

SPECIAL PROCEDURES ON  
FIRE SAFETY REQUIREMENTS

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**Part 1 GENERAL**

**1.1 Section Includes**

- .1 Fire Safety Requirements.
- .2 Hot Work Permit.
- .3 Existing Fire Protection and Alarm Systems.

**1.2 Related Sections**

- .1 Section 01 35 29 – Health and Safety Requirements.

**1.3 References**

- .1 National Fire Code 2021.
- .2 National Building Code 2020.
- .3 CAN/CSA-W117.2 (2019) "Safety in Welding, Cutting and Allied Processes."
- .4 Applicable OHS legislation.

**1.4 Definitions**

- .1 Hot Work - Applies to hot works involving open flames or producing heat or sparks, including, without being limited to, cutting, welding, soldering, brazing, grinding, adhesive bonding, thermal spraying and thawing pipes.

**1.5 Submittals**

- .1 Submit copy of Hot Work Procedures and sample of Hot Work permit to *Departmental Representative* for review, within 14 calendar days of acceptance of bid.
- .2 Submit in accordance with Section 01 33 00 – Submissions/Shop Drawings.

**1.6 Fire Safety Requirement**

- .1 Implement and follow fire safety measures during Work. Comply with following using the latest edition available:
    - .1 National Fire Code 2020.
    - .2 National Building Code 2020.
    - .3 Provincial OHS Acts and Regulations.
    - .4 CAN/CSA-W117.2 (2019) "Safety in Welding, Cutting and Allied Processes."
  - .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, *Departmental Representative* will advise on the course of action to be followed.
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**1.7 Hot Work Authorization**

- .1 Obtain *Departmental Representative's* written "Authorization to Proceed" before conducting any form of Hot Work on site.
- .2 To obtain authorization, submit to *Departmental Representative* for review:
  - .1 Contractor's typewritten Hot Work Procedures to be followed on site as specified below.
  - .2 Description of the type and frequency of Hot Work required.
  - .3 Sample Hot Work Permit to be used.
- .3 Upon review and confirmation that effective fire safety measures will be implemented and followed during performance of hot work, *Departmental Representative* will give authorization to proceed as follows:
  - .1 Issue one written "Authorization to Proceed" covering the entire project for duration of work or;
  - .2 Subdivide the work into pre-determined, individual activities, each activity requiring a separately written authorization to proceed.
- .4 Requirement for individual authorization will be based on:
  - .1 Nature or phasing of work
  - .2 Risk to Facility operations
  - .3 Quantity of various trades needing to perform hot work on project or;
  - .4 Other situation deemed necessary by *Departmental Representative* to ensure fire safety on premises.
- .5 Do not perform any Hot Work until receipt of *Departmental Representative's* written "Authorization to Proceed" for that portion of work.
- .6 In tenant occupied Facility, coordinate performance of Hot Work with Facility Manager through the *Departmental Representative*. When directed, perform Hot Work only during non-operative hours of the Facility. Follow *Departmental Representative's* directives in this regard.
- .7 Hot works shall be performed only by personnel trained in the safe use of equipment in conformance with this Section.

**1.8 Hot Work Equipment**

- .1 Maintenance
    - .1 Hot work equipment shall be maintained in good operating condition.
  - .2 Inspection
    - .1 Hot work equipment shall be examined for leakage or defects prior to each use.
    - .2 Leaks or defects found in hot work equipment shall be repaired prior to use.
  - .3 Equipment Not in Use
    - .1 All valves shall be closed and gas lines bled when Class 2 gas hot work equipment is not in use.
    - .2 Electric hot work equipment shall be de-energized when not in use.
  - .4 Compressed Gas Equipment
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- .1 The design and installation of oxygen-fuel gas equipment shall conform to NFPA 51, "Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes."
- .2 Unalloyed copper piping shall not be used for acetylene gas.
- .3 Oil or grease shall not be used with equipment for oxygen.
- .4 Cylinders of Class 2 gases shall conform to Part 3.

