

**Terra Nova FPSO
Safety Handbook**

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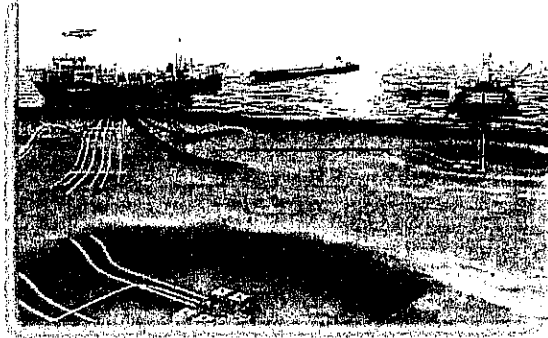
Chapter 1 - Introduction



INTRODUCTION

WELCOME

Petro-Canada would like to welcome you to the Terra Nova Floating Production Storage Offloading (FPSO).



SCOPE

The purpose and scope of this handbook is to provide employees and visitors with a general reference as to what is expected with regard to health, safety and environmental protection while onboard the Terra Nova FPSO.

In this handbook you will be introduced to a number of key policies, rules and procedures regarding health, safety and environment. When applied to our daily work they will ensure the health and well being of the public, contractors, colleagues, environment and ourselves.

This handbook provides an introduction and should you require more detailed information please refer to Petro-Canada's documented safety policies and procedures. Please ask your supervisor or facility contact person if there is anything you don't understand.



**MESSAGE FROM EAST COAST
VICE PRESIDENT –
PETRO-CANADA**

As you board the Terra Nova FPSO, it's an ideal time to reflect upon safety and your role in achieving a Zero Harm environment.



What is Zero Harm? Simply put, it's the belief that work-related injuries and illnesses are preventable. Petro-Canada believes incidents and injuries are not a part of the cost of doing business—they are preventable. This belief is why we work constantly on achieving Zero Harm, in all areas of our business.

An integral part of achieving Zero Harm is identifying, assessing and managing risk, and this has to be our main focus while we are living and working offshore. During your orientation and during the course of your job on board the FPSO, the safety of the people and the protection of our environment are our top priorities. Our equipment and systems, our operating and maintenance procedures, and your training and competency programs were developed with safety top of mind.

Taking responsibility for safety is the most critical aspect of achieving Zero Harm and it rests with all of us. Each of us has a personal responsibility for safety. It's a responsibility to ourselves, to our coworkers and to our loved ones. I encourage you all to keep safety top of mind, in everything you do.

Thank you.

Alan R. Brown
Alan Brown





PETRO-CANADA PRINCIPLES

Petro-Canada conducts business in a highly principled manner guided by our Code of Business Conduct, our corporate rules and standards, and the values and standards of the societies that host our operations.

Wherever we operate around the world we aim to invest and conduct operations in a manner that is:

- economically rewarding to all parties
- recognized as being ethically, socially and environmentally responsible, welcomed by the communities in which we operate
- facilitating economic, human and community development within a stable operating environment.

We are implementing management processes to ensure that these principles are actively applied to our investments and operations, and we will monitor and report compliance with these principles.

Petro-Canada subscribes to The International Code of Ethics for Canadian Business, The United Nations Global Compact, and The Universal Declaration of Human Rights



ACHIEVING ZERO HARM

The ultimate goal of our activities is Zero Harm:

- No injuries or ill health to people
- All injuries are foreseeable and preventable

ENVIRONMENTAL PROTECTION

We will:

- Conduct our activities with sound environmental management and conservation practices
- Strive to minimize the environmental impact of our operations
- Work diligently to prevent any risk to community health and safety from our operations or our products
- Seek opportunities to transfer expertise in environmental protection to host communities through our operating, hiring, training and contracting practices

THE TOTAL LOSS MANAGEMENT (TLM) STANDARDS

Total Loss Management is a systematic approach to the management of loss, integrating reliability with the elimination of harm to people, the environment, assets and production.



Corporate TLM Standards are made up of the following 10 elements:

- Element 1 Leadership
- Element 2 Health & Safety
- Element 3 Physical Asset System Integrity and Reliability
- Element 4 Contractor Management
- Element 5 Environmental Management Systems
- Element 6 Employee Work Practices, Capability & Performance
- Element 7 Audits & Inspections
- Element 8 Stakeholder Relations
- Element 9 Security and Emergency Preparedness
- Element 10 Event Management

PERSONAL SAFETY STATEMENT

Protecting Each other:

- I know that no job is so routine or urgent that it cannot be done safely.
- I understand and follow all rules and procedures.
- I report all hazardous conditions, near misses, and accidents.
- I believe Zero Harm is achievable.

Chapter 2 - Travelling Offshore



BEFORE YOU GO

FITNESS TO WORK OFF-SHORE

All personnel traveling offshore are required to



complete medical assessments in accordance with the Canadian Association of Petroleum Producers (CAAP) East Coast medical assessment for fitness to work offshore standard.

REPORTING OF CHANGE IN HEALTH STATUS

Periodic medical assessments (every 1, 2 or 3 years) ensure that personnel are physically capable of performing their work safely. Changes in an employee's health status, outside of that periodic schedule, may pose a hazard to the individual or co-workers. Safety risks and personnel resources are managed satisfactorily when a process for notification and intervention is followed.

All are expected to identify health situations which may affect one's ability to perform work safely and effectively, such as:

- New prescription medication



- Change in dosage of a prescription medication
- Hospitalization
- Surgical procedures
- Sprains, strains or other injuries
- Unscheduled dental visits
- Pregnancy
- Flu-like or gastrointestinal illness (i.E. Stomach flu)
- Diagnosis of a new condition (w/ or w/o rx med)
- Need for physiotherapy / chiropractor visits
- Day surgery procedures
- Need for use of medical devices at work
- Follow-up of illness / injury that was originally seen offshore, but persisted or worsened while on time off

The worker is expected to notify their employer of any change in health status. He / she is also expected to see the employer's Health Service Personnel or personal physician as advised by the Offshore / Onshore Health Advisor, and to provide information regarding his / her role, so that appropriate provisions can be put into place. For further information contact your Offshore Lead or designated Petro-Canada contact prior to coming



offshore. You are not expected to provide personal medical information to anyone other than Health Service Provider personnel. Simply advise that you have (or have had) a health issue and require a medical assessment / clearance.

WEAPONS AND/OR FIREARMS

Possession or use of weapons and/or firearms on premises or facilities owned, operated or leased by Petro-Canada is prohibited.

ALCOHOL AND DRUGS

Petro-Canada is committed to maintaining safe, productive working conditions for all employees. Persons under the influence of alcohol or drugs pose a serious safety and health risk to themselves and those in contact with them.

The distribution, possession, or sale of alcohol or drugs, other than those specifically required for medical use, in the work place creates unacceptable risks to operational safety.

No person shall report for work while under the influence of alcohol, drugs or other controlled substances. Persons found to be in a condition unfit for work will be required to leave the site.

It shall not be a violation of this policy for workers to possess or be under the influence of such drugs specifically required for medical use



prescribed against a current and valid prescription issued by a licensed physician. However, this exemption does not apply if such medication affects the worker's ability to work, and in so doing creates a risk to the safety of either themselves or other workers.

CONFIDENTIALITY

Petro-Canada expects all persons directly or indirectly employed at Petro-Canada work locations to keep matters relating to personnel and sensitive business information confidential. In turn Petro-Canada will maintain confidentiality relating to the effect of this policy on individuals as follows:

Personal information will be given to persons within the company only on a need to know basis

The company will obtain the employee's written consent except as required by law before any test information or results are released to a party other than Petro-Canada and/or its designated agent or representative

FACIAL HAIR

For Safety reasons Petro-Canada's facial hair policy requires that all personnel onboard to be clean shaven with no more than 24 hours growth that could interfere with the seal of a respiratory device (examples shown in figure 1). Personnel will not be



permitted to travel offshore unless they meet the required standard.

The shaded portions are respirator seal areas. Facial Hair is NOT PERMITTED on these portions of the face.



Figure 1 – Unacceptable and Acceptable Examples of Facial Hair.



Unacceptable
-affects seal



Unacceptable
-affects seal



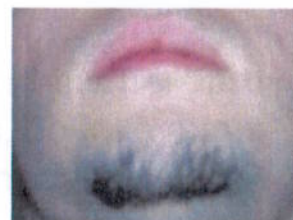
Unacceptable
-affects seal



Unacceptable
-affects seal



Unacceptable
-affects seal



Unacceptable
-affects seal



Acceptable



Acceptable



Acceptable

Note: Visitors who will not spend more than 6 days on the FPSO in any 12 month period and will not be involved in performing work are exempt from this policy.



DEPARTURE INFORMATION



LOCATION OF HELIPORT

The heliport adjoins St John's airport. Follow the signpost on the airport terminal access road.

CAR PARKING

No long-term car parking is available at the heliport. There are drop-off and pick-up areas, so take a taxi or get dropped off at the heliport. If necessary use the airport car park.

CHECK IN TIME

Unless otherwise directed you must check in at least 75 minutes before the flight. This is the minimum time the flight crew requires to calculate payloads, flight plans and fuel requirements. If you arrive less than 60 minutes before the flight you will not be allowed to board.



