes, systems or equipment.

I. Definitions

- **Change Facility** - Any physical change, except replacement-in-kind, or any deviation from the documented safe operating limits or procedures.
- **Change Personnel** - Change in the organization or a change in personnel that supervise or operate the facility that leads to a loss or transfer of personnel with specific knowledge or experience.
- **Replacement in Kind** - An item (equipment, chemical, procedure, etc.) that meets the design specification of the item it is replacing. Like-for-like or any other design alternative specifically provided for the design specification.
- **Temporary Change** - Any change that will not remain in effect for less than 30 calendar days. A point in time will be specified when the temporary change will be returned to original conditions. A temporary change will be subject to the same evaluation as permanent changes.
- **Emergency Change** - Action necessary to remedy an emergency situation that poses imminent impact to safety, health, the environment or facilities/equipment.

NOTE:

Never proceed with a task that involves change or requires management involvement, regardless of any pressure exerted on you or your crew to do so. When in doubt, stop the task and seek management's approval prior to moving forward.

II. Practices

Management of Change is a process that is designed to address changes in conditions from those either assumed or planned for a task or project. It essentially requires that we stop the job in order to re-evaluate the agreed upon work plan. This evaluation will focus on what has changed; how the change could possibly have an adverse affect on HSE; and what new or modified procedure is necessary to eliminate and/or reduce newly identified hazards to acceptable levels.

The MOC process shall be used for all temporary and permanent changes to operations, projects, chemicals, personnel, systems, procedures, equipment, products, materials or substances that are not "replacement in kind". Simple changes may be handled by simply re-writing the JSEA, while complex changes may require approval from management.

Examples of when MOC is used:

- Operations outside the scope of current written operating procedures or practices
- Introduction of new or different chemicals
- Bypass connections around equipment that is normally in service
- Equipment changes including the addition of new equipment or modifications of existing equipment

-
- Temporary offshore personnel changes, for example: A crew member is replaced prior to scheduled crew change or an additional member is added prior to regular crew change
 - Significant changes to operating conditions different than those in the original process or design
 - Temporary electrical equipment or utility connections other than for emergency purposes or standard operating procedures covered by a permit to work process, e.g., powering up a system in the yard where there is a procedure and a hook-up permit in place
 - Modification to existing facilities or projects that result in changes to the facility or equipment design, structural support layout or configuration
 - Change made in the process or design that result from a hazard analysis

Replacement-in-Kind (RIK)

- **Chemicals** - changing the recommended concentration of a chemical additive within established limits. Product name change without alteration to composition. Similar or generic product from a different manufacturer, e.g., methanol.
- **Valves** - if valve is replaced with another valve of same design capabilities, i.e., pressure rating, materials of construction, nominal size, style, flange facing.
- **Electronic Motors** - if replacement will have matching materials, horsepower, efficiency, voltage rating, RPM, frame size and type.
- **Electrical** - replacement of a breaker or fuse with one of the same rating. Replacement of wiring with same gauge and current rating. Replacement of insulation.
- **Bolts and Nuts** - if the replacement has the same strength, metallurgy, size and torque requirements.

- **Piping and Flanges** - piping and flanges must have matching nominal size and bore with the piping and flanges being removed. The manufacturer may differ, but the weight, schedule (wall thickness), flange rating, facing and materials of construction must be the same.
- **Pumps and Compressors** - if the replacement will match the existing equipment in pumping capacity, materials of construction, seal type, suction and discharge rating and flow rate. Must also have same environmental standards, e.g., emission, lubricants, etc.
- **Instrumentation/Safety Systems** - if replacing a control valve with a new control valve with no change in design capabilities or materials of construction. Adjusting operational set points within established design range. Routine testing and maintenance of safety devices and alarms.
- **Organization** - reassignment of qualified personnel. Regular crew change.

