

## CHAPTER 38 – FIRE PREVENTION

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# CHAPTER 38 – FIRE PREVENTION

## A. INTRODUCTION

1. The provisions of this Chapter are intended to prevent loss of life and property to the Smithsonian Institution (SI) through an aggressive fire prevention program.
2. The Chapter establishes fire prevention requirements and measures to minimize the risk from fire.
3. This Chapter applies to all SI facilities including museums, research centers or installations, storage facilities, leased spaces, and equipment; piers, boats, vehicles, tanks or containers, and all other SI facilities or equipment not specifically identified by type.
4. The requirements of this Chapter shall be followed by all SI staff and contractors.

## B. CHAPTER-SPECIFIC ROLES AND RESPONSIBILITIES

### 1. Safety Coordinator

- a. Ensures that the requirements identified in this Chapter are applied throughout the respective museum, facility and/or operation under their purview.
- b. Inspects non-commercial cooking appliances (microwaves, toaster ovens, etc) during the two annual facility self inspections (Safety Coordinator and safety committee) as required by [Chapter 5, "Safety Assessments, Log of Deficiencies and Corrective Action Plans"](#), of this *Manual*, to verify appliances are in proper working condition and do not present a fire hazard.

### 2. Building Manager

- a. Ensures that the requirements identified in this Chapter are being followed within their building or facility.
- b. Ensures that all staff or contractors under their control follow the requirements of this Chapter.
- c. Immediately seeks resolution or correction of issues not complying with the requirements of this Chapter.
- d. Reviews and approves the use of portable appliances and heaters, per the requirements of this Chapter.

### 3. Supervisors

- a. Ensure that all activities under their purview are completed in accordance with the requirements of this Chapter.
- b. Ensure that all building or facility areas under their purview comply with the requirements of this Chapter.

- c. Stops work activities that do not comply with the requirements of this Chapter.

#### **4. Employees**

Adhere to all requirements listed in this Chapter.

#### **5. Office of Protection Services (OPS)**

- a. Report any fire prevention related deficiencies to the appropriate Safety Coordinator and/or Building Manager.
- b. Look for fire prevention hazards (e.g. electric heaters left on) during security officer tours or inspections.

#### **6. Construction Project COTR**

- a. Ensures that all requirements listed in Attachment 1 of this Chapter are followed by all SI staff and contractors, during the course of projects under their purview.
- b. Stops construction, renovation, or repair related activities if the requirements of Attachment 1 of this Chapter are not being followed.
- c. Contacts Office of Safety, Health and Environmental Management (OSHEM) for technical support if questions or issues need to be resolved relating to the requirements of Attachment 1 of this Chapter.

### **C. HAZARD CONTROL**

#### **1. Smoking**

- a. Smoking shall be prohibited in SI-owned and leased space and at entrances to SI-owned or leased buildings in accordance with SI Directive 209 – Smoke-Free Environment.
- b. Smoking shall be prohibited in all SI-owned and leased spaces that are undergoing construction, renovation, or repair.

#### **2. Exhibitory and Decorations**

- a. Decorations shall not be placed where they obstruct access to, or visibility of, exits, fire alarm equipment, or fire fighting equipment.
- b. Lighted candles or other open flames are not permitted as decorations.

Exception: Special events when approved by OSHEM.

- c. Only fire resistant artificial trees and live trees meeting the below criteria shall be permitted indoors. The requirements listed below shall be followed if live trees will be used indoors:

(1) Live trees must include roots and soil in a fabric bag

- (2) Live trees shall not have lights, unless approved by OSHEM. Where lights are approved, they shall be disconnected at the receptacle during periods when no one is present.
- (3) Live trees shall be placed at least 4 feet from stoves, radiators, or other sources of heat.
- (4) Live trees shall be watered daily.
- (5) Trees that have died or become dried-out must be removed immediately.
- (6) Cut trees shall only be permitted with OSHEM approval.
- (7) Lighted candles shall not be used on or near live trees.

### **3. Heat Producing Appliances**

- a. Listing tags shall not be removed from appliances or cords.
- b. All heat producing appliances and cords shall be [UL Listed](#) for their intended use.
- c. Heat producing appliances shall only be used on a non-combustible surface.
- d. Electric portable heaters and cooking appliances shall not be purchased or brought into SI facilities, unless approved in writing by the building or facility manager. Approval of use is based on conformance to the following requirements:
  - (1) The appliance is placed on a noncombustible surface.
  - (2) Cooking appliances shall be used in accordance with the manufacturer's instructions and shall be maintained a minimum of 18 inches from combustibles.
  - (3) A clearance of 3 feet is maintained between combustibles and heaters.
  - (4) All portable heaters shall have an approved automatic tip-over shut-off control.
  - (5) Portable heaters shall have a shut off timer (of adequate amperage suitable for the device) incapable of being set to allow operation for more than 5 hours. Portable heaters shall also be turned off at the end of each day.
  - (6) Portable heaters cannot be plugged into an extension cord or power strip.
  - (7) All appliances have a visual lamp indicating that power is turned on to the unit.
  - (8) Non-commercial coffee makers and hot plates shall be unplugged after use, or shall be provided with a shut-off timer (of adequate amperage suitable for the device) incapable of being set to allow operation for more than 5 hours. A commercial coffee maker is

permitted in lieu of using a non-commercial coffee maker with a shut off timer.

