



ATTACHMENT J-29

PORTS FBP FIRE PROTECTION

SPECIFICATION 01066

REV. 0

0	4/3/12	Initial Issue	<i>James Ben</i>
REV	DATE	REASON FOR REVISION	FIRE SERVICES MGR
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## SECTION 01066

### FIRE PROTECTION

#### 1.0 General

- 1.1 The contractor's fire protection measures shall comply with the National Fire Protection Association (NFPA) Standards and Guidelines, International Code Council (ICC) International/Ohio Fire Code (OFC), and Occupational Safety and Health Administration (OSHA) regulations as applicable. This includes, but is not limited to NFPA 241 Safeguarding Building Construction and Demolition Operations.
- 1.2 The contractor shall furnish and properly maintain sufficient fire extinguishers to protect construction, plant equipment, vehicles, heavy equipment, and facilities from construction-related fire hazards. All contractors' extinguishing equipment will be randomly inspected by FBP Fire Protection Group. Such fire equipment shall be readily available and clearly visible at each Work site. Fire extinguisher compliance can be achieved by following NFPA 10 Standard for Portable Fire Extinguishers and OSHA 1910.157 Fire Extinguishers.

#### 2.0 Reporting and Extinguishing Fires

- 2.1 In the event of a fire, FBP's Fire Services has a cadre of equipment and personnel for response to emergencies on site. This response may be summoned by reporting the emergency as per provided training and instructions. All emergencies shall be reported immediately as described in site training.
  - 2.1.1 Notify FBP Fire Services of any fires, which occur on site even if the fire has been extinguished.
  - 2.1.2 Notify FBP Fire Services after using any of the plants fire protection equipment, including fire extinguishers.
  - 2.1.3 Notify FBP Fire Services after using any of the plants or contractor's fire protection equipment.
  - 2.1.4 The contractor shall provide FM/UL approved fire extinguishers of the appropriate type for the work anticipated and ensure all employees are trained as to their proper use. Fire extinguishers shall be positioned within 75 feet of a work area and be visible and readily accessible. The contractor shall properly maintain, inspect, and test its fire extinguishers. While on site fire extinguishers shall have attached monthly inspection record tags (XP4-SS-FS 6107) or equivalent. Contractor shall ensure portable fire extinguishers each receive an annual maintenance check. Contractor shall record date of annual check and retain this record for one year or life of shell whichever is less. Stored pressure extinguishers do not require one year annual inspections.
- 2.2 Additional Fire Protection precautionary measures may be required; this will be addressed on an as needed task specific bases.

**CAUTION:**  
**NEVER HANG AN EMPTY OR USED EXTINGUISHER**  
**BACK ON THE BRACKET**

### 3.0 Hot Work

Cutting and welding, or any hot work operations that uses open flames or produces sparks shall be performed in compliance with NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*. Hot work must be performed

- 3.1 The contractor shall ensure that workers performing hot work are trained and qualified to perform hot work operations. The workers shall have the proper personal protective equipment (PPE) to minimize the potential for ignition, burning, trapping hot sparks, and electric shock.
- 3.2 The contractor shall ensure that the hot work is performed in an approved hot work area or when performed outside of an approved hot work area will require a hot work permit. Permits shall be obtained prior to starting hot work operations.
- 3.3 Fire extinguishers shall be readily available as described in hot work requirements.
- 3.4 Fire watch training is required for hot work. The fire watch shall be maintained by a qualified individual with FBP training per FBP procedure requirements (Appendix 1 of Attachment J-13).