Components of the MOC process:

- Authority for approving changes
- Documentation, which includes scope and justification for change
- Process to assure “as built” drawings are incorporated into the final engineering drawings
- Analysis of safety and environmental implications
- Acquisition of required permits and regulatory approvals
- Communication of potential consequences and, required compensating measures, and time limitations
- Training when needed to ensure the change and the knowledge to implement the change is communicated

Who can initiate a MOC?

Any employee can initiate a MOC by notifying the Supervisor or Management of the need for change. The Oceaneering Supervisor or Management should then start the process by completing the Management of Change Checklist and a Change Request Form.

Hazard Analysis

The purpose of a hazard analysis is to identify, evaluate, and (if needed) minimize the likelihood of safety or environmental incidents. A hazard analysis will be conducted as part of the evaluation process of the MOC. The type of hazard analysis will depend upon the nature and magnitude of the change. This can be a hazard checklist, what-if analysis or hazard and operability study.

Approval Process

Management will evaluate and approve all recommended changes. Implementation of the proposed changes is contingent upon the following items being completed and signed off prior to implementation:

- Reviews by engineering and /or HSE
- Environmental impacts identified and addressed
- Hazard review complete and items addressed
- All training requirements have been met and changes communicated to affected employees
- Operating procedures updated if applicable
- Regulatory requirements/approvals have been satisfied

Closing out MOC


- Management is responsible for closing out the Change Request Form
- To close out the Change Request Form, Management must verify that the change was performed as intended
- The proper documentation was prepared (drawings revised, procedures updated, regulatory notifications and filings completed, etc.
- All signatures are recorded on the form
- Each Division is responsible for maintaining a repository of all completed MOC's

Reporting, Notification and Record Retention

Each Division is responsible for communicating changes and ensuring that relevant documents and/or procedures are upgraded as needed.

Working at Other Sites

When working at other sites all Oceaneering employees are expected to represent the company in a professional manner. As the face of Oceaneering to our customers we rely on you to represent us all.



When working offsite, Oceaneering Employees are expected to know all of the HSE rules and PPE requirements to work on that site. In the case that the site rules and requirements are different than Oll policy, you are expected to follow the more stringent requirement whether that is the site rules or Oll's.

I. Practices & Responsibilities

- Know the site's HSE policies
- Know the site's PPE requirements
- Know the reporting process
- Know the evacuation routes/plan
- Know the steps associated with the work performed
- If you are unsure, ask before proceeding with work



TRAINING

PEC Basic Safety Awareness Orientation

Stop Work Authority (SWA)

This process formally establishes the Stop Work Authority (SWA) for all Americas Region employees to suspend individual tasks or group operations when the control of HSE risk is not clearly established or understood.

It is the policy of Oceaneering's Americas Region that:

- All employees have the authority and obligation to stop any task or cooperation where concerns or questions regarding the control of HSE risks exist.
- No work will resume until all stop work issues and concerns have been adequately addressed.
- Any form of retribution or intimidation directed at any individual or company for exercising their authority as outlined in this program will not be tolerated.

As with any policy, accountability for non-compliance will follow established Company procedures or contract requirements.

I. Definitions

- **Stop Work Authority** - The "authority and obligation" of any individual to suspend a single work task or group operation when the control of HSE risk is not clearly established or understood

II. Practices

In general terms, the SWA process involves a Stop, Notify, Correct and Resume approach for the resolution of perceived unsafe work actions or conditions.

Though situations may differ, the following steps should be the framework for all Stop Work interventions:

1. When a person identifies a perceived unsafe condition, act, error, omission or lack of understanding that could result in an undesirable event, a “Stop Work” intervention shall be immediately initiated with the person(s) potentially at risk.
2. If the supervisor is readily available and the affected person(s) are not in immediate risk, the “Stop Work” action should be coordinated through the supervisor. If the supervisor is not readily available or the affected person(s) are in immediate risk, the “Stop Work” intervention should be initiated directly with those at risk.
3. “Stop Work” interventions should be initiated in a positive manner by introducing yourself and starting the conversation with the phrase “I am using my Stop Work authority because...”. Using this phrase will clarify the users intent and set expectations as detailed in this process.
4. Notify all affected personnel and supervision of the “Stop Work” issue. If necessary, stop associated work activities, remove person(s) from the area, stabilize the situation and make the area as safe as possible.
5. All parties shall discuss and gain agreement on the “Stop Work” issue.
6. If it is determined and agreed that the task or operation is OK to proceed as is, the affected person(s) should thank the initiator for their concern and proceed with the work.
7. If it is determined and agreed that the “Stop Work” issue is valid, then every attempt should be made to resolve the issue to all affected person’s satisfaction prior to the commencement of work.
8. If the “Stop Work” issue cannot be resolved immediately, work shall be suspended until proper resolution is achieved. When opinions differ regarding the validity of the “Stop Work”

issue or adequacy of the resolution actions, the location's "person in charge" shall make the final determination. Details regarding differences of opinion and resolution actions should be included in the documented report.

9. Positive feedback should be given to all affected employees regarding resolution of the "Stop Work" issue. Under no circumstances should retribution be directed at any person(s) who exercise in good faith their "Stop Work" authority as detailed in this process.
10. All stop work interventions and associated detail shall be documented on HSE Observation Card, reported and investigated as detailed in this process.

III. Follow-Up

It is the desired outcome of any "Stop Work" intervention that the identified safety concerns be addressed to the satisfaction of all involved persons prior to the resumption of work. Although most issues can be adequately resolved in a timely fashion at the job site, occasionally additional investigation and corrective actions may be required to identify and address root causes.

IV. Reporting

All Stop Work Interventions shall be reported on the HSE observation card and shall be reviewed by Management in order to:

- Measure participation
- Determine quality of interventions and follow-up
- Trend common issues and identify opportunities for improvement
- Facilitate sharing of lessons learned
- Add to recognition programs

Security

Whether onshore or offshore, the security of the location is a vital component to ensure smooth operations. It is then necessary to reasonably control the things which enter and exit the environment. People, equipment and materials must be monitored to determine if their presence is required, expected, or acceptable. With the dangers of workplace violence and terrorism, it is good business to involve each employee in the security plan because everyone can contribute to limiting the vulnerability of the office, shop, or offshore locations. The physical security of each building or worksite must be assessed, as the security threat can vary considerably from location to location.



When entering a company or customer environment, each employee should be made aware of the location specific measures put in place to ensure the workplace security.

I. Practices

These security measures include but are not limited to:

- Controlled access
- Sign in locations at entrance for personnel, vehicles, or delivery personnel
- Entry letter or explanation expressing reason for visit and verification
- Announcement or communication informing of visitor presence

- Forms of identification badges for personnel or vehicles
- Assignment of responsible person or escort for visitors or guests
- Orientation of facility, showing restricted areas and access
- Alarm system – signal designation
- Muster locations in case of emergency
- Sign out sheets for departure of people or vehicles

In case of bomb threat:

- Person receiving call to note information and report to supervisor
- Do not touch anything that may be a bomb
- Supervisor notifies appropriate personnel or authorities
- Check evacuation routes for unusual objects
- Don't use electronic devices – intercoms, telephones, cell phones, pagers, hand-held radios, etc.
- When evacuating, check visually any unusual objects not recognized as belonging in the surrounding area
- Leave lights on and the doors unlocked
- Move well away from the area
- If applicable, allow law enforcement to determine “all clear” prior to returning to work

When handling General mail, use the following guidelines:

- Be on the lookout for suspicious envelopes or packages
- Do NOT open suspicious mail
- Open all non-suspicious mail with a letter opener or another method that minimizes skin contact and doesn't disturb contents
- Open all mail with a minimum amount of movement
- Do not blow into envelopes
- Keep hands away from nose and mouth while opening mail
- Turn off fans and other equipment that may create air currents
- Wash hands after handling mail

At a minimum, designated employees should contact facility managers, local emergency responders, and local law enforcement in the event they receive any suspicious mail.

