Maritime Helicopters

MARITIME HELICOPTERS

3520 FAA Road
Homer, AK 99603

Telephone: (907) 235-7771

HEALTH, SAFETY AND ENVIRONMENTAL MANUAL (HSE)

Reissue
06/15/22

Published by:

Maritime Helicopters, Inc.

3520 FAA Road

Homer, AK 99603

(907) 235-7771

Record of Revisions

Revisions shall be accomplished in accordance with Paragraph 2 of this manual.

Rev No.	Rev Date	Change Summary
Reissue	06/15/22	All

List of Effective Pages

PAGE	STATUS	DATE
i	Reissue	06/15/22
ii	Reissue	06/15/22
iii	Reissue	06/15/22
iv	Reissue	06/15/22
v	Reissue	06/15/22
vi	Reissue	06/15/22
1	Reissue	06/15/22
2	Reissue	06/15/22
3	Reissue	06/15/22
4	Reissue	06/15/22
5	Reissue	06/15/22
6	Reissue	06/15/22
7	Reissue	06/15/22
8	Reissue	06/15/22
9	Reissue	06/15/22
10	Reissue	06/15/22
11	Reissue	06/15/22
12	Reissue	06/15/22
13	Reissue	06/15/22
14	Reissue	06/15/22
15	Reissue	06/15/22
16	Reissue	06/15/22
17	Reissue	06/15/22
18	Reissue	06/15/22
19	Reissue	06/15/22
20	Reissue	06/15/22
21	Reissue	06/15/22
22	Reissue	06/15/22
23	Reissue	06/15/22
24	Reissue	06/15/22
25	Reissue	06/15/22
26	Reissue	06/15/22
27	Reissue	06/15/22
28	Reissue	06/15/22
29	Reissue	06/15/22
30	Reissue	06/15/22
31	Reissue	06/15/22
32	Reissue	06/15/22
33	Reissue	06/15/22
34	Reissue	06/15/22
35	Reissue	06/15/22
36	Reissue	06/15/22
37	Reissue	06/15/22
38	Reissue	06/15/22
39	Reissue	06/15/22
40	Reissue	06/15/22
41	Reissue	06/15/22
42	Reissue	06/15/22
43	Reissue	06/15/22
44	Reissue	06/15/22
45	Reissue	06/15/22
46	Reissue	06/15/22
47	Reissue	06/15/22
48	Reissue	06/15/22
49	Reissue	06/15/22
50	Reissue	06/15/22
51	Reissue	06/15/22
52	Reissue	06/15/22
53	Reissue	06/15/22
54	Reissue	06/15/22
55	Reissue	06/15/22
56	Reissue	06/15/22
57	Reissue	06/15/22
58	Reissue	06/15/22
59	Reissue	06/15/22
60	Reissue	06/15/22
61	Reissue	06/15/22
62	Reissue	06/15/22
62	Reissue	06/15/22
63	Reissue	06/15/22
64	Reissue	06/15/22
65	Reissue	06/15/22
66	Reissue	06/15/22
67	Reissue	06/15/22
68	Reissue	06/15/22
69	Reissue	06/15/22
70	Reissue	06/15/22
71	Reissue	06/15/22
72	Reissue	06/15/22
73	Reissue	06/15/22
74	Reissue	06/15/22
75	Reissue	06/15/22
76	Reissue	06/15/22
77	Reissue	06/15/22
78	Reissue	06/15/22
79	Reissue	06/15/22
80	Reissue	06/15/22
81	Reissue	06/15/22
82	Reissue	06/15/22
83	Reissue	06/15/22
84	Reissue	06/15/22
85	Reissue	06/15/22
86	Reissue	06/15/22
87	Reissue	06/15/22
88	Reissue	06/15/22
89	Reissue	06/15/22
90	Reissue	06/15/22
91	Reissue	06/15/22
92	Reissue	06/15/22
93	Reissue	06/15/22

TABLE OF CONTENTS

1. Safety Policies and Overview

1.1. Maritime Helicopters Safety Policy

1.1.1. Our Vision

Maritime Helicopters vision represents our destination- what we want to accomplish:

"A team setting the standard for excellence, growing, and succeeding together...soaring above the competition."

1.1.2. Our Mission

Maritime's mission is the road the company will take... our broad goal and ways to reach our vision:

"Our mission is to provide the safest and most efficient helicopter transportation, aviation support, and oil and gas management services within Alaska."

We will achieve this by focusing on and committing to:

Working in innovative partnerships with our customers. Further developing our highly professional workforce. Expanding our business and extending our horizons.

This means we will provide industry-leading value to our customers, fellow employees while maintaining to our core values.

1.1.3. Our Values

Maritime's values represent our core beliefs about how we conduct our business. They are:

Safety: Safety First

Quality and Excellence: Set and achieve high standards in everything we do.

Integrity: Do the right thing.

Fulfillment: Develop our talents and enjoy our work **Teamwork:** Communicate openly and respect each other.

Profitability: Make wise decisions and help grow the business.

1.1.4. Our Leadership Charter

Leaders in Maritime Helicopters are committed to:

Leading by example in accordance with the company's core values.

Building the trust and confidence of the people with which they work.

Continually seeking improvement in their methods and effectiveness.

Keeping people informed.

Being accountable for their actions and holding others accountable for theirs.

Involving people, seeking their views, listening actively to what they have to say and representing these views honestly.

Being clear on what is expected and providing feedback on progress.

Showing tolerance of people's differences and dealing with their issues fairly.

Acknowledging and recognizing people for their contributions and performance.

Weighing alternatives, considering both short- and long-term effects and then being resolute in the decisions they make.

1.2. Safety Management Policy

Maritime Helicopters objective is to provide the healthiest, safest environmentally sustainable workplace with the highest standards of quality and service to our customers, and to constantly strive to improve these standards, thereby maintaining our position as a leading provider of helicopter and associated support services.

The Maritime Helicopters Board and everyone employed throughout the group is responsible for ensuring the well-being of themselves and exercising a duty of care to others by operating appropriately and demonstrating compliance with this policy, the associated regulatory requirements, company processes and procedures at all times.

Good Safety performance is critical to the success of our business and our goals are simply stated.

Zero Accidents, Zero Harm to People, Zero Damage to the Environment

Through our Just Culture and policy of continuous improvement, we will maximize the inherent safety of our operations by reducing accidents and serious incidents and promote best practice in aviation.

We will strive to provide a safe quality service which can be used with confidence by our customers. Wherever we have control or influence we will exercise a duty of care to:

- consult, listen, communicate, and respond openly to our staff and customers
- work with others – our partners, suppliers, competitors, and regulators – to raise the standards of our industry
- apply Human Factor principles to all our decisions
- ensure personnel competence
- encourage full reporting of all hazards and incidents associated with our business
- openly report all aspects of our health safety and environmental performance
- recognize those who contribute to improve safety performance
- ensure a Just Culture is maintained

The company procedures ensure the means to sustain and monitor compliance with International Standards (ISO, EN, AS) where appropriate together with the national Health Safety and Environmental requirements including those of the Airworthiness Authorities in which we operate.

Health, Safety, Environmental and Quality policy is managed through the formal systems within the company, it is not the sole responsibility of any single person or department, it involves all employees in the Company, and it is the responsibility of all of us to comply with this policy and to strive to improve our safety and quality standards at every opportunity.

Through our safety KPIs we will measure, maintain, and strive to improve the safety performance.

Robert J. Fell
Chief Operating Officer
Maritime Helicopters Inc.

1.2.1. Chief Executive Officer - HSE Policy Statement

THE CHIEF OPERATING OFFICER HEALTH, SAFETY,
AND ENVIRONMENTAL POLICY STATEMENT

As a leading provider of helicopter and associated services, it is essential that we constantly strive to improve our high standards through communication, instruction, training, and supervision.

The ultimate accountability for safety within our organization is vested in me, but every individual working in our organization has a responsibility for their own safety and through their actions the safety of others.

Safety will therefore be managed through the application of a formal Safety Management System that embraces all elements of our operation within this policy. It is to be given the same importance as with all other Company developments, and safety is to be discussed at all levels alongside everyday issues.

It is Company policy that our activities must be carried out in such a way that every possible effort is made to:

- Protect the health and ensure the safety of our own personnel throughout the company, and all persons flying in our aircraft or associated with our operations.
- Seek structured and progressive improvements in all aspects of health, safety, and environmental practices and performance.
- Avoid any adverse effects on the environment.

External elements crucial to the company's safe operation must satisfy our own stringent Safety Management criteria to the same degree of monitoring and review that I insist is necessary within our own organization to maintain the high levels of safety that is expected within the Company.

In implementing this policy, it is important that we not only comply with all appropriate standards and laws, but that we also promote the adoption and monitoring of best working practices and measures.

The Safety Management Plan outlines the responsibility and accountability for safety and environmental matters and details the specific policies, procedures and practices that are incumbent on every employee to follow. This SMS manual is part of the Safety Management System and covers in-depth company and regulatory policies and procedures as they pertain to our area of operations.

Robert J. Fell
Chief Operating Officer
Maritime Helicopters Inc.

1.3. HSE Overview

There are three aspects to the HSE element of this manual.

- **HSE Policies & Documentation**
- **HSE Audit**
- **Workers' Compensation Program**

1.4. HSE Documentation

This manual is the summary of the Company's HSE program containing details of OSHA requirements as well as various company operational processes such as ground accident reporting procedures.

1.5. HSE Audits

HSE audits are the function of the SMS, whereby the effectiveness of Company's HSE performance is monitored, and feedback is provided to the accountable person. Rather than a stand-alone audit plan, the HSE audits are incorporated into the Internal Evaluation Program (IEP) and these audits are detailed in the IEP Manual. The audit may be conducted in accordance with OSHA and Company audit guidelines.

1.6. Workers' Compensation

The company provides workers' compensation insurance coverage, which covers employees in the event of an on-the-job injury. The Company has a comprehensive program to ensure the proper care is obtained quickly through the careful management of any event, as well as any follow-up actions necessary to close the case. This workplace injury case management depends on communication between all parties. First, it includes awareness training to prevent occurrences. Next, it provides communication of procedures in case of an event. Finally, it secures information necessary to facilitate care and investigate circumstances leading to the event.

2. Workplace Injury Reporting Procedures

2.1. General Information

In the event an employee sustains an injury, whether it is aircraft related or a workplace injury, adhere to the following steps carefully:

Protect Your Benefits: Immediately report all possible workplace injuries to your supervisor no matter how minor the incident may seem. Keep in mind that symptoms of an injury may not show up for several days. The First Report of Injury forms must be completed at the first opportunity (see Figure 2-1 on Page 2-3 for an example of this form).

Notification: Immediately CALL 911 if necessary. The supervisor MUST notify the department head and the Quality & Safety Department as soon as possible of all injuries requiring medical attention.

Authorization for Medical Treatment: Whenever medical attention is required; the Quality & Safety Department will notify the medical facility and authorize the initial treatment.

Prescription Costs: If medication is prescribed for a confirmed Workplace Injury, and the individual has 'out of pocket' expenses, forward receipts to the Quality & Safety Department for reimbursement.

Employee Escort: The supervisor or a designee MUST accompany the injured employee to the medical facility to be aware of all instructions medical personnel provide and to assist in detailing job responsibilities if restricted duty is required. Department Managers must be involved in restricted duty decisions.

Fill Out Required Forms: The following accident reports MUST be completed by the appropriate individuals as listed below:

1. ***First Report of Injury*** by the injured employee, if able (see Figure 2-1)
2. Supervisor's Accident Investigation by the supervisor (see Figure 2-3)
3. ***Witness Statement*** by the witness (if any) (see Figure 2-4)

These reports must be complete, accurate, detailed, and factual. List the nature and extent of the injury and specify medical facility visited to include the phone number, address, and physician.

Send in Forms; The Quality & Safety Department requires these forms to begin processing the claim. Make sure to include all safety reports, statements, notes, and documents from medical facilities and pharmacies. Fax to all documentation to the Quality & Safety Department at (907) 452-4539 and follow up with the originals through company mail.

Insurance Card; There is no insurance card for this Workers' Compensation coverage. If it is **NOT** a confirmed Workers' Compensation injury, when seeking medical attention use your personal insurance card until authorization can be obtained.

After Normal Work Hours; For injuries occurring on weekends, holidays or after normal work hours, the supervisor **MUST** notify the appropriate department head and the Quality & Safety Department. If you have any difficulty, contact Operations for assistance with after-hours notifications.

2.1.1. Employee Accident Investigation Forms

Whether an employee is injured in an aircraft incident or due to a ground event, the injured employee's immediate supervisor is responsible to conduct a thorough investigation and report the results of that investigation to Quality & Safety Department. To facilitate this investigation the four-part First Report of Injury forms should be filled out by the injured employee, their supervisor and if available anyone who is a witness to the accident. As soon as possible, supervisors will conduct this preliminary investigation. Once completed, fax these forms to the Quality & Safety Department (907-452-4539) and then put the original copies in company mail.

NOTE: Care must be taken to assure the investigation is fact-finding, not fault finding. Obtaining signed statements as soon as possible following an accident ensures that you, the supervisor, have an accurate account of how the injury occurred. These completed statements are important in helping to correct hazards and prevent the accident from recurring. They will also help spot possible third-party liability as well as possible fraudulent claims.

When to Fill Out Report Forms: If the injured employee is physically unable to fill out the Employee's Report of Injury, use common sense and good judgment. If the injury is severe, remember your employee's health and care is first and foremost. If necessary, fill out the form at a later more appropriate time when the employee is physically able to give details leading up to the accident.

Refusal to Comply; If the employee has retained an attorney, you, the supervisor as part of your company's accident management plan, can still ask the employee to fill out the report form. If the employee refuses to fill out the form, you cannot make them do so. However, you should stress the importance of getting 'their' account of the accident to help prevent the injury from happening to others. In any event, the supervisor's report, as well as any witness statements, is to be documented as soon as possible.

2.2. Employee Incident Report Form

An incident is an unplanned event which does not result in injury or asset loss but has high potential to do so. (See Figure 2-5- Incident Report Form)

Maritime Helicopters

FIRST REPORT of INJURY

Fax to the Quality & Safety Department as soon as possible. 907-452-4539

ACCIDENT DATA

Base/Department:	SCHEDULE: (Check one box)	1 ☐	2 ☐	5&2 ☐	14&14 ☐

Location: (Where injury occurred)	Date of Accident:	Time of Accident:	Date/Time Reported:	Time Employee Began Work:

THE INJURED PERSON

Name:	Date of Birth:	Age:	Home Address:
Title:	Date of Hire:	☐ Male ☐ Female	

Marital Status:	Number of Children Under 18:	Social Security Number:	Home Phone:	Cell Phone:

TYPE of INJURY				
☐ Strain/Sprain	☐ Bruising	☐ Dislocation	☐ Other (specify)	Injured part of body:
☐ Fracture	☐ Scratch/Abrasion	☐ Internal	Remarks:	
☐ Laceration/cut	☐ Amputation	☐ Foreign body		
	☐ Burn/Scald	☐ Chemical Reaction		

ACCIDENT SUMMARY (Use additional pages as necessary)

Description: (Describe what happened. Include damage to any property and object or substance that inflicted damage)

Witnesses: (List)

Analysis: (Explain what caused of the accident)

Prevention: (Recommend preventive measures and any corrective actions taken to date)

SIGNATURES (By filling in your name below, you verify that you agree with the statements herein)

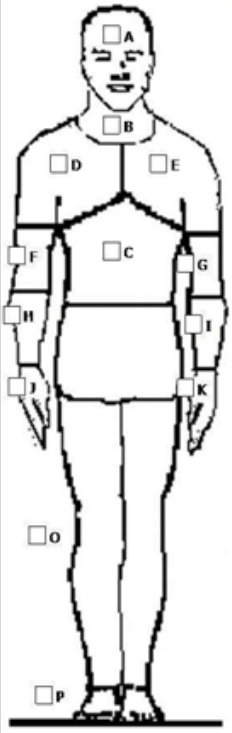
Employee's Signature:	Date:	Supervisor's Signature:	Date:

TREATMENT and INVESTIGATION of ACCIDENT (For office use only)

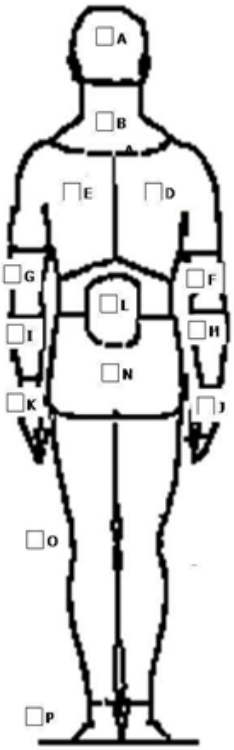
Type of treatment:	Name of person giving first aid:		Doctor/Hospital:
Accident investigated by:	Date:	Lost time:	Date returned to work:

Fig: 2-1 First Report of Injury (page 1)

CHECK THE BOX BESIDE **EACH** INJURED BODY PART
NO MATTER HOW MINOR THE PROBLEM OR SYMPTOM IS.
THEN INSERT AN "X" IN THE BOX THAT REPRESENTS THE DEGREE OF SEVERITY



BODY PART	none	just noticeable				moderate		severe		un-bearable	
A. Head	0	1	2	3	4	5	6	7	8	9	10
B. Neck	0	1	2	3	4	5	6	7	8	9	10
C. Abdomen	0	1	2	3	4	5	6	7	8	9	10
D. Right Shoulder/ Upper Back/Chest	0	1	2	3	4	5	6	7	8	9	10
E. Left Shoulder/ Upper Back/Chest	0	1	2	3	4	5	6	7	8	9	10
F. Right Elbow	0	1	2	3	4	5	6	7	8	9	10
G. Left Elbow	0	1	2	3	4	5	6	7	8	9	10
H. Right Forearm	0	1	2	3	4	5	6	7	8	9	10
I. Left Forearm	0	1	2	3	4	5	6	7	8	9	10
J. Right Hand/Wrist	0	1	2	3	4	5	6	7	8	9	10
K. Left Hand/Wrist	0	1	2	3	4	5	6	7	8	9	10
L. Low Back	0	1	2	3	4	5	6	7	8	9	10
M. Front Hips	0	1	2	3	4	5	6	7	8	9	10
N. Buttocks	0	1	2	3	4	5	6	7	8	9	10
O. Legs	0	1	2	3	4	5	6	7	8	9	10
P. Feet	0	1	2	3	4	5	6	7	8	9	10



Signature of Employee Date of Occurrence

Print this chart on the back of Page 1. Complete as indicated, sign, and fax immediately to the Quality & Safety Department Have each witness complete the Witness Statement that is part of this packet.

Fig: 2-2 First Report of Injury (page 2)

Maritime Helicopters **ACCIDENT WITNESS STATEMENT**

Fax to the Quality & Safety Department as soon as possible (907-452-4539)

ACCIDENT DATA		
Injured Employee's Name:	Location of Accident:	
Name of Witness:	Date of Accident:	Time of Accident:
Job Title of Witness:	Home Address of Witness:	
Base/Department of Witness:		

ACCIDENT SUMMARY (Use additional pages as necessary)

Description: (Describe in detail all events actually witnessed)

Observation: (Describe bodily injury observed by witness. Be specific about body part(s) affected)

Witnesses: (List all other possible witnesses)

Prevention: (Recommend preventive measures and any corrective actions)

SIGNATURES (By filling in your name below, you verify that you agree with the statements herein)

Employee's Signature:	Date:	Supervisor's Signature:	Date:

Fig: 2-3 Accident Witness Statement

Maritime Helicopters

SUPERVISOR'S ACCIDENT INVESTIGATION

Fax to the Quality & Safety Department as soon as possible: (907-452-4539)

ACCIDENT DATA

Location where accident occurred:	Company Property: ☐ Yes ☐ No Customer Property: ☐ Yes ☐ No		Date of Accident:
Name of injured employee:		☐ Employee ☐ Non-Employee	Time of Accident:
Job title of employee:	Name of base / department normally assigned to:	How long has employee worked at job where injury occurred?	Employee's normal starting time:
List property that was damaged:		Damaged property owned by:	

ACCIDENT SUMMARY (Use additional pages as necessary)

What was employee doing when injury / illness occurred? What machine or tool was involved? What operation was being performed?

How did injury / illness occur? List all objects and substances involved:

Part of body affected:	Any prior physical defects? If so, specify what: ☐ Yes ☐ No

Nature and extent of injury/illness and property damaged (be specific):

CONTRIBUTING FACTORS (Please indicate all of the following that contributed to the injury or illness.):

☐ Improper instruction	☐ Failure to lockout	☐ Unsafe arrangement or process
☐ Lack of training or skill	☐ Unsafe position	☐ Poor ventilation
☐ Operating without authority	☐ Improper dress	☐ Improper guarding
☐ Horseplay	☐ Improper protective equipment	☐ Improper maintenance
☐ Physical or mental impairment	☐ Unsafe equipment	☐ Inoperative safety device
☐ Failure to secure	☐ Poor housekeeping	☐ Other:

CORRECTIVE ACTIONS

List corrective action(s) have you taken to insure that this type of accident does not reoccur.	√	By Whom:	When:
	☐		
	☐		
	☐		
	☐		

Was employee retrained in the appropriate use of PPE and/or proper safety procedures?	☐ Yes	☐ No
Was employee cautioned for failure to use PPE and/or proper safety procedures?	☐ Yes	☐ No

SIGNATURES (By filling in your name below, you verify that you agree with the statements herein.)

