



“Stop the Loss” Program Guidelines

PURPOSE

This document describes the requirements for marina personnel and contractors performing Hot Work. It outlines the administrative controls (hot work safety training plus permit system) designed to prevent fires. Under this permit system, Hot Work is defined as burning, cutting, welding, brazing, open flame, spark producing work or other operation that has the potential to cause a fire. If managed improperly, Hot Work has the potential to account for significant fires and subsequent losses.

The Stop the Loss™ Program’s objectives are to:

1. Maximize the safety of employees, the boating community and the public
2. Establish fire prevention and overall safety as priorities in conjunction with efficiency and productivity
3. Maintain a fire safe work environment as free as possible from threat of injury or illness due to unsafe practices or conditions
4. Provide appropriate fire safety training programs for employees
5. Comply with all federal, state, city, and marina safety requirements and guidelines, to follow industry practices and, where necessary, to implement additional policies to ensure the safety in and around the marina area.

SCOPE

These procedures are intended to protect life, health and property from fire and the products of combustion, which might result from the use of welding and cutting equipment, open flames and ignition sources. Marina employees and outside contractors/sellers/service companies involved in the use of flame or spark-producing equipment on marina premises are required to conform to these guidelines.

The scope of this guideline is to assist you in presenting and discussing the importance of recognizing hot work hazards and increasing hot work hazard awareness. This guideline offers steps specifically designed for marinas to take to reduce the risk of hot work

accidents. If followed, the marina will be eligible for insurance credits as set by specific insurers.

GENERAL INFORMATION

Conducting hot work is one of the hazards that marinas must deal with in the maritime industry. Even if you aren't personally required to do so, every employee needs to be made aware of the proper procedures for doing hot work. Helping others recognize the dangers and reminding them of proper procedures are ways that marina employees can work together as a team. Therefore, everybody must recognize, evaluate, and control hot work hazards so that marinas don't find themselves reacting to hot work incidents.¹

What is hot work? Hot work is any work that produces a possible source of ignition, such as 1) ignition by flame through welding, cutting, burning, or 2) ignition by spark through drilling, grinding, chipping, abrasive blasting. Possible fuel and ignition sources could exist in and around a hot work area.²

When dealing with hot work, it's important to Recognize, Evaluate and Control the hazards that are present. These are the three steps to ensure that hot work risks are minimized:

1. Recognize fire risks.
2. Evaluate them, especially fire fuels such as liquids, gases and simple combustibles.
3. Control them by eliminating them or reducing the hazards.³

SPECIFIC INFORMATION

- Remove all fuel sources where possible.
- Provide proper fire extinguishing equipment close to the work area.
- Do not leave oxygen or acetylene hoses unattended.
- Check both sides of the bulkhead before starting hot work.
- Consider where sparks will fall when doing hot work.
- Shield fuel sources to protect from ignition sources.
- Cover openings to prevent sparks from entering and being carried to unprotected fuel sources.⁴
- Marina users shall take all responsible precautions against the outbreak of fire.

¹ Safety Meeting Follow-Up Form - The American Waterways Operators

² Ibid

³ Ibid

⁴ Ibid

- No Hot Work shall be carried out at the marina without the specific written authorization of the marina.
- No fuel, gas, pyrotechnic or other highly flammable or explosive substance shall be brought into the marina unless it is in an appropriately designed, secure container. The Owner shall ensure that if the container is kept aboard his Vessel it is stowed in a seamanlike manner, and in a suitably drained and ventilated place. Gas bottles shall be turned off when not in use.
- Lead-acid batteries shall only be charged at the marina if they are housed in a properly ventilated compartment.
- The owner shall maintain adequate fire- fighting equipment aboard his vessel ready for immediate use in the event of fire. When the Vessel is occupied at least one suitable fire extinguisher shall be kept clearly visible and readily accessible above decks.
- Vessels shall not be refueled anywhere at the marina except at the fuel berth or other place designated by the marina for the purpose. It shall be the responsibility of the owner to ensure that the fuel is delivered on board his vessel in a manner that minimizes the risk of fire. Fuel suppliers must hold a Work Permit.⁵

PROCEDURES

NFPA 51B Hot Work Permit Decision Tree

Is there an acceptable alternative to hot work?

Yes- Complete the job with cold work. No hot work permit is needed.

No- Continue to next question.

Can the proposed hot work be performed in a designated area?

Yes- Examine designated area, then complete hot work there. No hot work permit is needed.

No- Continue to next question.

Is the purposed work to be performed in a non-designated area?

Yes- Obtain a written hot work permit.

No- Continue to next question.

Is the work to be performed in a non-permissible area?

⁵ Kalkara Marina Rules, Kalkara Marina, Malta

Yes – Hot work and permit are *not authorized*.

No – Obtain a written hot work permit.⁶

Designation of a Permit Authorizing Individual (PAI)

Assuming a hot work permit is required, it must be issued by a “Permit Authorizing Individual (PAI).” It is the responsibility of the marina employing and supervising the hot work operator to designate a PAI. In general, the PAI may not be the same person as the hot work operator. Persons designated as a PAI must meet the following qualifications:

- Be aware of the hazards posed by the hot work process;
- Be familiar with applicable regulations;
- Know the contact information of the local authorities in the event of an incident.

Pre-Operational Review by PAI

Prior to conducting hot work requiring a permit, the PAI must determine the type of hot work operation to be conducted, the identity of the hot work operator, completion of pre-operational fire safe precautions, and determine whether a fire watch is required. Pre-operational fire safe precautions include verification of:

- Possession of an asset containment and protection product capable of withstanding temperatures up to 10,000 degrees F.
- Available sprinklers, hose streams, extinguishers, and smoke/heat detectors are present and in service/operable, including an appropriate fire extinguisher.
- Hot Work equipment is in good repair.
- Floors are swept clean of combustibles within 35’ of the hot work.
- Combustibles within 35’ of the hot work have been removed or protected by fire resistant tarpaulins or metal shields.
- Flammable liquids, dust, lint, and oil deposits have been removed within 35’ of the hot work.

