# MHI FIRE AND SAFETY PLAN

## Document Reviews

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<tr>
<th>Date</th>
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<td>12/2009</td>
<td>G.D.S</td>
<td>Edit Para. 4.1.7 &amp; added a new enclosure #4. Deleted Para. 4.3.6. Changed Para. 4.3.2, 4.3.3, 4.4.4, 4.5.2.2, 4.9.2</td>
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<td>11/2012</td>
<td>G.D.S</td>
<td>Entire procedure &amp; Enclosures has been updated</td>
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<td>Note Added &amp; Added Para. 6.1.7.3 &amp; 6.1.7.4.</td>
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<td>5/2013</td>
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<td>Change To Enclosure 1, Para. 6.1.7, 6.1.7.2, 6.1.7.7, 6.2.2, 6.2.3, 6.3.1. Added Enclosure 4.</td>
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<td>Deleted Para 3.6… changed 4.0, 5.5.1.3, 6.0, 6.1.9.6, 6.2, 6.2.5, 6.4.2, 6.5, 6.6</td>
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1.0 PURPOSE: Marine Hydraulics International Incorporated (MHI) is dedicated to the Safety and Health of employees, contractors and ship’s personnel while present at MHI’s facilities. The purpose of the MHI Fire and Safety Plan is to protect personnel and property, establish procedures for the prevention of fire at MHI’s facility, describe procedures for emergency fire response and establish a plan for evacuation and accounting of all personnel.

2.0 SCOPE: The MHI Fire and Safety Plan conforms to the fire prevention regulations of Naval Sea Systems (NAVSEA) Standard Items, Occupational Safety and Health Administration (OSHA) Standards for fire protection in shipyards; 29CFR1915 (Subpart P) and National Fire Protection Association (NFPA) Standards. Our plan provides a coordinated approach for protecting all ships and personnel while at MHI. This Fire and Safety Plan is principally designed to avert unsafe conditions and practices, which cause fires but also provides guidance in the case that emergency response is required.

3.0 RESPONSIBILITIES:

3.1 The MHI Safety Manager will review and update this plan when changes are required and at least annually. The Safety Manager is the sole person authorized to amend this plan and is authorized to halt any operation of the company where there is danger of personal injury or damage to property.

3.2 All personnel shall familiarize themselves with the fire and safety plan as it pertains to the location where they are working. They should be thoroughly familiar with evacuation routes and fire alarm procedures.

3.3 All MHI employees will be trained on this plan and receive refresher training annually thereafter. They must be thoroughly familiar with the requirements of this plan. Training records will be maintained by the MHI Safety Department and available to the supervisor upon request.

3.4 All subcontractors must train their personnel on their fire safety plan at least annually or prior to starting work at MHI. This training must be compliant with the MHI Fire and Safety Plan and will be documented to MHI via the “Subcontractor / AIT – OSHA Safety / Environmental Affidavit” This affidavit will be verified and maintained by MHI’s Safety Department and available to the supervisor upon request.

3.5 It is the policy of MHI to rely upon the City of Norfolk Fire and Rescue department to respond to any fires or emergencies that may occur at our facilities.
4.0 PLAN SECTIONS: This Fire and Safety Plan will be divided into two sections.
Section (5) will cover landside facilities with Section (6) covering Ships berthed at the
Mid Town pier.

5.0 Section Five: LANDSIDE FACILITIES

In the event of an emergency call the MHI Security number listed below first. If you are unable to reach security call 911

EMERGENCY TELEPHONE NUMBERS

SECURITY…………………………………………644-7279 or 644-7280
POLICE AND FIRE .................................911
DIRECTOR OF SECURITY .......................217-6535
SAFETY OFFICER.................................449-7040

- If there is an emergency such as a fire or other emergency that requires personnel to
  exit the building the following actions are to be taken.

5.1 Evacuation Plan.

5.1.1 Supervisors present at the time of the emergency are responsible for the
  orderly evacuation of buildings and facilities with the assistance of
  security.