Supervisor's Name (print):	Supervisor's Signature:	Date:

Fig: 2-4 Supervisor's Accident Investigation

Maritime Helicopters INCIDENT REPORT FORM

Report Number (For HSE Use):

a) Details of Incident

Base or Location of Incident	Department	Precise Location of Incident
Date of Incident	Day of the Week Time: (Use 24-hour Clock)	Date Report Completed
Full Name of Person Completing Report	Job Role	Signature

b) Explanation of Incident by Employee (use additional sheets if required)

	HSE Use
.....	
.....	
.....	
.....	
.....	
.....	
.....	

c) Action Required by supervisor (use additional sheets if required)

	HSE Use
.....	
.....	
.....	
.....	
.....	
.....	
.....	
.....	

Revised: 11 Feb 2013 Fax to the Quality & Safety 907-452-4539

Fig: 2-5 Incident Report Form

Incident – is an unplanned event which does not result in injury or asset loss but has high potential to do so. (Use this form to report.)

Accident – is an unplanned event which results in injury or ill health to person or asset loss. If an injury has occurred, use Accident Report Form to report the details.

2.3. OSHA/Employee Reporting

Maritime Helicopters operates within the State of Alaska which operates its own OSHA programs through AKOSH. According to 29 CFR 1904.37, State-Plan States must have the same reporting requirements as Federal OSHA for determining which injuries and illnesses and recordable and how long they are recorded. Those Requirements are found in 29 CFR 1904.29 through 1904.35. Maritime Helicopters Inc. will:

- Enter Each recordable injury within seven days per 29 CFR 1904.29 (b)
- Create an annual summary of injuries recorded on the OSHA 300 Log
- Certify the annual summary in accordance with 29 CFR 1904.32 (3)
- Post the OSHA 300 log in accordance with 29 CFR 1904.32 (b) (5) And 29 CFR 1904.32 (b) (6)
- Maintain the OSHA 300 logs for five years in accordance with 29 CFR 1904.33

2.3.1. Access to Employee Exposure and Medical Records

With regard to this section of the HSE Manual and the conditions of work with Maritime Helicopters, recordkeeping and security of records regarding employee health will be compliant with 29 CFR 1910.1020. The Quality and Safety Manager will audit compliance with these regulations, but any employee medical records will be kept in the Human Resources and Accounting departments at the Homer office.

With regard to this section of the HSE Manual and the conditions of work with Maritime Helicopters, recordkeeping and security of records regarding employee health will be compliant with 29 CFR 1910.1020. The Quality and Safety Manager will audit compliance with these regulations, but any employee medical records will be kept in the Human Resources and Accounting departments at the Homer office.

Compliance with 29 CFR 1910.1020 will include:

- Any medical records that concern health status of employees which are maintained by a physician, nurse, or other health care professional.
- Records will be kept for employee's duration of employment plus thirty years
- Any records which concern exposure records from environmental or biological monitoring (also kept for thirty years)
- Employees shall be able to access records in a reasonable time, place, and manner and at no cost to employee (29 CFR 1901.1020 (e))
- Any request for employee exposure information will be expurgated from personal information such as name, SS#, payroll number, etc.
- Employees will be briefed on their rights in accordance with this section of OSHA, upon assignment and annually
- If Maritime Helicopters ceases to do business, all employee records will be transferred in accordance with 29 CFR 1910.1020

3. Stop Work Policy

3.1. Stop Work Authority and Training

All employees are empowered with full authority to stop any job they believe is being performed with compromised safety. Any time from the initial identification of a risk it is determined to pose an immediate harm, "*Stop Work*" authority will be exercised. Every company employee has the authority and responsibility to stop a dangerous action or behavior on the spot and shall be aware of this authority and will receive initial and annual training on Stop Work. No negative personnel action or reprimand will be relayed against the person issuing the Stop Work.

3.2. Resumption of Work after Stop Work

If a "Stop Work" has been exercised, then work may not resume until relevant issues and concerns have been addressed. The steps for a "Stop Work" will generally follow the process: Stop, Notify, Correct, and then resume. The Quality & Safety Manager, the Director of Operations and either the Director of Maintenance or Chief Pilot (as necessary) will be involved in the Stop Work process and intervention.

3.3. Documentation and Follow Up

After work has resumed, details of the Stop Work Intervention will be documented and follow up will continue as necessary by management and the Safety Committee, annual and quarterly Safety Action Group Review Meetings until resolved.

4. Foreign Object Damage (FOD) Prevention Program

4.1. Objective

The primary objective of the Foreign Object Damage (FOD) Prevention Program is to establish procedural practices that will ensure a work environment free of extraneous material that might result in damage to aircraft. Additionally, following this program will assist in finding and correcting existing potential hazards and eliminating the causes of FOD. The Company is dedicated to providing its personnel with the training, procedures, practices and attitudinal sets in order to prevent costly damage to equipment and possible injury to personnel. Employees should read and become familiar with the FOD prevention program.

4.2. Definition

FOD is damage to, or malfunction of an aircraft caused by an object that is foreign to an area or system, or is ingested by or lodged in a mechanism of an aircraft. FOD may cause material damage, or it may cause equipment or a system to be unusable, unsafe, or less efficient, as in the case of fuel contamination. Examples of FOD include ingestion into the engine of loose hardware, red rags, grass, flight controls jammed by hardware/tools, tires cut or debris-damaged rotors.

4.3. Task

Stress FOD prevention throughout the Company and provide adequate training for all personnel at all operating levels. Related tasks for all personnel include their doing the following tasks:

- Require a “Clean as You Go” Policy.
- Perform maintenance tasks according to technical publications data.
- Make sure aircraft openings, ports, lines, hoses, and ducts are properly plugged or capped to keep foreign objects from entering critical aircraft areas.
- Make sure all tools, equipment and hardware are accounted for at the end of each maintenance task. (Tool Control Program held in the General Maintenance Manual)
- Use care when performing tests and operating equipment.
- Participate in scheduled “FOD” ramp walks.
- Perform thorough preflight inspections and ensure cleanliness of the aircraft interior.
- Avoid hovering or flying aircraft at extremely low altitudes over sandy or loose gravel areas.
- Inspect all equipment before use, to make sure it will not cause FOD.
- Check engine inlet screens for loose or trapped objects (e.g., broken wire).
- As soon as possible, report any potential FOD to the appropriate supervisor if it cannot be corrected immediately.
- Keep all work areas clean and free of debris.
- Make a thorough check of the work area after completing each task.
- Keep all areas free of litter. Although performing another task, immediately pick up litter whenever seen.

4.4. Responsibilities

The following staff members will carry out specific operating procedural responsibilities for FOD prevention:

4.4.1. Base Manager or Lead Pilot

- Make sure FOD control signs are highly visible at the entrance to the flight line and maintenance areas.
- Ensure base personnel check their area of responsibility at least once a day.
- Periodically inspect and supervise the FOD prevention program.
- Ensure all newly assigned personnel are briefed on the importance of FOD prevention.
- Ensure customer supported personnel are briefed on the importance of FOD prevention.

4.4.2. Base Maintenance Manager or Lead Mechanic

- Incorporate FOD prevention, a “Clean as You Go” Policy, in all maintenance training.
- Ensure all individual maintenance areas follow a “Clean as You Go” Policy. Whenever warranted by adverse conditions or trends, hazardous procedures, or other inadequacies of the FOD prevention effort, recommend appropriate corrective measures.
- Ensure the immediate area around each aircraft is cleaned after maintenance procedures are complete, to ensure the removal of all debris (such as safety wire, paper and rags).
- Ensure each employee completes the following practices at the end of each workday:
  - Inventory toolboxes after each maintenance operation to account for all tools.
  - Turn in special tools.
  - Cap all oil and fuel lines.
  - Dispose of used cans of lubricants.
  - Vehicle Safety Place covers or caps over those items susceptible to FOD.
  - Cover all common plugs and electrical connections.

4.4.3. Individual Employees

- Maintain a “Clean as You Go” Policy.
- Clean work area before leaving.
- Control all debris, tools, hardware, and consumables.
- At specific intervals, account for all tools, hardware, and equipment.

5. Vehicle Safety

5.1. Vehicle Safety Checklist

To ensure that Maritime Vehicles are maintained in safe working order, Company vehicles shall be checked at the beginning of each hitch to assure that all parts, equipment and accessories are free of damage and in safe operating condition. Vehicle Inspection Reports will be included as a part of the Monthly Station (shift) audit. Report all defects to the responsible department manager or the individual responsible for the vehicle. Correct all defects before the vehicle is placed in service. Daily “360 Degree-Walk-around” inspections are required each time an employee receives a company vehicle for any purpose. Any deficiencies on vehicles will be immediately relayed to Maritime management.

5.2. Designated Company Drivers

Individuals hired specifically as CDL drivers and personnel whose supervisor recommends training will undergo a Defensive Driving Course within thirty (30) days of his/her hire date. Drivers of company vehicles will possess a valid driver’s license and will inform the company if that license has been revoked. Immediate supervisors within the company as designated in Bamboo HR will determine authorized drivers for company vehicles.

5.3. Additional Driver Policies

Employees must not drive will under the influence of alcohol nor drugs. Drivers will not text, use the internet, or other “look down” smart phone apps while driving company vehicles. Company vehicles will only be used for their intended purposes for work- or work-related activities (e.g. Crewmembers, “away from their home stations, driving to meals).

All occupants and drivers of Maritime Helicopters vehicles will always use seat belts. All loads in the back of company vehicles will be properly secured, especially for work on the Pipeline Right of Way and other secondary roads.

As part of the Behavioral Based Safety system, any unsafe behaviors with company vehicles (or personal vehicles on company property) will be observed for the purposes of Continuous Safety Improvement.

5.4. Traffic Violations

While driving a company vehicle, if an employee receives a traffic violation, they MUST report the violation to the Quality & Safety Department.

5.5. Accident Reporting Procedures

In the event of an accident while driving a Company owned vehicle, there are issues each driver must be aware of, notifications he/she must make and several steps to follow as identified below:

5.5.1. Issues Drivers Need to Know

- NEVER ADMIT FAULT.
- Aid the injured as you are able and to the greatest extent possible and protect property from further damage.

5.5.2. Notifications Drivers Need To Make

- Notify the nearest Police, or State Trooper office (usually this can be accomplished by calling 911).
- Notify the Quality & Safety Department and your Supervisor immediately.
- Notify the insurance company listed in the automobile insurance identification card in the vehicle.

5.5.3. Steps Drivers Must Follow

- DO NOT discuss the accident with anyone other than the Police, or State Trooper personnel.
- DO NOT “volunteer” any information regarding the accident. Let the authorities ask the questions.
- DO NOT argue, threaten, or place blame.
- Remain calm. Be courteous and respectful.
- Exchange insurance and other relevant information, including name, address, and phone number with the other individual(s) involved in the accident. Also exchange company names and company phone numbers if applicable.
- Obtain names, addresses and phone numbers of all injured persons (if possible) and the same information from witnesses (if any).

- Cooperate fully with Police, or State Trooper personnel by providing truthful and accurate answers to questions. At the end of the investigation, ask for a copy of the preliminary report or for the report number if the report is not provided.
- Sketch a diagram depicting the relationship of the roadways and vehicles at the time of the accident. Show measurements if possible.
- Take photos of the accident scene if a camera is available.

6. Confined Space Entry Procedures (29 CFR 1910.146)

6.1. Confined Space Definition

A confined space can be identified by one of the following characteristics as set forth by 29 CFR 1910.146: A space that has a limited or restrictive means of entry or exit, large enough to enter and perform an assigned task, although not designed for continuous occupancy.

6.2. Confined Space Permit

A permit-required space is a space requiring a written permit to enter. In addition to the characteristics defining a confined space, a permit-required space has one or more of the following:

- It contains or has a known potential to contain hazardous atmosphere.
- It contains material with a potential for engulfment of an entrant.
- It contains inwardly converging walls and/or floor that could trap the entrant.
- The space has a recognizably serious safety or health hazard.

The following are some possible examples of a permit-required space, although these examples are by no means exclusive:

- Fuel cells
- Fuel storage tanks
- Tail booms

6.3. Confined Space Entry

This is the action by which a person passes through an opening into a permit- required confined space. As soon as any part of the worker’s body breaks the plane of the opening into a confined space, entry has occurred, and special care must be taken from that point in time to ensure work activities being carried on are done in a safe manner.

6.4. Awareness Level Training

Provide training to employee groups that may be subject to confined space entry. This training will be covered during new hire and recurrent training or with job performance changes.

6.5. Use Outside Licensed Contractor

Any confined space entry, other than that required for aircraft maintenance, is to be performed by an outside contractor who is licensed for confined space entry. The contractor must present the Confined Space Entry Program in writing to the supervisor responsible for the work being performed. This document must meet the requirements of 29 CFR 1910.146. The form is to be forwarded to the Quality & Safety Department in Fairbanks and kept on file.

7. Walking Surfaces (29 CFR 1910 Subpart D)

7.1. Slips, Trips, and Falls

Most work-related injuries are contributed to slips, trips or falls; therefore, caution should be exercised at all times to prevent slips, trips, and falls when walking or working on surfaces where the possibility of a slip, trip, or fall exists. Some examples of the types of surfaces and trip hazards that may be encountered include the following:

7.1.1. Slip Hazards

- Wet or oily aircraft and/or aircraft work platforms, steps, and other surfaces.
- Wet or oily floors in hangars, shops, or other work areas.
- Wet or oily stairs at base facilities and crew quarters.
- Wet or grassy areas on and around aircraft parking ramps, pads, refueling points, and other aircraft maintenance areas, especially during early morning hours and inclement weather.
- Stairs, helidecks, and other surfaces on offshore platforms.
- Wet or highly waxed/polished floors in administrative spaces and passenger waiting areas.

7.1.2. Trip Hazards

- Installed aircraft tie down straps.
- Uneven, cracked, or broken pavement on and around aircraft parking ramps, pads, refueling points, and other aircraft maintenance areas.
- Air hoses or electrical extension cords in aircraft hangars, shops, or other work areas.
- Toolboxes, carts, equipment, aircraft parts and other items placed too closely to aircraft, worktables or high traffic areas in aircraft hangars, shops, or other work areas.
- Boxes, crates, equipment, parts, trash, and other debris left on or in front of walkways and stairways.

7.1.3. Prevention

The following good housekeeping practices are the key element in the prevention of the vast majority of slips, trips and falls.

- “Clean as you go” policy requires that all equipment, tools, packaging material and unused or unserviceable parts be picked up when not in use. Properly dispose of all scrap, trash and debris.
- Spills of all types should be contained and cleaned up immediately.
- For hydraulic fluid, jet fuel, turbine oil or any other petroleum products or hazardous materials spilled on hangar floors, aircraft maintenance pads, aircraft parking areas or vehicle parking areas, a clay-based absorbent material (commonly known as Dry Sweep or Kitty Litter) should be used for optimum results unless otherwise specified in the MSDS instructions. No spill, regardless of size or material involved, should ever be hosed down or washed away into drains, ditches, or surrounding soil.
- Other types of spills should be cleaned using similar methods and materials as specified in the appropriate SDS.
- Keep items such as empty boxes, packaging material, tools, loose equipment and spare parts out of high traffic areas, stairways and steps.
- Ensure that tools, toolboxes, carts, equipment, aircraft parts, packaging materials, crates, boxes and other items are not placed too close to aircraft, work tables or high traffic areas in aircraft hangars, shops or other work areas.
- When air hoses and electrical extension cords are in use, they should be routed in such a manner so that they will not present a trip hazard. When not in use they should be coiled up and stored out of the way.
- Good traction helps prevent slipping, however not all soles are compatible with all types of surfaces, while some may even increase the chance of slipping. Use footwear that is compatible with the type of environment you work in regularly.
- Attain secure footing prior to exerting force while pushing or pulling on crates, boxes, tools, parts, components, and other items of equipment.
- NEVER run unless the situation is life threatening.

7.2. Ladders

7.2.1. Identify Hazards

Regardless of the type of material used in ladder construction, there are specific items that must be inspected. Prior to use, ensure that the following criteria are met:

- Steps and rungs are in place, intact, free from grease or oil, have slip resistant surfaces and are firmly attached.
- Support braces, bolts and screws are all tight and in place.
- Spreaders and locking devices are in place and function freely and properly.
- Splinters, burrs, or sharp edges are removed. On fiberglass ladders, ensure that there is no evidence of splintering or other deterioration.
- “Safety Feet” located at the bottom of a ladder are in place and serviceable.
- If there are any missing or broken components on a ladder, it should be tagged and taken out of service.
- Do not attempt to repair broken ladders. Since they usually cannot be effectively, repaired, broken ladders should be destroyed to prevent them from being used.
- Ladders that have been exposed to fire or corrosive chemicals should be declared unsafe and should be destroyed.

7.2.2. Protection Against Hazards

Select the correct ladder for the task. Ladders are rated by how much weight can safely be placed on them. These weight limits include the person using the ladder and any additional equipment being carried or handled while on the ladder.

7.2.3. Safety Procedures

It is the responsibility of the individual user to use a ladder safely and only in a manner consistent with its designed purpose, therefore consider the following cautions when choosing to use a ladder:

- Only one person is allowed on a ladder at a time.
- Wear shoes with clean, non-skid soles (not leather).
- Face the ladder, holding the side rails with both hands, always maintaining 3-point system of contact while climbing and descending the ladder.
- Employees are not to carry anything in hands that could cause injury in case of a fall.
- Keep your body centered between the running lines of the ladder.

8. Personal Protective Equipment (PPE) (29 CFR 1910 Subpart I)

8.1. Introduction

Personal protective equipment (PPE) is intended to protect, shield or isolate personnel from chemical and physical hazards. PPE includes equipment designed to protect eyes, face, head, trunk, extremities, hearing, sight and breathing in the form of protective clothing, respiratory devices, protective shields, and barriers.

8.2. General Requirements

PPE is to be used whenever it is necessary due to hazardous procedures, environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact. To

determine if hazards are present, or are likely to be present, which necessitates the use of personal protection equipment, a workplace hazard assessment shall be kept on file at each operating site.

8.3. Key Responsibilities

Managers and supervisors are responsible for implementing and enforcing the use of PPE. When provided, personnel must use PPE as instructed and must maintain this equipment in a sanitary and reliable condition. Defective or damaged PPE shall not be used.

8.3.1. Employee-Owned Equipment

When employees provide their own protective equipment, the supervisor/s will be responsible to assure its adequacy, including proper maintenance and sanitation of such equipment.

8.3.2. Comfort and Proper Fit

Careful consideration will be given to comfort and proper fit of PPE in order to ensure that it will be used. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the correct size is selected.

8.4. Training

8.4.1. PPE Training

The Quality & Safety Department and/or authorized vendors will provide the necessary training to those employees whose job functions require the use of PPE. At a minimum, upon completion of training each affected employee will be required to successfully demonstrate the following:

- When PPE is necessary.
- Which PPE is required?
- How to properly put on, take off, adjust and wear PPE.
- Understanding of the limitations of the PPE.
- Proper care and maintenance of PPE.
- Understanding the expected useful life and proper disposal procedures of the PPE.

Each affected employee will demonstrate the ability to use PPE properly before being allowed to perform work requiring its use. This training will be documented in the employee's permanent file maintained by the Training Department.

8.4.2.Retrained

The supervisor will require an employee to be retrained in the proper use of PPE if there is reason to believe a previously trained employee displays a lack of understanding and skill in proper PPE use. Circumstances where retraining is required include, but are not limited to:

- Changes in the workplace, rendering previous training obsolete.
- Changes in the types of PPE to be used, rendering previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of his/her assigned PPE, indicating that the employee has not retained the requisite understanding or skill.

The supervisor will verify that each affected employee has received and understands the required training. This training will be documented in the employee's permanent file maintained by the Training Department.

8.5. Types of PPE Available

When required, the Company will furnish each employee the following PPE. This sample list is by no means all inclusive. Always check all Company manuals and SDS for information on required PPE.

- Safety Glasses
- Welding Shields
- Face Shields
- Gloves
- Aprons
- Ear Plugs
- Earmuffs
- Respirators

Use the chart below to choose the proper PPE to be used for various tasks. This information however is not all-inclusive and is to be used for reference only. Always check all Company manuals and MSDS files before beginning work.

PPE CHECKLIST
Use Appropriate PPE For Each Job

Job Tasks	Goggles	Face Shield*	Safety Glasses	Gloves**	Hearing Protection	Respiratory Protection
Drilling, Riveting Dust Area	√		√		√	√
Grinding (Heavy)		√	√		√	
Grinding (Light)			√		√	
Handling Jet Fuel	√	√	√	√		
Handling Sheet metal				√		
MEK	√	√	√	√		
Safety Kleen/ PD-680		√	√	√		
Toluene	√	√	√	√		
WD-40			√	√		

NOTE: Personal Protective Equipment (PPE) may come in different sizes and shapes. The above pictures represent just a few samples of what the Company has in stock.
WEAR YOUR PPE.

*Use Face Shields for face protection against exposure from nuisance dust and potential splashes and sprays of hazardous liquids.
** Use cut-proof gloves when handling Sheetmetal.

Figure 8-1: PPE Check List

8.6. Eye and Face Protection

Prevention of eye injuries requires that all persons wear protective eyewear whenever in an area where conditions exist that may be hazardous to the eyes (e.g., molten metal, acids, caustic/chemical liquids, flying particles, gases, vapors, or potentially injurious light radiation). This includes employees, visitors, contractors, or others passing through shop and hanger areas. If these individuals wear personal glasses, they will be provided with a suitable eye protector to wear over them.

Suitable protectors provided by the Company will be determined by use and include the following:

- For employees who wear prescription lenses, eye protectors will either incorporate the prescription in the design or fit properly over the prescription lenses.
- Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment.
- Protectors that meet or exceed regulatory requirements will be marked to identify the standard.
- Goggles and face shields will be used when a hazard from chemical splash is present.
- Face shields will only be worn over primary eye protection (e.g., safety glasses or goggles).
- Equipment fitted with appropriate filter lenses will be used to protect against light radiation. Tinted and shaded lenses are not filter lenses unless their marking identifies them as such.