PRESCRIPTION AND NON-PRESCRIPTION DRUGS

Prescription drugs and medications, and non-prescription drugs (e.g. vitamins, aspirins etc) must be declared to check-in staff who will place them in a sealed envelope and place in a medical bag to be reviewed by the Offshore Health Advisor upon arrival offshore. Notification that you are carrying medication will be made on the booking list. If you require rescue medications (such as asthma inhalers) to be carried on the flight you should discuss this requirement, and seek appropriate documentation, from the Health Service Provider during the medical.

On arrival at the facility see the Offshore Health Advisor to review/retrieve your medication.

ALCOHOL AND ILLICIT DRUGS

Persons who appear impaired or under the influence of alcohol or drugs may be asked to take a breathalyzer test. Persons failing or refusing the test will not be allowed to fly. The full list of prohibited substances is available in the company's security management procedure.

CHECK IN

After you have presented a photo ID card (e.g. Drivers License) and you and your baggage have been



weighed, you will be issued with a boarding card for processing through the heliport.

SECURITY SEARCH

For the safety and security of everybody, baggage will be x-rayed and personnel will proceed through a metal detector prior to entering the boarding lounge area. This mandatory routine takes place before every flight. Random baggage searches may also be performed including canine inspections for contraband items.

PERSONAL COMFORT

There are no toilet facilities on the helicopter. The flight will take at least 1½ hours and could last as long as 4 hours if weather deteriorates offshore and a return is necessary. So you may want to use the washroom before your flight is called.

RESTRICTED ITEMS

Matches	Solvents	Poisons
Lighters	Flamable Materials	Radioactive Materials
Mobile Phones	Acids	Magnetic Materials
Aerosols	Chemicals	Steel Wool
Oils	Mercury	Wet Cell Batteries
Paints	Epoxy Resins	Fishing Gear

* Cameras require special permission in order to be taken offshore (check with your sponsor/supervisor) they have to be declared at the Heliport, and are controlled under the permit to work system.



BAGGAGE RESTRICTIONS

Your baggage will be stowed in the cargo compartment of the helicopter. Carry-on hand baggage is not permitted. Use small soft-sided bags, not large hard-sided suitcases. Label or mark your luggage clearly with your full name and company name. Your personal baggage allowance is 10 kg (22 pounds). Take only what you need (if in doubt, ask your supervisor/sponsor what is provided for you offshore).

Arrangements for personal freight (toolboxes, computer equipment etc) must be made with the heliport in advance. A manifest document detailing the contents of each box will be required. Do not expect freight to travel on the same flight. Expect boxes to be inspected by security personnel. Box contents will be signed-in on arrival, and signed-out on your departure from the installation.

HELIPORT BRIEFING

All personnel are required to participate fully in the Heliport briefing process prior to flight departure.



FLIGHT DEPARTURE

BOARDING THE AIRCRAFT

When your flight is called, follow your escort to the aircraft. It is normal for passengers to board the helicopter while the rotor blades are turning. Approach the



aircraft from the front on the door side only. Helicopter rotors can be extremely dangerous, particularly the tail rotors. Never approach from the rear. Watch out for the Pitot tube jutting from the front of the aircraft.

Observe and obey instructions given by flight crew or ground crew at all times. Do not carry loose items such as plastic bags or newspapers which might be sucked into the engine manifold, or might become obstructive debris if the aircraft has to land in water. Take paperbacks or magazines for reading material. Do not approach the helicopter when the red anti-collision lights are flashing.

DURING THE FLIGHT

Fasten your seatbelt and keep it securely fastened at all times during flight. Keep your headset on.



Carefully read the flight safety briefing card. Smoking is strictly forbidden onboard the aircraft.

For your own comfort you may unzip the flight immersion suit to the chest and leave the hood off during flight. However, during all take-offs and landings over water or in an emergency when instructed to do so by the flight crew, you must put up the hood and zip up the suit. To be effective, the suit must be watertight. For the suit to be water tight, your hood must be up and the suit must be fully zipped to the neck.

AIRCRAFT AND PERSONAL SAFETY EQUIPMENT

The aircraft is equipped with externally mounted life rafts and externally deployable flotation devices. In the unlikely event of the aircraft having to make an emergency landing on the water, follow the instructions of the flight crew.

Your flight immersion suit is your prime means of protection from cold water. It is equipped with a water activated light, a whistle, a personal Locator Beacon (PLB) and a Helicopter Underwater Emergency Breathing Apparatus (HUEBA). Safety goggles are available in a pouch beneath the seat. In the event of a landing on water, put on the hood and close up your suit before putting on the goggles.



PREPARATIONS FOR LANDING

The flight crew will announce when the aircraft is on final approach and about to land. Ensure your seat belt is securely fastened. When landing offshore (i.e. over water) ensure your flight immersion suit is zipped up with the hood up.

ARRIVING OFFSHORE

CHECKING IN

Remove your flight immersion suit, PLB, and HUE-BA inside the arrivals lounge. The PLB and HUEBA stays in Helicopter Administration (Heli-Admin) and your suit is stored in your assigned cabin. Your boots and shoes will be delivered to the lounge for you.

Upon checking in you will be issued with a T-card indicating your lifeboat station and cabin number. When leaving Heli-Admin be sure to proceed to your muster station and place your T-card on the muster board under your corresponding cabin number.

ORIENTATION

If this is your first visit to the installation or the first visit in more than 6 months, you will be required to receive an orientation briefing. Amongst the subjects covered will be the alarm system and mustering procedure. After the briefing, take time to



find your mustering station, and familiarize yourself with the main escape routes to your lifeboat. You will also be given a tour of the vessels safety systems and a general overview of the Accommodations. Refer to chapter 6 of this handbook for information on the “New Worker Induction Program”.

RETURNING ONSHORE

When departing the FPSO passengers are required to check in at Heli-Admin with your flight suit, baggage, and T-Card 1 hour prior to the helicopter landing on deck. Flight arrival/check-in times are posted and will be announced by PA on the day of the flight.

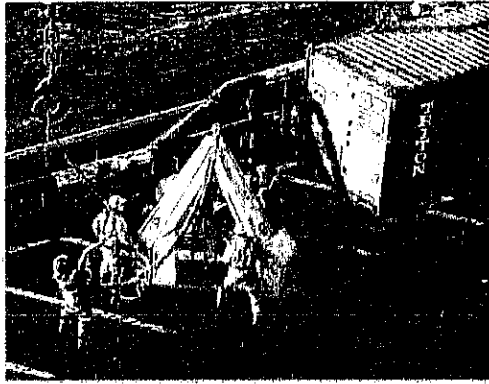
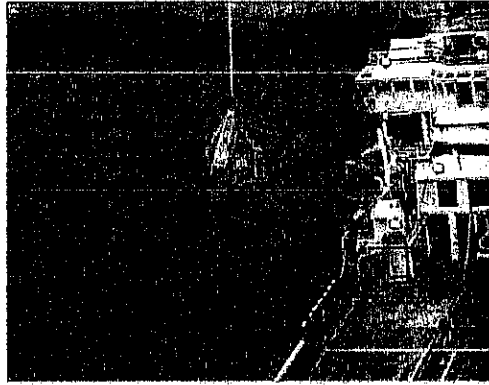
IMPORTANT: When removing any material/equipment (including PPE), other than your personal belongings you are required to complete a material/equipment pass and have it signed by your lead prior to check-in (departure). Baggage may be subject to inspection upon return to the Heliport.

PERSONNEL TRANSFER BY VESSEL

Helicopters are, like any aircraft, subject to weather delays. If your flight is delayed you will be provided with instructions and standby procedures. Weather delays may require personnel to be transported to/from the installation by vessel.



The following is the process followed when transferring to the FPSO via Supply Vessel:

1. Check In at Cougar: You are required to arrive at Cougar at the appropriate check in time and follow the check in process as previously outlined.
2. Safety Orientation (video): A vessel briefing will be given by a Petro-Canada Safety Representative and the vessel/Frog safety video will be presented.
3. Motion Sickness Orientation: A qualified nurse will discuss ways to prevent motion sickness. The nurse will provide a health questionnaire/consent form and make available motion sickness medication.



4. Transportation to the Vessel: Cougar will provide ground transportation to designated shore base where you will board the Supply Vessel.
5. Vessel Orientation: Soon after boarding the supply vessel you will be given a vessel orientation by the Vessel Master or designate.
6. Personnel Transfer (Frog) to FPSO: Upon arriving at the Terra Nova field you will be transferred from the Supply Vessel to the FPSO via the frog.
7. Health Centre Visit - Fitness to Work Evaluation: When you arrive on the FPSO, proceed directly to the Health Center. The Offshore Health Advisor (OHA) will ask if you have taken any medication during your journey and determine your fitness to start work. The OHA will provide you with your room assignment and T-Card.

Refer to the Personnel Transfer Procedure for most current information



Chapter 3 - Emergency Procedures**IMPORTANT TELEPHONE NUMBERS**

Emergency reporting	3333
Central Control Room	3261
OIM Office	3030
ES&SR Advisor.	3033
Radio Room	3260
Health Center	3037

STATION BILL

During an emergency every person onboard the Terra Nova FPSO has a particular responsibility. These responsibilities vary depending on the type of emergency and are clearly defined on the station bill posted prominently throughout the accommodations module and other areas of the installation. It is extremely important that you read the station bill and fully understand your role in an emergency situation. If you have any questions regarding emergency duties, consult your Lead.