5.1.2 DO NOT take time to turn off computers, printers, or office lights. Close,
  but DO NOT lock, office door.

5.1.3 Exit the building through the closest exit.

5.1.4 All personnel should be familiar with the exit paths for their areas. Be
  familiar with the shortest path possible.

5.1.5 Proceed in an orderly manner as quickly as possible to the nearest exit and
  then to the designated reporting area.

5.1.6 Stay in the designated reporting area until you are instructed to leave.
  This way an accurate head count can be taken. All employees should
report immediately to their supervisor.

5.1.7 Upon arrival of emergency personnel, security will assist them in
whatever manner they request or direct. Police/Fire/Rescue and/or MHI
security will clear the building, checking areas for personnel whom may
be physically disabled and/or injured.

5.2 Emergency alarms’ being turned off DOES NOT mean the building is clear and
safe to re-enter. They are silenced so that emergency response personnel are able
to communicate with each other. DO NOT RE-ENTER THE BUILDING for any
reason until instructed to do so by fire department, EMS, Police or MHI security
officials.

5.3 Fire:

5.3.1 Pull the red fire alarm. Refer to the floor plan and be familiar with the
nearest alarm location. An alarm will ring at MHI security who will call
the fire Department.

5.3.2 If there is immediate danger, remain calm and follow evacuation
procedures and then call security or 911, if you cannot contact security
from a nearby building.

5.3.3 If there IS NOT an immediate danger, call MHI security at 644-7279 or
644-7280.(Only)

5.3.4 If you call 911 from a cell phone, immediately identify your location.

5.3.5 Follow evacuation plan. Listen for directions and congregate at the
designated area. Supervisors will account for employees.

5.3.6 DO NOT RE-ENTER BUILDING.

5.4 IF YOU ARE TRAPPED IN THE BUILDING…

5.4.1 If the door to the room you are in is hot to the touch and/or smoke is
seeping in around it, DÔ NOT OPEN IT.

5.4.2 Remain calm. Walls, ceilings, floors, and doors are designed to withstand
fire for a safe period of time.

5.4.3 Pack the crack under the door with clothing or other material to keep the
smoke out.
5.4.4 Let someone know you are trapped. Call Security and stay on the line until the guard tells you to hang up. If there is no phone available, yell out the window, wave out the window to gain attention.

5.4.5 If you call 911 from a cell phone, immediately identify your location.

5.4.6 Stay low to the floor near the window as the smoke will fill higher areas first.

**FIRE EXTINGUISHERS ARE TO BE USED ONLY TO PUT OUT A PATH OF FIRE TO GET OUT OF BUILDING. DO NOT USE A FIRE EXTINGUISHER TO PUT OUT THE FIRE.**

5.5 **HAZARDOUS MATERIALS SPILL**

5.5.1 **BENCH TOP SPILLS.** A bench top spill is defined as; a spill that will not contaminate the water supply, sewer, air handling system, or any other area, is small enough to be easily handled by staff, and there are NOT any injuries. If you experience a Bench Top Spill:

5.5.1.1 Remain calm.

5.5.1.2 Contain the spill with absorbent pillows.

5.5.1.3 Consult the *Safety Data Sheet (SDS).*

5.5.1.4 If you are familiar with handling the spilled reagent, obtain the proper spill kit and follow the directions that are with the spill kit.

5.5.1.5 Notify the Safety Director immediately.

If you are not familiar with the spilled reagents or you do not feel comfortable cleaning up the spill, follow instructions for large spills.

5.5.2 **LARGE SPILLS.** A large spill is defined as; a spill that may contaminate the water supply, sewer, air handling system, or any other area, is too large to be easily handled by staff, and/or there are injuries. If you experience or witness a Large Spill:

5.5.2.1 Remain calm.

5.5.2.2 Only if there IS immediate danger; call Security, have the following information available for the Guard; where the spill has occurred, what was spilled, how much was spilled, when the spill...
occurred, and if there are any injuries. Stay on the line until the guard tells you to hang up. If there is NO immediate danger, follow the evacuation procedures and call the Safety department or Security from a nearby building and have the above information available.

