SERMC Safety SOP 34

From: SERMC Safety Department (C106)

Subj: SERMC Shipboard Fire Safety and Emergency Response Plan

Ref: (a) 29 CFR 1915 Subpart P, Fire Protection in Shipyard Employment
(b) Gas Free Engineering Manual, NAVSEA S6470-AA-SAF-01 Series
(c) SERMC Safety SOP 43, SERMC Hot Work Procedures
(d) SERMC Safety SOP 27, Maritime Gas Free Engineering Program
(e) NAVSEA Standard Item 009-08, Shipboard Fire Protection and Fire Prevention; accomplish
(f) NAVSEA Standard Item 009-07, Confined Space Entry, Certification, Fire Prevention and Housekeeping; Accomplish
(g) NAVSEA S0570-AC-CCM-010/8010

Encl: None

1. Purpose. To meet the requirements of reference (a) by promulgating how SERMC personnel will control and reduce the possibility of a fire on board a vessel and the actions personnel will take to evacuation and muster in the event of a fire.

2. Cancellation. Reserved for future reference.

3. Applicability. This SOP applies to all SERMC personnel.

4. Responsibilities. SERMC Safety Department will review this SOP on an annual basis. SERMC personnel will review this SOP on an annual basis by completing Enterprise Safety Application Management System (ESAMS) course #6110 SERMC Shipboard Fire Safety and Emergency Response Plan (SOP 34).

5. Definitions

Fixed extinguishing system: A permanently installed fire protection system that either extinguishes or controls fires occurring in the space it protects.

Host employer: An employer who is in charge of coordinating work or who hires other employers to perform work at a multi-employer workplace.

6. Identification of Significant Fire Hazards

a. Certain materials generate heat from inherent chemical decomposition processes and if accumulated to critical mass can generate enough internal heat to spontaneously combust. Oily rags in open containers are particularly susceptible to spontaneous combustion. Special care is needed to avoid or control such hazards. Open containers of flammable liquids (i.e., paints, thinners, lubricants) can generate evaporative gases that flow through or accumulate in enclosed areas to reach a flame or spark that can cause explosive ignition leading back to the flammable liquid source.

b. Fire prevention involves elimination or control of conditions or substances that could ignite or fuel a fire. Maintenance of a clean and orderly workplace is an essential element of fire prevention.

c. Supervision should routinely inspect the workplace to identify fire ignition and fuel hazards and then take appropriate steps to eliminate them. Fire ignition hazards include open flames, some chemical agents, sparks, and heat producing equipment or materials.

d. Electrical systems and equipment, including wiring and switches, are major sources of fire ignition sparks or heating hazards. Overloaded, damaged or flawed electrical circuits generate heat in wiring that can reach a temperature sufficient to ignite adjacent materials.

e. Welding, cutting and grinding operations can produce sparks that can ignite materials, gases or flammable liquids in the work area.

7. Basic Classification of Fires

a. “A” or ALPHA Class: Involves wood and wood products, cloth, textile and fibrous materials, paper and paper products. Class A fires are extinguished with water in straight or fog pattern.

b. “B” or BRAVO Class: Involves flammable and combustible liquids such as gasoline, diesel fuel, jet fuels, hydraulic fluid, and lube oil. These fires are normally extinguished with AFFF, Halon 1301, water mist, Heptafluoropropane (HFP) or Potassium Bicarbonate (PKP).

Class B fires also involve flammable gases, such as acetylene, which should never be extinguished unless there is reasonable certainty that the flow of gas can be secured. Securing the fuel source is the single most important step in controlling a gas fire.

c. "C" or CHARLIE Class: Energized electrical fires that are attacked at prescribed distances using nonconductive agents such as CO2 or water spray. Do not attempt to fight this fire with electricity still supplied to the device.

d. "D" or DELTA Class: Flammable metals (such as magnesium, aluminum, sodium, titanium) that require special extinguishing materials found in Class D extinguishers. Check the extinguisher faceplate for the unit's effectiveness on specific metals.

8. Procedures for Recognizing and Reporting Unsafe Conditions

a. Recognized unsafe conditions include, but are not limited to the following:

(1) Hot work in progress without approved Hot Work Notification, Marine Chemist Certificate and/or Competent Person Log updated.