Some examples of eye and face protection needed for specific situations, although not all-inclusive, are given below. Always check all Company manuals and MSDS for information on required PPE.

Source	Hazard Assessment	Protection
IMPACT - Chipping, grinding, machining, drilling, chiseling, riveting, sanding, etc. **CHEMICALS** - Acid and chemicals handling	Flying fragments, objects, large chips, particles, sand, dirt, etc. Splash Irritating mists	Safety Glasses with side protection, goggles, face shields. For severe exposure, use face shield over primary eye protection. Goggles, eyecup, and cover types. For severe exposure, use face shield over primary eye protection. Special-purpose goggles.
DUST - Woodworking, buffing and general dusty conditions	Nuisance dust	Goggles, eyecup, and cover types.

Figure 8-2: Eye and Face Protection Selection Chart

8.7. Hearing Protection

It is Company policy to institute an occupational hearing conservation program for our employees to prevent any temporary or permanent noise- induced hearing loss, and to comply with the federal OSHA standard 29 CFR 1926.52. OSHA requires all employers to provide protection against the effects of noise exposure when the sound levels exceed those in the table provided.

When employees are subjected to sound levels in the workplace that exceed those listed in the chart provided (see Figure 8- 3), feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within an acceptable range, personal protective equipment (PPE) shall be provided free to the affected employees and utilized according to policy.

Duration per day in hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Figure 8-3: Workplace Sound Levels

When employee noise exposures in the workplace equal or exceed an 8-hour time- weighted average sound level (TWA) of 85 decibels (dBA), the Company shall administer a continuing, effective Hearing Conservation Program. The following elements of the basic hearing conservation program, which will be discussed in detail below, include the following:

- Monitoring
- Employee Notification
- Audiometric Testing
- Hearing Protection
- Training
- Record Keeping

Monitoring – A monitoring program is in place to provide an ongoing means of determining employee exposure to noise and to protect employees based on excessive exposure. When testing indicates that any employee's exposure may equal or exceed an 8-hour TWA of 85 dBA, the program identifies those employees for inclusion in the program and selection of proper hearing protection.

In order to determine employee exposure to noise, the Company will complete an internal noise level survey using a calibrated dosimeter and periodically seek an outside source to verify the results. All testing will be conducted during normal working hours and under normal working conditions in order to obtain accurate readings and provide employees with the opportunity to observe the noise measurement process.

Monitoring is repeated whenever a change in production, process, equipment or control increases noise exposures to the extent that either additional employees may be exposed at or above the action level, or the attenuation provided by hearing protection may be rendered inadequate to meet the requirements of noise reduction.

Employee Notification – All employees exposed at or above an 8-hour TWA of 85 dBA are notified of the monitoring results individually in writing and by departmental posting. Proper hearing protection devices are selected and provided free to all affected employees.

Audiometric Testing – Annual testing ensures the establishment of a valid baseline audiogram for all affected employees. Testing to establish a baseline audiogram shall be proceeded by at least 14 hours without noise. Hearing protection may be used to meet the requirement. Employees shall also be notified to avoid high noise levels prior to testing.

The baseline audiogram must be administered within six months of the first exposure and thereafter repeated annually. Subsequent testing compared with the baseline will establish if hearing loss has occurred.

The testing is completed by an authorized facility that will send results directly to the Quality & Safety Department. Using trained professionals, the facility determines if a standard threshold shift has occurred and notifies the Company. If a standard threshold shift is identified, the employee is notified within 21 days in writing and scheduled for a repeat test. The use of hearing protection shall be reevaluated and/or refitted if necessary. If necessary, a full examination will be given at this time.

Hearing Protection Provided – Hearing protection is made available to all employees exposed to an 8-hour TWA of 85 dBA or greater at no cost to the employees. All affected employees are required to wear the available hearing protection according to policy. The company ensures that employees have a variety of suitable hearing protection to choose from that attenuate employee exposure at least to an 8-hour TWA of 90 dBA, or 85 dBA or lower for employees who have experienced a standard threshold shift in their hearing. Hearing protection is evaluated for adequacy of the protection attenuation for the specific noise environments in which it will be utilized.

Training – All affected employees who are potentially exposed to noise at or above 8-hour TWA of 85 dBA are provided with initial hearing protection training at the time of their new hire training. Thereafter these employees receive recurrent hearing-protection training annually during their annual recurrent training. The Company requires these affected employees to participate. A permanent record of this hearing-protection training is maintained in their permanent records maintained by the Training Department. This record will include the employee's name, date of training and subject covered.

Copies of the standard and training material are available to all affected employees. Copies of the standard will also be posted in all affected locations. This training includes the following issues:

- The effects of noise on hearing.
- The purpose of hearing protection, the advantages, disadvantages, attenuation of various types, instruction on selection, fitting, use and care.
- The purpose of audiometric testing and an explanation of the testing procedures.

Record Keeping. Record keeping is an essential element of the hearing conservation program since it is the means by which hearing levels are assessed and tracked over a period of years. Accurate records of all employee audiometric testing results are maintained according to CFR 1910.95(G). Noise-exposure measurement records are retained for two years and audiometric test records for the duration of the employee's employment. The Company provides access to records for employees, former employees, representatives designated by the individual employee and OSHA upon written request.

Additional Information. It is not enough to protect your hearing while in the workplace. There are many situations involved in everyday life away from work that can lead to hearing loss. For example:

- Traffic produces sound at 85 dBA, which is dangerous if listened to for 8 hours or more.
- A gas lawnmower produces sound at 90 dBA, which is dangerous if listened to for 2 hours or more.
- Power tools produce sound at 100 dBA, which is dangerous if listened to for 15 minutes or more.
- An average rock concert produces sound at 110 dBA, which is dangerous if listened to for 2 minutes.
- A motorboat produces sound at 110 dBA, which is dangerous if listened to for two minutes or more.
- A chainsaw produces sound at 110 dBA, which is dangerous if listened to for 2 minutes or more.
- A shotgun produces sound at 165 dBA, which immediately causes hearing damage.

PPE Hearing Devices. There are three types of ear protection devices provided by the Company.

Individual Foam Ear Plugs (i.e., Pura-Fit 6800) can be inserted directly into the external ear canal.

Lightweight Headsets (i.e., QB2HYG) are easy to wear and install. It is more convenient and longer lasting than individual ear plugs but provides slightly less noise attenuation than individual ear plugs.

Mid-Range Ear Muffs (i.e., Peltor H9A) are the most comfortable and easiest to wear, however, they are somewhat bulky and provide slightly less hearing protection than the other types of earplugs. For extremely noisy environments, the ideal combination would be Pura Fit 6800s worn in conjunction with the H9A.

Figure 8-4: Samples of PPE Ear Protection Devices Furnished by the Company

8.8. Hand Protection

Personnel must wear appropriate hand protection when performing jobs that expose the hands to absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes.

8.8.1. Glove Selection

Selection of hand protection is based on evaluation of the task being performed, conditions present, duration of exposure, potential hazards identified and performance characteristics of glove material.

Requirements – Refer to the chart listing Job Tasks Requiring Hand Protection (see Figure 8-5) to guide you in choosing the proper hand protection to be worn and the proper selection of gloves for each task. This chart, however, is not all-inclusive and is for reference only. Always check all Company manuals and MSDS files before beginning work.

Exceptions – If a job task to be conducted is not listed and is not similar to the ones outlined above, the person conducting the task must discuss the requirements of hand protection with his/her manager or supervisor. Individual facilities may choose to implement more stringent hand protection program requirements. Always refer to the MSDS for the chemical being used for PPE requirements.

JOB TASKS	COTTON OR LEATHER	CHEMICAL RESISTANT (PER MSDS)[1]	WELDERS/ THERMALLY INSULATED	CUT RESISTANT (e.g., Kevlar®)
Abrasive Blasting	√ leather			
Biological Substances, Exposure to (e.g., 1st Responders)		√		
Chemical Handling (e.g., paints, solvents, additives, & acids)		√		
Chipping, Chiseling, Grinding, Hammering, Scraping	√			
Compressor/Pump/Engine/Crane – Maintenance	√			
Cutting and Sawing	√			√
Fuels		√		
Housekeeping (moving equipment & debris)	√			
Hydrocarbons, engine oils, lubricants – Exposure to (e.g. collecting process samples & pigging operations)	√ if chemical resistant is not required	√ based on exposure frequency & duration		
Rigging loads for lifting operations	√			
Handling of wire rope	√ leather			
Sharp Objects/Materials – Exposure to	√			√
Temperature Extremes – Exposure to	√		√	
Welding/Cutting/Brazing	√ fitters & helpers		√ welders	
Note: Examples of chemical resistant gloves include Natural Rubber, Butyl, PVC, Viton, Nitrile and Neoprene.				

Figure 8-5: Job Tasks Requiring Hand Protection

Non-Glove Tasks – Although the Company encourages the use of hand protection while conducting work, some job tasks may be performed without glove use. The justification for not using gloves is twofold.

- First, the task being performed is considered low risk with respect to hand/finger injury potential. Thus, the likelihood of an individual receiving a hand/finger injury while performing the assigned task without gloves is not significantly higher than with gloves.
- Second, the task being performed requires micro/precise movement of the fingers, causing significant loss of dexterity if gloves are being used.

8.9. Respiratory Protection Program

Protecting the respiratory health of all employees is not only an ethical and moral obligation, but it is mandated by OSHA regulations.

8.9.1. Purpose

Maintaining the healthiest possible working environment and remaining in compliance with OSHA regulations requires the development and implementation of a Respiratory Protection Program. The aim of this program is to provide protection as the following outline describes:

- To maintain the respiratory health of all employees, this program provides specific information on respirator use and maintenance, who is affected and under what condition and environment the program is relevant.
- Adequate air quality requirements for supplied air, respiratory hazard training, respirator utilization training and respiratory program evaluation issues as they apply to the Company are addressed. (Reference for this program is OSHA regulation 1910.134.)
- In order to ensure the widest possible dissemination of this program, all employees will have unlimited access to its requirements. Any suggested changes, amendments or additions are welcomed and encouraged. Please direct all inquiries to the Quality & Safety Department.

8.9.2.Scope

The Quality & Safety Department will administer and monitor a written Respiratory Protection Program that will include the following:

- Initial and recurrent training.
- Compliance with the Respiratory Protection Program.
- Record keeping of personnel required to use respiratory protective equipment.

Personnel Affected – This program affects any and all individuals whose job within the Company requires application of, removal of, or prolonged and repeated exposure to the toxic materials contained in aircraft surface primers, paints, finishes, coatings, composite components and other related material.

Work Environment – This program applies to the paint and strip shops within the ARA Support Facility, Rebuild Facility and all other working environments where sanding, surface preparation, treatment of aircraft surfaces and other related steps relating to the removal and application of paint and solvents are conducted.

Requirement For Respiratory Protection – The requirement for a dedicated respiratory protection program can be found in OSHA regulation 29 CFR 1910.134(a)(2), which specifies, “Respirators will be provided by the Supervisor when such equipment is necessary to protect the health of the employee. The Supervisor will provide respirators which are applicable and suitable for the purpose intended.” Therefore, the Company has adopted the following policies:

- Use of supplied air respirators by individuals involved in painting, stripping, or sand blasting of aircraft and associated components is mandatory.
- Such respiratory protective equipment is provided at no cost to the employee to provide protection from the hazards involved with the removal, treatment, preparation and application of primers, paints, finishes and coatings used on aircraft.

Respirator Selection – To select which respirator to use, several issues must be considered. Selection of respirators and the need for their use will be predicated on a location-by-location basis and will be determined by conducting exposure-level testing during activity in which the air quality is questionable.

The different hazard levels that are encountered during any given period at the various facilities operated by the Company are to be considered. For this reason, the types of respirators may vary from location to location, dependent on the type and level of contaminant that an employee may reasonably be expected to encounter.

As an example, the employees in the Paint Shop have been equipped with supplied air, full-face type respirator systems as standard equipment. This system includes the following components:

- A portable air filter panel that uses shop air as an air filtration panel that contains provisions for multiple users. It is equipped with oil filters and a CO alarm and provides breathable grade-D air.
- Selected individual air supply hoses meet OSHA standards. They are constructed with fittings that are compatible only with the filter panel, and they cannot be accidentally used in shop air outlets.

8.9.3.Medical Evaluation

An annual medical evaluation is provided at no cost to the employee in compliance with the following:

- OSHA outlines that the evaluation is a combination of a Mandatory Respirator Medical Evaluation Questionnaire and a licensed Health Care Provider’s recommendation.
- Medical evaluations will be performed on all individuals whose primary job description includes continuous, prolonged or frequent exposure to environments hazardous to respiratory health. This medical evaluation will

be performed to protect the respiratory health of all employees engaged in activities that necessitate the use of a respirator. The Company currently employs the Occupational Health Clinic in Fairbanks or the Homer Medical Clinic/ South Peninsula Hospital in Homer to perform these evaluations and questionnaires.

- As with any personal information, the results of these evaluations are kept strictly confidential and maintained with the employee's medical records in the Human Resources Department.

Fit Testing – Fit testing is performed annually by qualified technicians at no cost to the employee. The results of these tests are kept on file and considered confidential in nature. Fit testing and respirator use requires that the individual be clean-shaven to achieve the most effective seal. The presence of facial hair is the most common cause for inability to obtain an effective seal while using a respirator. The following are two types of respirator fit testing recognized by OSHA:

- Qualitative fit testing (QLFT) involves individual sense of smell and taste. This is the method used by Air Logistics.
- Quantitative fit testing (QNFT) involves actual measurement of the differential measurement taken from outside and from within the respirator.

Use And Care Of Respirators – Respirators are issued to those individuals whose job description requires their use. These employees are responsible for the primary maintenance and care of the respirator issued to them. Proper maintenance of respirators contributes to optimum protection and protracted life of the respirator.

To ensure the health and well-being of each employee, the following routine of scheduled inspections will be performed by the holder of the respirator:

- Respirators will be inspected before and after each use.
- The following checks will be made:
  - Tightness of the connections.
  - Condition of the face piece, headbands, valves and connecting tubes.
  - Pliability and deterioration of rubber and elastomer parts.
  - Either cartridges shall be changed after eight (8) hours of continuous use or when the employee smells or tastes any product, whichever occurs first.
- Check manufacturer's recommendations first before cleaning and sanitizing respirators. Additionally use the following procedures for cleaning and disinfecting respirators:
  - Remove any filters, cartridges or canisters.
  - Wash face piece and breathing tube in cleaning disinfectant.
  - Rinse completely in clean warm water.
  - Air-dry in a clean area.
  - Clean other respirator parts as recommended by the manufacturer.
  - Replace defective valves, head straps and other parts that are unserviceable.
  - Insert new filters or cartridges periodically as specified by the manufacturer.
  - Place and store respirators in a plastic bag or other closed container for storage.

8.9.4.Storage of Respirators

Proper storage of respirators will include the following:

- Respirators will be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, damaging chemicals and other contaminants.
- Respirators will be packed or stored so the face-piece, exhalation valve and supplied-air connection are not crushed or otherwise damaged.

- Generally, the original protective bag is adequate for storage. In the event the bag becomes damaged or is otherwise deemed unserviceable, any container that provides the same or a greater level of protection is acceptable.

8.9.5.Training

Respiratory training is mandatory to ensure that all employees who are required to use respirators in completion of their assigned tasks possess the necessary skills to maintain and use the equipment issued to them. Training will be done initially with a new employee by the supervisor, recurring annually and more often if necessary.

Initial training will consist of a basic explanation of requirements for respirators to include the following:

- Requirements for respirators
- What the limitations are
- How to use the respirator effectively, to include donning and doffing
- How to inspect
- Respiratory hazards
- Engineering controls
- Selection of respirators
- Care and maintenance

8.9.6.Program Evaluation

Evaluation of the respiratory protection program is essential in order to ensure that the program is effective. The Quality & Safety Department will conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective. At a minimum, evaluations will be conducted as follows:

- A shop evaluation to determine:
  - The type(s) and extent hazards exist in the workplace.
  - The type(s) and extent respirators are used.
  - The numbers of employees using respirators.
  - Whether associated respirator equipment is being maintained.
- An employee survey to determine:
  - Proper fit and usage of respirators is being achieved.
  - If work performance is hampered using the respirator issued.
  - If respirators meet the needs demanded by shop environment.
  - Proper maintenance of respirators is being achieved.

8.9.7.Record Keeping

To remain in compliance with OSHA regulations, a record keeping system must be in place and maintained. For Company purposes the following documents are always subject to review and/or inspection.

Medical Evaluation Records – These results are confidential and available only to the affected employees, members of Quality & Safety, Human Resources, Senior Management and State or Federal Agencies that have the authority to access such records.

Respirator Fit Testing Records – These records contain the results of fit testing conducted on each employee and contain:

- Name of tested employee.
- Type of fit test performed.
- Make, model and size of respirator used for fit testing.
- Date of fit testing.
- Pass/fail results and/or lab results after using the Quantitative Fit Test.

These records must be maintained until the next fit testing is administered. Generally, this will be for a period of one year, but it may exceed one year depending on availability of testing resources.

Written Respiratory Protection Program – The material contained in this program is freely available to all employees and is subject to inspection by OSHA officials.

9. Medical Services and First Aid (29 CFR 1910 Subpart K)

9.1. Medical Personnel

The Company will provide readily available medical personnel for advice and consultation on health issues. If such personnel are not located in close proximity of the workplace, a person or persons will be adequately trained to render first aid. If prompt medical attention is required, prior arrangements will have been made with the closest medical facility to each base/location. Post contact numbers for each base/location, including afterhours information

9.2. First Aid Training

Company employees are invited to participate in a voluntary first aid program. Outside agencies train these employees according to American Red Cross First Aid standards, which can include CPR and automated external defibrillator (AED) training. The list of employees having participated in this training is posted at each base and shop.

9.3. Field Base First-Aid Kits

The Base Manager and Maintenance Manager are responsible for maintaining adequate first aid supplies so that they will be readily available in their area of responsibility. Base first-aid kits will be placed in an accessible location.

9.3.1. First Aid Kit Labeling and Minimum Requirement List

Labeling – Place a self-adhesive inspection sticker on the lid of the kit to record the inspection date and inspector's signature. Do not cover the marking "First Aid" with any labels/stickers.

Minimum Requirement Listing – The Base Manager or Maintenance Manager is responsible for ordering depleted items to bring the contents of each kit up to the prescribed minimum level. The minimum of items to be maintained in the First-aid kit are listed in the Base and Maintenance Shop's First-Aid Kit Contents Minimum Requirements List provided in this chapter (see Figure 9-1). Reference these items by name and part numbers as given in this list when ordering through your normal supply chain. The first-aid kit may exceed the minimum level requirements at the discretion of the Base Manager or Maintenance Manager responsible for that area.

9.3.2. First-Aid Kit Inspections and Use

Each of these kits must contain a list of contents and be inspected monthly according to that list. Some kit items may have an expiration date imposed by the manufacturer.

Check each item when inspecting the kit. Order replacements for items that will expire prior to the next inspection date.

NOTE: A vendor service may be used to make this inspection.

Across-the-counter medical items may be included in the field base first-aid kit at the discretion of the Base or Maintenance Manager. These items may be purchased locally. Items that may be included in this first-aid kit and can be ordered through your normal supply chain source include the following:

Description	Part Number	Packs Required	Content Per Pack
Instant Cold Pack	C3056	1	1
Adhesive Bandages (1" x 3")	N02-07-95	1	16
Adhesive Tape (1" wide) Betadine Swabs	N02-06-15	1	5 yds.
Antiseptic Applications (0.5 gm. each) Ammonia Inhalants	N02-08-60	1	10
Burn Treatment Applications (0.5 gm. each) Bandage Compressors 4'	N02-11-55	1	6
Sterile Pads (3" x 3" min.)	N02-04-30	1	4
Medical Exam Gloves	MG-70399	1	2 pairs
Triangular Bandage (40" x 40" x 40" min.)	N02-03-70	1	1
Bodily Fluid Clean-up Kit	25100	1	1

Figure 9-1: Base & Maintenance Shop's First-Aid Kit Contents Minimum Requirements List

First-Aid Kit Use – Employees must adhere to all warnings on medication labels when using items from this First-aid kit.

9.4. Emergency Chemical Wash Stations

Although employees are required to wear safety glasses and face masks where appropriate (see PPE checklist in Chapter 8), accidents can happen. Eyewash stations and drench showers provide an effective means of emergency treatment when chemicals come into contact with the eyes or skin. Eyewash stations are located throughout the working area in the event a chemical accident occurs. These stations are to be located immediately adjacent to hazardous areas.

9.5. Automated External Defibrillator (AED)

An Automated External Defibrillator (AED) may be located at your base. Check with your Base Manager to determine its location and the trained users who can assist you.

10. Emergency Response Plan (29 CFR 1910 Subpart E & L)

The discussion in this chapter will document responsibilities and reactions required to deal with fire and other emergencies.

To provide for the most expeditious and thorough reaction to aircraft emergencies, an Emergency Response Plan has been provided in Volume 5 of the Base Library. This plan defines responsibilities, procedures and documentation necessary to successfully conduct a search, rescue of personnel and retrieval of an aircraft. The plan also outlines the notification of government agencies and contracted customers. Please refer to this document for emergencies involving aircraft.

10.1. Fire or Other Emergency Procedures

10.1.1. Emergency Action Plan

Each Base and Maintenance Shop Manager will prepare an Emergency Action Plan for his/her area of responsibility. In case of an emergency, call 911 if available. Otherwise, if 911 services are not available, provide and post instructions on how to contact local fire and ambulance services and other emergency responders. This plan shall be reviewed quarterly to assure the information provided remains current. During an emergency, the Base/Maintenance Manager or Supervisor on the scene will be the point of contact until or if relieved by the next level up. All employees are to contact their Manager/Supervisor on the scene if additional information is required.