TERRA NOVA FPSO

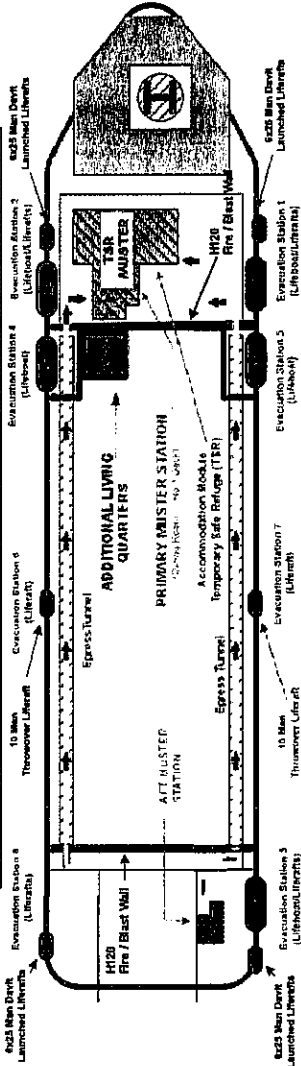
STATION BILL

It is the responsibility of all persons on the FPSO to acquaint themselves with the installation's emergency instructions and any emergency duties assigned to them.

Emergency Phone 3333

X = 80 Man TEMP SC (Lifeboats)

Or report incidents to the Central Control Room using the Production Radio Channel A1



ALARMS		ACTIONS							
Status	Visual	Audible	Emergency Duty Personnel						
GENERAL ALARM	Yellow flashing light (If working in noisy area, move to quiet area to hear announcement)	Two tone sound and PA announcement	Report to designated emergency station						
PREPARE TO ABANDON PLATFORM ALARM	Yellow flashing light (If working in noisy area, move to quiet area to hear announcement)	Constant tone and PA announcement	Withdraw from scene of emergency or emergency station, don immersion suit. Follow directions of Coxswain and proceed to announced Evacuation Station.						
			Other Personnel						
			<table border="1"> <thead> <tr> <th>Outside Sleeping Quarters</th> <th>Inside Sleeping Quarters</th> </tr> </thead> <tbody> <tr> <td>Stop work, leave workplace safe and secure station & follow PA announcement. Report to the dining room muster station in the accommodation module. If primary muster station is impaired, go to Fire Escape or assigned lifeboat. If impaired, go to Aft Muster Station & report by telephone to ECC local 3331.</td> <td>Proceed direct to dining room muster station.</td> </tr> <tr> <td>Collect and don immersion suit. Follow directions of Coxswain and proceed to announced evacuation Station.</td> <td>Collect and don immersion suit. Follow directions of Coxswain and proceed to announced evacuation Station.</td> </tr> </tbody> </table>	Outside Sleeping Quarters	Inside Sleeping Quarters	Stop work, leave workplace safe and secure station & follow PA announcement. Report to the dining room muster station in the accommodation module. If primary muster station is impaired, go to Fire Escape or assigned lifeboat. If impaired, go to Aft Muster Station & report by telephone to ECC local 3331.	Proceed direct to dining room muster station.	Collect and don immersion suit. Follow directions of Coxswain and proceed to announced evacuation Station.	Collect and don immersion suit. Follow directions of Coxswain and proceed to announced evacuation Station.
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MUSTER POINTS

Protection of people is the key objective of any emergency response onboard. To support this, all personnel will muster in areas within the Temporary Refuge (Accommodations) which offers protection from smoke and flames. Muster areas are located as follows:

Primary Muster Point Dining Room
 Emergency Command Centre (ECC) OIM's Office
 Fire Team Fire Locker
 Medical Response Team Health Centre
 Coxswains Outside OIM's Office
 VCS/CCR Ops. & Standby Support. CCR
 Radio Operator/Telecoms Radio Room

EMERGENCY DRILLS

Emergency drills serve as an important means of establishing and practicing a response. In particular, abandonment and fire drills are held regularly according to an established schedule. Your participation in these drills is mandatory.

ACTION IN EMERGENCY

Stop work if you hear the general alarm. Secure the workplace and report to your muster station, move your T-Card to "Muster" status, sit quietly and wait



for further instructions. Do not return to your cabin. Survival gear will be provided at your muster station if necessary.

If the emergency occurs while you are in your cabin, collect your survival gear and proceed to the muster station by the stairs. Listen to the announcements. Follow the instructions and stay calm. The emergency response teams on the installation are trained to handle emergencies.

EVENT REPORTING

Petro-Canada policy is that all health, safety, environmental and security events must be reported. A reportable event is one which has resulted in one or more of the following:

- personal injury
- environmental damage
- near miss
- damage to equipment
- unscheduled interruption to operations
- loss of company assets

If you are involved in an incident while you are working offshore, inform your Supervisor or designated contact immediately. Record any significant details as accurately and quickly as possible.



Preserve any materials and keep the location of the event undisturbed for the purposes of collecting evidence.

Petro-Canada uses ProAct to track/report all events and hazards. If you identify any incidents or hazards and you have ProAct access, enter the event, otherwise a Zero Harm Reporting card may be completed and given to your supervisor (or placed in a drop box). Participation in our safety initiatives, including the Zero Harm Reporting program is mandatory and is an expectation during your stay onboard.

SPECIFIC EMERGENCIES

PERSONAL INJURY

1. Observer: Immediately contact the Control room by telephone (3333) or by radio (A1) and give the location, number of casualties and ask for medical response.
2. Do not attempt to move seriously injured personnel, except to remove them from danger.
3. Attempt first aid if competent to do so, otherwise stay with the causality until the Offshore Health Advisor (OHA) arrives.



FIRE

1. Observer: Activate the nearest Manual Alarm Call (MAC) or contact the Control Room call 3333 by telephone or on A1 by radio.
2. Attempt to fight the fire, if safe to do so, using the portable fire extinguishers.
3. If attempt fails or it is unsafe to fight the fire: proceed to your muster station.

MAN OVER BOARD (MOB)

1. Observer: throw the nearest available lifebuoy to the person in the water, but be aware that it essential to raise the alarm immediately and not to lose valuable time searching for a lifebuoy. Use the manual alarm call-point (MAC) if that is the best means to call attention to the incident.
2. Shout "MAN OVERBOARD" and try to keep the person in site.
3. If you can obtain assistance, get them to keep sight of the person while you contact the control room and advise them on the location of the person in the water.
4. Direct the Rescue Craft to the person.



OIL/GAS LEAKAGE

1. Observer: contact the control room immediately by telephone (3333) or by radio (A1) and advise them of the type of leakage, location and severity of leakage.
2. Assess the situation with appropriate personnel and if deemed safe to do so, don appropriate personal protective equipment and take action to reduce the leak and/or the effects of the leak (there are Spill Kits deployed around the facility)
3. If the situation becomes unsafe, sound the alarm by using the manual alarm call-point (MAC) and proceed to your muster station.

LIFESAVING DEVICES IN THE LIVING QUARTERS (LQ)

MARINE IMMERSION SUITS

Ensure that you know how to put on your Marine Immersion Suit and how to use it properly. This is reviewed in the Safety orientation. If in doubt, ask your Supervisor for a demonstration and then practice donning your suit. Suits for every person are provided in the cabins and more are available at the primary muster station.





PLB'S (PERSONAL LOCATOR BEACONS)

PLB cabinets are located next to the Marine Immersion Suits in the general area of the muster stations. These beacons are water activated and are donned over your head outside your survival suit; ensure the PLB is in the armed position prior to donning.

SURVIVAL KITS

Survival Kits are provided in all cabins (one for each occupant) and in the general area of the muster stations. Survival Kits contain: a smoke hood, flash light and a pair of heat resistant gloves.