⁶ NFPA 51B

- Explosive atmospheres have been eliminated within 35' of the hot work (including scheduling of other processes that could introduce an explosive atmosphere during the hot work period).
- Combustible floors have been wetted down, covered with damp sand, or fire-resistant sheets, as appropriate, and within 35' of the hot work.
- All wall and floor openings have been covered within 35' of the hot work.
- Ventilation is and will remain sufficient to prevent development of a hazardous atmosphere during the hot work process.
- Hot work will not be conducted in a confined space, or all appropriate confined space entry permit requirements are in place.
- Containers which will be subject to hot work have been rendered free of flammable vapors and other combustibles.
- For work on walls or ceilings: Construction is noncombustible and lacks combustible covering or insulation. Combustibles have been moved away from the opposite side of the wall. Conduction of heat will not pose danger to adjacent areas.

Fire Watch

The PAI will determine if a fire watch is required, and; if so, the PAI will also determine the number of fire watch individuals required. In general, the fire watch may not be the same person as the hot work operator. The role of the fire watch is to ensure that safe conditions are maintained during hot work operations and to take appropriate action in the event of a fire or other adverse event. The fire watch is responsible to stop hot work operations if unsafe conditions develop or are observed; initiate alarms/notify emergency personnel in the event of a fire, and; attempt to extinguish fires only when the fire is obviously within the capacity of the available extinguisher. Persons designated as a fire watch must meet the following qualifications:

- Aware of the hazards posed by the hot work process;
- Aware of the hazards of the work site;

- Aware of work area fire alarm initiation/emergency responder notification procedures (including access to alarm pull stations, communication devices, and like equipment, as appropriate);
- Trained in use of portable fire extinguishers

At least one fire watch is required under the following conditions:

- Work is conducted in an area where other than a minor fire might develop.
- Work is done where flammables or combustibles are more than 35' away but are easily ignited by sparks.
- Work is done in an area where wall or floor openings could expose combustibles in adjacent areas.
- Work is done where combustibles are adjacent to partitions, ceilings, or roofs being worked on. Additional fire watch individuals are required when combustible materials could be ignited by hot work operations that cannot be directly observed by the initial fire watch (i.e., combustibles on opposite sides of a wall, etc.). The fire watch must remain on-site to monitor for potential fires for a minimum of 30 minutes following completion of the hot work operation, and longer as specified by the PAI. The work site must be attended at all times until conclusion of the permit, including break times.

Sole Proprietors and Individual Operators

NFPA 51B contains provisions whereby a single person could serve as the PAI, hot work operator, and fire watch. This provision is limited to sites where hot work operations are not under the control of another authority and where the work is customarily performed by one person. The provision requires the person to meet all qualifications/training to allow them to effectively serve in each role and to complete a checklist to serve as the permit. This provision should be implemented only after discussion with the State Fire Marshall's Office.

Conclusion of the Permit After the area has been attended for the prescribed amount of time following conclusion of the hot work process, the fire watch carefully inspects the work and adjacent areas to verify the absence of smoldering fires. This inspection may

extend to floors above and below the work and adjacent rooms depending on the location/type of hot work. When the fire watch verifies absence of fire hazards, (s)/he signs the permit and notifies the PAI. The PAI then conducts a final inspection of the area and signs the permit. The permit is filed for one year.⁷

ENFORCEMENT

Safety is not expensive, it is priceless.⁸

Hot work should not be permitted when:

- When PAI has not authorized hot work in a given area.
- A qualified fire watch person is not assigned during operation.
- Sprinkler protection is impaired.
- Appropriate fire extinguisher equipment is not readily available.
- Explosive, flammable or other hazardous vapors, gases or dusts may be present in the area.
- There is a potential for heat transfer along or through walls, pipes, tanks or other metal surfaces that may cause ignition or decomposition of ignitable or toxic substances in contact with the metal.
- There is potential for production of sparks, slag or molten metal by welding or cutting within 35 feet of unprotected combustible or flammable substances that may cause fire.
- The area is a confined space area without proper ventilation and if the operation could result in the accumulation of smoke and hazardous gases in that space.
- The PAI issuing the permit or the employee performing the work believes

⁷ University of Nebraska/Lincoln Hot Works Standard Operating Procedures and Permit Requirements

⁸ <http://www.bcrmca.ca/right-col-icons/safety/safety>

that the issuing of a permit would or could result in undue hazards of any nature. Proper signs and placards are not placed to inform people in the area.

- Proper engineering controls are not in place to prevent exposure to fumes of adjacent area occupants.
- Proper barriers are not in place to prevent people inadvertently entering into the area. Whenever a question arises pertaining to the advisability of issuing a permit to any party involved, work shall NOT begin until the PAI has completed an on-site inspection and has concluded it is safe to proceed.⁹
- The hot work operator does not have in his/her possession an asset protection and containment product capable of withstanding temperatures up to 10,000 degrees F.

TRAINING CERTIFICATE OF COMPLETION

All marina employees will be required to present a certificate of completion of a hot works operations marina fire prevention course provided by FireIce Solutions, LLC or such other course provider as may be specified and approved by each carrier.

The Stop The Loss™ Marina Program is provided in conjunction with:



For more information contact Cluett Commercial Insurance Agency, Inc. | (800) 926-6771 Ext 115 or 118

⁹ NFPA 51B