**ALL SPILL AREAS SHOULD BE EQUIPPED WITH SPILL KITS FOR THE APPROPRIATE MATERIALS BEING USED IN THE SHOP.**

5.5.3 **SPECIAL AREAS.** To assist security and Fire Authorities with possible emergencies that require special attention, example: Weld Shop, Paint Shop, Truck Shop, etc., or any other areas which may require special attention in an emergency, specific information such as that listed below should be noted.

5.5.3.1 LOCATION IN BUILDING

5.5.3.2 MATERIALS IN SHOP

5.5.3.3 ANYTHING SPECIAL ABOUT THE AREA

5.6 **FLOODING.**

5.6.1 **INTERIOR FLOODING.** If you experience Interior Flooding, you should:

5.6.2 Evacuate the affected area.

5.6.2.1 Report to designated area.

5.6.2.2 Call Facilities for assistance in having water shut off.

5.6.2.3 Call security at 644-7279 or 644-7280 from a nearby building and have the following information available; where the flooding occurred, if there are any injuries and stay on the line until you are told to hang up.

5.6.2.4 If you call 911 from a cell phone, immediately identify your location.

5.6.2.5 Stay away from all power (electrical) sources.

5.6.2.6 Stay away from utility vaults.
5.6.3 EXTERIOR FLOODING: In the event of exterior flooding, you should:

5.6.3.1 Remain calm.

5.6.3.2 Call security at 644-7279 or 644-7280 and let them know what building you are in, how high the water is, and how many people are with you.

5.6.3.3 If you call 911 from a cell phone, immediately identify your location.

5.6.3.4 If there is water all around the building, proceed to the roof of the building or the highest point accessible.

5.6.3.5 If there is water on only one side of the building, proceed in an orderly fashion out of the building exit that has NO water.

5.6.3.6 Immediately go to the highest area possible.

5.7 MEDICAL. In case of a Medical Emergency:

5.7.1 Remain calm.

5.7.2 Call security at 644-7279 or 644-7280 and state the emergency and location.

5.7.3 If you call 911 from a cell phone, immediately identify your location. MHI Security will assist emergency response personnel gaining access to the facility.

5.7.4 Do NOT move the victim unless there are life threatening conditions which require it.

5.7.5 Remain with the victim and try to keep the victim warm and alert by talking with them until emergency response teams arrive.

5.8 TORNADOS AND WINDS. In case of severe weather:

5.8.1 Proceed to the nearest interior room. If at all possible have a phone, radio, flashlights and first aid kits available.

5.8.2 Contact MHI security at 644-7279 or 644-7280.
5.8.3 If you call 911 from a cell phone, immediately identify your location.

5.8.4 Monitor the storm by listening to the radio. **DO NOT LEAVE THE TORNADO EVACUATION POINT SAFE AREA UNTIL TOLD TO DO SO.** MHI security Fire/Rescue Authorities will be making rounds throughout determining damage and will contact you when it is safe to leave the building. This may take a while, so remain in the designated area until you are contacted to leave. There may be structure damage.

**NOTE:** Tornadoes have been known to leave the ground and come back down again in a matter of minutes or even as long as half an hour. Remain in the designated area until notified by Security Emergency Personnel that it is safe to leave.

5.9 **BOMB THREAT.** In case you receive, or are notified of, a Bomb Threat:

5.9.1 Locate the FBI Bomb Data Questionnaire and fill it out while talking to the caller. If questionnaire is not immediately available, record every word spoken by the caller and any background noises. Then immediately fill out Bomb Threat Questionnaire.

5.9.2 Alert a co-worker via note (if possible) while on the line with the bomb threat. Have co-worker call **Security** and have the following information available; where the bomb threat is, who is taking bomb threat call, an estimate of how many people are in the building, and have them stay on the line until the dispatcher tells them to hang up.