10.1.2. Emergency Action Plan Form

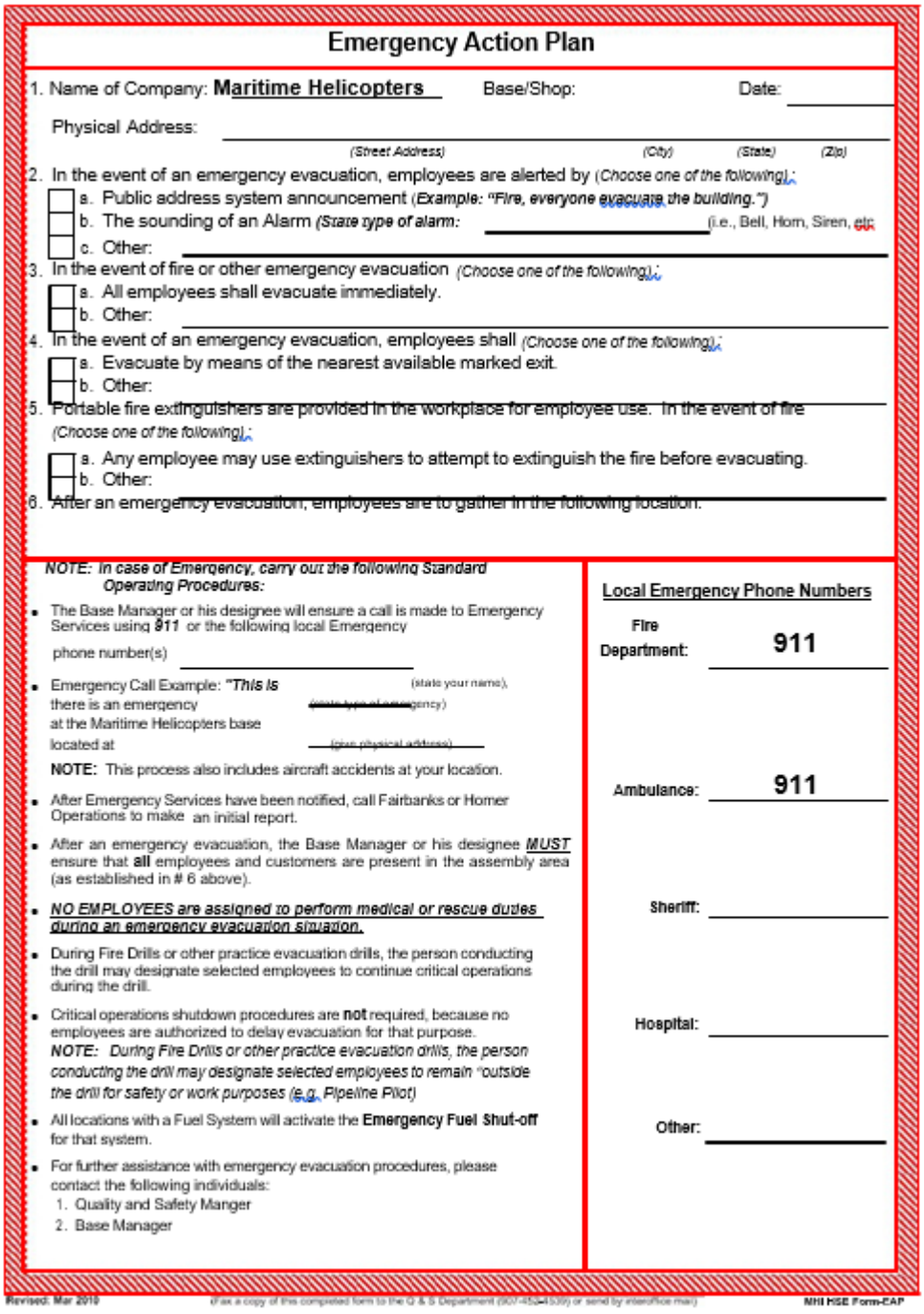
A sample of the Emergency Action Plan form is contained in this chapter (see Figure 10-1) and includes specifics pertinent to each base, i.e., the base/shop location, actions to be taken in case of an emergency, local emergency phone numbers and emergency procedures to be followed. Post a copy of this completed form by all telephones and on employee bulletin boards for all employees to review. Send a copy of this completed form to the Quality & Safety Department in Fairbanks for their records.

10.1.3. Emergency Action Drill

Using the Emergency Action Plan as a guide, an Emergency Action Drill will be performed annually with the personnel on each of the 7&7 work schedules. The drill may consist of any type of emergency that may impact the Base activities. An effort should be made to include participation of the local emergency authorities in this exercise.

NOTE: No employees are assigned to perform medical or rescue duties during an actual emergency evacuation.

Emergency Action Drill Form. Once the drill has been completed, use the Annual Emergency Action Drill Results form (see Figure 10-2) to report the results of the drill to the Quality & Safety Department. This report will include the base name, who conducted the drill, the type of drill conducted and what happened. Alternatively log all Emergency Response Plan Drills in the iAuditor, online application.



Emergency Action Plan

1. Name of Company: **Maritime Helicopters** Base/Shop: Date: _____

Physical Address: _____
(Street Address) (City) (State) (Zip)

2. In the event of an emergency evacuation, employees are alerted by *(Choose one of the following)*:
   - ☐ a. Public address system announcement *(Example: "Fire, everyone evacuate the building.")*
   - ☐ b. The sounding of an Alarm *(State type of alarm:* _____ (i.e., Bell, Horn, Siren, etc.
   - ☐ c. Other: _____
3. In the event of fire or other emergency evacuation *(Choose one of the following)*:
   - ☐ a. All employees shall evacuate immediately.
   - ☐ b. Other: _____
4. In the event of an emergency evacuation, employees shall *(Choose one of the following)*:
   - ☐ a. Evacuate by means of the nearest available marked exit.
   - ☐ b. Other: _____
5. Portable fire extinguishers are provided in the workplace for employee use. In the event of fire *(Choose one of the following)*:
   - ☐ a. Any employee may use extinguishers to attempt to extinguish the fire before evacuating.
   - ☐ b. Other: _____
6. After an emergency evacuation, employees are to gather in the following location:

NOTE: In case of Emergency, carry out the following Standard Operating Procedures:

- The Base Manager or his designee will ensure a call is made to Emergency Services using **911** or the following local Emergency phone number(s) _____
- Emergency Call Example: **"This is** (state your name), there is an emergency (state type of emergency) at the Maritime Helicopters base located at (give physical address)
  NOTE: This process also includes aircraft accidents at your location.
- After Emergency Services have been notified, call Fairbanks or Homer Operations to make an initial report.
- After an emergency evacuation, the Base Manager or his designee ***MUST*** ensure that **all** employees and customers are present in the assembly area (as established in # 6 above).
- ***NO EMPLOYEES are assigned to perform medical or rescue duties during an emergency evacuation situation.***
- During Fire Drills or other practice evacuation drills, the person conducting the drill may designate selected employees to continue critical operations during the drill.
- Critical operations shutdown procedures are **not** required, because no employees are authorized to delay evacuation for that purpose.
  NOTE: *During Fire Drills or other practice evacuation drills, the person conducting the drill may designate selected employees to remain "outside the drill for safety or work purposes (e.g. Pipeline Pilot)*
- All locations with a Fuel System will activate the **Emergency Fuel Shut-off** for that system.
- For further assistance with emergency evacuation procedures, please contact the following individuals:
  1. Quality and Safety Manger
  2. Base Manager

Local Emergency Phone Numbers

Fire Department: **911**

Ambulance: **911**

Sheriff: _____

Hospital: _____

Other: _____

Revised: Mar 2010 (Fax a copy of this completed form to the Q & S Department (907-452-4539) or send by interoffice mail) MHI HSE Form-EAP

Figure 10-1: Emergency Action Plan Form

ANNUAL EMERGENCY ACTION DRILL RESULTS

Date: Base: Schedule: _____

Completed by: _____

1. What type of drill was executed/simulated (Fire, aircraft event, fuel spill, etc.)?

2. What was the response time of all personal evacuation to arrive at muster point/s?

3. Were all employees accounted for? If not, what occurred?

4. Are there opportunities for improvement based on results? Explain?

5. Were emergency authorities contacted as part of the drill?

   a. If so, which, and what was their recorded response times?

   b. If emergency authorities did not come to the scene because of the "drill scenario," ascertain from the authorities what their estimated response time would be?

Revised: 4 July 2010 MHI HSE Form D-6

Figure: 10-2: Annual Emergency Action Drill Results Form

11. Fire Prevention

Maintaining a safe and healthy work environment is extremely important. Each employee shares responsibility in carrying out basic safety steps. Prior planning and a well-developed escape plan will minimize damage should an emergency arise. Fire prevention is an integral part of this process.

11.1. Fire Prevention Techniques

Good housekeeping and equipment maintenance must be followed to keep hazards at a minimum. For example, oil-soaked rags must only be stored in an approved metal container.

Smoking Areas – Per the Administrative Procedures Manual, smoking is NOT permitted in any company building, including living quarters and company vehicles. Appropriate smoking areas will be designated outside for employee use.

11.2. Proper Handling of Flammables

When working around flammable substances, observe the following practices:

- Check SDS for PPE requirements to become familiar with the characteristics of these substances.
- Always properly ventilate containers used to store or transport flammables.
- Never store gasoline, kerosene or other flammable liquids in glass containers or unapproved plastic containers. Only use approved containers to store or transport gasoline or solvents.
- Only use soapsuds or an approved leak detector fluid to check for leaks. Never use an open flame for this task.
- If a leak is detected, immediately shut down affected operations and evacuate the area. Report and assure the leak is repaired immediately. If immediate repair is not possible, post adequate warning signs and institute extra precautions to prevent fires and defuse any potential danger as much as possible.
- Never use spray paint, insect sprays, aerosol sprays or paint removers near an open flame or other ignition source since these substances are potentially flammable. Read the labels on these containers and carefully follow the manufacturer's instructions for proper use and handling.
- Never burn residual oil, gasoline, jet fuel and/or other petroleum products that have a combustible nature. If resulting from a leak, clean up and dispose of all potentially combustible products in a prescribed manner. Normally dry sweep material is recommended for this process. Check SDS for specifics.

11.3. Proper Use and Handling of Fire Protection Equipment

Because fires can grow and spread rapidly, the number one priority for all personnel is to immediately exit the facility safely. Although, portable extinguishers have limitations, they can save lives and property by putting out a small, incipient fire.

11.3.1. Portable Fire Extinguisher Use Training

Provide training in the proper use of a portable fire extinguisher in the workplace for employees, to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting. This training is provided for all new hires and thereafter repeated for all employees at least annually.

Proper Fire Extinguisher Use – For effective use of a portable fire extinguisher, observe the following practices:

- Fire extinguishers must be installed close to an exit.
- Keep your back to a clear exit when using a fire extinguisher so that you can make an easy escape if the fire cannot be controlled.
- If the room fills with smoke, stop all activities and leave immediately.
- Know which type of extinguisher is most effective for each type of fire.
- Fire drills should be held at regular intervals to familiarize personnel with the location and operation of fire protection equipment and the escape plan.
- Observe all instructions found on the fire extinguisher labels.

NOTE: Most fire extinguishers in use have an ABC combination rating. This provides firefighting capacity for the following:

A	**Class A** fires involve ordinary materials like burning paper, lumber, cardboard, plastics etc.
B	**Class B** fires involve flammable or combustible liquids such as gasoline, kerosene, and common organic solvents used in the laboratory.
C	**Class C** fires involve energized electrical equipment, such as appliances, switches, panel boxes, power tools and hot plates. Water is usually dangerous extinguishing medium for Class C fires because of the risk of electrical shock. However, a specialized water mist extinguisher can be used.
D	**Class D** fires involve combustible metals, such as magnesium, titanium, potassium, and sodium. These materials burn at high temperatures and will react violently with water, air, and/or other chemicals. Handle with care!

NOTE: To operate a fire extinguisher, remember the word **PASS**:

PULL	the pin, hold the extinguisher with the nozzle pointing away from you and release the locking mechanism.
AIM	low and point the extinguisher at the base of the fire.
SQUEEZE	the lever slowly and evenly.
SWEEP	the nozzle from side-to-side.

Storage and Location of Equipment. All fire protection equipment must be in designated areas and be clearly identified with appropriate markings. The number, type and location of the fire extinguishers must meet OSHA standards.

Maintenance and Inspection of Equipment. Fire extinguishers can save lives. However, in order to do so they must be properly maintained. Maintenance of fire extinguishers and other fire protection equipment must be performed by a competent inspector in accordance with applicable regulatory and company requirements and is completed by a certified repair center. However (both daily and monthly) the following general inspection requirements must also be met to protect from damage:

- Ensure that they are properly hung in their designated place and have not been tampered with
- Inspect for any obvious physical damage, i.e., corrosion or other impairments. The following conditions can cause corrosion:
  - If the bottom is touching the floor or stored in a bucket.
  - If stored outside unprotected from the weather.
  - If stored in wet or damp environments or in areas where standing water could potentially accumulate.
  - If stored near marine environments, jetties, platforms, or any facility located near salt water.
  - If stored on or near chemical processing facilities.
  - If hung on hook constructed of dissimilar metal that comes in contact with the body of the extinguisher.
- Always keep all fire extinguisher hose nozzles free of obstructions.
- Protect instruction labels on fire extinguishers.
- Always replace partially used fire extinguishers.
- Before removing extinguisher from the premises for recharging, replace with a spare extinguisher.
- Securely attach a durable tag to each extinguisher to show the maintenance or service date. Annual Service is required, and Maritime Helicopters will use outside contracts with local fire & safety companies.
- Recharge, repair and replace as needed to ensure reliable operation.

12. Compressed Gas (29 CFR 1910 Subpart M)

Extreme caution must be taken when handling or storing compressed gas cylinders. The gas maintained in these tanks exerts a tremendous pressure.

12.1. General Safe Handling Procedures

- Oxygen cylinders must be stored at least 20 feet away from containers storing combustible material.
- Valve safety covers must remain in place when tanks are not in use.
- Never attempt to repair cylinders or cylinder valves. If cylinder valve is stuck or frozen, do not try to force it open.
- Keep oxygen cylinders free from oil or grease. Never use oil or grease as a lubricant for oxygen valves or attachments.
- Post NO SMOKING signs near welding gas and oxygen cylinders. Prohibit open flames or sources of heat in the vicinity.
- Never drag or roll cylinders on their sides.
- Properly secure cylinders at all times using chain or wire.
- Store cylinders where they cannot be knocked over or damaged by passing or falling objects.
- Identify contents of cylinders with decals, stencils, or other markings on the cylinders.
- Do not accept any cylinders from the vendors unless the valve safety covers are in place.

13. Materials Handling (29 CFR 1910 Subpart N)

13.1. Use of Mechanical Equipment

Where mechanical handling equipment is used, sufficient safe clearances will be allowed for aisles at loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways must be kept clear and in good repair, with no obstruction across passageways or in aisles that could create a hazard. Permanent aisles and passageways will be appropriately marked.

13.2. Housekeeping

Storage areas will be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion or pest harborage. Pest and/or vegetation control will be exercised when necessary.

13.3. Materials Returned to Parts

Identification – Tag or mark non-inventory materials for identification and indicate their condition before returning them to the Parts, for example:

- Unused Texaco Hydraulic Oil 15 – Return to Stock
- ZOK27 – Do Not Use – Unknown Contamination

Hazardous Materials – Containers of products that are flammable, corrosive or reactive must be labeled, identifying their hazard.

Returned for Refill – Empty containers that are returned for refill are to be identified, labeled and marked (as shown below) to aid the Supply Chain in the proper handling and disposition of materials received from the field.

- Methyl Ethyl Ketone
- Flammable Liquid Label affixed
- The proper NFPA and/or HMIS labeling (refer to SDS)
- Empty – fill for return

Returned for Disposal – Materials returned for disposal must be coordinated through the Quality and Safety Department.

13.4. Forklifts/Other Powered Industrial Trucks

This forklift guidance is intended to establish compliance with 29 CFR 1910.178 – Powered Industrial Trucks (Forklift).

- No person may operate a forklift unless trained and competent to do so.
- All nameplates and markings will be maintained in place and in legible condition.
- No person is allowed to stand or pass under elevated forks, whether loaded or unloaded.
- The forklift must be equipped with an overhead guard.
- When the forklift is left unattended, forks will be fully lowered, controls neutralized, power shut off and brakes set. If parked on an incline, wheels will be blocked.
- All traffic regulations must be complied with.
- If the load obstructs forward vision, then the forklift is to be operated in reverse with the load trailing behind.
- Under all travel conditions, the forklift will be operated at a speed that permits a safe stop.
- Only stable, safely arranged loads will be handled.
- Only loads within the rated capacity of the forklift will be handled.
- At any time, a forklift is found to be in need of repair, defective, or in any way unsafe, it is to be taken out of service until it has been restored to a safe operating condition.
- Perform periodic maintenance (i.e., greasing and lubricating) according to the manufacturer's manual and handled by the department responsible for its use.

- Before every operation, complete a visual inspection of the forklift. This helps to assure safe operation.
- If any item is found to be unserviceable, tag the item, "DO NOT OPERATE" until repair is accomplished.
- Perform Monthly inspections using the Forklift Weekly Inspection Safety Guide form (see Figure 13-1).

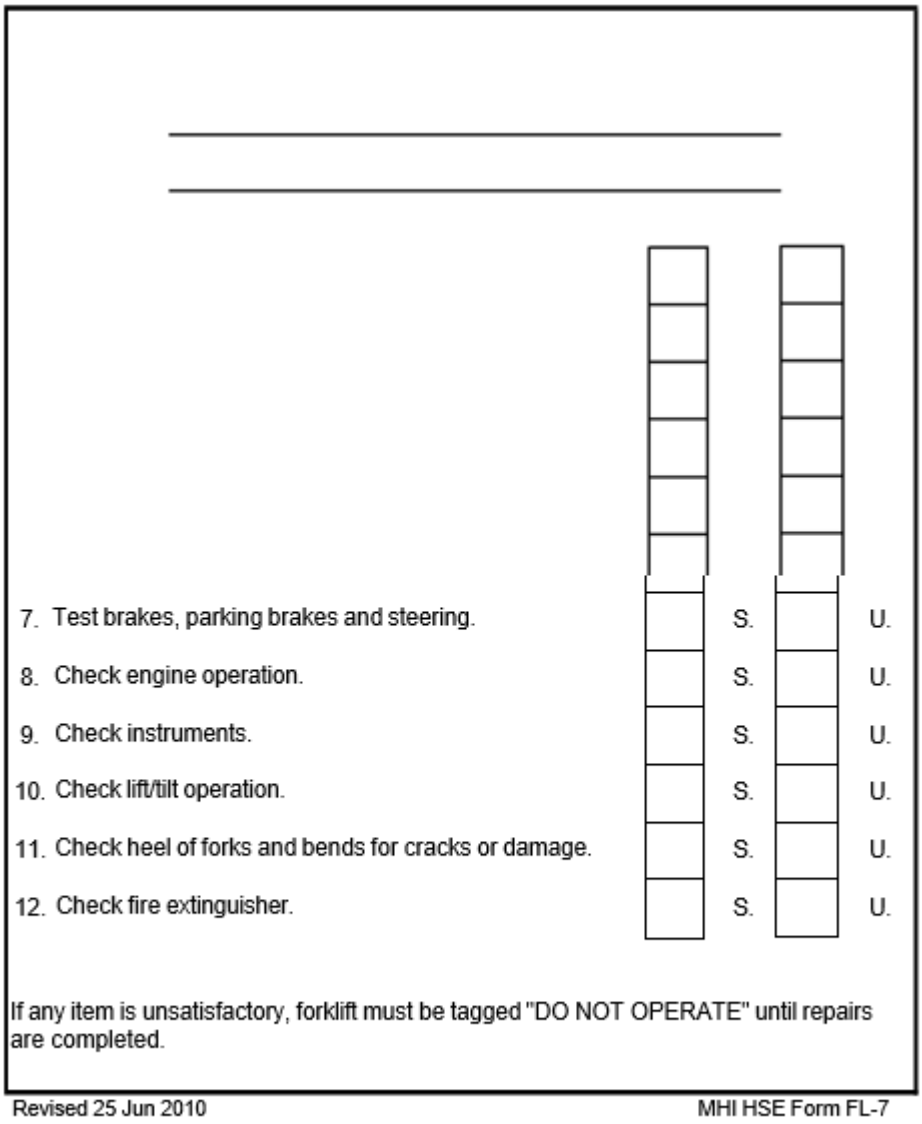


Figure 13-1: Forklift Weekly Safety Inspection Guide Form

13.5. Annual Hoist Inspection Guide

An annual hoist inspection is required by 29 CFR 1910.179 to ensure the safe operation of the hoist. This annual inspection does not eliminate the need for regular pre-use visual inspections.

- If available, use the hoist manufacturer's manual for maintenance and inspection requirements.
- If the inspection will be completed in-house, the general inspection guidelines are found in the Hoist Annual Safety Inspection Guide Form. (see Figure 13-2).
- Use the manufacturer or their authorized repair facility to accomplish repairs, other than normal replacement items.

- The department or base in possession/use of the hoist has the responsibility for the inspection and upkeep of the hoist as well as the storage of the inspection documents.
- An outside licensed inspection company can be used to inspect hoists or cranes as needed. Their inspection process may be used in lieu of the MHI HSE Form H-8 shown in Figure 13-2.