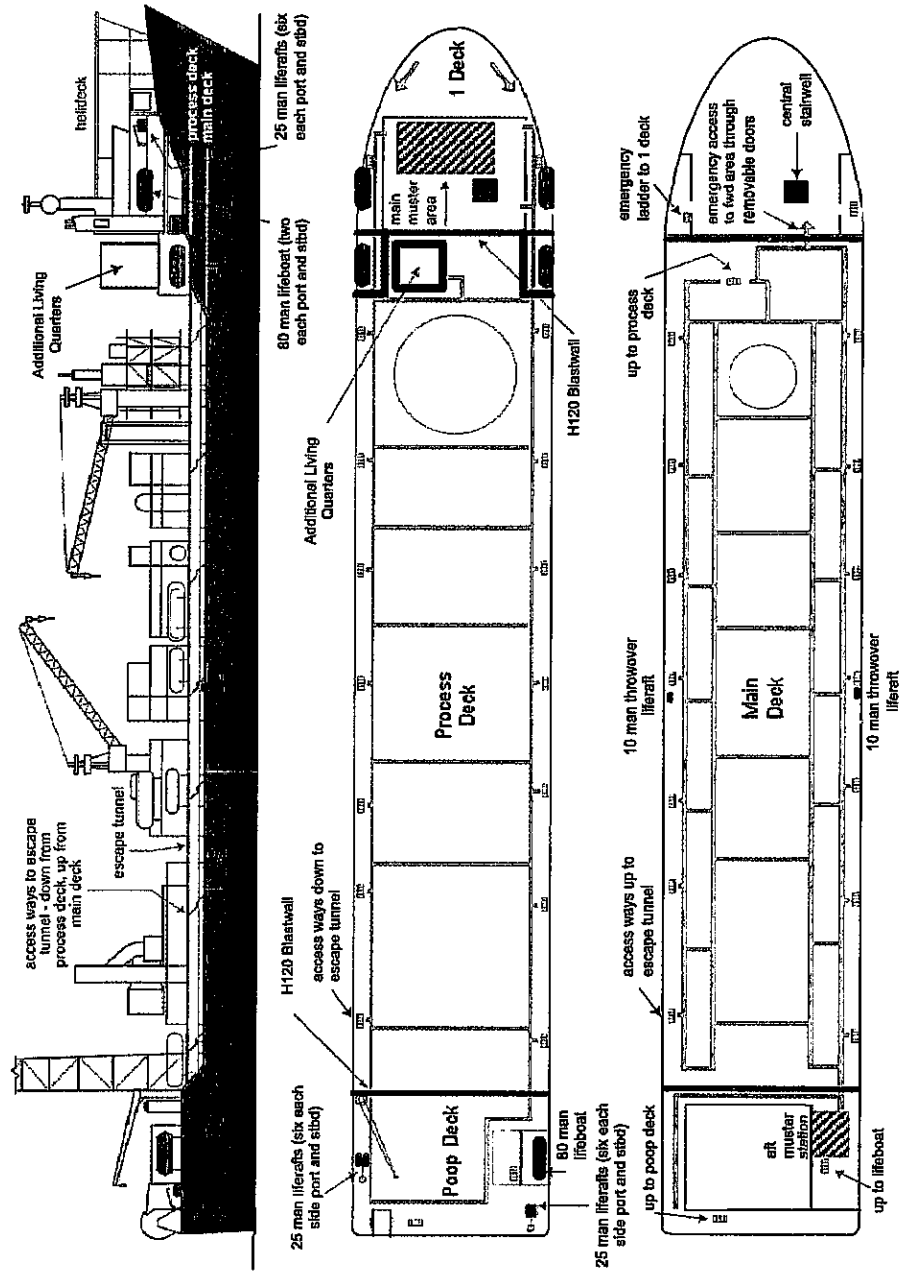
ESCAPE AND LIFE SAVING APPLIANCES

TEMPORARY SAFE REFUGE

The purpose of the Temporary Safe Refuge and its associated access, evacuation routes and embarkation areas is to secure the safety of persons onboard in the event of a major incident affecting the installation. The system provides a secure location to enable personnel to monitor an incident and evacuate from the installation if required. The Living Quarters (LQ) has been designated as the installation's Temporary Safe Refuge.



LIFEBOAT, LIFE SAVING APPLIANCES AND EGRESS ROUTES





Chapter 4 - Operational Safety



PERSONAL PROTECTIVE EQUIPMENT (PPE)

GENERAL PROTECTION

Outside the accommodation module, offices and other designated exempt areas you must wear the personal protective equipment (PPE) listed below.

- hard hat (chin straps should be used when working aloft, or windy conditions)
- safety glasses with side shields
- high visibility fire-retardant coveralls
- safety footwear
- hearing protection
- gloves

Specialized PPE may be required for certain tasks. All PPE must comply with Petro-Canada standards and specifications.

Keep the equipment clean and serviceable. Report any defects immediately. Do not wear loose clothing, wrist watches or jewellery when working in the vicinity of moving parts of machinery.

RING POLICY

To decrease the severity and reduce/eliminate the occurrence of hand injury events, rings are not to be worn while on shift on the Terra Nova FPSO.

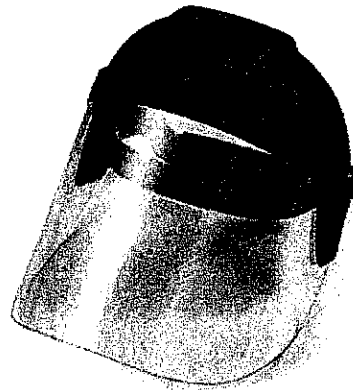


EYE & SKIN PROTECTION

A full face shield or hood, PVC protective suit, rubber gauntlet-style gloves and rubber-toed boots must be worn when handling caustic soda, acids or other corrosive products.



Welding goggles must be worn when using a cutting torch. A welding helmet or hand-held shield must be used when arc-welding.



Leather gauntlet-style gloves must be worn when welding or flame cutting. Dielectric gloves are provided for the use of electricians.

Galley staff are to use appropriate gloves according to cutting routines matrix.

Contact lenses must not be worn outside the accommodation area. Use prescription safety glasses with side shields.

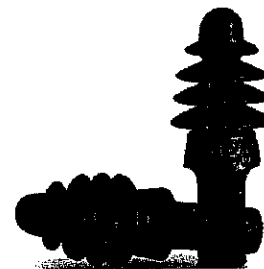


HEARING PROTECTION

Hearing protection must be worn outside the accommodations area or when using high noise producing equipment inside accommodations.



Double hearing protection (muffs and earplugs together) are essential when working in high noise areas (designated by appropriate signs).



RESPIRATORY PROTECTION

Where there is a hazard of airborne hazardous substances or an oxygen deficient atmosphere, respiratory protection equipment must be worn. All personnel must be trained in the use of respiratory protective devices. Personnel must also be fit tested and medically screened.

FALL PROTECTION

When working from an unguarded structure more than 2.4 meters above the nearest permanent safe level you must use a safety harness with lanyard. The safety line must be secured to a part of the structure adequate to support your weight. Persons required to wear fall protection must be trained in the use of the device.



RIGHT TO KNOW

Personnel have the right to know of any potentially hazardous situations which may be encountered in the workplace, and the level of risk associated with the hazards. All known risks associated with the operation of the FPSO are declared in the Terra Nova Safety Plan.

RIGHT TO PARTICIPATE

Personnel also have the right to participate in the management of safety issues affecting the workplace. The right is protected on the FPSO by election of workforce representatives to the vessel's occupational health and safety committee. Employees & contractors can also participate through attendance at safety meetings, participation in audits, inspections and hazard reporting as well as providing ideas and suggestions for health, safety and environmental improvement to management.



RIGHT TO REFUSE DANGEROUS WORK



A worker may refuse to perform any task he or she has reasonable grounds to believe will pose an imminent danger to his or her health or safety, or the health or safety of another person at the workplace.

Should such a situation arise, the following three step procedure shall apply:

Step One:

The worker reports immediately to his or her supervisor giving the precise conditions for the refusal to work.

If the matter is resolved to the worker's satisfaction, the worker shall return to work. If the matter is not resolved to the worker's satisfaction:

Step Two:

The worker reports to:

1. The Occupational Health and Safety Committee for investigation, and
2. Appropriate regulatory authority, the Canada-Newfoundland Offshore Petroleum Board or Transport Canada, for information and follow-up.

While the matter is under investigation, the employer may assign the worker to other work that is reasonably equivalent to his normal work without loss of wages or benefits.



If the matter is not resolved by the Occupational Health and Safety Committee:

Step Three:

The matter is investigated and resolved by an officer of the appropriate regulatory authority - the Canada-Newfoundland Offshore Petroleum Board or Transport Canada

Where a worker has exercised the right to refuse work, the employer shall not assign any other worker to perform the work unless the replacement worker has been informed of the prior refusal and the reasons for that refusal.

For detailed information please refer to the OH&S Act, Part V, section 43

SAFETY COMMITTEES/MEETINGS

JOHSC

Regular meetings of the onboard Joint Occupational Health and Safety Committee (JOHSC) on the FPSO are held to identify workplace health and safety concerns and to initiate workable solutions. The committee monitors all aspects of onboard health and safety matters and provides for management and workers to resolve health and safety concerns on their own, with minimum recourse to third party intervention. The place, time and agenda of meetings - together with the names of the committee members - are posted in the Rec-



reation Lounge. Minutes of all committee meetings are recorded, posted and available in ProAct.

DISCIPLINE SAFETY MEETINGS

Group safety meetings are designed to ensure effective supervisor-employee relations and give everyone the same exposure to vital information. Each individual is responsible for attending and participating at safety meetings once per rotation. Your supervisor will advise which group meeting you should attend.

SHIFT HANDOVER MEETINGS

Handover safety meetings are held at every shift and rotation changeover between key members of the FPSO complement to ensure continuous control of ongoing work activities. It is the responsibility of incoming personnel to ensure they fully understand the information provided to them prior to taking over.

TOOLBOX SAFETY MEETING

Before starting any activity which is non-routine or potentially hazardous or covered by a work permit, a pre-job safety meeting is held by the supervisor in charge to acquaint the workforce with any hazards or special procedures to be followed.



CONTROL OF WORK (WORK PERMITS)

A work permit is required for most activities on the FPSO involving equipment. The permit gives permission for the activity to be conducted and lists precautions and controls to enable the work to be performed safely.

The color is white for the standard cold work permit, pink for flame hot work permit tasks and yellow for confined space entry permit tasks.

The permit office is adjacent to the CCR and contains the permit control board where copies of all active work permits are displayed. During normal operations, the CCR operators (VCS or PCS) perform the duties of permit coordinator, collating and controlling the permits and supplementary certificates.