## **1.9 Prevention of Fires**

- .1 Location of Operations
  - .1 Except as provided in Sentence (2), hot work shall be carried out in an area free of combustible and flammable contents, with walls, ceilings and floors of non-combustible construction or lined with non-combustible materials.
- .2 When it is not practicable to undertake hot work in an area described in Sentence (1),
  - .1 Combustible and flammable materials within a 15m distance from the hot work shall be protected against ignition in conformance with Article 4 below.
  - .2 A fire watch shall be provided during the hot work and for a period of not less than 60 min after its completion.
  - .3 A final inspection of the hot work area shall be conducted 4 hours after completion of work.
- .3 When there is a possibility of sparks leaking onto combustible materials in areas adjacent to the area where hot work is carried out,
  - .1 Openings in walls, floors or ceilings shall be covered or closed to prevent the passage of sparks to such adjacent areas, or
  - .2 Sentence (2) shall apply to such adjacent areas.
- .4 Protection of Combustible and Flammable Materials
  - .1 Any combustible and flammable material, dust or residue shall be:
    - .1 Removed from the area where hot work is carried out, or
    - .2 Protected against ignition by the use of non-combustible materials.
    - .3 Combustible materials or building surfaces that cannot be removed or protected against ignition as required in Sentence (1) shall be thoroughly wetted where hot work is carried out. Any process or activity that produces flammable gases or vapours, combustible dusts or combustible fibres in quantities sufficient to create a fire or explosion hazard shall be interrupted and the hazardous conditions shall be removed before any hot work is carried out.

## **1.10 Hot Work Procedures**

- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
- .2 Hot Work Procedures to include:
  - .1 Requirement to perform hazard assessment of site and immediate work area beforehand for each hot work event in accordance with Safety Plan specified in section 01 35 29.
  - .2 Use of a Hot Work Permit system with individually issued permit by Contractor's Superintendent to worker or subcontractor granting permission to proceed with Hot Work.

- .3 Permit required for each Hot Work event.
- .4 Designation of a competent person on site as a Fire Safety Watcher responsible to conduct a fire safety watch for a minimum duration of 60 minutes immediately following the completion of the Hot Work.
- .5 Compliance with fire safety codes, standards and occupational health and safety regulations specified.
- .6 Site specific rules and procedures in force at the site as provided by the Facility Manager.
- .3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific project conditions. Label document as being the Hot Work Procedures for this contract.
- .4 Procedures shall clearly establish responsibilities of:
  - .1 Worker performing hot work,
  - .2 Person issuing the Hot Work Permit,
  - .3 Fire Safety Watcher,
  - .4 Subcontractor(s) and Contractor.
- .5 Brief all workers and subcontractors on Hot Work Procedures and of Permit system. Stringently enforce compliance.

#### **1.11 Hot Work Permit**

- .1 Hot Work Permit to include the following:
  - .1 Project name and project number;
  - .2 Building name and specific room or area where hot work will be performed;
  - .3 Date of issue;
  - .4 Description of hot work type needed;
  - .5 Special precautions to be followed, including type of fire extinguisher needed;
  - .6 Name and signature of permit issuer.
  - .7 Name of worker to which the permit is issued.
  - .8 Permit validity period not to exceed 8 hours. Indicate start time/date and termination time/date.
  - .9 Worker's signature with time/date of hot work completion.
  - .10 Stipulated time period of safety watch.
  - .11 Fire Safety Watcher's signature with time/date.
- .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.
- .3 Each Hot Work Permit to be completed in full, signed and returned to Contractor's Superintendent for safe keeping on site.

#### **1.12 Fire Protection and Alarm Systems**

- .1 Fire protection and alarm systems shall not be:
  - .1 Obstructed.
  - .2 Shut-off, unless approved by *Departmental Representative*.

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- .3 Left inactive at the end of a working day or shift.
- .2 Do not use fire hydrants, standpipes and hose systems for purposes other than firefighting.
- .3 Costs incurred, from the fire department, Facility owner, resulting from negligently setting off false alarms will be charged to the Contractor in the form of financial progress payment reductions and holdback assessments against the Contract.

**1.13 Documents on Site**

- .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
- .2 Upon request, make available to *Departmental Representative* or to authorized safety Representative for inspection.

**END OF SECTION**