HOIST

ANNUAL SAFETY INSPECTION GUIDE

Date: _____

Operator: _____
(Print and Sign)

1. Visually inspect support beams and members. Maximum load capacity must be stenciled on the beam in a readily visible location.	☐	YES	☐	NO
2. Inspect track for wear. Grease track as required.	☐	S.	☐	U.
3. Visually inspect carriage rollers and pins for wear.	☐	S.	☐	U.
4. Inspect cables for frayed strands or wear. Grease as required.	☐	S.	☐	U.
5. Inspect air and/or electrical connections, hoses, cords. Hoses or cords are not to be supporting members for controls. Air or electrical switches must clearly indicate direction of travel (i.e., up, down, stop).	☐	S.	☐	U.
6. Inspect block and hook, pins, rollers, and guides for condition.	☐	S.	☐	U.
7. Check to see that load capacity marking is installed on hoist or hook.	☐	S.	☐	U.
8. Keep wire rope tightly wound on the drum. Periodically run the hoist down as far as allowed, apply a load, and rewind onto drum preventing lap overs.	☐	S.	☐	U.
9. Inspect motors for proper oil levels.	☐	S.	☐	U.
10. Where available, inspection should be supplemented with manufacturer's maintenance requirements.	☐	S.	☐	U.
11. Install annual inspection sticker on block. Indicate date inspection was completed.	☐	S.	☐	U.

If any item is unsatisfactory, hoist must be tagged "DO NOT OPERATE" until repairs are completed.

Revised 25 Jun 2010 HSI HSE Form H-8

Figure 13-2: Hoist Annual Inspection Guide Form

14. Machine Guarding (29 CFR 1910 Subpart O)

14.1. General Requirements

14.1.1. Types of Guarding

One or more methods of machine guarding will be provided to protect the operator and other employees in the machine area from hazards, such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are:

- Barrier guards
- Eye protection shields
- Electronic safety devices

14.1.2. General Requirements for Machine Guards

Guards will be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible. The guard will be such that it does not offer an accident hazard in itself.

The guards must NOT be removed. If they are removed for any reason, the machine will be deemed inoperable and removed from service.

14.2. Inspection of Guards

All special tools and equipment should be inspected regularly. Defective and unsafe tools or equipment must be reported promptly to the supervisor and repaired or replaced at once.

14.3. Hand Power Tools

Hand or power tools should be used only in the manner and for the work for which they were designed. Never remove safety guards from power tools. Never subject any hand or power tool to strain that is obviously beyond its capacity.

15. Welding and Cutting (29 CFR 1910 Subpart Q)

15.1. Safe Operation of the Welder (Electric)

15.1.1. General Instructions

Training – Before operating an arc welder, a qualified trainer or welder must instruct a new operator on its safe use.

Used Drums, Barrels, Tanks Etc. – Due to their potentially explosive nature, under NO circumstances will any welding, cutting or hot work be performed on used drums, barrels, tanks or similar containers.

Welder Cables – Always position the welder cables so that sparks and molten metal will not fall on the cables. Keep the cables free of grease and oil, and position them where they will not be driven over.

Use an Insulating Mat – An electric shock from an electric welder can kill. Therefore, if the welding operation must be done on steel or other conductive material, an insulating mat must be used under the operator.

Metal Preparation – It is easier and safer to establish an arc on a clean surface than a dirty or rusty one. Therefore, metal should always be thoroughly cleaned by wire brushing or other method prior to welding.

Use Proper PPE – When chipping slag or wire brushing the finished bead, the operator should always be sure to protect his/her eyes and body from flying slag and chips.

Protect Against Slip Hazards – Unused electrodes and electrode stubs should not be left on the floor as they can potentially create a slip hazard.

Equipment Storage – When finished welding for the day or when work is suspended for any length of time, electrodes should be removed from the holder, the holder should be placed where no accidental contact can occur and the welder should be disconnected from the power source.

15.1.2. Key Points to Remember. The following is a list of some key points to remember when welding or cutting:

- Be sure the welder is properly installed and grounded.
- Never weld without adequate ventilation.
- Protect your entire body with fire retardant clothing, shoes and gloves.
- Wear eye protection at all times.
- Weld only in a fire safe area.
- Keep a well-stocked first aid kit handy.

15.2. Oxy-Acetylene

15.2.1. Safety Instructions

The following is a list of some safety items that should be followed when using an Oxy- Acetylene outfit:

- Never use Acetylene gas at a pressure over 15 psi.
- Never use damaged equipment.
- Never use oil or grease on or around Oxygen equipment.
- Never use Oxygen or fuel gas to blow dirt or dust off clothing or equipment.

- Never light a torch with matches or a lighter. Always use a striker.
- When opening an Oxygen or fuel cylinder valve, always crack it open first.
- Never stand in front of a regulator when opening cylinder valves; always stand to the side of it.
- Always make sure regulators have their adjusting screws released by turning them counterclockwise until free before opening cylinder valves.
- Always have a fire extinguisher handy when operating Oxy-Acetylene equipment.
- Always replace cylinder caps when finished using cylinders.
- Do not rely on the color of the cylinder to identify its contents, since some suppliers use different color codes.
- Always use the proper regulator for the gas in the cylinder.
- Always use cylinders in the upright position.
- Never store cylinders in temperatures over 130° F.
- When in use, always keep the valve wrench on the Acetylene cylinder valve. Only open the valve a maximum of 1½ turns.
- Do not carry lighters, matches or other flammable objects in your pockets when welding or cutting.
- Always be aware of others around you when using a torch.
- Be careful not to let welding hoses come into contact with the torch flame or sparks from cutting.

16. Sling Safety (29 CFR 1910.184)

16.1. Safe Operating Practices

Whenever any sling is used, observe the following practices:

- Do not use damaged or defective slings.
- Do not shorten slings with knots, bolts or other makeshift devices.
- Do not allow sling legs to be kinked.
- Do not load slings in excess of their rated capacity.
- When slings are used in a basket hitch, balance the loads to prevent slippage.
- Securely attach slings to their loads.
- Pad or protect slings from the sharp edges of their loads.
- Keep suspended loads clear of all obstructions.
- Keep all employees clear of suspended loads and loads that are about to be lifted.
- Do not place hands or fingers between the sling and its load while the sling is being tightened around the load.
- Do not pull a sling from under a load when the load is resting on the sling.
- Before making a lift, check to be certain that the sling is properly secured around the load and the weight and balance of the load have been accurately determined.
- NEVER allow more than one person to control a lift or give signals.

16.2. Daily Inspections

The person using the sling shall inspect the sling and all fastenings and attachments for damage or defects each day before using the sling. Immediately remove from service any damaged or defective sling.

16.3. Alloy Steel Chain Slings

16.3.1. Sling Identification

Permanently affix durable identification to all alloy steel chain slings stating size, grade, rated capacity and reach.

16.3.2. Attachments

Ensure all hooks, rings, oblong links, pear shaped links, welded or mechanical coupling links or other attachments used as attachments of the sling have a rated capacity at least equal to that of the alloy steel chain to which they are attached. Otherwise, do not use the sling in excess of the rated capacity of its weakest component. Never use any makeshift links or fasteners formed from bolts, rods or other such attachments.

16.3.3. Annual Inspection Requirement

In addition to the daily inspection requirement, periodically on a regular basis of no more than once every 12 months, perform a thorough inspection of all alloy steel chain slings in use. Include a thorough inspection for wear, defective welds, deformation and increase in length of all alloy steel chain slings. Immediately remove from service any sling found to have deterioration or defects present.

16.3.4. Record Keeping

The Maintenance Manager responsible for the care of the sling will make and maintain a record of the most recent month that each alloy steel chain sling was thoroughly inspected. Such record shall be made available for examination.

16.3.5. Proof Testing

Before placing a sling in service, the sling manufacturer or equivalent entity must proof test each new, repaired, or reconditioned alloy steel chain sling, including all welded components in the sling assembly, in accordance with paragraph 5.2 of the American Society of Testing and Materials Specification A391-65, which is incorporated by reference as specified in §1910.6 (ANSI G61.1- 1968). Retain a certificate of the proof test and make it available for examination if requested.

16.4. Wire Rope Slings

16.4.1. Sling Identification

Permanently affix a durable identification tag to each sling, stating its rated capacity.

16.4.2. Sling Use

Do not use wire rope slings with loads in excess of the rated capacities.

16.4.3. Fittings

Fittings shall be of a minimum breaking strength equal to that of the sling. Lubrication of the wire rope and fittings shall be sufficient to protect the sling from rust and corrosion.

16.5. Synthetic Web Slings

16.5.1. Sling Identification

Permanently mark and affix to each sling a durable identification tag or markings stating the rated capacity of the sling.

16.5.2. Sling Use

Do not use synthetic web slings with loads in excess of the rated capacities.

16.5.3. Webbing

Synthetic webbing shall be of a uniform thickness and width. Do not split the selvage edges from the webbing's width.

16.5.4. Fittings

Fittings shall be of a minimum breaking strength equal to that of the sling and free of all sharp edges that could in any way damage the webbing. Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

17. Electrical (29 CFR 1910 Subpart S)

17.1. Safety Procedures

17.1.1. Proper Usage

Ensure all electrical equipment is properly used in a manner consistent with its design (e.g., correct gauge extension cords or no over loading of multiple electrical receptacles). All electrical equipment being used must be listed or labeled by a recognized testing facility or lab (e.g., Underwriter's Laboratory – UL, Factory Mutual). Ensure no electrical equipment is used unless the manufacturer's name or trademark is identified on the equipment.

NOTE: Always turn off lighting and other electrical equipment when not in use.

17.1.2. Inspect For Defects

Ensure that all electrical equipment is free from recognized defects (i.e., frayed wiring, broken or cracked casings or facings) that may lead to personal injury or property damage. All equipment must be of sufficient durability to withstand the environmental conditions in which the equipment is being used.

17.1.3. Identification Markings

Legibly mark all disconnecting means (e.g., switch and/or circuit breaker) and circuits for motors, appliances and other electrically powered equipment to indicate its purpose, unless the purpose is evident by its location and/or arrangement. Provide other markings giving voltage, current, wattage or other ratings as necessary. Ensure all markings on all equipment are of sufficient durability to withstand the environment involved.

17.1.4. Access to Electrical Equipment

Leave sufficient spacing between electrical equipment to allow access and working space around all electric equipment and to permit ready and safe operation and maintenance of such equipment. Do not use working spaces for storage. Suitably guard all live parts when exposed for inspection or servicing that are not normally enclosed if they are in a working space, passageway, or general open space.

17.2. Use of Equipment

17.2.1. Visual Inspection

Before use at the beginning of each shift, visually inspect all portable equipment and flexible cord sets (e.g. extension cords) for external defects (e.g. loose parts, deformed and missing pins or damage to outer jacket or insulation) and for evidence of possible internal damage (e.g. pinched or crushed outer jacket). A visual inspection does not need to be taken of any cord or plug-connected equipment or flexible cord sets (e.g. extension cords) that remain connected once they are put in place and are not exposed to damage, unless and until they are relocated.

17.2.2. Lock Out / Tag Out

Ensure that defective or damaged items are locked out and tagged out whenever a defect or evidence of damage is found that might expose an employee to injury. Do not allow any employee to use the defective or damaged item until repairs have been made and necessary tests have been performed to render the equipment safe.

17.2.3. Grounding-Type Equipment

A flexible cord used with grounding-type equipment will contain an equipment-grounding conductor. Attachment plugs and receptacles may not be connected or altered in a manner that would prevent proper continuity of the equipment-grounding conductor at the point where the plugs are attached to receptacles.

18. Lockout / Tagout (29 CFR 1910 Subpart J)

18.1. Description

18.1.1. General

OSHA requires a lockout/tagout procedure be established, followed and enforced to prevent the sudden release of energy, whether electrical, mechanical, hydraulic or pneumatic, which will prevent personal injury or damage to equipment. Therefore, lockout and/or tagout any equipment's energy source before beginning maintenance or repair work as required by Federal Regulation 29 CFR 1910.147 Subpart J. The program will be administered through the Quality and Safety Department with the support of the base manager, base maintenance manager and/or appropriate supervisors.

18.1.2. Purpose

This procedure establishes the minimum requirements for the lockout and/or tagout of energy isolating devices.

18.1.3. Preparation for Lockout and/or Tagout

The base manager, base maintenance manager and/or appropriate supervisors will take a survey to locate and identify all isolating devices to be certain that switches, valves or other energy isolating devices apply to the equipment to be locked out and/or tagged out. More than one energy source (electrical, mechanical or others) may be involved.

18.2. Sequence of Lockout and/or Tagout System Procedure by Authorized Employee

Use the following sequence of events list to lockout and/or tagout equipment before beginning any maintenance work:

- Notify all affected employees that a lockout and/or tagout system is going to be utilized and the reason for the action.
- If the machine or equipment is operating, shut it down by the normal stopping procedure (e.g. depress stop button or open toggle switch).
- Operate the switch, valve or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy (e.g. that in springs, elevated machine members, rotating flywheels, hydraulic systems, electricity and air, gas, steam or water pressure) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.
- Lockout and/or tagout each energy-isolating device with individual locks and tags. If lockout is impossible, then tagout must be used. It is Company policy to use a tag in conjunction with a lock, in order to make sure information on why a lock is being used is known.
- After ensuring that no personnel are exposed and making sure the energy sources are disconnected, operate the push button or other normal operating controls to make certain the equipment cannot be operated.

  CAUTION: Return operating control(s) to "neutral" or "off" position after the test.
- The equipment is now properly locked out and/or tagged out.

18.3. Restoring Machines or Equipment to Normal Production Operations

18.3.1. Authorized Employee

After the servicing and/or maintenance are complete, equipment is ready for normal production operations. Only the authorized employee who applied each lockout/tagout device can remove the device from the individual energy isolating devices. This employee will check the area around the machines or equipment to ensure no one is exposed. After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout/tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

18.3.2. When Authorized Employee Is Not Available

If the authorized employee who applied the lockout/tagout device is not available to remove it, that device may only be removed under the direction of the Company according to the following guidelines:

Verification – Check to make sure the authorized employee who applied the device is not at the facility.

Reasonable Effort – Make all reasonable effort to contact the authorized employee to inform him/her that his/her lockout/tagout device has been removed.

Ensure Responsible Employee Has Been Informed – Before the responsible employee returns to work at the facility, ensure that he/she has been informed of the action taken to return the machine or equipment back in service.

18.3.3. Shift or Personnel Changes

Ensure the continuity of lockout/tagout protection and the orderly transfer of lockout/tagout device protection between off-going and oncoming employees to minimize exposure to hazards from the possibility of unexpectedly energizing or starting-up the machine or equipment or possibly unexpectedly releasing of stored energy.

18.4. Training

18.4.1. Initial Instruction

Instruct all employees from the following training outline to ensure knowledge in the purpose and function of the lockout and/or tagout procedure has been conveyed.

18.4.2. Training Outline Lockout/Tagout

Why is a lockout/tagout program necessary?

- Required by Federal Regulations 29 CFR 1910.147 Subpart J
- Prevention of:
  - Personal Injury
  - Equipment Damage

18.4.3. Authorized Persons

Determine who will place or remove locks and tags by categorizing employees in the following order:

- Authorized – Individuals actually installing and removing locks and tags.
- Affected – Individuals who regularly work in close proximity to or use the equipment /machinery in question.
- Other – Individuals who may be indirectly involved in the use of the equipment / machinery
- Training of Authorized Persons
- As “Authorized Personnel”, you must know how to control the hazardous energy of the equipment/machinery before you start the LOTO process.
- Training will be documented and kept on file within your training folders as well as locally

18.4.4. When is the standard applicable?

This standard applies during servicing and/or maintenance of machines and equipment and is applicable only if:

- An employee is required to remove or bypass a guard or other safety device.
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed on the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

18.4.5. Developing a Lockout/Tagout Checklist

- Determine which items of equipment and or machinery in the work place require locks and/or tags.
- Determine which types of locks/tags must be installed.
- Develop a checklist for each type of machinery or equipment based on steps required to control hazardous energy.
- Assess any potentially hazardous equipment/machinery on hand, including energy sources, start up, shut down, running hazards, etc.
- Locate existing power controls
- On/off buttons, switches, levers, valves, or toggles.
- Identify additional power switches, valves or levers.
- Read and follow existing safety warnings, notices and instructions.
- Identify all power sources to the machine.
- Determine the type of lockout device required.
- Ensure the device will prevent energization of equipment or machinery.

18.4.6. Location of Lockout/Tagout Devices

- Locks, tags, and lockout devices must be stored in a central location to ensure accountability
- Inventory of tags and lockout devices should be conducted prior to and after using any of the devices.

18.4.7. Choosing a lockout device

- Some equipment may be wired directly to an existing circuit.
- Install a circuit breaker locking device.
- Some equipment may be isolated by unplugging.
- Some equipment must be controlled using a cable device.
- Some equipment requires the control of a valve.

18.4.8. The Lockout/Tagout Process

- Prepare for shutdown.
- Know what type of energy the machine or equipment is powered by.
- Identify potential hazards.
- Identify the handles, valves, toggles, switches, plugs, circuits or other devices that control energy and need to be locked out.
- Inform affected employees that the equipment is being locked out and why.
- Shutdown – Turn off/shutdown machinery/equipment.
- Disconnect/Isolate all energy sources (Unplug electrical cords, block circuit breakers, etc.)
- Lockout/Tagout:
- Place a lock on energy controls (switches, plugs, handles, valves, levers, etc.) in the “OFF” or “SAFE” position, accompanied by a tag. If a lock is used, use a tag also. Maritime Helicopters requires both.
- If equipment is incapable of being locked out, a tag must be placed as close as possible to the energy control so it will be obvious to anyone attempting to operate the equipment.
- Bleed off any residual or stored energy (i.e., electrical, hydraulic, or mechanical) at the beginning and at regular intervals during service or maintenance.
- Verify that the equipment is properly locked out by trying to operate the machinery.
- Verification = Lockout/Tagout – Try Out
- Removal from Lockout/Tagout – Before removing locks and/or tags:
- Inspect machines or equipment to ensure that they are operational with all components installed and all non-required objects removed.
- Ensure that all personnel are safely clear of equipment /machinery before operational checks are conducted.
- Additionally, all individuals who operate or work with the machine//equipment or in the immediate vicinity of the equipment must be notified that the locks/tags have been removed and the equipment is operational.

- Release From Lockout/Tagout
- Each lock and tag is removed by the employee that applied it.
- If employee is not available may be removed by employer if necessary. Documented procedures include:
- Verification employee is not in facility
- Make reasonable effort to contact employee
- Ensure employee is notified before returning to work that the lock is being removed
- Then take the necessary steps to remove the lock

18.4.9. Group Lockout/Tagout

When servicing and/or maintenance is performed by a crew, department or other group, they shall utilize a procedure that affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout/tagout device.

Group lockout/tagout devices shall be used in accordance with the procedures required under this section including, but not necessarily limited to, the following specific requirements:

- Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout/tagout device (such as an operations lock).
- Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout/ tagout of the machine or equipment.
- When more than one crew, department, etc. is involved, assignment of overall job- associated lockout/tagout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection.
- Each authorized employee shall affix a personal lockout/tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

18.4.10. Retraining

Whenever an employee has a job assignment change, new machines or processes present a new hazard. The base manager, base maintenance manager and/or appropriate supervisors will assure the reassigned employee is properly retrained on any equipment he/she will be using. Retraining will also be conducted whenever a periodic inspection reveals, or a supervisor has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control (lockout and/or tagout) procedures. Annually during recurrent training, the training outline is repeated.

18.4.11. Training Records

Record all training in the individual’s training record and indicate the employee's name, type of training, the instructor's name, and date of training.

The Company shall conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this standard are being followed. This inspection shall be performed by an authorized employee other than the ones(s) utilizing the energy control procedure being inspected in order to correct any deviations or inadequacies identified.

Where lockout/tagout devices are used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

The employer shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection and the person performing the inspection.

18.5. Red-Sock Program

In order to ensure that aircraft undergoing maintenance will not be operated, the following procedures will be utilized:

- Maritime Helicopters utilizes the cyclic sock system as an added level of protection during maintenance functions. Any time maintenance is being done on an aircraft for any reason a red sock shall be installed on the pilot's cyclic stick.
  - Green sock = Aircraft is airworthy and ready for use.
  - Red Sock = Aircraft is not airworthy. Contact maintenance before touching aircraft.
  - No sock = Aircraft is airworthy and has not had maintenance done after the last flight.

NOTE: This system in no way removes or lessens the requirement to make a log book entry any time maintenance is performed.

19. Hazardous Materials (29 CFR 1910 Subpart H)

19.1. Policy

OSHA enacted its Hazard Communication Standard (also referred to as the Right-To- Know Law) to ensure hazards caused by all chemicals used in a workplace are evaluated, and that the resulting information is made available to all employees using the chemicals in question.

19.2. Responsibilities

19.2.1. Supervisor

The Quality & Safety Department is responsible for ensuring each employee is initially trained regarding the Hazard Communication Program. Whenever an employee is assigned to a different work environment, re-assignment training must again be provided by his/her manager or department supervisor. This training includes the following:

- The trade name, common name or other names of hazardous products and toxic substances used in the department.
- Proper conditions and procedures for the use or handling of the product.
- Methods and/or observations that may be used to detect the presence or release of a substance or chemical.
- The physical and health hazards of the chemical, including the acute and chronic effects of exposure to the chemical used or handled in the work area.
- The proper measures employees must take to protect themselves from these hazards, including special work practices, emergency procedures and/or protective equipment to be used.
- The symptoms of the effects of exposure at hazardous levels and appropriate emergency treatment.
- The location where a product inventory for their work area will be available and where the safety data sheets (SDS) are maintained.
- The significance of the labeling system used in the department as well as how to obtain and use appropriate hazard information from it.
- The details of the Hazard Communication Program and the location where a complete copy is available for the employee's use.
- Employee

19.2.2. Each employee shall comply with all phases of the Hazard Communication Program, and therefore:

- Will not use any chemicals that he/she is not properly trained for and will seek training when needed.
- Will use personal protective equipment (PPE) as required by the MSDS.
- Will report containers with no labels to the supervisor immediately.
- Will not remove any labels from any containers.
- Will ensure only Company approved or recommended products are used.
- Quality & Safety Manager
- The Quality & Safety Manager serves as a focal point with regard to record keeping and compliance for the program. Specific duties will include the following:
- Maintaining records and safety data sheets (SDS) on all chemicals used in the Company. When online systems for SDS are used (e.g., 3E Company) a telephonic backup system will be used.
- Scheduling and training all employees in basic requirements of the Hazard Communication Program.