Wellness, Stress and Fatigue Management

I. Wellness Do's and Don'ts

Wellness covers all of the things we do to stay healthy and is a way of life which says you care about your health and about yourself. Wellness is a series of decisions which replaces bad habits with good ones and ultimately makes you feel better, gives you more energy, and helps you to get more enjoyment out of life.

Do's:

- Be honest with yourself about your habits, good and bad
- Visit your doctor regularly to monitor your personal health (blood pressure, cholesterol, blood sugar, etc.)
- Eat a balanced diet (raw fruits and vegetables, lean meats, poultry, whole grain breads and cereals)
- Exercise regularly
- Reduce or eliminate smoking of cigarettes or tobacco use

Don'ts:

- Over indulge in eating fatty, sugary, salty foods and snacks
- Over indulge in drinking alcohol
- Abuse prescription medication or use illegal drugs
- Utilize over-the-counter medicine

II. Stress Management Do's and *Don'ts*

Stress is a natural part of everyday life. It is the body's way of reacting to changes in one's environment. The danger is in the way in which the body reacts. Stress can be good when it triggers energy and concentration when dealing with a situation; on the other hand, stress can trigger tension and anxiety that can become physically and emotionally harmful when allowed to last too long.

Do's:

- Know what stresses you face and prepare for those situations
- Avoid small annoyances
- Maintain a sense of humor
- Relax and give yourself time to unwind
- Share your problems with family, friends or professional counselor (Contact the Human Resources Department concerning the My Guidance Resources Program)
- Get enough sleep
- Get organized

Don'ts:

- Hold feelings in and not admit you are angry or upset
- Blow up and blame others, or even become violent
- Withdraw from people and situations which cause stress
- Always assume that things will go wrong and waste time and energy worrying about them

III. Fatigue Management

The lack of or irregular sleep that disturbs your body's natural 24-hour cycle can substantially increase risk of incidents-on and off the job. To work safely you must be alert and focused. While most people sleep seven to eight hours a night, the amount of sleep each individual needs varies. Everyone's natural biological rhythms are geared to sleeping during the night and being active during the daylight hours. Unfortunately, those individuals that work night or work rotating shifts can fall victim to fatigue and illness.

Create conditions for a good night's sleep:

- Go to sleep when you are tired
- Go to bed at the same time every night, including weekends
- Get up at the same time every morning, including weekends
- Eliminate distraction, use a light proof window shade, use fan to mask noise
- Exercise regularly
- Avoid coffee, tea, and soft drinks with caffeine

When sleep problems persist:

- Talk with a professional counselor about ongoing stress and worries
- See a physician if you snore or have sleep apnea

How to combat midday tiredness:

- Get up and walk around
- Do stretches
- Do a few exercises

If you are tired enough to be a hazard:

- Inform your supervisor
- Do a task that requires minimal alertness, if possible

The following guidelines have been adopted to help manage fatigue in the workplace:

Workers should be limited to 12-14 planned work-hours per day, and are not to exceed 16 hours per day, including travel

After two consecutive 16 work-hour days, employees shall be allowed eight hours of an uninterrupted rest/sleep period

The management of change process, should be used to approve any deviation from these general guidelines

Acronyms

ADC	Association of Diving Contractors
ANSI	American National Standards Institute
API	American Petroleum Institute
APU	Auxiliary Power Unit
ASME	American Society of Mechanical Engineers
ASSE	American Society of Safety Engineers
ASTM	American Society for Testing and Materials
BAC	Blood Alcohol Concentration
BEJ	Best Engineering Judgment
BIF	Boiler and Industrial Furnace
BMP	Best Management Practice
BOD	Biological Oxygen Demand
BO-EMRE	The Bureau of Ocean Energy Management, Regulation and Enforcement
BSEE	Bureau of Safety and Environmental Enforcement