Work permit operating authorities, who are responsible for operations in specific areas of the FPSO, are responsible for identifying precautions and controls, and verifying the implementation of the controls before the work starts. The work permit performing authority, the person in charge at the work site, is responsible for personnel carrying out the task.

The permit coordinator gives permission to commence the task and posts the work permit on the



permit board. The performing authority holds a toolbox talk with the workers involved in the task before the work starts.

Work permits remain valid for twelve hours, normally 0700 to 1900 hours for work conducted on the day shift, and 1900 to 0700 hours for work conducted on the night shift. Subject to formal approval, permits may be extended for 12 hours at a time for a maximum of 7 days.

On completion of the task the performing authority ensures the area has been cleared of all materials and tools used on the work site before signing off the document.

HAZARD RECOGNITION, OBSERVATION AND REPORTING

SAFESTART/SAFETRACK

SafeStart/SafeTrack is the exposure based safety program implemented by Petro-Canada on the FPSO and is used as an additional way to think about safety to achieve Zero Harm. SafeStart/SafeTrack is designed to provide us with valuable skills in identifying and understanding 'at risk habits' that occur in our everyday lives, both at work and at home. A tool to aid us in identifying at risk behavior in order to adopt safe work habits is the "Zero Harm Reporting Card". SafeStart/SafeTrack teaches us that:



These four states:

1. Rushing
2. Frustration
3. Fatigue
4. Complacency

Can cause or contribute to these critical errors:

- Eyes not on Task
- Mind not on Task
- Line-Of-Fire
- Balance/Traction/Grip

Which increase the risk of injury!

ZERO HARM REPORTING CARD

The Zero Harm reporting card uses a checklist approach to report hazards and events at work, and seeks to actively engage you in planning and monitoring all tasks.

Uses of the card:

- Pre-Job Assessments
- Self Observations
- Job Observations
- Toolbox Talk



- Hazard and Event reporting

The card can be used as a checklist by an individual or group to perform a Pre-Job Assessment. When completing the Pre-Job Assessment consider the following:

- Stop and think about the task to be completed and the required procedures
- Observe the work area and surroundings
- Step through your mind what you are going to do
- Think about what else is happening in the area or nearby
- Identify what could go wrong (eg strains, sprains, sharp objects)
- Satisfy yourself that hazards are identified and controlled before and during the work
- Complete the checklist portion of the card to ensure nothing in the work area was overlooked

The card can be used by an individual or group to perform a Self Observation during or following the execution of a task. In this process, you assess your own work or your groups work practices to determine if you have been working as safely as practical or if there is room for improvement.



Self Observations should be documented on the reporting card, but individuals may remain anonymous. A Self Observation can aid when changes occur while performing a task - to stop and re-evaluate.

Job Observations are usually completed by leadership and OHS representatives on an individual or Group. The Card is used as a guide in planning every job and is the basis for a Tool Box Talk

Besides observations and as an aid in tool box talks, the card is also used for reporting:

- Hazards - A condition that left uncorrected could result in Injury, Loss Event, Environmental Event or Near Miss, e.g. poor housekeeping; and
- Events - Any circumstance or occurrence which causes, or creates the potential for, injury or harm to people, damage to equipment, property or the environment or loss of process or product . This is subdivided into either being a near miss or a loss event.

If you have any questions regarding SafeStart/SafeTrack or the Zero Harm Report Card, do not hesitate to ask your supervisor.



ZERO HARM REPORTING CARD

<input type="checkbox"/> OBSERVATION <input type="checkbox"/> PRE-JOB <input type="checkbox"/> SELF <input type="checkbox"/> PLANNED	<input type="checkbox"/> HAZARD <input type="checkbox"/> EVENT <input type="checkbox"/> NEAR MISS <input type="checkbox"/> LOSS
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Check If Safe
 Check If At-Risk
 Check If N/A

INITIAL ACTIONS

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Eyes on Task
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Not Rushing
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Balance, Traction, Grip

LINE-OF-FIRE

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Body Position (Pinch Points)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	SHARP's Awareness (Sharp Tools/Edges)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	PPE (Task Specific)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Screens, Guards, Rails
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Hazardous Energy (Isolation/Lockout)

BODY MECHANICS (ERGONOMICS)

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Lifting, Bending, Twisting
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Repetitive Motions
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Reaching, Pulling, Pushing
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Standing, Sitting, Kneeling (Long Period)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Comfortable (vs Awkward Position)

PROCEDURES & STANDARDS

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Up-to-Date
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Understood (Competent)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Followed

TOOLS & EQUIPMENT

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Safe Condition (Pre-use Inspection)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Correct For Task
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Safe Use

WORK ENVIRONMENT


<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Housekeeping (In Order)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Walking/Working Surface
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Chemical Safety (MSDS/Labels)
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Observe For Other Work In Area (Conflict)

ENVIRONMENT

<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Loss of Containment
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Oil/Chemical Spills
<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	Waste Management

REV. 2
SAP # 21045423



 Observation & Discussion
Description of Situation – Safe or At-Risk Observations and/or Hazards (who, what, where, when, how)

Causes

Immediate Action Taken/Recommendations

Date: _____ Time: _____
Observer's Name: _____
Immediate Supervisor: _____
Task Observed: _____
Operator Routine <input type="checkbox"/> Routine Task Exemption <input type="checkbox"/> Work Permit <input type="checkbox"/>
Location: _____
Number in Work Group: _____
MANAGE YOUR RISKS – COMPLETE YOUR STEP BACK 5X5



STEP BACK 5X5

It is important to take time to plan and assess the risks for all jobs (a Step Back 5X5 evaluation must be completed and documented for all work completed on the FPSO)

- STEPBACK 5 x 5 is a process that encourages workers to identify hazards associated with ALL tasks before starting a job. It helps to promote a hazard management culture through continual self evaluation.
- It is based on the principle of 'ENGAGING THE MIND BEFORE THE HANDS' by:
 - Stepping back 5 paces from the job
 - Investing 5 minutes to step through the job in your mind and identify plans to control hazards before starting the job
- STEPBACK 5 x 5 is an informal personal planning process. It is essentially a mental SJA applied before starting ALL jobs.
- The process encourages sharing of information and experiences with others

SHIP'S SECURITY PLAN

A plan has been developed to ensure the application of measures designed to protect persons, ships/port facility, cargo, etc. from the risks of a

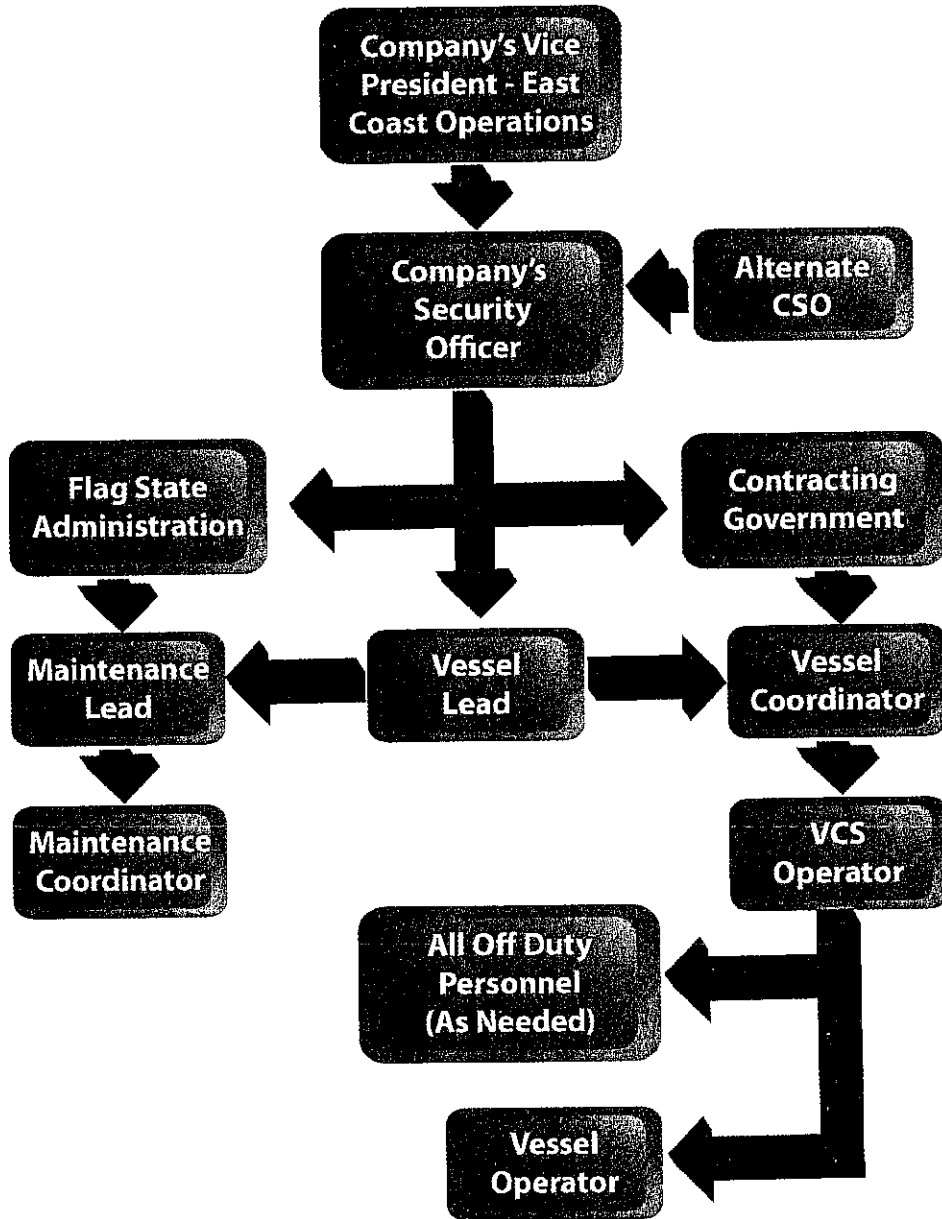


security incident. There are three different security levels, levels 1, 2 & 3. The FPSO operates at security level 1 during normal operations. However security levels could change in the event of a security threat moving to levels 2 or 3 depending on the severity of the threat. The security level determines the types of controls put in place to transport materials and people.