5.9.3 If you call 911 from a cell phone, immediately identify your location.

5.9.4 Notify your supervisor.

5.9.5 Notify security at 644-7279 or 644-7280.

5.9.6 Evacuate the building immediately.

**OTHER EMERGENCIES**

5.10 **ASSAULT, HARASSMENT, DESTRUCTION OF PROPERTY, VANDALISM, PROBLEM PATRONS, AND THEFT:**

5.10.1 Call security at 644-7279 or 644-7280.
5.10.1.2 Notify the director of security.

5.10.1.3 Observe suspicious persons but DO NOT TRY TO DETAIN THEM.

5.10.1.4 Ask the victim to remain until security arrives.

5.10.1.5 Obtain names, addresses, and telephone numbers of witnesses.

5.11 POWER FAILURE

5.11.1.1 Facilities maintenance will be contacted by designated departmental personnel.

5.11.1.2 Security should be contacted by designated departmental personnel after normal working hours and on the weekends.

5.12 REFERENCES AND ASSOCIATED DOCUMENTS

5.12.1 MHI Level III Procedure MHI-SEC-004 (Bomb Threat Procedure).

SECTION (6) SHIPS BERTHED AT MID-TOWN PIER

6.0 FIRE HAZARDS:

6.1 Work Site Fire Hazards and How To Properly Control Them

6.1.1 It is the policy of MHI to rely upon the City of Norfolk Fire and Rescue Department to respond to any fires that may occur at our facilities. Fire Station Number 6 is located within four blocks and can typically respond to our facility in less than five minutes.

6.1.2 Fire watches are used to reduce the risk of fire by responding only to incipient stage fires. Fire watches are trained to the requirements of 29 CFR 1915.508.
6.1.3 MHI is a non-smoking facility which greatly reduces the risk of fire associated with smoking.

6.1.4 Storage of flammable and combustible materials aboard ship such as fuels, paints, thinners, gas bottles, crating or packing material, is limited to the essentials needed for work in progress. Storage is located in areas that do not cause interference with firefighting equipment or personnel access and is jointly determined by MHI, the Supervisor and the Commanding Officer.

6.1.5 Fire zone boundaries are clearly marked in conjunction with the Supervisor and Ships Force prior to the start of production work. Service lines do not penetrate fire zone boundaries unless quick disconnects are installed at the door or closure. Temporary access cuts made in fire zone boundaries are made only upon written authorization of the Supervisor.

6.1.6 All hoses, welding leads, and temporary lights are kept clear of decks on temporary “trees” or brackets. Passageways are kept clear of obstructions and fire aisles are strictly maintained.

6.1.7 MHI has a full-time capability to assist Ships Force or Municipal Fire Fighting Organizations in case of a fire emergency. This capability consists of the following categories:

6.1.7.1 Emergency backup power; such as the emergency generator (tested weekly during the availability).

6.1.7.2 Firefighting equipment; such as the pier side fire pumps including two primary electric, one back-up electric and one back-up diesel.

** Note: Whenever MHI is required to provide fire main to ships berthed at the Mid-Town Pier it is imperative that certain steps be taken anytime the fire main system is to be secured or a total loss of the system occurs.

6.1.7.3 Prior to securing Fire Main to the pier for any reason both the MARMC Project Team along with MARMC Safety must be notified by the MHI Project Team of the intent to de-energize the system and must receive approval prior to securing the system.

6.1.7.4 In the event of a total loss of the Fire Main the MHI Project Team will notify the MARMC Project Team, MARMC Safety, and all vessels affected immediately upon discovering the system is
inoperable. All hot work on the vessel will be shut down until Fire Main is restored to proper working order.

6.1.7.5 Tests and inspections of firefighting equipment; such as the fire hoses (tested in accordance with NFPA standard 1962 within 90 days before being placed in service for the first time and annually thereafter).

6.1.7.6 Interface with municipal systems; such as emergency phones installed in main spaces, on the quarterdeck and at the head of the pier plus radio’s (tested daily during the availability).

6.1.7.7 Both Pier and Shipboard installed, temporary fire stations are compatible with Norfolk Fire Department and US Naval Vessel connection.