BTU	British Thermal Units
C&D	Construction and Demolition
CAA	Clean Air Act
CAS	Chemical Abstract Service
CDC	Center of Disease Control
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CHEM-TREC	Chemical Transportation Emergency Center
CHIPS	Chemical Hazards Information Profiles EPA
COD	Chemical Oxygen Demand
CWA	Clean Water Act
DAFW	Days Away From Work
dba	Decibels
DBMS	Data Base Management System
DC	Data Confidentiality
DDR	Detail Design Review

DEQ	Department of Environmental Quality
DI	Data Integrity
DMR	Discharge Monitoring Reports
DO	Dissolved Oxygen
DOD	Department of Defense
DOE	Department of Energy
DOJ	Department of Justice
DOT	Department of Transportation
EFR	Equipment Failure Report
EMO	Equipment Movement Order
EMS	Environmental Management System (also see ISO14000)
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Site Assessment
FDA	Food and Drug Administration(21 CFR)
FMEA	Failure Mode and Effects Analysis
FR	Federal Register
GFCI	Ground Fault Circuit Interrupter
GHS	Globally Harmonized System

GMP	Good Manufacturing Procedures
GPO	Government Printing Office
HM	Hazardous Material
HPU	Hydraulic Power Unit
HRS	Hazard Ranking System
HSE	Health, Safety and Environmental
HW	Hazardous Waste
HWSA	Hazardous Waste Storage Area
IMCA	International Marine Contractors Association
KPI	Key Performance Indicator
LAN	Local Area Network
LMS	Learning Management System
LQG	Large Quantity Generator of hazardous wastes - this term has a specific definition under RCRA!
LUST	Leaking Underground Storage Tanks
MAR-POL	International Convention on the Prevention of Pollution from Ships
MAWL	Maximum Allowable Working Load
MOC	Management of Change

MORT	Management Oversight and Risk Tree
NIOSH	National Institute of Occupational Safety and Health
NPDES	National Pollutants Discharge Elimination System
NRC	National Response Center
NTIS	National Technical Information Service
OPG	Oilfield Projects Group
OPM	Operation and Maintenance
OSHA	Occupational Safety and Health Administration (29 CFR)
OWS	Oil Water Separator
PBR	Permit By Rule
PCP	Pentachlorophenol
PDR	Preliminary Design Review
PEL	Permissible Exposure Limit
PFD	Personal Flotation Device
PPB	Parts Per Billion
PPE	Personal Protective Equipment
PPM	Parts Per Million
QA/QC	Quality Assurance/Quality Control
R&D	Research and Development

RA	Resource Availability
RAIC	Reliability Information Analysis Center
RCRA	Resource Conservation and Recovery Act
RFP	Request For Proposal
RIK	Replacement in Kind
ROV	Remotely Operated Vehicle
RPCC	Release Prevention, Control and Countermeasure
RPM	Revolutions per Minute
RPN	Risk Priority Number
RQ	Reportable Quantity
SAA	Satellite Accumulation Area
SDS	Safety Data Sheet
SIC	Standard Industrial Classification
SIMOP	Simultaneous Operations
SOFR	STOP Observation Frequency Rate
SPCC	Spill Prevention Control and Countermeasures
SPDES	State Pollutant Discharge Elimination

SQG	Small Quantity Generator of hazardous wastes (has a specific definition!)
SSE	Short Service Employee
STOP	Safety Training Observation Program
SPCC	Spill Prevention, Controls, and Countermeasures
SWL	Safe Working Load
SWPPP	Storm Water Pollution Prevention Plan
TCDD	Tetrachlorodibenzodioxin
TCLP	Toxic Characteristic Leaching Procedure
TOC	Total Organic Carbon
TPDES	Texas Pollution Discharge Elimination System
TQM	Total Quality Management
TRIR	Total Recordable Incident Rate
TSS	Total Suspended Solids
TWA	Time Weighted Average
UIC	Underground Injection Control
UL	Underwriters Laboratory
USCG	United States Coast Guard

USDA	United States Department of Agriculture
UST	Underground Storage Tanks
VOC	Volatile Organic Compounds

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