The ships security officer is the Vessel Lead if you have any questions regarding the ships security plan, speak to the Vessel Lead or designate.



SECURITY ORGANIZATIONAL STRUCTURE





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Chapter 5 - Working Safely



GENERAL SAFETY RULES

- Present yourself physically and mentally fit for work each day.
- Do not work if your ability to function is impaired by fatigue or illness.
- Report immediately to your supervisor any condition or practice you think might cause injury or damage to equipment.
- Inspect tools, equipment and safety devices for wear or damage before use.
- Use the right tools and equipment for the job, and use them safely.
- Use, adjust, alter and repair equipment only when authorized.
- If you are involved in an accident, regardless of how minor, report it immediately and get first aid promptly.
- Keep your work area clean and orderly. Put everything away in its proper place.
- Make sure you do not block access to emergency equipment, exits and escape routes.
- Never position any part of your body under a suspended load.
- Don't horseplay. Avoid distracting others.



- Lift loads properly, with knees bent and back straight. Get help with heavy or awkward loads.
- Do not shut down doors in areas of differential pressure without proper authority, and keep the doors closed.
- Keep all fire doors closed.
- Obey all rules, signs and instructions. Don't take chances.
- Report all safety hazards (through ProAct).
- If you don't know, ask.

GOOD HOUSEKEEPING

- Keep worksite tidy.
- Clear away rubbish and waste on a regular basis (at least daily).
- Coil unneeded cable and hose tidily, away from the work area.
- Clear up any liquid spillage as soon as it occurs, by washing it away (if not hazardous to the environment) or by using absorbent materials, which are then to be disposed.
- Catch any expected liquid spills in a suitable container and then dispose off it (onshore) in



accordance with Petro-Canada Waste Management policies.

- If unclear - ASK A SUPERVISOR!

USE THE RIGHT TOOL FOR THE JOB

- Unsafe tools, frayed and defective electrical cords and unguarded machinery must not be used.
- All electrically powered equipment or portable hand tools must be properly grounded. The use of double insulated tools is recommended.
- When safety guards are removed from tools or equipment for repairs or adjustments, the tool must be taken out of service.
- Safety guards must be used at all times.
- Do not use a tool for anything other than what was intended by the manufacturer.
- Only use intrinsically safe equipment and never remove/change batteries outside of workshops/Accommodations. A naked spark could cause an explosion if gas is present.

EQUIPMENT STORAGE

- Store oxygen cylinders in a separate area from propane and acetylene cylinders. Carbon



dioxide, argon and nitrogen can be stored with either.

- Protect all cylinders from heat and sparks.
- Ensure palletised material is racked square.
- Leave adequate room between stacked materials for fire fighting.
- If unclear - ASK A SUPERVISOR!

AIR LOCK DOORS

- There is a double door- Air Lock system on the TN FPSO. There are two doors, an inner and an outer door.
- When the outer door of the air lock is opened, personnel will be admitted inside the chamber.
- After the outer door is completely closed, compressed air is admitted to raise pressure in the air lock to the level of the pressure in the working chamber, and the inner door can be opened.
- The reverse is true when leaving the working chamber (inside of FPSO).

WORKING WITH HAZARDOUS SUBSTANCES – WHMIS

- Several types of hazardous substances may be used offshore. In general, the risk to the individ-



ual is small provided that you are aware of their potential hazards, which Personal Protective Equipment to use and of the basic rules that have been implemented for everyone's safety.

- When using or transporting hazardous liquids/substances, several basic safety precautions must be adopted:
- Check the label on the container: if it specifies the substance as being 'toxic', 'harmful', 'irritant', or 'corrosive' then special care is required;
- Flammable liquids and materials must be properly segregated and stored away from any source of ignition;
- Use substances only for the purpose they were intended for, this means thinners for thinning, cleaners for cleaning, etc.;
- Transport only in sealed/closed containers;
- Use only as per manufacturer's instruction in well ventilated areas away from potentially sources of ignition.
- For each hazardous substance, Material Safety Data Sheets (MSDS) are available on the platform. If you are in doubt, check the content of the MSDS for additional information and preventive instructions and response mea-



asures to be taken in case of incidents. Follow and be come familiar with the guidelines and procedures set out in Workplace Hazardous Materials Information System (WHMIS)

- If unclear - ASK A SUPERVISOR!

VESSEL ENTRY / ENTRY IN CONFINED SPACES

- The main prerequisites for entry are:
- Permits and associated certificates in place
- The vessel is fully isolated from all systems to which it is linked
- The atmosphere is tested and conditions are specified stating how people can enter the vessel
- There is a standby person who carries a radio and communicates all relevant information to the Control room (inside and outside vessel etc.)
- Watch is always kept on the persons working inside, a rescue plan in place and rescue equipment available.
- Note: a confined space entry permit is required with appropriate certificates and safe job analysis.



UTILITY HOSES

Hoses are color coded for easy identification. Each hose has a unique coupling to prevent cross usage. After each use hoses must be depressurized and cleaned and put away.

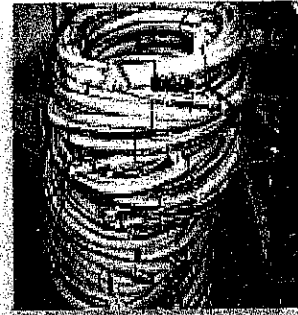
WHIP checks required at the connections of all pressurized hoses:

- During the visual inspection general rejection criteria to look for include:
- Hose body cuts, kinks, bulges, abrasions, stretch tears, etc.

A. FRESH WATER/
STEAM



B. AIR



C. NITROGEN



D. HYDROCARBON





- Hose exhibits circumferential cracking.
- Hose reinforcement wire or synthetic braids are exposed.
- Hose has notably stiffened in comparison to a new hose.
- Hose has undergone deformation resulting in a change in outside diameter.
- Ultra Violet (UV) deterioration / discoloration of outer jacket are evident.
- Hose fitting deterioration / damage due to corrosion, wear or misuse.
- A hose displaying such anomalies shall be removed from service

CUTTING INTO PIPES

The pipe must be tested to ensure it does not contain any flammable materials or hold material under pressure. Drain or release any contents. If flammable materials are present, the following precautions must be taken:

- Drain the pipe or depressurise it;
- Clean out the pipe thoroughly, noting any low spots;
- Retest for flammable materials;



- Hot cutting will be allowed only if the pipe is positively free from flammable materials. (in accordance with a permit to work).

WORKING WITH PRESSURIZED GAS CYLINDERS/SYSTEMS

Be aware of the potential for injury when working with pressurized equipment. Some things to consider are:

- Routine work does not mean 'low risk' work. Working with pressurized equipment should never be considered 'routine'.
- When working with pressurized equipment anticipate and identify all possible hazards associated with the task before you begin.
- Do not tamper with, or work with any pressurized system including gas cylinders if you have not been instructed to recognize associated hazards.
- Never install foreign materials (wrong plugs) in any pressurized gas ports.
- Protecting Each Other –Never hesitate to intervene if you see a co-worker in the line of fire or exposed to a hazard.
- Never position yourself in "the line of fire" downstream of venting pressurized gas. Rap-



idly releasing energy can be dangerous if not recognized.

REMOVAL OF GRATING – OPENING IN DECKS

- The area to be opened must have a proper scaffold barrier and warning signs erected around it before the grating or decking is removed;
- When the job is complete the grating or floor must be replaced and secured to a satisfactory standard. Only then can the scaffold barrier be removed.

MACHINERY SPACE CARBON MONOXIDE (CO) AWARENESS

Be aware that there is a possibility of Carbon Monoxide being present in enclosed areas (e.g. machinery spaces). This could happen if, for example, there is an inadvertent exhaust leak from diesel driven machinery in a machinery space. At high concentrations CO can be deadly. Therefore it is important to carry a portable gas detector when working or travelling through machinery spaces. Also be aware of the Inert Gas Generators (IGG) located in the Aft Machinery Space and take extra care and caution while in this area.