(2) Flammable and combustible material not removed from hot work area or that are located within 35 feet of the hot work area and not covered with fire cloth or other adequate protection.

(3) Fire Watches improperly posted, not remaining on station 30 minutes after completion of hot work or until supervisor properly verifies that a potential fire or safety hazard does not exist.

(4) Fire Watches not having a clear view of work area.

(5) Flammable atmosphere exists during hot work.

(6) Preservative coatings and/or insulating (lagging) material not removed from affected areas before applying heat.

b. If an unsafe condition exists:

(1) For Ship's Force related unsafe conditions, notify the Quarterdeck and Command Duty Officer (CDO).

(2) For contractor (including AITs) related unsafe conditions, notify the SERMC Maintenance Team (MT), SERMC Safety Department or SERMC CDO.

9. Alarm Procedures and Procedures for Notifying Employees of a Fire Emergency Onboard a Vessel

a. Any person discovering a shipboard fire or other emergency will take the following actions:

(1) PASS THE WORD (e.g., "FIRE! FIRE!") while evacuating the space to notify others in the area.

(2) Notify the Quarterdeck; Ship's Force will make all shipboard Emergency Situation Announcements using the ship's 1MC announcement system.

b. Alarm procedures consist of the Ship's Alarm System Bells.

(1) Rapid ringing 2-3 seconds, a pause, then 1 ring, signifies emergency fwd.

(2) Rapid ringing 2-3 seconds, a pause, then 2 rings, signifies emergency amidships.

(3) Rapid ringing 2-3 seconds, a pause, then 3 rings, signifies emergency aft.

10. Procedures for Notifying Fire Response Organizations of a Fire Emergency

a. Ship's Force is the first responder to all emergencies on their vessel. Report all fires or suspected fires to the ship's Quarterdeck immediately. Provide the following information to the Quarterdeck:

(1) Class of fire (Alpha, Bravo, Charlie and Delta).

(2) Compartment number and noun name if known.

b. Personnel reporting the fire will remain in the vicinity of the Quarterdeck and report all known facts.

c. Personnel in the vicinity of the fire may attempt to extinguish the fire with the equipment on hand provided personal safety is not jeopardized and personnel are trained in using portable equipment.

d. Fixed extinguishing systems will not be activated. Only Ship's Force is authorized to operate ship's fixed extinguishing systems.

e. For emergencies (fire/injury) that occur on the wharf adjacent to a vessel or a barge(manned or unmanned), report the emergency to the Quarterdeck of the closest vessel. If there, is no vessel in the vicinity or if working on an unmanned vessel or barge, ensure personnel evacuation to the nearest SERMC muster point and notify NAVSTA Mayport Fire and Emergency Services by calling 911 on any phone. Inform them that you are on Naval Station Mayport and they will transfer you to NAVSTA Mayport dispatch. Inform dispatch of who you are, the nature of the emergency, and your location. Notify SERMC CDO, your Supervisor, the SERMC MT, and SERMC Safety Department.

11. Procedures for Evacuation and Accounting for all Employees after an Evacuation

a. Personnel will immediately secure all hot work operations and use of flammable materials. Personal safety and the safety of other personnel will not be jeopardized. Evacuate the area before conditions become life threatening.

b. When an emergency occurs and an evacuation is required, personnel will quickly and safely exit the ship via the nearest safe exit. If conducting hot work notify the QD of location and status of hot work equipment while evacuating the vessel.

c. If an evacuation occurs, once off the ship and at the designated SERMC muster location, immediately notify the SERMC CDO and your supervisor. Muster locations at Naval Station Mayport will be at designated SERMC muster areas, which are identified by green signs with the SERMC Logo. SERMC MT will conduct a muster of all SERMC personnel that were on the vessel. At other locations, the muster location will be designated by the host employer's fire safety plan.

(1) At BAE Systems Southeast Shipyard Jacksonville facility, the muster location will be the SERMC MT office area. The SEMRC MT will notify BAE's Emergency coordinator of SERMC's muster status. All SERMC personnel visiting BAE's facility will check in and check out with the MT to ensure the MT is accounting for all SERMC personnel during a drill or actual casualty.

(2) At North Florida Shipyards (NFSY) muster location will be adjacent to the SERMC MT offices. SEMRC MT will notify NFSY Safety department of SERMC's muster status.