6.1.7.8 The Fire lane down the center of the pier allows ample access to vessels by emergency vehicles and is maintained free of all materials and vehicles except those that can be moved in case of an emergency such as mobile cranes and forklifts. No vehicles that are blocking the fire lane will be left unattended, so as to facilitate their movement in case of an emergency.

6.1.8 An emergency water supply meeting the requirements of NAVSEA Standard Item 009-08 is available. Temporary Fire Stations are placed so all sections of the ship can be reached by two (2) 100 ft. lengths of one and half-inch fire hose. The hoses and nozzles are pre-connected and stored on racks near the station. Water flow tests, as required by NAVSEA Standard Item 009-08 are accomplished prior to the availability start date in order to verify water supply.

6.1.9 Hot work onboard vessels pose the highest risk of fire at the facility. MHI uses several methods to reduce and eliminate these risks.

6.1.9.1 MHI will ensure that hot work is not performed in or on any of the following confined and enclosed spaces and other dangerous atmospheres, boundaries of spaces or pipelines until the work area has been tested and certified by a Marine Chemist as “Safe For Hot Work”;

- Within, on or immediately adjacent to spaces that contain
or have contained combustible or flammable liquids or gases.

- Within, on, or adjacent to fuel tanks that contain or have last contained fuel.

- On pipelines, heating coils, pump fittings or other accessories connected to spaces that contain or have last contained fuel.

6.1.9.2 Within the ship, no hot work of any type will be performed in any space containing ammunition and explosives.

6.1.9.3 If the work area is adjacent to, (i.e., on the same level as and sharing a bulkhead with, an explosives area), hot work may be performed on the bulkhead furthest removed from the bulkhead shared with the space containing ammunition. Hot work may be performed on the overhead, deck and bulkheads at locations no less than 5 feet from the shared structural or nonstructural bulkhead. In spaces directly below the explosive area, hot work may be performed on the deck and bulkheads at locations no less than 5 feet from the overhead.

6.1.9.4 Prior to any hot work in a space or magazine that has contained ammunition or explosives, or in any adjacent space in any direction, a Marine Chemist Certification that all ammunition and explosives have been removed or that the affected areas meet the requirements of Navsea OP-4 and are otherwise safe for hot work is required.

6.1.9.5 For spaces, areas or equipment requiring certification by a Marine Chemist all hot work areas will be maintained / re-certified as often as needed or at least daily, prior to entry, by a Shipyard Competent Person unless the conditions on the Marine Chemist Certificate change. Once conditions change hot work will be shutdown until re-certified by the Marine Chemist.

6.1.9.6 For all other hot work onboard vessels at MHI, a Shipyard Competent Person will inspect and certify that all affected areas are “Safe for Hot Work” as often as needed or at least daily prior to the beginning of hot work for that day.

6.1.9.7 For all hot work onboard vessels at MHI a Hot Work Ticket is required to be submitted to ship’s force the day prior to
commencement of hot work for ship’s force review, inspection and approval or denial

6.1.9.8 For all hot work onboard vessels at MHI the hot work supervisor is responsible for inspecting the affected areas, signing and posting the Hot Work Ticket previously approved by ship’s force. The Hot Work Operator is also required to sign the hot work ticket thus certifying that all required conditions such as exhaust ventilation, fire watches and wrap-up have been met prior to the commencement of hot work.

6.1.9.9 All Marine Chemist Certifications, Shipyard Competent Person Log of Inspections and Tests and Hot Work Tickets will be posted in the area of the hot work. Copies of the Marine Chemist Certifications and Master copies (all spaces on one sheet) of the Shipyard Competent Person Log of Inspections and Tests will be posted at the Main Brow of the Vessel.

6.1.9.10 Fire Watches are used in all spaces and areas affected by hot work and will be properly equipped, trained annually to 29CFR1915.508 and will remain vigilant in the detection of fire or fire hazards. The Fire Watch is empowered to shutdown hot work if a fire hazard is detected. This paragraph applies to all fire watches whether employed by MHI or working as a subcontractor.