WORKING ON SCAFFOLDS

Be aware of the Scaff-tag system: Under no circumstances must scaffolding be used when it is without a Scafftag or if it has a red Scaff-tag;

- Climb to working platforms by the ladders provided;
- Report any defects noticed, remove the Scaff-tag and do not use until repaired;
- Do not attempt to work outside the scaffold rails;
- Lightweight aluminium alloy scaffolds are not to be used;
- Scaffolding erection is controlled under the Permit to Work System.
- If unclear - ASK A SUPERVISOR

WORKING AT HEIGHT

- Above 2.4 m harnesses are required
- If there is potential for dropped objects, e.g. tools, items of equipment, the area below the worksite should be blocked off using barriers. Otherwise, additional measures must be taken to prevent objects falling onto persons/equipment.
- If unclear - ASK A SUPERVISOR



WORKING OVER THE SIDE

Work over the side requires a permit. Work will not be allowed if the Fast Rescue Craft (FRC) can not safely carry out a rescue;

- Such work will not be done outside the hours of daylight except in special circumstances.

The following precautions will be taken:

- All personnel have to wear life vests and a Personal Locator Beacon (PLB);
- No-one is to work alone;
- A radio has to be carried by a safety watch and communication to be established with the Control room:
- before going to the worksite;
- on reaching the worksite;
- immediately after leaving the worksite;
- Harness must be worn at all times whilst working over the side.

CRANE OPERATIONS

- Cranes may only be operated by qualified Crane Operator;
- Slinging the load may only be done by qualified Riggers;



- Signals to the Crane Operator may only be given by qualified person;
- All rigging must be in satisfactory condition, suitable for the load it has to carry, and hold a current certificate and colour code;
- The weight of all loads must be known before they are lifted. This is especially important when lifting off a supply vessel;
- If the Crane Operator cannot see the load that is being lifted or lowered, then he/she must be guided by a Banksman using a radio or recognised hand signals;
- Cranes must be operated within their safe working loads, which must be clearly displayed in the cabin;
- Observe all crane operating signs and barriers
- Avoid areas of crane operations/use an alternate route

COLOR CODE LIFTING EQUIPMENT

Lifting equipment (slings, wires, etc.) are inspected on a regular basis and marked with a color code to identify the equipment is safe to use. Be aware of the current code as posted in various areas of the FPSO and use only lifting equipment marked with the current color. If you find any equipment not



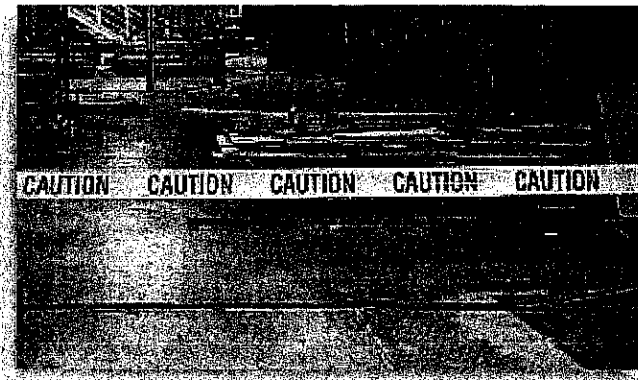
marked with the current color code do not use it, return it to quarantine.

USE OF CAUTION/DANGER TAPE

Be sure you are aware of the use of Caution and Danger Tape. As stated below yellow means proceed with caution red means do not enter. Also if you erect caution or danger tape, be sure to remove the tape when the job is complete and the danger no longer exists.

YELLOW CAUTION TAPE

Caution Tape is used where there is an obvious hazard beyond the tape. You can proceed beyond caution tape exercising



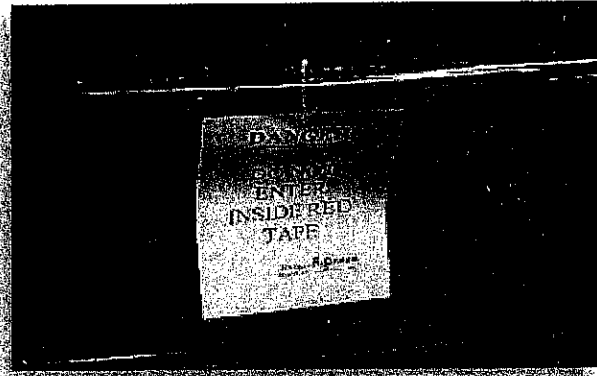
due care. Some situations where caution tape is used:

- Slippery Conditions
- Tripping Hazard
- Overhead Work
- Other activities meeting the above criteria



RED DANGER TAPE

Danger Tape is generally used where there is a significant hazard or the work activity is such that the area has to be restricted to those autho-



ized by the person who has erected the tape. Also it can be used to restrict access to an area for accident preservation purposes or operational issues.

Some conditions where Danger Tape is used:

- Unsafe conditions or equipment
- Certain Lifting Operations
- Work Overhead
- Other situations as required

It is a serious Safety Infraction to proceed beyond Danger Tape if not authorized!

HAND SAFETY

ENGAGE YOUR MIND BEFORE YOU ENGAGE YOUR HANDS

Primary Level Defences Include:



- Properly planning each job activity
- Checking material/equipment for rough or sharp edges before handling
- Making sure moving machinery is guarded
- Maintaining an effective barrier between hands and hazards by using tools or other aids
- Maintaining good housekeeping on workbenches etc.

HAND POSITION

One of the best and most effective means of primary hand protection is good hand position

Always take time to identify hazards prior to starting work

- Keep hands clear of moving machinery or tools
- Avoid contact injuries - chemical, electrical, thermal
- Do not put hands where you cannot see them
- Be aware of pinch points, avoid sharp & jagged edges
- Do not put fingers between flanges or through bolt holes



HAND PROTECTION

The best safety device for your hands is your mind. By being alert and aware you can avoid poor hand positioning. Other ways of staying protected include:

- Follow related Safe Work Practices and Procedures
- Wear gloves as part of your base protection
- Look for opportunities to wear gloves, not for excuses not to wear them
- Wear gloves and act as if your hands are actually unprotected
- Don't wear rings while working
- Don't work with oily gloves

INJURIES CAUSED BY SHARP OBJECTS

The hands and fingers are the most common parts of the body to be injured. It's very easy to understand why; there are few work activities that do not involve the hands. The most common types of hand injury are lacerations and puncture wounds. These can result from contact with a Sharp Hazard.


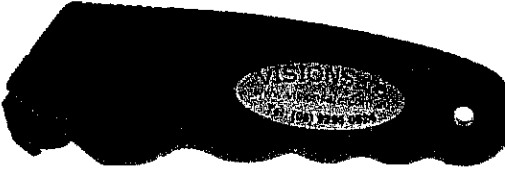
Ways to Avoid Sharp Injuries include:

- Identifying the Hazard
- Assessing the Risk



- Implementation of Effective Controls
- Learn From Previous Events

KNIFE POLICY

- Personal knives are prohibited on the Terra Nova FPSO
- 
- For routine tasks requiring the use of a cutting device, the worker shall review safer alternatives to knives and select a suitable alternative cutting device.
- 
- The following are examples of approved knives permitted on the FPSO:

BACK SAFETY/SAFE LIFTING & HANDLING

- Protect your hands and feet;
- Keep your back straight;
- Get a good grip;
- Ensure you are balanced, feet firm;
- Do not lift above the shoulders;
- Do not lift more than 25 kg;



- Lift with your legs;
- Do not strain - get help or use a lifting tackle
- If unclear - ASK A SUPERVISOR!

GENERAL TIPS TO PREVENT STRAINS & SPRAINS

- Stretch and warm up prior to performing a task.
- Practice good lifting techniques & body mechanics.
- Avoid performing heavy work while fatigued.
- Ensure good body position and stable footing.
- Do not try to lift heavy loads alone.
- Allow injuries to heal properly.
- Get help when you need it!



Chapter 6 - New Worker Induction



PURPOSE

To ensure that personnel who are intended to work on the FPSO and who are new and unfamiliar with the FPSO are identified, provided with the necessary information and support, and managed in order to ensure their personal safety and the safety of their co-workers

SCOPE

This program applies to any new worker assigned to the FPSO. "New worker" is intended to include employees, vendors, and visitors and includes both personnel who are new to the workforce as well as experienced personnel who are new to the FPSO or have not been on board for at least twelve months. The level of participation required will vary depending on the category of personnel.

(See procedure TN-PE-SA12-X00-122 for more information.)

7 KEY ELEMENTS OF THE PROGRAM

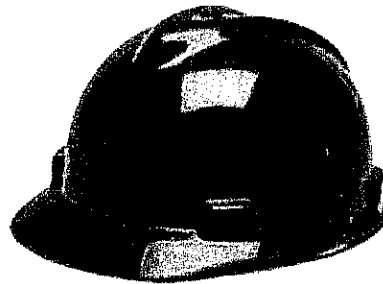
1. FPSO Safety Orientation

Upon arrival on the FPSO the new worker will be provided the usual FPSO Safety Orientation as per TN-PE-SA12-X00-107.



2. Green Hard Hat Requirement

Any new worker will be identified by wearing a green hard hat whenever working outside Accommodations. This will not apply to workers when required to wear specialty protective headgear, e.g. rope access.



The green hat will normally be worn for two full rotations or equivalent days and until all other program requirements are fulfilled and the worker successfully completes the program comprehension review. Workers who do not work two rotations or equivalent days in a year will always be under a green hat requirement.