### 4.0 Compressed Gas Cylinders

- 4.1 Compressed gas cylinders shall be secured (with a chain or rope) in an upright position and in fixed, portable racks or carts at all times. Cylinder valves shall be closed and valve caps in place whenever cylinders are in storage, in transit, not in use, or when regulator is not in place.
- 4.2 All oxyacetylene or other fuel gas-oxygen combinations used in cutting or welding equipment shall have reverse flow check valves installed between the torch and hoses. These check valves, also known as flash back protection shall be provided by an approved device that will prevent flame from passing into the fuel gas system.
- 4.3 Storage of compressed gas cylinders shall be compliant with NFPA 55, *Compressed Gases and Cryogenic Fluids Code*.
- 4.4 Location of storage areas for compressed gas cylinders will be approved by FBP Fire Services through the Contract Technical Representative (CTR) prior to use.
- 4.5 Prior to bringing compressed gas cylinders onto the site, approval of FBP Fire Services through the CTR is required.

### 5.0 Flammable Liquids and Combustible Liquids

- 5.1 The storage, dispensing and use of flammable and combustible liquid shall be done in accordance with NFPA 30, *Flammable and Combustible Liquids Code*.
- 5.2 Tank vehicles used for transporting flammable and combustible liquids on the PORTS site must meet the requirements of NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*. "A tank vehicle transporting a flammable or combustible liquid in interstate service shall be considered to be in compliance with this standard while it is in interstate service if it meets the requirements of the U.S. Department of Transportation in Title 49, Code of Federal Regulations, Parts 171-179."
- 5.3 FBP Fire Protection Engineering shall approve flammable and combustible liquid storage areas, including requests for additions and/or changes to flammable and combustible liquid storage areas.

- 5.4 The contractor shall ensure flammable and combustible storage cabinets meet the requirements of NFPA 30.9.5 Flammable Liquids Storage Cabinets.
- The contractor shall ensure storage cabinets are marked in conspicuous lettering: FLAMMABLE-KEEP FIRE AWAY.
  - Storage cabinets are not required to be vented. If storage cabinets are not vented, ensure manufacturer approved sealed vent bungs are in place and secure. If necessary to vent a flammable storage cabinet, contact FBP Fire Protection Engineering for approval and direction for proper venting.
- 5.5 Unless approved by FBP Fire Protection Engineering, the contractor shall ensure flammable and combustible liquid storage cabinets located in Process Buildings (X-326, X-330 and X-333) are not placed within 20 feet of the following:
- Lube oil pits
  - Process electrical transformers containing PCB's
  - PCB storage tanks
  - Emergency diesel generators and associated fuel oil tanks
  - Lube oil piping that could be impacted by vehicular traffic
  - Hydraulic equipment
- 5.6 Unless approved by FBP Fire Protection Engineering, the contractor shall not store flammable and combustible liquid storage cabinets in the following areas:
- Office areas
  - Fixed weld shops
  - Basements
  - Battery rooms
  - Track alleys
  - Tunnels
  - Emergency egress paths
  - Smoking areas
- 5.7 The contractor shall minimize storage of incidental materials such as rags, paint brushes, procedures, etc. in flammable and combustible liquid storage cabinets.
- 5.8 The contractor shall ensure containers (safety cans) used for handling, storage and transferring of flammable and combustible liquids are UL Listed and/or FM approved. The contractor shall ensure safety cans have manufacturer's wire mesh flame arrestor installed in pour spout. The contractor shall ensure safety cans are properly labeled with product name. The contractor shall ensure safety cans have self closing lids. The contractor shall provide space in safety cans to allow for expansion of contents due to increased temperatures.
- 5.9 Remove containers from vehicles before filling with flammable or combustible liquids.

## 6.0 Special Rules for Flammable or Combustibles Liquids during Building Roof Work

Performing roof work at the PORTS plant site can pose unique hazards due to the height of the structures and large areas under roof. The use of flammable or combustible liquids during work activities must be carefully controlled. Any work involving heat sources for roof work must follow the requirements of NFPA 241, *Standard for Safeguarding, Construction, Alterations and Demolition Operations*. Additional precautions include the following:

- Flammable or combustible liquid containers (safety cans) must be an approved type.
- Safety cans shall not be left on building roofs over night (i.e. after each shift).