6.2 Training for recognizing and reporting unsafe conditions:

6.2.1 All MHI personnel receive annual training on Virginia Ship Repair Association (VSRA) Safety regulations and policies which include how to; recognize, avoid, reduce and control hazards, and how to report these unsafe conditions.

6.2.2 All MHI personnel are trained on 29 CFR 1915 Fire protection and shipyard employment (Subpart P).

6.2.3 All MHI production personnel receive OSHA Maritime 10 Hour training.

6.2.4 As all employees are thoroughly trained in the recognition of unsafe conditions including but not limited to fire, smoke, bubbling paint, hot and/or panting bulkheads and doors or just a loss of services which may be indicative of a fire elsewhere they know to report unsafe conditions to the ship’s watch standers which are normally at the Quarterdeck or may be in...
an Enclosed Operating Station (EOS) in machinery spaces. When reporting an emergency condition it is important to inform all personnel in the immediate area as well as watch standers and supervisors.

6.2.5 Reports of emergency situations can also be made from all main and auxiliary machinery spaces via Emergency Phones if installed. The emergency phones which are located in the aforementioned machinery spaces, at the quarterdeck or main brow and in the guard shack at the head of the pier are activated simply by picking up the handset. The emergency phones ring directly to the Security building at the Main Gate to the Facility which is manned 24/7.

6.3 Alarm Procedures and notification of employees of a fire emergency.

6.3.1 Upon notification of an emergency the employees will be notified by:

- Security which coordinates and contacts applicable agencies for emergency response and implements a “calling tree” for notification of required personnel such as the Safety, Security, Facilities, Project and Production Managers and Officers of the Company.

- Ship’s watch standers use of the ship’s announcing systems such as the 1MC, 3MC and 5MC to notify all military and civilian personnel onboard.

- Supervisors will notify employees directly and via radios or phones.

- MHI’s midtown facility is also equipped with a general announcing system used by Security for notification of personnel not on the vessel or pier at the time the alarm is sounded.

6.4 Procedures for notifying fire response organizations of a fire emergency.

6.4.1 During the arrival conference for all vessels at MHI’s midtown facility, ship’s crews are provided with two telephone numbers to the Security building at the main gate and instructed to call the numbers in case of any emergency. These numbers will also be posted on the quarterdeck to facilitate fire reporting. The Security Guards will then contact emergency services with all applicable information.

6.4.2 In addition to the phone numbers mentioned in 6.4.1 there are also the emergency phones mentioned in 6.2.5 which can also be used to contact Security if installed.
6.4.3 There is also a third means of emergency communication from the vessel to Security which is two way radio communications.

6.5 Requirements for Evacuation and accounting for all employees after evacuation:

6.5.1 In the case that an emergency evacuation of the vessel is required all personnel will be instructed to leave the ship using the communications methods mentioned in 6.3.1 above.

6.5.2 All personnel boarding a vessel at MHI including ship’s crew are issued a Scan Badge which can be used to ensure personnel have safely evacuated the vessel and the pier. Personnel will scan their badge going off the brow and off the pier. This is compared electronically against scans boarding the vessel to ensure that all personnel have exited the vessel. In the case that someone does not scan off of the vessel or pier the name or names can be quickly provided by Security.

6.5.3 In addition to the scan badges all employees and subcontractors are trained to muster at pre-designated areas off of the pier to facilitate the taking of attendance and a report to the MHI project manager for that ship as to whether all employees are accounted for.

6.6 Names, job titles, or departments for individuals who can be contacted for further information about this plan:

- Gary D. Small Safety Manager (757) 449-7040
- Daryl Rigby Facilities Manager (757) 435-2866
- Neil Burns Security Manager (757) 217-6535

7.0 ATTACHMENTS:

7.1 Enclosure 1: Emergency Meeting Areas.

7.2 Enclosure 2: Fire, Emergency and Injury Reporting.

7.3 Enclosure 3: First Aid Kit Sign