3. Introductions

The worker is met by his/her Lead, who will communicate his/her expectations for working safely, Protecting Each Other, and Petro-Canada's commitment to Zero Harm. A brief introduction to the OIM may also be made, if available, to reinforce this message.

4. Mentoring



The Lead will assign each new worker with a mentor, who is simply an experienced co-worker that the new worker can go to with questions and for support as he/she gains familiarity with the facility and our policies and procedures.

5. Information Review

The Lead will provide the new worker with information on various (23) ES&SR related policies, procedures, and expectations.

6. Hazard Reporting

To introduce the worker to the expectations and process for hazard reporting, all new workers will be expected to raise a minimum of two hazard reports during the period of time they are in this program.

7. Comprehension Review

Once the worker completes the Information Review and is familiar with the facility and our policies and procedures, he/she will complete a Comprehension Review quiz to confirm understanding.

Chapter 7 - Environment



PETRO-CANADA'S COMMITMENT TO THE ENVIRONMENT:

Environmental protection is a fundamental value for Petro-Canada, and the Company is committed to responsible environmental business practices. As a demonstrated industry leader in environmental protection, Petro-Canada works actively and co-operatively with its neighbours, governments, customers and other stakeholder groups to seek and achieve solutions to environmental concerns.



THE GRAND BANKS:

Situated 350 km east-southeast of St. John's on the Grand Banks, the Terra Nova FPSO is located in one of the most biologically productive marine areas in the world. Grand Banks are home to thousands of species of wildlife including seabirds, marine mammals and shellfish. Some of the most biologically important species of the grand banks include:

Fish: Atlantic Cod, Greenland Halibut, American Plaice, Herring, and Mackerel.



Shellfish: Lobster, Shrimp, Crab (Queen/Snow) and Iceland Scallop.

Marine mammals: Humpback Whale, Minke Whale, Fin Whale, Blue Whale, and Seals (Harbour & Grey).

Seabirds: Shearwaters (all sp.), Storm-petrels, Gulls, Murres, Dovekies and Kittiwakes.

Petro-Canada recognizes the biological significance of the Grand Banks area, and strives to conduct its business in such a way as to minimize and mitigate the potential effects of its operations on this complex and dynamic ecosystem.

ENVIRONMENTAL PROTECTION PLAN:

The Environmental Protection Plan (EPP) for the Terra Nova field reflects Petro-Canada's commitment to continual improvement in its management of any effect of its activities on the environment. The EPP provides Terra Nova personnel and regulatory authorities with a guide to the various documents, systems and safe work practices that enable mitigative measures to be routinely applied to ensure emissions to the environment from production activities are maintained at or below acceptable levels.

This EPP provides focus to ensure that production activities proceed with minimal adverse environmental effects by:



- Ensuring that Petro-Canada's commitments to minimize environmental effects will be met;
- Documenting environmental concerns and appropriate protection measures;
- Providing concise and clear instructions to personnel regarding procedures for protecting the environment, responding to unplanned events and minimizing adverse environmental effects;
- Providing a reference document for personnel when planning and/or conducting specific activities;
- Identifying training and awareness requirements and job competencies;
- Providing a reference to applicable regulatory requirements; and,
- Providing a documented set of procedures to use as a basis for inspections and audits leading to a process of continual improvement, environmental protection and evidence of compliance.

EMISSIONS:

As a result of its operations in the Terra Nova field, the FPSO has several emissions streams and sources which are monitored for compliance, stewardship and assessment purposes. The various



emissions of the FPSO are reported annually to the C-NLOPB and Environment Canada.

The principle emissions sources of the Terra Nova FPSO are:

- **Water Effluent Streams:** The principle water effluent streams of the FPSO include, produced water, slops water, deck drainage and cooling water.
- **Atmospheric Emissions:** The principle atmospheric emissions of the FPSO include carbon dioxide, methane, oxides of nitrogen, volatile organic compounds and particulate matter (and carbon monoxide?). The majority of these emissions are the result of fuel combustion required for power generation and heating, flaring operations and tank venting.
- **Others:** Other sources emissions for the FPSO include waste generated from operations, noise associated with equipment operation, and light.

SPILLS IN THE WORKPLACE:

Petro-Canada recognizes that the handling and transfer of petroleum, oils or lubricants (POLs), chemicals and crude oil offer the potential for spills, which may be harmful to marine life, degrade water quality and fish habitat, and foul commercial fishing gear. As such, priority is placed on preventing spills



by ensuring that process spill and leak detection, alarm, shutdown, and isolation devices are maintained in good operating condition.

In the event of a spill, Petro-Canada has developed detailed contingency plans to be enacted in order to mitigate the potential impact of the event on personnel, the environment and the facility. Emergency response plans are tested and reviewed at regular intervals, and operational personnel are appropriately informed of emergency procedures and trained to effectively implement them.

In the event of a POL, chemical or crude oil spill, the below general guidance should be applied:

- Attempt to stop the source of the flow, if it is safe to do so;
- Immediately call for assistance;
- Contain source of pollutant;
- Render the area secure if it is safe to do so;
- Implement emergency response reporting procedures as appropriate; and
- Clean up the spill using appropriate materials, if possible, and safe to do so, otherwise, flush overboard with water or cover with foam and pump to safe storage area.



Acknowledgement Form

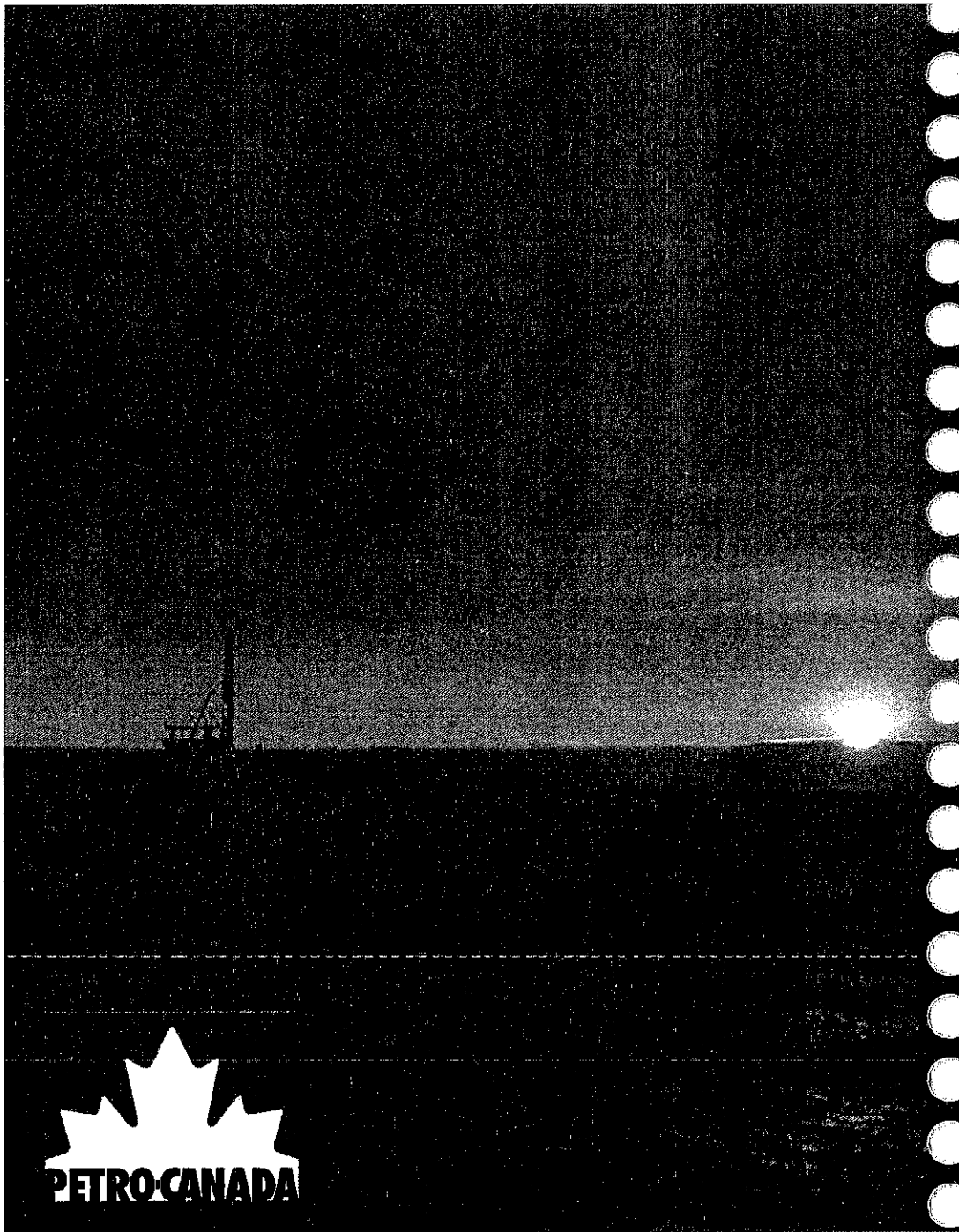
- I have received a copy of the Terra Nova FPSO Safety Handbook.
- I understand that on working or visiting the Terra Nova FPSO, I am expected to abide by these rules.
- I further understand that a violation of these rules or failure to perform my work in a safe manner will be cause for possible disciplinary action.

Company Name

Date

Employee's (or Visitor's) Name

Signature



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