- A maximum of 5 (five) gallons of gasoline/diesel fuel is permitted on the roof at the beginning of each shift for initial daily fueling of equipment.
- A maximum allowable quantity of 2 gallons of gasoline/diesel fuel is permitted on the roof (inclusive of the gas contained in portable gasoline operated equipment) during each work shift within each work area (a "work area" is defined by a space of 100ft x 100ft).
- When refueling gasoline/diesel fuel operated power equipment, contractor shall follow the manufactures recommendation regarding refueling the equipment.
- Contractor is responsible for supplying any drip pans or other safety equipment needed.
- All flammable/combustible material shall be removed from the roof at the end of each shift.
- Only the required amount of flammable/combustible material anticipated to be used during a day's operation shall be allowed on the roof during that day.
- The contractor shall erect tents to protect the flammable/combustible materials from direct sunlight while allowing air to circulate freely around the material.
- No flammable / combustible materials may be transported in the interior of site buildings without consent of the FBP Fire Services.

#### **CAUTION**

All flammable/combustible materials must be hoisted to the roof during each shift via an appropriate basket/cage with proper rigging and approved hoisting/lifting devices and removed from the roof at the end of the shift.

### **7.0 Liquefied Petroleum Gas (Propane)**

- 7.1 Propane fueled vehicles or equipment, is not allowed inside buildings or the track alleys. The use of propane fueled vehicles or other equipment outside of buildings is permitted with the approval of Fire Services.
- 7.2 Contactor will assure that propane powered vehicles or equipment and propane containers are operated, maintained and stored in accordance with NFPA 58, *Liquefied Petroleum Gas Code*.
- 7.3 Propane cylinders must be refilled off-site.

### **8.0 Fire Lanes and Access**

Access to all buildings, fire lanes, and fire hydrants, sprinkler systems and all sprinkler control valves must be maintained at all times. Fire Services access shall be maintained at 20 feet wide including a clear drive to fire hydrants. Fire hydrants shall be maintained with a 15 foot clear space in all directions. PIV and other fire protection equipment shall be identified and protected. Construction and construction activities that might obstruct Fire Services personnel and vehicles on any of the plant roads, streets, building access, or fire hydrants must first be coordinated and approved by the FBP Plant Shift Superintendent's Office and the FBP Fire Services through the CTR.

### **9.0 Automatic Sprinkler Systems**

Construction locations that are protected by automatic sprinkler systems require special precautions. Equipment, material, or supplies must never be stacked around sprinkler heads in such a manner that discharge and distribution of water is obstructed. A clear space shall be provided per NFPA 1 and 13 of 18 inches from the lowest point of the sprinkler head down to the first material from wall to wall. Sprinkler heads must be kept clean and never covered with paint. Sprinkler piping must not be used for support of ladders, equipment, or other material. Contractor will not close sprinkler control valves. Contact FBP Fire

Services and the CTR if a sprinkler system needs to be taken out of service (permits are required). A clear path, to and around the sprinkler control valves, 4 feet wide shall be maintained.

#### **10.0 Construction Area Housekeeping**

Removal of wastes and debris is to be accomplished on a daily basis to ensure good housekeeping practices and keep the site free from fire hazards. Burning is not permitted within the plant site, and all spoil material is to be disposed of in accordance with the specific provisions contained in the contract documents. Debris and/or new materials will not be stored within 50 feet of structures unless approved by the FBP Fire Services through the CTR. (Per NFPA 1)

#### **11.0 Inspections**

At the end of the work shift the contractor shall inspect the entire work area, and ensure no sources of combustible ignition remains.

#### **12.0 Temporary Heating Devices**

The contractor shall request approval from FBP of all temporary (UL approved) heating devices before delivery of such units to the work area. The request shall include type, number, use, locations, operating instructions and restrictions, methods of fueling, and fuel storage provisions.

#### **13.0 Cooling Tower Restrictions**

No smoking, welding, brazing, spark producing, or presence of any open flame type equipment will be permitted on, or within 50 feet, of the cooling towers.

END OF SECTION