19.3. Procedures

19.3.1. Safety Data Sheets (SDS)

- The foundation of the Employee Right to Know Program is the requirement that every manufacturer or importer of hazardous substances develop an SDS for each substance and provide a copy to the buyer/user.

- The Purchasing Manager will be responsible for insuring that the MSDS is obtained from the vendor. All chemical samples from our suppliers must also include the SDS.
- It is the individual supervisor's responsibility to make a listing of all the hazardous substances located at his/her work site and ensure that a current SDS has been obtained and is available for each substance. The Quality & Safety Department will maintain the master list and reference copies of all SDS.
- The Quality & Safety Department maintains a comprehensive list of all SDS files representing all chemicals used by the Company. All SDS files are listed alphabetically by manufacturer first and by product name second. A sample from this index are as follows: When online systems for SDS are used (e.g. 3E Company) a telephonic backup system will be used. Training will be provided for the use of inline SDS systems and their use.
  - 3M, Scotch-Weld Epoxy Adhesive 2216
  - DuPont, Blue, Acrylic Polymer, Gray (Part A)
  - Loctite - Henkel EA 960 Part A
  - Sherwin Williams MEK

19.3.2. Employee Information and Training

During the initial training, each employee will attend a basic Hazard Communication Training Course conducted by the Quality & Safety Department. If non-English speaking, training will be provided to suit his/her needs. Information and training will be provided on the following items:

- Requirements and rights of the employee contained in the Hazard Communication Regulation.
- Location of the written Hazard Communication Program, the listing of hazardous substances and SDS.
- How to read labels and SDS for pertinent hazard information.
- What steps the Company has taken to lessen or prevent exposure to these substances.

19.4. Container Labeling

No container of hazardous substances will be released for use until the Quality & Safety Manager and/or the responsible supervisor has verified the following label information:

- Contents of container are clearly labeled.
- Appropriate hazard warnings are noted, such as health, fire and reactivity.
- All secondary containers must be labeled immediately.

19.5. Labels and Other Forms of Warning

Although the SDS is the main source of information regarding the hazards of a material, the most visible source of warning is the label, warning sign and placard. Sample labels of HMIS and NFPA are provided.

Figure 19-1 HMIS Label

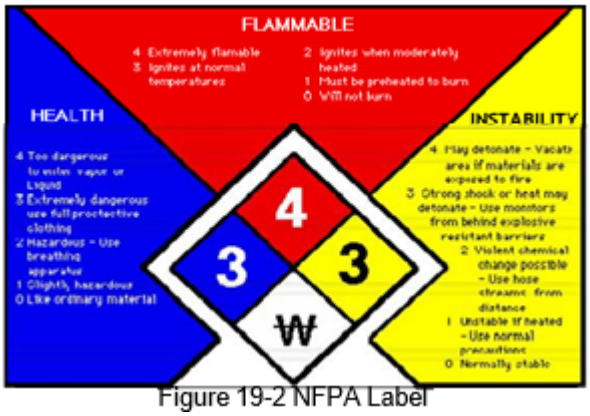


Figure 19-2 NFPA Label

System Differences – Although at first glance, the HMIS and NFPA labeling systems appear quite similar, they have different perspectives. Both have four sections colored blue, red, yellow and white; however, the HMIS system uses colored bars and the NFPA system uses colored diamonds. Additionally, the purpose of each system takes on different perspectives. The HMIS labeling system attempts to convey full health warning information to all employees and should be viewed from that perspective. The NFPA labeling system is primarily directed for use by fire fighters and other emergency responders.

19.5.1. Labeling Requirements

As incoming materials arrive in the receiving area, the Receiving Department supervisor is responsible to check that the material contents and label provided by the supplier or manufacturer are accurate before the material is placed in storage or issued to a base or department. The manufacturer's markings and DOT label will remain on the container while on site. Products that leave the Support Center for use at various bases are forwarded as originally packaged with original label intact as it came from the supplier. If the material is broken down into smaller containers before shipment, their packaging and labeling will be the same as they had when sent by the supplier.

Labeling of Products in Use – When an employee breaks down larger quantities of a material in his/her department not for immediate use, that individual is responsible for obtaining information from the SDS, which must be appropriately noted on the label, placard and/or other markings. Each base manager or department supervisor will assure that labels are affixed to all containers located at the base or in the department.

- Portable containers used by employees and containers having hazardous products are placarded, labeled, and marked.
- The appropriate markings will remain on the product container throughout the work process.
- Where hazardous substances are employed in a work area accessible to other employees, warning labels, placards or signs are prominently placed at the entrance to the work area, as appropriate.

19.5.2. Hazardous Non-Routine Tasks

In the event an employee is required to perform a hazardous non-routine task, such as spill cleanup, maintenance to or repair of equipment etc., the project supervisor will provide each employee performing such task with the following information before the task is started:

- An MSDS on each hazardous substance present or used.
- Review of each MSDS to determine the specific hazards involved and the precautions that must be taken by the employee.
- Environmental controls and personal safety equipment that must be utilized in performing the task.

19.5.3. Non-Routine Procedures

Outside Contractors – It is required that the contractor check with the department initiating the purchase order and the department supervisor/base manager as to the potential for exposure to hazardous products that may be present while the contractor is onsite. Should there be any acknowledged hazards present; the department supervisor is responsible for informing the contractor and documenting the notification regarding the hazard communication. The Company will rely on its existing hazard communication program to cover these types of contingencies.

Temporary Employees – The supervisor is responsible to train and oversee any temporary employee assigned to his/her area as to all requirements of the program as related to hazardous products to which the employee may be subjected.

20. Hazard Communication (29 CFR 1910.1200)

20.1. Objective

The purpose of this program is to inform the employees of all hazardous products used within the system so information concerning these hazards can be transmitted to employees who may be affected by the products being used. This program is written to fulfill the requirement of the Federal Occupational Safety and Health Administration, 29 CFR 1910.1200. To accomplish the goals of this program, the following actions are necessary:

- Collect and maintain Safety Data Sheets (SDS) of hazardous products being used in the system.
- Identify the hazards of products used on site.
- Provide labels, warning signs, placards, and operating procedures.
- Provide employee information and training.
- Identify non-routine training procedures.
- Describe employee rights.
- Describe record-keeping responsibilities.

20.2. Program Requirements

This document forms the framework for conveying information under the Hazard Communications Program. Information on hazardous products and intermediates will be transmitted by the use of Safety Data Sheets (SDS) and during safety meetings. The content of that information will be reviewed by the Quality & Safety Department at least on an annual basis. The Company is responsible for writing and maintaining this written program. The content of the Hazard Communication Program includes:

- Policy regarding the management of Safety Data Sheets (SDS).
- Policy regarding determining the risk associated with handling or using hazardous products.
- Policy regarding the use of labels.
- Training information.
- List of all hazardous products handled or used onsite.

NOTE: This written program is maintained at the Company's Homer address: 3520 F.A.A. Road, Homer, Alaska 99603.

20.3. Program Components

20.3.1. SDS management and purchasing control procedures will include the following:

- The Company has obtained and stores a master list of SDS, either in paper or online for (3E Company Service) related to products currently being used in the system through the Purchasing Department.
- The SDS are filed and maintained by the Quality & Safety Department. The Q&S Manager will maintain the SDS Database inventory in the 3E Company Online Database
- Company purchase orders or requisition forms contain a statement requesting that an SDS accompany the product when it is received.
- If an SDS is not received with a new product, that product is not to be utilized until an SDS is received and forwarded to the Quality & Safety Department with information as to which department placed the order. If the 3E Company Online service does not have the new product in the database, a hard copy of the SDS will be provided for employee use.
- The supervisor or their designee is responsible to train employees using the product on its proper use and all other requirements as related to this program prior to that product being utilized.
- Each SDS is kept on file or online for as long as the product is used by departments within the Company.
- When the product is no longer used, the SDS is removed from the archive and the Quality & Safety Department places the SDS in the "Inactive" file with the date marked on the SDS when the product was discontinued.
- Upon receipt of a new product, the SDS is entered in the Master Index, or the 3E Company online Database.
- Upon receipt by the Company, the SDS is reviewed by the Quality & Safety Department for completeness.

- The acceptable minimum information that shall be provided in English on the SDS as prescribed by 20 CFR 1910.1200 is as follows:

  - The identity of the material, as listed on the label
  - Hazardous ingredients/identity information
  - Physical and chemical characteristics
  - Fire and explosion hazard data
  - Reactivity data
  - Health hazard data
  - Precautions for safe handling and use
  - Control measures

- The utilizing department will evaluate the SDS regarding the risks associated with the product as they are employed in the facility.

20.4. Identification of Hazardous Products

If the hazards are not clearly identified, additional information will be obtained by contacting the supplier or manufacturer for assistance. When technical literature concerning the hazards of products used onsite is obtained, the Quality & Safety Department will review the information and ensure that information is posted on the Intranet SDS database. The Quality & Safety Department and department supervisors are responsible for being knowledgeable about the hazardous products used onsite. Supervisors are responsible to inform and make this information available to appropriate personnel. Department supervisors are responsible to notify the Quality & Safety Department of all additions of new products and deletions of products previously utilized.

20.5. Labels and Other Forms of Warning

Although the Safety Data Sheet is the main source of information regarding the hazards of a material, the most visible source of warning is the label, warning sign and/or placard.

For material leaving the facility, follow the placard requirements as defined by 49 CFR Part

172. The labeling system to be employed throughout is the HMIS or NFPA Health, Fire, Reactivity and Special Notice Numerical Hazard System when information is available from the SDS or other available means. Numerical hazards will not be determined by Company personnel. Maritime Helicopters uses the online service “3E Company” for SDS compliance and employees will be trained on its use.

Letters of interpretation by OSHA have determined that companies using an online service to provide SDS information must provide a backup system to that online service. 3E Company provides a telephonic backup to the online database by calling:

1-800-451-8346 or 1-760-602-8703

These numbers will be placed conspicuously around all work areas within Maritime Helicopters.

20.5.1. HMIS Chemical Labeling System

The HMIS chemical labeling system provides a number rating for health, flammability, instability and specific category. This number will be found in the box beside the category it represents. The following chart gives the rating summary for each item displayed on the HMIS chemical label for the specific Category:

HEALTH	
4	Deadly: even the slightest exposure to this substance would be life threatening. Only specialized protective clothing, for these materials, should be worn.
3	Extreme Danger: serious injury would result from exposure to this substance. Do not expose any body surface to these materials. Full protective measures should be taken.
2	Dangerous: exposure to this substance would be hazardous to health. Protective measures are indicated.
1	Slight Hazard: irritation or minor injury would result from exposure to this substance. Protective measures are indicated.
0	No Hazard: exposure to this substance offers no significant risk to health.
FLAMMABILITY	
4	Flash Point Below 73°F and Boiling Point Below 100°F: this substance is very flammable, volatile or explosive depending on its state. Extreme caution should be used in handling or storing of these materials.
3	Flash Point Below 100°F: flammable, volatile or explosive under almost all normal temperature conditions. Exercise great caution in storage or handling of these materials.
2	Flash Point Below 200°F: moderately heated conditions may ignite this substance. Caution procedures should be employed in handling.
1	Flash Point Above 200°F: this substance must be preheated to ignite. Most combustible solids would be in this category.
0	Will Not Burn: substances that will not burn.
INSTABILITY	
4	May Detonate: substances that are readily capable of detonation or explosion at normal temperatures and pressures. Evacuate area if exposed to heat or fire.
3	Explosive: substances that are readily capable of detonation or explosion by a strong initiating source, such as heat, shock or water. Monitor from behind explosion-resistant barriers.
2	Unstable: violent chemical changes are possible at normal or elevated temperatures and pressures. Potentially violent or explosive reaction may occur when mixed with water. Monitor from a safe distance.
1	Normally stable: substances that may become unstable at elevated temperatures and pressures or when mixed with water. Approach with caution.
0	Stable: substances which will remain stable when exposed to heat, pressure or water.

20.5.2. National Fire Protection Association (NFPA) Chemical Hazard Labels and NFPA Rating

NFPA has developed a system for indicating the health, flammability and reactivity hazards of chemicals. In addition, a special precaution symbol may be used where necessary. Each category is color coded with blue representing Health, red representing Flammability and yellow representing Reactivity. The white box will contain a symbol to indicate Special Hazards or Other Symbols. The following chart gives the rating summary for each number displayed for the specific category:

Rating Summary		
Health (Blue)		
4	Danger	May be fatal on short exposure. Specialized protective equipment required.
3	Warning	Corrosive or toxic. Avoid skin contact or inhalation.
2	Warning	May be harmful if inhaled or absorbed. Use breathing apparatus.
1	Caution	May be irritating.
0		No unusual hazard.
Flammability(Red)		
4	Danger	Flammable gas or extremely flammable liquid.
3	Warning	Flammable liquid flash point at normal temperatures (below 100° F).
2	Caution	Combustible liquid flash point when moderately heated (above 100° to 200° F).
1		Combustible if heated.
0		Not combustible.
Reactivity (Yellow)		
4	Danger	Explosive material at room temperature. Vacate area immediately.
3	Danger	May be explosive if shocked, heated under confinement, or mixed with water.
2	Warning	Unstable or may react violently if mixed with water.
1	Caution	May react if heated or mixed with water, but not violently.
0	Stable	Not reactive when mixed with water.
Special Notice Key (White)		
Oxy		Oxidizing Agent.
W		Water Reactive.

Special Hazards – There is sometimes additional information regarding special hazards that are included in the white triangle.

Special Hazards	
This section is used to denote special hazards. There are only two NFPA 704 **approved** symbols:	
OX	This denotes an oxidizer, a chemical that can greatly increase the rate of combustion/fire.
W	This indicates an unusual reactivity with water. Thus, a potential hazard occurs when using water to fight a fire involving this material.

OTHER SYMBOLS – Other symbols, abbreviations and words that some organizations use in the white Special Hazards section are shown below. These uses are not compliant with NFPA 704, but are presented here in case you see them on an MSDS or container label.

ACID	This indicates that the material is an acid, a corrosive material that has a pH lower than 7.0
ALK	This denotes an alkaline material, also called a base. These caustic materials have a pH greater than 7.0
COR	This denotes a material that is corrosive (it could be either an acid or a base).
	This is another symbol used for corrosive material.
	The skull and crossbones is used to denote a poison or highly toxic material.
	The international symbol for radioactivity is used to denote radioactive hazards. Radioactive materials are extremely hazardous when inhaled.
	This symbol, which indicates an explosive material, is somewhat redundant because explosives are easily recognized by their Instability Rating (see Yellow Section).

NOTE: If an employee breaks down larger quantities of material for use in their department, which will not be consumed in one work period, they are responsible for ensuring that appropriate markings, placards and/or labels are retained or affixed on all containers of the material.

20.5.3. Receiving and Processing Hazardous Materials

For all incoming materials that arrive in the Receiving Area:

- The Receiving Department supervisor is responsible to make sure labels are in place on the appropriate containers.
- Upon receipt, the material contents and the labels provided by the supplier or manufacturer are verified before the material is placed in storage or issued to a department.
- The manufacturer's markings and DOT label shall remain on the container while onsite.

Once delivered to a base or department:

- The base manager or supervisor will assure the labels are affixed to all containers.
- Portable containers having hazardous products used by employees are placarded, labeled and marked.
- The appropriate markings will remain on the product container throughout the work process.
- Where hazardous substances are employed in a work area accessible to other employees, warning labels, placards or signs are prominently placed at the entrance to the work area, as appropriate.
- Employees are informed and trained as to the warnings.

20.6. Employee Training

The training objective is to inform and train each employee on hazardous products present in their work area at the time of initial assignment and whenever a new hazard is introduced into the work area. Each employee will be informed concerning the requirements of the standard, any operations in the work area where hazardous products are present and the location and availability of the written Hazard Communication Program.

20.6.1. Training Responsibilities

Initial Training – The Quality & Safety Department is primarily responsible for the initial training of each employee concerning the Hazard Communication Program and related safety practices. The Quality & Safety Department will develop this overall Training Program.

Ongoing Training at Base or Remote Site Level – Once working in the field, employees will continue to be trained. Each department supervisor is responsible for ensuring that departmental employees are trained. This training will include the initial, annual and re-assignment training if an employee is assigned a different work environment. The base manager, supervisor or their designee at the employee's location will inform the employee of the following:

- A list of products containing hazardous ingredients.
- The trade name, common name, or other names of hazardous products and toxic substances used in the department.
- The location of SDS files at their base location.
- Proper conditions and procedures for the use or handling of the product.
- The proper measures employees must take to protect themselves from these hazards including special work practices, emergency procedures, and/or personal protective equipment to be used when handling such hazardous material.
- Methods and/or observations that may be used to detect the presence or release of a substance or chemical.
- The physical and health hazards of the chemical including the acute and chronic effects of exposure to the chemical used or handled in the work area.
- The symptoms of the effects of exposure at hazardous levels and appropriate emergency treatment.
- The significance of the labeling system used in the department and how employees can obtain and use appropriate hazard information found on these labels.

Send documentation of employee training to the Training Department who will maintain these files.

The base or department will make available the prescribed PPE equipment required for safe handling of these items as determined by the base manager, departmental supervisor, Quality & Safety Department or the SDS requirements. Training in the proper use of such equipment is the responsibility of the base manager or department supervisor.

20.7. Employee Rights

The Safety and Toxic Chemical Information Program affords all employees a number of rights:

- Employees, or their representatives, may request and will receive all information concerning the hazardous products in their workplace.
- An employee may refuse to work with a hazardous product if information regarding the product is not available. When the employee has requested in writing information about a product and has not received the written reply within 72 hours, the employee does not have to utilize that product.
- An employee may exercise their rights pursuant to or directly related to the Hazard Communication Program without fear of discrimination.
- An employee may not be required to waive any rights under the Hazard Communication Program as a condition of employment.
- An employee may file a complaint with the Department of Labor if they have been discriminated against in violation of this program.

21. Spill or Release of Hazardous Material (49 CFR 171, 191, & 195)

The National Response Center (NRC) is the federal point of contact for reporting oil and chemical spills. If any type of spill has occurred, contact can be made via their toll- free number (800-424-8802), or by logging onto their Web Site at http://nrc.uscg.mil/ for additional information on reporting requirements and procedures. For those without 1-800 access, contact can be made by calling 202-267-2675.

Additionally, the State of Alaska Department of Environmental Conservation (ADEC) requires spills to be reported according to severity as listed on their website: https://dec.alaska.gov/spar/spillreport.htm .

Within Maritime Helicopters, calls that are required by ADEC to be made immediately will be made by the person finding/discovering the spill. Federal notification will generally be made by the Quality and Safety Department. Written reports required by Federal or State authorities will be filed by the Quality & Safety Department. A sequential report from the base and departments involved in a spill or release of hazardous material is to be forwarded to the Quality & Safety Department as soon as practical.

21.1. Reporting Requirements

The NRC was given the responsibility of receiving reports of incidents involving hazardous materials regulated by the Department of Transportation under the Hazardous Materials Transportation Act and reportable under 49 CFR 171 for the transportation of hazardous materials, 49 CFR 191 for natural gas and other gases transported by pipeline, and 49 CFR 195 for liquids transported by pipeline.

21.2. Information Required by the National Response Center (NRC)

When an incident occurs, the NRC should immediately be contacted by the responsible party via the toll-free number (800-424-8802). If you see or discover an oil spill or release of chemicals and are NOT the responsible party, you are still required to contact the NRC with whatever information you have. Offshore spills or release of hazardous materials into offshore waters (from shoreline out) in any quantity is to be reported to the National Response Center. To find the on-line form, follow the following steps:

- Simply log on to the NRC Web Site at http://www.nrc.uscg.mil/.
- Click on the word Services at the top of the page and then click on *Web Reports*.
- This page lists the different categories of incidents and reports that the NRC is responsible for, as defined below:
  - **AIRCRAFT** – This type of incident includes all aircraft, commercial and private, whether flying or grounded. For example, a hydraulic leak from an aircraft that occurs while undergoing repairs would require a report.
  - **PLATFORM** – This type of incident is specifically for offshore or near shore oil and natural gas extracting facilities. The area and block number are important fields that need to be entered in this report, unless the platform is in state waters. Please enter the COSG, OCSP or state lease numbers in the report.
  - **CONTINUOUS RELEASE** – This is a release above the Federal limits, also called reportable quantity (RQ), due to normal operations of a facility. This incident type has five categories: 1) Initial, 2) Baseline, 3) Change in Source and/or Composition, 4) Annual and 5) Statistically Significant Increase (SSI). For detailed info on the EPA's Continuous Release Program check out their web site.
  - **STORAGE TANK** – This type of incident pertains to containers that store hazardous materials located virtually anywhere including facilities, private property, and various transportation modes. Common storage tank incidents include leaking or overfilled home heating oil tanks, ruptured underground storage tanks from construction activity and petroleum storage facilities.
  - **UNKNOWN SHEEN** – This type of incident pertains to any material on the water that has been discovered and whose source is unknown. Please describe the size and color of the material and an estimate of the amount released. (I.E. less than a gallon, less than 100 gallons, over 3000 gallons, etc.). Information on weather and direction of movement are also important.
  - **PIPELINE** – This type of incident refers to pipelines that transport materials off site. This does not include pipelines within a facility. Such pipelines are often regulated by the Department of Transportation. Common pipeline types include flow, distribution and gathering lines transporting crude oil or natural gas from one facility to another.