12. Fixed Extinguishing Systems

a. Fixed extinguishing systems on board vessels, such as Halon and Aqueous Film Forming Foam (AFFF) can create a dangerous atmosphere if discharged. Engineering spaces are the most common spaces equipped with Halon and AFFF systems.

(1) HALON: When the Halon system is activated it makes a loud ringing sound and a red light flashes in the space. When the alarm sounds, evacuate the space immediately and notify the Quarterdeck and SERMC MT.

(a) Specific Halon hazards are:

(i) Asphyxiation - Halon can create an oxygen deficient atmosphere.

(ii) Cold Temperature - Direct contact with the vaporizing liquid during discharge can cause frostbite burns to the skin.

(iii) Central Nervous System (CNS) - Inhaling high concentrations of Halon can cause dizziness, tingling in extremities and in severe cases unconsciousness.

(2) Aqueous Film Forming Foam (AFFF): When AFFF sprinkler System is activated the AFFF system solution (pre-mixed, seawater and AFFF concentrate) piping may contain hazardous concentrations of hydrogen sulfide (H2S), evacuate the space immediately and notify the Quarterdeck and SERMC MT.

(a) Specific AFFF hazards are:

(i) H2S irritates the mucous membranes of the body and the respiratory tract.

(ii) Following exposure, short-term, or acute, symptoms may include a headache, nausea, convulsions, and eye and skin irritation.

(iii) High concentrations of H2S can cause sickness and death.

13. Procedures for Notifying SERMC of Emergencies. The SERMC MT and Safety Department will be notified immediately of all emergencies onboard a vessel and adjacent to.

14. SERMC Hot Work Operations. All SERMC hot work operations shipboard will be in accordance with references (b) thru (d).

15. Fire, Rescue and Emergency Response – Roles

a. SERMC does not have an internal fire, rescue and emergency response organization. SERMC is a tenant command to Naval Station Mayport who provides these services to their tenant commands. SERMC relies on outside fire and emergency services such as Ship's Force, Naval Station Mayport Fire and Emergency Services, Jacksonville Fire and Rescue Department (JFRD), and the designated organizations when SERMC employees visit other facilities outside of our area of responsibility.

b. Ship's Force will be the first responders for all fire and emergency response situations onboard their vessel regardless of geographical location (e.g. Naval Station Mayport or contractor's facility). If Ship's Force needs assistance from outside responders the following responders will assist:

(1) At Naval Station Mayport, Mayport Fire and Emergency Services provides full emergency services around the clock to the naval station and its tenant commands. A fully staffed engine company responds with medical personnel to all medical emergencies.

(2) At BAE Systems Southeast Shipyard Jacksonville facility, JFRD will assist as needed.

c. Ship's Force will respond to all fires on board their vessel. If the fire cannot be controlled/contained by ships force, they will request mutual aide.

d. Other maintenance and modernization outside activities will comply with their fire safety plan in accordance with reference (a).

e. Fire drills and firefighting conferences are held in accordance with references (a), (f), and (g). The firefighting conference discusses procedures for obtaining assistance from outside fire response organization. Familiarizes outside fire response organization(s) with the layout of the employer's facility or worksite, including access routes, and site-specific operations, occupancies, vessels or vessel sections, and hazards.

The availability of temporary firefighting equipment such as hoses and fittings compatibility will also be discussed in accordance with reference (e).

16. Host Employers Fire Safety Plans and Training Requirements

a. All SERMC employees going aboard a Navy vessel will be trained on this SOP by completing ESAMS course #6110 on an annual basis.

b. All SERMC employees entering a contractor's facility or Naval Shipyard will be trained on the facilities FSP and shipboard FSP, to recognize alarms, evacuation procedures and muster location

17. Accessibility of this Fire Safety Plan

a. This FSP is available in the SERMC Safety Department and on the SERMC Environmental, Safety and Health SharePoint page.

b. The following personnel can be contacted for further information about SERMC's Shipboard Fire Safety and Emergency Response Plan SOP:

(1) Bob Norman, SERMC Safety (904)270-6404

(2) Julie Campbell, SERMC Safety (904) 270-6118

(3) Henry Davis, SERMC Safety (904) 270-6116

1. Forms. There are no forms associated with this SOP.

Aaron E. Moore, C106
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