## HOT WORK PROCEDURE

This procedure is to provide consistent instruction in the area of fire safety while using portable hot work equipment including brazing, cutting, soldering, grinding and welding operations, or other spark producing or open flame devices.

SCOPE

This procedure applies to all Employees and Contractors.

DEFINITIONS

**Hot Work** – Any process that may generate an uncontrolled spark or flame that could be a danger to the workplace.

STANDARDS / PROCEDURES

Hot Work Permits are not required when the hot work is being performed in an area specifically designed for hot work.

In order to be an exempt area, the area shall be;

* Of non-combustible and fire-resistant construction;
* Free of combustibles and flammables;
* Suitably segregated from adjacent areas;
* Equipped with fire extinguishers;
* Equipped with adequate ventilation; and,
* Inspected by a competent person prior to work beginning.

**Prohibited Hot Work Areas:**

* Areas, including those within a confined space, where explosive gases, vapors or dusts exist or could accumulate;
* On metal walls, ceilings or roofs built of composite, combustibles and sandwich-type panel construction or having combustible coverings;
* On containers where flammable liquids, solids or vapors could be present; and,
* On pipes or beams that are in contact with combustible walls, ceilings, roofs or partitions where heat can travel to and can cause ignition.

**Personal Protective Equipment:**

* In addition to general PPE requirements for the workplace, where torching, brazing, soldering, cutting, welding and / or grinding activities are required, workers must wear the following, as a minimum:
* Fire resistant coveralls;
* 100% cotton-only clothing;
* Leather gloves
* CSA approved safety eyewear:
	+ Welding goggles rated for appropriate welding task; and,
	+ Full face shield for activities producing flying debris.
* Respiratory protection rated for the correct type of welding fume and any off-gassing of materials.

**Prior to Hot Work:**

* Before initiating hot work, decide whether the job can be done a different way so as to avoid the hot work;
* Mark the area (signs) so people are aware of the work to be performed;
* Obtain a Hot Work Permit;
* Complete the appropriate sections of the *Hot Work Permit*;
* Survey the site and ensure operational fire extinguishers 4A 40BC, and persons qualified to operate them are immediately available;
* Utilize weld screens to protect others in the area from welding flash and sparks.
* Ensure cutting and welding equipment are in good repair;
* Ensure all Personal Protective Equipment required is in good condition and worn;
* Ensure that there is a first aid kit readily available and accessible;
* When conducting hot work near pipes containing flammable gas, ensure the section of pipe within 1 metre (3 feet) of the hot work is covered with wet non-combustible insulating material; and,
* **Ensure that within 35 feet** **(11 metres) of where the work is being performed;**
* The floor is swept clean of combustibles;
* Combustible floors (i.e. carpets) are wetted down or covered with fire resistant tarps / blankets;
* There are no flammable liquids or materials present; and,
* There are no dangerous or volatile vapors, mists, fumes or dusts.

**When working on walls, partitions, floors and ceilings:**

* Ensure that combustibles are moved away from the other side of the wall, floor, partition or ceiling;
* Block off cracks between floorboards, along baseboards and walls, and under door openings, with a fire resistant material. Close doors and windows
* Cover wall or ceiling surfaces with a fire resistant and heat insulating material to prevent ignition and accumulation of heat;
* Ensure construction materials, insulation or coverings are non-combustible; and,
* Ensure adequate ventilation is achieved.

**During Hot Work:**

* Adequate fire watch is to be provided for the entire duration of the hot work including during lunch and breaks;
* Adequate fire extinguishing equipment shall be maintained in close proximity to the hot work for its entire duration; and,
* Store acetylene and other fuel in approved cylinders and in a secure and upright position.
* The atmosphere in which hot work is being performed is continuously monitored. Particularly with regard to oxygen concentration.
* An adequate warning system and exit procedure are in place to provide adequate warning and allow safe escape if atmospheric conditions become dangerous.

**After Hot Work:**

* Fire watch must be provided for no less than two (2) hours after the work has stopped (or such time as may be prescribed by the Hot Work Permit);
* Work area must be monitored for 30 minutes after the job is completed, unless the client has other requirements;
* Fire extinguishing equipment must remain accessible in the area until the fire monitoring is complete; and,
* Persons completing the monitoring should conduct the final check, sign and return to the completed Hot Work Permit to the immediate Supervisor.

**ROLES / RESPONSIBILITIES**

**Supervisor:**

* All equipment required to perform hot work is maintained in good condition;
* Ensure that the precautions listed on the Hot Work Permit are understood by the person(s) performing the hot work;
* Inform outside contractors and service personnel of this procedure and all other applicable procedures;
* Verify that outside contractors have a Hot Work Permit if one is required for the work being conducted;
* Train affected individuals working under their direction in the provisions of the hot work procedure and all requirements of the hot work permit; and,
* Ensure there is a properly trained person designated to perform fire watch and fire monitoring.

**Worker:**

* They work in compliance with the provisions of the Act and the regulations;
* They use the equipment, protective devices or clothing required to be worn or used;
* They report to their immediate Supervisor the absence of or defect in any equipment or protective device of which the worker is aware and which may endanger himself, herself or another worker; and,
* They report to their immediate Supervisor any contravention of the act, regulations or this procedure or the existence of any hazard of which he / she knows.

**TRAINING**

All relevant employees will be required to receive training on Hot Work procedures and the Hot Work Permit.

**EVALUATION / REVIEW**

This procedure will be reviewed annually by management or as deemed necessary if an incident occurs and hot work plays a factor.

**REFERENCE MATERIALS**

1. Ontario Regulation 213/07 – Fire Code
2. Ontario Regulation 851 – Industrial Establishments section 123
3. NFPA 10, Portable Fire Extinguishers

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