- **VESSEL** – This type of report includes all transportation modes used on the water. Common reports include private vessels that accidentally release bilge water, oil barges with leaks, cranes that are on barges, etc.
- **RAILROAD** – This type of incident includes all transportation modes used on rail. The NRC takes reports on all Railroad Incidents including derailments of freight and commercial trains, HAZMAT and non-hazmat rail incidents, light rail, subway, metro rail, and grade crossing accidents.
- **FIXED** – This type of incident is the widest ranging incident type and includes the release of material from non-mobile machinery, refineries, manufacturing plants, and numerous other fixed facilities.
- **MOBILE** – This type of incident refers to all transportation modes used on land. It includes commercial and private vehicles, motorcycles etc. Some of the most common incidents associated with this category are tractor-trailer accidents.

  - Reports taken by the NRC are based around the "Incident Type" and each report requires a different subset of information. Click on the type of incident you wish to report (i.e., “Storage Tank”) and an online report will be displayed.
  - Fields listed in RED are mandatory and must be filled out before submitting the report.
  - You can work through a practice drill beforehand by simply clicking “Yes” to the question; ***Is this a Drill Report?***

Preferred method of contacting the NRC is via the toll-free number (800-424-8802). When you contact them, be prepared to provide the following specifics:

- Your information (email address, phone number, last name, organization type, state)
- Who you suspect to be the responsible party (last name, organization type, state)?
- The incident location (description, exact time discovered and complete address).
- The material involved and amount released in units.

21.3. Incidents Involving Terrorism or Possible Terrorist Activity

Any incident related to terrorism or possible terrorist activity requires telephonic notification to the National Response Center. DO NOT SEND A TERRORIST ON-LINE REPORT!

This would include bombings, bomb threats, suspicious letters or packages, and incidents related to the intentional release of chemical/biological/radioactive agents. The NRC watch standers have been trained to ask specific questions for such reports and will immediately pass the information to the proper agencies for response. Examples of suspicious activity include:

- People appearing to be engaged in surveillance of any kind (picture taking, note taking, shooting video, asking strange questions, etc.)
- Recovering or tossing items into the water
- Unattended vessels or vehicles in unusual locations
- Light signals between boats
- Unusual diving, night operations
- Operations in an area that usually does not have such activity
- Fishing or hunting in locations not typically used for those activities
- Anchoring in areas not typically used for anchoring
- Transfer of people or things between ships or shore that seems unusual
- Small planes flying over critical areas
- People attempting to buy or rent fishing or recreational boats/vehicles with cash for short term, undefined use
- Anyone operating a vessel in an aggressive manner
- Missing fencing or lighting near sensitive locations

NOTE: It is the activity or behavior that is suspicious, not a person’s ethnicity.

21.4. Reporting of Other Uncontaminated Spills or Releases

Any quantity of a hazardous material that threatens or is a potential threat to any water, waterway or drainage system must be reported in State or Federal Notification centers.

21.4.1. State of Alaska Reporting Requirements

Spills or releases of hazardous materials are to be reported to the following authorities:

Local Authorities: Police, State Troopers, and Fire Department

Alaska Department of Environmental Conversation (DEC) (907) 269-0667

NOTE: The Alaska DEC may require additional reporting to district divisions depending upon the location and nature of the incident.

21.4.2. Written Reports

Written reports required by Federal or State authorities will be filed by the Quality & Safety Department. A sequential report from the base and departments involved in a spill or release of hazardous material is to be forwarded to the Quality & Safety Department as soon as practical.

21.5. Base Response to Spills or Releases

Immediately shut off source of spill or release if possible and make an initial telephone report to one of the following Company personnel:

- Director of Operations
- Base Manager
- Quality & Safety Manager

Initiate Action for Containment

Clean up operations need to be carefully coordinated with the Quality & Safety Department, who will direct all steps to be taken and provide instructions for the following:

- To begin cleanup operations as soon as possible.
- To dispose of all hazardous waste.
- To submit written reports as requested by and to Quality & Safety Department.
- To contact local companies for containment and cleanup of spills or releases. Before the occurrence of an incident, each base will have researched these companies and prepared a list containing their contact information and telephone number. Additionally, each base will have on file phone numbers for local police, sheriff, and fire department. Send a copy of this listing to the Quality & Safety Department.

22. Hazardous Waste Handling

22.1. Spent Liquid Products

The following establishes standardized procedures for all bases concerning spent liquid product storage as it applies to used oil and liquid spent solvents.

22.1.1. Storage Area for Spent Liquid Products

Storage at field bases consists of used oils, off specifications jet fuel, and spent solvents. Spent liquids at field bases that are small quantity generators must be disposed of or recycled at least once per year. However, when the accumulation container becomes full, it is then declared waste and must be disposed of or recycled within 90 days from the fill date.

Location – The spent liquid storage area is to be located no closer than 50 feet from occupied buildings. However, it may be located near or next to a flammable storage facility.

Concrete Covered Slab – A concrete covered slab with a retaining wall or curb is to be installed that is large enough to hold at least one 500-gallon storage tank (48 in. diameter x 8 ft. long) and two 55-gallon drums. A volume of 90 cu. ft. is of sufficient size to allow for storm water (8 ft. x 10 in. x 1 ft.-2 in. = 93.3 cu. ft.). To facilitate the draining of rainwater, slope the concrete slab to the valve position. This slab is to be covered to reduce the amount of pressure build up in drums from direct sunlight and to prevent accumulation of rainwater as much as possible. The wall or curb is to contain any accidental leak or spill.

Retaining Wall – Install a 1½ in. diameter pipe through the retaining wall to drain storm water from inside the containment area. The pipe is to be flush with the inside of the wall at floor level and protrude outside the wall to allow for a lockable ball valve installation. The drain is to remove uncontaminated storm water only, not to wash out any spill or leak. Any visible sheen on the water must be removed with absorbent material prior to draining the water. This valve is to remain closed and always locked, except while draining uncontaminated rainwater.

22.1.2. Putting Drums in Use

Use the following procedures when putting a new drum in use:

- Remove drum plugs and retain both the 2 in. and ¾ in. plugs for reinstalling when drum becomes empty.
- Install a 2 in. drum vent and a ¾ in. drum faucet.
- Place drum in the horizontal rack for use.
- Accumulation drums are to be stored vertically on pallets with drum covers or other waterproofing means installed.
- Ensure there are no leaks at the vent and faucet installations.
- A properly completed waste label is to be installed on the drum indicating the beginning and ending dates that the drum was being filled.
- If a leak or spill occurs, clean it up immediately.
- Ensure plastic drip containers are in their proper position.
- Install a drum ground connection on all drums labeled flammable. Drums containing flammables must be grounded at all times.
- Only one drum is to be in use at one time for each product.
- Corrosives are to be maintained in plastic drums.
- When drum pumps are utilized, drums are to be placed on end on a pallet (wood or plastic).

22.1.3. Empty Drum Storage

As drums become empty, store them using the following procedures:

- Drums must be completely empty (maximum of 1 in. of residue)
- Remove from horizontal rack
- Remove the drum faucet and vent and reinstall the 2 in. and ¾ in. plugs.
- All drums must have plugs installed; never leave drums open.
- Empty drums are to be stored horizontally and grounded.
- Place empty drums in the proper storage location.
- Empty drums may be utilized for accumulation of spent liquid products. They must be clearly marked as to the spent product they contain and labeled as to their hazard.

22.2. Used Oil Handling and Storage

Used oil is accumulated in a on storage tank. If a tank is not located at your base, drums may be substituted. Any mixture of turbine oil, gearbox oil, hydraulic fluid, motor oil is considered used oil.

22.2.1. Used Oil Handling

Spillage – Any spills or drips on the tank, drums or slab must be cleaned up immediately. Any visible sheen must be removed before draining water out of the containment area.

Signage – The storage tank or drums are to be marked “USED OIL” on the most visible side (end and/or top) of the tank. The lettering will be at least one inch (1 in.) tall, in a color that is contrasting to the storage tank.

Grounding. The storage tank or drums are to be grounded at all times.

Fill Point Cover – A covered funnel should be installed in the top of the tank at the fill point and the cover must be installed on the funnel at all times. If a covered funnel is not installed, the tank fill opening is to be plugged at all times.

22.2.2. Used Oil Storage

If drums are used, both the 2 in. and ¾ in. drum plugs must be installed loosely to allow for internal expansion, and the top covered with a vinyl drum cover or other means of waterproofing. Drums are to be elevated above the slab floor to prevent the drum bottoms from rusting.

Recycle – The minimum amount for pick up is normally 300 gallons. If used oil pick up for recycle cannot be achieved locally, contact the Quality & Safety Department for pick-up arrangements. Pick-ups for used oil for recycle should be at no charge. Only EPA registered companies with an EPA ID number are authorized for used or used oil pick up. Make out a manifest form, normally furnished by the transportation company, listing the volume of used oil that is to be picked up, and sign the form as the generator. The original manifest forms must be forwarded to the Quality & Safety Department.

Empty Oil Container Disposal – If possible, it is preferred to recycle empty plastic, metal and glass oil containers. If recycling is not available in your area, completely drain the container, crush if possible and place in the dumpster or other trash container.

Oil Filter Disposal – The preferred method of handling used oil filters is recycling. If recycling is not feasible, adhere to the following procedure:

- Puncture the filter's anti-drain valve on the filter dome end and hot drain for 12 hours. Any other equivalent hot-draining method that will remove used oil is acceptable.

NOTE: Hot draining is the practice of draining a used oil filter at or near engine operating temperatures. Although draining does not remove all the oil from the filter, recycling greatly reduces your potential liability exposure, i.e. clean-up from mishandling and/or disposal at a potential Superfund site.

- Oil filters found to be not drained, not crushed and/or containing free flowing oil are subject to determination as hazardous waste.
- Once completely drained, crush if possible before disposing of.
  - If at this point you choose to dispose of the filters in a dumpster or other trash container, it must be determined if they exhibit a hazardous waste characteristic.
  - However, if choosing to recycle these properly drained fuel filters, the filter now meets the regulatory definition of scrap metal and therefore is exempt from regulation as a hazardous waste, except in Texas.

22.3. Spent Solvents Handling and Storage

Spent solvents at field bases should only consist of Methyl Ethyl Ketone (MEK), Toluene, safety solvents (i.e., 124F Solvent known as Stoddard Solvent), acetone, paint thinners and Naphtha (mineral spirits). If any other solvents need to be disposed of, contact the Quality & Safety Department.

22.3.1. Spent Solvents Handling

When a drum is put in use as a spent solvent collection container, the drum must be properly marked Spent Solvents. Outside Contractor will provide the drum, label and markings for disposal or reuse/recycle shipments.

Grounding – Metal drums must be grounded at all times. Loosely install drum plugs until time of shipment, to allow internal pressure to escape. Use drum covers to keep the water out of drums. To prevent drum bottoms from rusting, elevate drums above the storage area floor, preferably on pallets. Do not overfill the container. Leave approximately two inches below the full level of the drum for expansion.

Reuse/Recycle – Spent solvents will be picked up as required.

Spent Solvents Disposal – When the spent solvent accumulation container becomes full, it is then classified as waste, and must be disposed of as soon as possible. Pickups should be on an as-needed basis only, not scheduled. For assistance, contact the Quality & Safety Department.

Shipment – On the day of shipment, tighten all drum plugs to prevent leakage during shipment. Wipe the drum clean of any surface liquid. A uniform Hazardous Waste Manifest Form, provided by the transporter, must be signed and dated at the time of pick up. The transporter will sign and date the manifest and leave copies with you. Forward all copies of the hazardous waste manifests to the Quality & Safety Department.

22.4. Inspections of Waste Storage Areas

A Monthly inspection of the Used Oil Storage Area and Spent or Waste Chemical is to be recorded in iAuditor

22.5. Base Procedures for Hazardous Material Spill or Release

In the event a hazardous material spill or release occurs, immediately shut off the source of the spill or release and evacuate personnel from the area if warranted.

22.5.1. Reporting Procedures

Report to the Support Center – Immediately telephone the Support Center management, including the Director of Operations, Director of Maintenance, Director of OPS and the Quality & Safety Environmental Manager. Follow the direction of the Support Center management in initiating action for containment and beginning clean up operations. The Quality & Safety Department will coordinate Disposal of Hazardous Waste. Submit written reports as required to the Quality & Safety Department to include the Chemical and Used Storage Area – Daily Inspection Log.

Report to Other Emergency Personnel – Refer to your base emergency telephone list that includes contact telephone numbers for your local Fire Department, Police, Sheriff and Wrecker Service.

Use Base Emergency Response Pocket Checklist – when necessary,

22.6. Flammable and Combustible Liquid Use and Storage

Flammable Liquids. Any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which makes up 99% or more of the total volume of the mixture. Flammable liquids shall be known as Class I Liquids, which are divided into three classes:

1. **Class I-A Liquids** shall include liquids having flashpoints below 73°F (22.8°C) and having a boiling point below 100°F (37.8°C).

2. **Class I-B Liquids** shall include liquids having flashpoints below 73°F (22.8°C) and having a boiling point at or above 100°F (37.8°C).

3. **Class I-C Liquids** shall include liquids having flashpoints at or above 73°F (22.8°C) and below 100°F (37.8°C).

Combustible Liquids. Any liquid having a flash point at or above 100oF (37.8oC). These can be divided as follows:

1. Class II Liquids shall include those with flash points at or above 100oF (37.8oC) and below 140oF (60oC), except any mixture having components with flash points of 200oF (93.3oC) or higher, the volume of which make up 99 percent or more of the total volume of the mixture.

2. Class III Liquids shall include those with flash points at or above 140oF (60oC). These can be further subdivided as follows:

a. Class III-A Liquids shall include those with flash points at or above 140oF (60oC) and below 200oF (93.3oC), except any mixture having components with flash points of 200oF (93.3oC), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

b. Class III-B Liquids shall include those with flash points at or above 200oF (93.3oC).

NOTE: When a combustible liquid is heated to within 30oF (16.7oC) of its flash point, it shall be handled in accordance with the requirements for the next lower class of liquids.

Fuel, Aviation and Turbine Engine - This may only be declared and placarded Combustible, Hazardous Class 3, Packing Group III when transported or used domestically and transported over land.

Closed Container – A container, so sealed by means of a lid or other device, that neither liquid nor vapor will escape from it at ordinary temperatures.

22.6.1. Storage Facility Requirements

Container and Portable Tank Storage – Pertains to the storage of flammable or combustible liquids in drums or other containers, including flammable aerosols not exceeding an individual capacity of 60 gallons. However, flammable or combustible paints, oils, varnishes and similar mixtures used for painting or maintenance when not kept for a period in excess of 30 days are not required to meet this standard. Signage will be posted on all sides of the flammable container or portable storage tank to identify it as follows:

FLAMMABLE – No Smoking within 50 Feet.

Flammable and Combustible Storage Buildings – If the storage building is located 50' or less from a building, the exposing wall shall be a blank wall having a fire-resistance rating of at least two hours. Signage will be posted on all sides of the flammable and combustible storage building to identify it as follows: FLAMMABLE – No Smoking within 50 Feet.

Maximum Storage – A maximum of 1,100 gallons of flammable or combustible liquids may be located adjacent to buildings located on the same premises and under the same management provided the same provisions listed for the container and portable tank storage given above are complied with.

Flammable Storage Cabinet – Flammable storage buildings and flammable storage cabinets are for storage of flammables and combustibles. Individual containers of flammable and combustible items may be placed in their original closed or sealed containers in the supply section for issue as required. When issued for use, if not completely used, the container will be closed and placed in the flammable storage area for reuse until consumed.

23. New Employee Safety Orientation

23.1. Initial Safety Orientation

An initial safety orientation will be conducted by the Quality & Safety Department. This program will cover the following (29 CFR 1910 Requirements) as needed:

- Introduction to the Company's Safety Program & SMS
- Introduction to Flight Irregularity Reports and Ground Occurrence Reports
- Safety Around Helicopters
- OSHA Rights and Responsibilities
- Walking and Working Surfaces
- Fire Safety and Means of Egress
- Hazardous Materials
- Hazardous Communication
- Lockout/Tagout
- Bloodborne Pathogens
- Machine Guarding
- Electrical Safety
- Personal Protective Equipment (PPE)
- Fatigue Management/Crew Rest
- Forklift Operation Awareness
- Back Safety (Material Handling)
- Hearing Conservation (Noise Awareness)
- Workers' Compensation and Accident/Incident Reporting
- Confined Space Entry Awareness
- Just Culture
- Safety Publications
- Stop Work Policies

Current personnel will assist new employees when he/she first arrives at his/her work location. This orientation will cover items that pertain to the employee's specific job duties.

23.1.1. General Safety Rules

Think Before You Act – Follow instructions. Do not take chances. If you have questions or are unsure of proper procedures – **ASK.**

Unsafe Acts – When conditions appear to be unsafe: stop, and correct them immediately. If this is not possible, report them to your supervisor.

No "Horseplay" Allowed – Do not engage in "horseplay" or other behavior that may result in injury or damage to equipment or facilities.

Good Housekeeping Practices – Reduce workplace hazards by incorporating good housekeeping practices into all aspects of your job. Incorporate the following in your daily routine: Clean as you go, pick up after yourself, be considerate of those around you.

Use Proper Tools - Use the right tools and equipment for the job at hand. Do not put yourself at risk. Specialized tools and equipment shall be used and/or adjusted by qualified personnel only. Do not use special equipment or tools unless you have been trained to do so.

Injury Reports – Notify your supervisor of all injuries, regardless of severity. Supervisors will conduct an investigation of all incidents/accidents involving their subordinates. The Supervisor shall complete all accident/incident reports.

Use Personal Protective Equipment (PPE) – Before engaging in any task, always check for any PPE that may be required to perform the job safety. If PPE is recommended, always assume its use is mandatory.

Recommended Lifting Techniques – When handling material, always keep your back straight, bend at the knees and lift with your legs. When handling heavy loads, use a handcart, pallet jack, dolly, hoist, or other equipment. If specialized handling equipment is not available, ask for help when trying to handle heavy or awkward loads.

Best Practices – There are several policies and practices which are either more restrictive than current regulations, are instituted as industry recommendations, or are established as best practices. Compliance with safety rules, signs and best practices is not optional. Observe and comply with all safety rules, signs and work procedures.

Slips, Trips and Falls – Exercise extreme caution while walking and/or working on wet or slippery surfaces to prevent slips, trips, and falls. Report any hazardous condition immediately through the Maritime Helicopters FOCUS Program.

Hazardous Materials – Before using hazardous materials, review the appropriate Safety Data Sheet (SDS) for that product to ensure that all containers are properly labeled, and use appropriate PPE. Do not use any material in a manner inconsistent with its intended purpose.

In the event of a spill of hazardous material, notify your supervisor at once. Unless it is an 'incidental' spill (that is a spill that can be immediately cleaned up and pose no health hazard, emergency, or environmental risk). If possible, stop the source of the spill and then using the spill kit, isolate the area immediately surrounding the spill to prevent the spill from spreading. Keep personnel and equipment from entering the area of concern.

23.2. Short Service Employee (SSE) Policy and Program

The purpose of this SSE Policy and Program is to ensure that all company employees with less than six-month' experience are identified, adequately supervised, trained and managed to prevent injury to themselves or others, with no property damage or environmental harm.

Short Service Employee (SSE) – By definition, a short-service employee is an employee who is new to the company with less than 6 months service, or who has significantly changed his/her job responsibilities. Short Service Pilots are under the control of the Operations Department.

Non-Short Service Employees – An employee who is assigned to a different job title or location (e.g., transferring from the position of Ground Support Helper to an A & P Mechanic, Blast Shop to Component Overhaul, etc.) should be considered by the appropriate supervisor for inclusion in the SSE program based on the specifics of his/her assignment. Factors to consider include significant differences in:

- Job responsibilities/duties from previous assignments
- Work processes/practices from previous assignments
- Equipment/tools from previous assignments
- Skill level, familiarity with co-workers

This will not normally include A & P mechanics, sheet metal technicians, ground support personnel or other non-pilot employees, employed longer than 6 months, but are transferred to a different base and perform their normal duties in their new area.

- An SSE may only work under the direct on-site supervision of a designated employee who, as one of his duties, serves as a mentor/trainer in safety for the SSE. The mentor/trainer assigned to an SSE must be a knowledgeable, experienced employee who can provide guidance and development for the SSE.
- An exception to the mentor/trainer requirement may be granted to employees who have a high level of previous work experience in the same job functions.
- Supervisors will monitor its employees, including SSE personnel and subcontractors, for training& awareness of the health and safety policies and procedures. If at the end of the six-month period, the SSE has worked safely, adhered to the Company's health and safety policies and has no recordable incidents attributable to him/her, the SSE may be considered a regular employee not covered by this section.

24. Exposure Control Plan (ECP) (29 CFR 1910 Subpart Z)

24.1. Introduction

The Exposure Control Plan (ECP) is provided to help eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.1030, “Occupational Exposure to Bloodborne Pathogens.” Within 29 CFR 1910.1030 is the definition of “universal precaution”, which is an approach to infection control, according to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

In typical Maritime Helicopters Inc. day-to-day operations, it is a rare occurrence for employees to have an occupational exposure to infectious substances. However, the Company is committed to providing a safe and healthful work environment for our entire workforce.

24.2. Plan Administration

- The ECP will be reviewed annually and whenever necessary to include new or modified tasks and procedures.
- Any employee who is found to have occupational exposure to potentially infectious material shall comply with the procedures and work practices outlined in this ECP.
- Necessary work practice and engineering controls (sharps containers), personal protective equipment (PPE), clean-up kits (gloves, red bags, etc.) as required by the standard will be maintained in adequate supply at all affected locations.
- Any medical actions required by the standard will be addressed according to normal Workplace Injury Reporting Procedures.

24.3. Personal Protective Equipment (PPE)

(For Additional Information, see HSE Manual Chapter 6)

PPE is provided to employees at no cost to them. All employees using PPE shall observe the following precautions:

- Wash hands immediately or as soon as feasible after removing gloves and other PPE.
- Remove PPE after it becomes contaminated and before leaving the immediate area.
- Used PPE may be disposed of in red ‘biohazard’ bags provided in the clean-up kits.
- Wear gloves when it is reasonably anticipated that there may be hand contact with potentially infectious substances and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
- Wear appropriate face and eye protection when splashes, sprays, spatters or droplets of infectious substance pose a hazard to the eyes, nose or mouth.
- Remove immediately, or as soon as feasible, any garment contaminated in a manner as to avoid contact with the outer contaminated surface.

24.4. Housekeeping

Decontamination of housing units, work areas and aircraft shall be accomplished using EPA registered biocides and disinfectants as supplied to all affected locations. All biohazard waste shall be disposed in appropriately labeled containers in accordance with State and Federal Regulations.

Clean-up kits, regardless of the manufacturer, will contain the following at a minimum:

- Applications for which the kit will be used
- Detailed directions for use
- Disposable apron
- Disposable face mask / shield
- Disposable latex gloves
- Absorbent pack
- Disposable cardboard ‘tools’ for scooping and scraping
- Disposable paper towels
- Hand towelettes
- Cleaning concentrate
- Red biohazard plastic bags with ties

25. Working at Height (29 CFR 1910 Subpart D)

25.1. Introduction

Maintenance on aircraft requires working at height, and there is a need for providing temporary work platforms to gain access to the areas requiring maintenance. Appropriate stands or aircraft provided access equipment should be used. Personnel need to be trained for and competent when working at height. For aircraft work performed outside on the ramp, where the task is minor, and there is no requirement to take parts or equipment up to the work platform, then the aircraft structure and integral work platforms may be used.

The working at height policy includes the following:

- Working at height is properly planned and organized.
- Working at height takes account of weather conditions that could endanger health and safety.
- Those involved in working at height are trained and competent.
- Equipment used for working at height is appropriately inspected.
- The risks from falling objects are properly controlled.

When working at height, provisions to prevent materials from falling and injuring personnel below is critical. Toe boards must be present on all temporary work platforms to minimize this hazard.

25.2. Scope

This procedure will apply to all Company worksites and locations where operations are undertaken. The procedure must include all contractors, sub-contractors and other personnel working from or visiting the locations.

25.3. Procedure

For minor inspections performed in line with maintenance programs, the aircraft structural steps or built-in work (servicing) platforms are acceptable for use if the aircraft is outside or on the apron.

- When using aircraft built-in access steps, three points of contact must be maintained at all times.
- Tools and equipment shall be handed to personnel on the aircraft by a coworker.

For inspection tasks performed outside the hangar, when the aircraft's structural steps and built-in work platforms are utilized, the following must be taken into consideration:

- The duration and nature of the task.
- The equipment and or tools required.
- The weather.

For tasks inside the hangar, work platforms should be used whenever possible.

If the risk is considered unacceptable inside or outside the hangar, work platforms must be used.

For all other maintenance tasks, suitable and adequate mobile work platforms that control the risk of falling to personnel, tools and equipment should be used.

For servicing tasks outside a Company-controlled environment, where no suitable work platform or stand is available, or where access is restricted, a risk assessment should be completed taking into consideration all the following risk factors:

- Experience of the maintenance technicians, ground support personnel and others.
- Any special circumstances or unique hazards.

If the risk is deemed acceptable, the task may be carried out utilizing the aircraft's structural steps and built-in work platforms.

Where there are no suitable mobile work platforms for the aircraft type, then stands that prevent or reduce the height of a fall should be used whenever possible.

25.3.1. Inspection of Access Equipment

All access equipment is to be inspected annually or more frequently if deemed necessary by the appropriate manager. Any item of equipment that has been identified as unserviceable is to be removed from service immediately, clearly labeled as unserviceable and quarantined or destroyed so it cannot be used.

25.3.2. Stepladders

Identify Hazards. Regardless of the type of material used in ladder construction, there are specific items that must be inspected. Prior to use, ensure that the following criteria are met:

- Steps and rungs are in place, intact, free from grease or oil, have slip resistant surfaces and are firmly attached.
- Support braces, bolts and screws are all tight and in place.
- Spreaders and locking devices are in place and function freely and properly.
- Splinters, burrs, or sharp edges are removed. On fiberglass ladders, ensure that there is no evidence of splintering or other deterioration.
- "Safety Feet" located at the bottom of a ladder are in place and serviceable.
- If there are any missing or broken components on a ladder, it should be tagged and taken out of service.
- Do not attempt to repair broken ladders. Since they cannot be effectively repaired, broken ladders should be destroyed to prevent them from being used.
- Ladders that have been exposed to fire or corrosive chemicals should be declared unsafe and should also be destroyed.

Protection Against Hazards – Select the correct ladder for the task. Ladders are rated by how much weight they hold. These weight limits include the person using the ladder and any additional equipment being carried or handled while on the ladder.

Safety Procedures – It is the responsibility of the individual user to use a ladder safely and in a manner consistent with its designed purpose, therefore consider the following cautions when choosing to use a ladder:

- Only one person is allowed on a ladder at a time.
- Wear shoes with clean, non-skid soles (not leather).
- Face the ladder, holding the side rails with both hands, always maintaining 3-point system of contact while climbing and descending the ladder.
- Employees are not to carry anything in hands that could cause injury in case of a fall.
- Keep your body centered between the vertical structures of the ladder.
- Do not stand on the top or top step of the ladder.
- All movements should be slow and cautious.
- Ladder rungs, cleats and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.
- Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.

- Ladders shall not be loaded beyond their manufacturer's rated capacity.
- Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.
- The area around the top and bottom of ladders shall be kept clear.
- Ladders shall not be moved, shifted, or extended while occupied.
- Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
- Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.

25.3.3. Working Platforms

- Safe means of access must be provided.
- Work platform height must be suitable for the level at which the work will be performed.
- Toe boards must be in place on the platforms.
- Guard rails must be in place during the time the platforms are in use.

25.3.4. Scaffolds

Scaffolds are readily available in forms comparatively easy to construct. They may also be erected from steel tubing and couplers. In all cases, competent and trained personnel are required to ensure that the necessary components are present and in the correct place. All company employees and outside contractors when on company premises are to strictly observe the following about scaffolds:

- Erection should be in strict accordance with the manufacturers or supplier’s instructions.
- Erection, alteration, and dismantling is to be carried out by experienced, trained and competent persons.
- Scaffolds are only to be used on a firm level base, with wheel castors locked if present.
- Sections with defects, such as bent or twisted bracing, are not to be used.
- The structure is to be braced in all planes to distribute loads correctly, prevent twisting and collapse.
- The ratio of the minimum base dimension to the height of the working platform must not exceed 1:3 when used outside and 1:3.5 for internal use, unless the scaffold is securely tied to another permanent structure at all times. Base ratios can be increased by the use of outriggers, which are to be fully extended and capable of taking loads at all times.
- Free standing scaffolds must not exceed 30 feet high to the working platform unless tied. The maximum height to the upper working platform when tied must not exceed 40 feet.
- A safe means of access must be provided on the narrowest side of the scaffold. This can be by a vertical ladder attached internally, by internal stairways or by ladder sections designed to form part of the frame members. Under no circumstances are persons to climb on the outside of the scaffold, or to climb frame members that are not designed for this purpose.
- Trapdoors are to be provided in working platforms where internal access is provided.
- Platforms should be properly supported and fully boarded.
- Guardrails, toe boards, and other appropriate means are to be provided to prevent falls of personnel or materials.
- Under no circumstances are mobile scaffolds to be moved while personnel are still on the platform, even with their agreement or on their instruction.
- Ladders or stepladders are not to be placed on a scaffold to gain extra height.

25.3.5. Power Operated Mobile Work Platforms

A wide variety of equipment falls into this category, ranging from small mobile tower structures with self-elevating facilities, to large vehicle mounted hydraulically operated platforms.

- No person is to operate the equipment unless they have received the approved, appropriate and adequate training.
- Operator controls must be at platform level with override at ground level in case of emergencies.

- There is to be a leveling device fitted to the chassis to ensure that the equipment is vertical during use.
- Power operated mobile work platforms are not to be used outside in adverse weather conditions.
- Where outriggers are provided for added stability, they must be fully extended and locked into position before the equipment is used or raised. The manufacturer's instructions are to be followed at all times, specifically with regard to wheels and their requirement to be locked.
- Materials and/or persons are not to be transferred to and from the platform in the raised position.
- If fitted, scissor mechanisms are to be accompanied by the provision of adequate fixed guarding to prevent injury by trapping when the machine is in operation.
- The equipment is to be regularly inspected, serviced, maintained, and tested in accordance with the manufacturer's instructions.
- Operators of power operated mobile work platforms must carry out safety checks before and after use in accordance with the manufacturer's recommendations.
- Operators must be aware of the operating restrictions that may be imposed by the environment, such as height restrictions or other hazards.
- The work platform must not exceed any weight restriction imposed by the manufacturer.

Accidents using access equipment occur because one or more of the following common problems have not been controlled in advance or were considered to be an acceptable risk under the circumstances. Some problems may be:

- Faulty design of the access structure itself.
- Inappropriate selection of equipment where safer alternatives could have been used.
- Settling or failure of a base support.
- Structure failure of suspension system.
- Structure failure of components.
- Structural failure through overloading.
- Structure failure through poor erection, inspection, or maintenance.
- Structure failure through overbalancing.
- Overreaching and overbalancing.
- Climbing up or down while carrying loads.
- Slippery footing – wrong footwear, failure to clean or inappropriate surface.
- Unauthorized alterations and use.
- Contact with obstructions and structural elements.
- Electrical and hydraulic equipment failures.
- Trapping by moving parts.

25.4. Responsibilities

The responsibility to ensure protection for personnel working at height rests on the base and maintenance management and can be delegated to competent supervisors within the operation. All tasks undertaken within the base where access to height is required must be evaluated by risk assessment. Management must:

- Ensure that the work is properly planned, appropriately supervised and carried out in as safe a way as is reasonably practicable.
- Plan for emergencies and rescue if necessary.
- Take into account the risk assessment performed.

25.4.1. Training

Base managers must ensure personnel are trained and competent in regard to the following:

- Correct and appropriate use of access equipment.
- Work at height training.

26. Hot and Cold Weather Operations

26.1. Cold Weather

26.1.1. Cold Stress Guide

Anyone working in a cold environment may be at risk of cold stress. Some workers may be required to work outdoors in cold environments and for extended periods, for example, snow cleanup crews, sanitation workers, police officers and emergency response and recovery personnel, like firefighters, and emergency medical technicians. Cold stress can be encountered in these types of work environment. The following frequently asked questions will help workers understand what cold stress is, how it may affect their health and safety, and how it can be prevented.

26.1.2. How cold is too cold?

What constitutes extreme cold and its effects can vary across different areas of the country. In regions that are not used to winter weather, near freezing temperatures are considered "extreme cold." A cold environment forces the body to work harder to maintain its temperature. Whenever temperatures drop below normal and wind speed increases, heat can leave your body more rapidly.

Wind chill is the temperature your body feels when air temperature and wind speed are combined. For example, when the air temperature is 40°F, and the wind speed is 35 mph, the effect on the exposed skin is as if the air temperature was 28°F.

Cold stress occurs by driving down the skin temperature and eventually the internal body temperature (core temperature). This may lead to serious health problems, and may cause tissue damage, and possibly death.

What are the risk factors that contribute to cold stress? Some of the risk factors that contribute to cold stress are:

- Wetness/dampness, dressing improperly, and exhaustion
- Predisposing health conditions such as hypertension, hypothyroidism, and diabetes
- Poor physical conditioning

26.1.3. How does the body react to cold conditions?

In a cold environment, most of the body's energy is used to keep the internal core temperature warm. Over time, the body will begin to shift blood flow from the extremities (hands, feet, arms, and legs) and outer skin to the core (chest and abdomen). This shift allows the exposed skin and the extremities to cool rapidly and increases the risk of frostbite and hypothermia. Combine this scenario with exposure to a wet environment, and trench foot may also be a problem.

26.1.4. What are the most common cold induced illnesses/injuries?

- Hypothermia
- Frostbite
- Trench Foot

26.1.5. What is hypothermia?

Hypothermia occurs when body heat is lost faster than it can be replaced and the normal body temperature (98.6°F) drops to less than 95°F. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F), if a person becomes chilled from rain, sweat, or submersion in cold water.

What are the symptoms of hypothermia?

- Mild symptoms:
  - An exposed worker is alert.
  - He or she may begin to shiver and stomp the feet in order to generate heat.
- Moderate to Severe symptoms:
  - As the body temperature continues to fall, symptoms will worsen and shivering will stop.
  - The worker may lose coordination and fumble with items in the hand, become confused and disoriented
  - He or she may be unable to walk or stand, pupils become dilated, pulse and breathing become slowed, and loss of consciousness can occur. A person could die if help is not received immediately.

26.1.6. What can be done for a person suffering from hypothermia?

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Move the person to a warm, dry area.
- Remove wet clothes and replace with dry clothes, cover the body (including the head and neck) with layers of blankets; and with a vapor barrier (e.g., tarp, garbage bag). Do not cover the face.
- If medical help is more than 30 minutes away:
  - Give warm sweetened drinks if alert (no alcohol), to help increase the body temperature. Never try to give a drink to an unconscious person.
  - Place warm bottles or hot packs in armpits, sides of chest, and groin. Call 911 for additional rewarming instructions.
- If a person is not breathing or has no pulse:
  - Call 911 for emergency medical assistance immediately.
  - Treat the worker as per instructions for hypothermia, but be very careful and do not try to give an unconscious person fluids.
  - Check him/her for signs of breathing and for a pulse. Check for 60 seconds.
  - If after 60 seconds the affected worker is not breathing and does not have a pulse, trained workers may start rescue breaths for 3 minutes.
  - Recheck for breathing and pulse, check for 60 seconds.
  - If the worker is still not breathing and has no pulse, continue rescue breathing.
  - Only start chest compressions per the direction of the 911 operator or emergency medical services*
  - Reassess patient's physical status periodically.

*Chest compression are recommended only if the patient will not receive medical care within 3 hours.

26.1.7. What is frostbite?

Frostbite is an injury to the body that is caused by freezing of the skin and underlying tissues. The lower the temperature, the more quickly frostbite will occur. Frostbite typically affects the extremities, particularly the feet and hands. Amputation may be required in severe cases.

26.1.8. What are the symptoms of frostbite?

- Reddened skin develops gray/white patches.
- Numbness in the affected part.
- Feels firm or hard.
- Blisters may occur in the affected part, in severe cases.

26.1.9. What can be done for a person suffering from frostbite?

- Follow the recommendations described above for hypothermia.
- Do not rub the affected area to warm it because this action can cause more damage.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the frostbitten area before getting medical help; for example, do not place in warm water. If a frostbitten area is rewarmed and gets frozen again, more tissue damage will occur. It is safer for the frostbitten area to be rewarmed by medical professionals.
- Give warm sweetened drinks, if the person is alert. Avoid drinks with alcohol.

26.1.10. What is immersion/trench foot?

Trench Foot or immersion foot is caused by prolonged exposure to wet and cold temperatures. It can occur at temperatures as high as 60°F if the feet are constantly wet. Non-freezing injury occurs because wet feet lose heat 25-times faster than dry feet. To prevent heat loss, the body constricts the blood vessels to shut down circulation in the feet.

The skin tissue begins to die because of a lack of oxygen and nutrients and due to the buildup of toxic products.

26.1.11. What are the symptoms of trench foot?

- Redness of the skin, swelling, numbness, blisters

26.1.12. What can be done for a person suffering from immersion foot?

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Remove the shoes, or boots, and wet socks.
- Dry the feet.

26.1.13. How can cold stress be prevented?

Although OSHA does not have a specific standard that covers working in cold environments, employers have a responsibility to provide workers with employment and a place of employment which are free from recognized hazards, including cold stress, which are causing or are likely to cause death or serious physical harm to them (Section 5(a)(1) of the Occupational Safety and Health Act of 1970). Employers should, therefore, train workers on the hazards of the job and safety measures to use, such as engineering controls and safe work practices, that will protect workers' safety and health.

Employers should train workers – On how to prevent and recognize cold stress illnesses and injuries and how to apply first aid treatment. Workers should be trained, initially and annually on the appropriate engineering controls, personal protective equipment and work practices to reduce the risk of cold stress. All employees should be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams and know how to prevent accidents caused by them.

Employers should provide engineering controls – For example, radiant heaters may be used to warm workers in outdoor security stations. If possible, shield work areas from drafts or wind to reduce wind chill. Regularly used walkways and travel ways shall be sanded, salted, or cleared of snow and ice as soon as practicable. Regular inspections on cold weather supplies (e.g., hand warmers, jackets, shovels, etc.) should be carried out to ensure that supplies are always in stock.

Employers should use safe work practices – For example, it is easy to become dehydrated in cold weather. Employers therefore, can provide plenty of warm sweetened liquids to workers. Avoid alcoholic drinks. If possible, employers can schedule heavy work during the warmer part of the day. Employers can assign workers to tasks in pairs (buddy system), so that they can monitor each other for signs of cold stress. Workers can be allowed to interrupt their work, if they are extremely uncomfortable. Employers should give workers frequent breaks in warm areas. Acclimatize new workers and those returning after time away from work, by gradually increasing their workload, and allowing more frequent breaks in warm areas, as they build up a tolerance for working in the cold environment. Safety measures, such as these, should be incorporated into the relevant health and safety plan for the workplace.

Dressing properly – Is extremely important to preventing cold stress. The type of fabric worn also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, silk and most synthetics, on the other hand, retain their insulation even when wet. The following are recommendations for working in cold environments:

- Wear at least three layers of loose-fitting clothing. Layering provides better insulation. Do not wear tight fitting clothing.
  - An inner layer of wool, silk or synthetic to keep moisture away from the body.
  - A middle layer of wool or synthetic to provide insulation even when wet.
  - An outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Wear a hat or hood to help keep your whole body warmer. Hats reduce the amount of body heat that escapes from your head.
- Use a knit mask to cover the face and mouth (if needed).
- Use insulated gloves to protect the hands (water resistant if necessary).
- Wear insulated and waterproof boots (or other footwear).

26.1.14. Safety Tips for Workers

- Your employer should ensure that you know the symptoms of cold stress.
- Monitor your physical condition and that of your coworkers.
- Dress properly for the cold.
- Stay dry in the cold because moisture or dampness, e.g., from sweating, can increase the rate of heat loss from the body.
- Keep extra clothing (including underwear) handy in case you get wet and need to change.
- Drink warm sweetened fluids (no alcohol).
- Use proper engineering controls, safe work practices, and personal protective equipment (PPE) provided by your employer.

26.1.15. Additional Resources

Cold Stress. National Institute for Occupational Safety and Health (NIOSH).

26.2. Cold Weather Flying Issues

Maritime helicopters participate in Winter Flying throughout the year and there are many hazards associated with operating in this challenging environment. Listed below are company guidelines that all pilots are expected to follow. All Pilots are requested to review Chapter 3 of the SOP for detailed operational guidance.

26.2.1. Preflight:

1. The aircraft must be free of frost, snow or ice.
2. The pitot and static port (if installed) heaters should be checked.
3. Snow Deflectors will be installed on the aircraft (If applicable).
4. The aircraft will not be flown in icing conditions.

26.2.2. Take-Offs:

1. Ensure the skids are not frozen to the ground.
2. Conduct an altitude over airspeed take off to minimize being in a self-induced white out.
3. Pick numerous reference points to be used during take-off.

26.2.3. Enroute:

1. The anti-ice and pitot heat will be utilized when required by the RFM.
2. Ensure that the aircraft can maintain a visual surface reference throughout the flight.
3. When operating in flat light/white out conditions, ensure that a visible horizon can be maintained.

26.2.4. Approaches:

1. The approach should be planned to terminate in an OGE hover, this allows for the loose snow to be blown away from the snow from the intended landing point.
2. Maintain a reference point throughout the descent and landing.

26.3. Hot Weather Safety

Maritime Helicopters operations are normally confined to the state of Alaska, so hot weather awareness is not part of any normal helicopter or maintenance operations. Employers must protect workers from excessive heat.

Under OSHA law, employers are responsible for providing workplaces free of known safety hazards. This includes protecting workers from extreme heat. An employer with workers exposed to high temperatures should establish a complete heat illness prevention program.

- Provide workers with potable water, rest and shade.
- Allow new or returning workers to gradually increase workloads and take more frequent breaks as they acclimatize or build a tolerance for working in the heat.
- Plan for emergencies and train workers on prevention.
- Monitor workers for signs of illness.

Maritime Employees will have training when working in the parts of Alaska which receive higher temperature in the summer (Fairbanks/Interior) and supervisors will receive training before supervising employees and ensure that employees are familiar with the conditions which lead to heat injury and how to treat individuals whom have sustained heat injuries/illnesses. The OSHA website has resources available for employee and supervisor training.

https://www.osha.gov/SLTC/heatillness/trainingresources.html