- (9) Coffee makers and hot plates shall not be placed in rooms or areas that cannot be easily checked by OPS and SI staff.
- (10) Existing electrical circuits intended to serve the appliances are capable of handling the heaters or appliances.
- e. The use of liquefied fuel gases (LNG or LPG), such as propane, is prohibited inside SI buildings or facilities
- f. Fuel fired space heaters (e.g. kerosene) shall not be used inside SI buildings or facilities.
- g. High temperature drying ovens and other heat producing equipment that operates at abnormally high temperatures shall be closely monitored and shall not be left unattended. Temperature controls shall be set under the ignition temperature of the material being heated.
- h. Lights used for drying within cabinets, cabinets, or drying boxes, shall be protected with a wire guard to prevent direct contact with combustible materials.
- i. Combustibles shall be maintained clear (minimum of 18 inches) from boilers, dryers, ovens, portable heaters, gas or oil fired burner flames, furnaces, water heaters, hot ducts, mufflers from engines, electric lamps, and irons.

#### **4. Fire Safety During Construction, Tar Kettles and Bituminous Melters**

See Attachment 1 for guidance.

#### **5. Cooking Operations**

- a. Cooking and warming shall be performed in existing kitchen facilities. Warming may be performed in other pre-approved locations, if prior approval is obtained from the Safety Coordinator.
- b. The use of liquefied fuel gases (LNG or LPG propane) is prohibited indoors. Liquefied fuel gases may be used during outdoor events with prior approval from the Safety Coordinator.
- c. Cooking and warming appliances (this includes but is not limited to toaster ovens, hot plates, etc.) shall be inspected annually for safe operation.
- d. A multi-purpose portable fire extinguisher (rated 2A:40BC) must be provided within 30 feet of any heating or cooking operation. A Class K extinguisher shall be provided for any cooking operation that involves frying. Fire protection requirements for commercial kitchen operations are described in [Chapter 36, "Fire Protection"](#), of this *Manual*.

- e. Warming appliances shall be prohibited in storage rooms or other areas that contain concentrated quantities of combustible materials.
- 6. Utility Rooms (i.e. Mechanical rooms, boiler rooms, electrical closets, etc.)**
- a. Combustible materials shall not be stored within utility rooms.
  - b. The highest levels of housekeeping shall be maintained throughout these areas at all times.
- 7. Storage (General, Collections, Information Technology Equipment & Data, and Outside)**
- a. General
    - (1) All storage areas shall be kept clean and free of combustibles not related to the storage. The highest housekeeping standards shall be maintained throughout storage areas.
    - (2) Loose packing materials shall be stored in metal containers with hinged self-closing covers, except when loaded into packaging equipment. Packing materials that are dispensed from gravity or air driven packaging equipment shall be noncombustible or fire retardant. No more than a one-day supply of combustible packing materials shall be stored in collections processing areas.
    - (3) Combustible materials shall not be stored on top of or within 36 inches of heaters, or within 18 inches of lights or other heat producing appliances.
    - (4) Small heat producing appliances such as portable heaters and coffee pots shall not be used within a storage room.
    - (5) Storage shall be maintained at least 18 inches below automatic sprinkler head deflectors.
    - (6) General storage shall not be permitted in mechanical or electrical rooms. Storage incidental to the space, such as a small supply of air filters in a mechanical room, is permitted.
    - (7) All new storage cabinets, shelving, racks, and automatic filing equipment shall be of noncombustible construction.
  - b. Collection Storage
    - (1) Collection storage rooms shall be dedicated for that purpose. Object processing, packing, unpacking, crate and packaging materials storage, research performed on collections, conservation of objects, etc. shall not be conducted in collection storage rooms.
    - (2) Collection containers, crates, padding, dust covers, plastic materials, and humidity buffering substances shall be noncombustible or fire retardant. Examples may include, but are not limited to, fire-retardant lumber, plastics, and expanded foam materials.

- (3) Storage of other combustible, non-collection commodities within these areas shall be prohibited to the greatest extent possible. If combustibles must be stored within the area, they should be within metal storage cabinets or in a separate fire-rated enclosure.
  - (4) Hazardous operations such as hot work (e.g., welding, torch cutting, brazing, etc.) operations shall not be conducted within collection storage areas, unless OSHEM-approved safety precautions are in place. Refer to [Chapter 14, "Hot Work Management and Permit System,"](#) of this *Manual*, for additional hot work information.
  - (5) Storage of cellulose nitrate motion picture film and other cellulose nitrate based materials shall be reported to OSHEM, prior to commencement of storage. Storage of this material shall be in accordance with NFPA 40 – *Standard for the Storage and Handling of Cellulose Nitrate Film*. Cellulose nitrate materials, both suspected and verified, shall be stored away from other combustible materials, in metal cabinets, in a cool well-ventilated area, and must be protected by automatic sprinklers. Additional information is available in Smithsonian Directive 502, which is SI's official policy for cellulose nitrate motion picture film.
- c. Information Technology (IT) Rooms and Data Storage
- (1) The quantity of records within the IT room shall be kept to the absolute minimum required for essential and efficient operation.
  - (2) Vital records shall be duplicated at least every two weeks, but may necessitate daily back-up due to programmatic or mission importance. Duplicates shall be stored in a separate, protected location so that original and duplicates will not be exposed to the same fire. Whenever practical, important records should be similarly duplicated.
  - (3) Only records that are essential to the IT equipment operations shall be permitted to be kept in the IT equipment room. If the records are mission critical or vital in nature they shall be stored in Listed record protection equipment with a Class 150 1-hour or better fire resistance rating. All other records shall be stored in closed metal files or cabinets.
  - (4) IT record storage rooms shall only be used for storage of records.
  - (5) Paper stock, inks, unused recording media, and other combustibles within the IT equipment room shall be kept in totally enclosed metal cases or cabinets.
  - (6) Reserve stocks of paper, inks, unused recording media, and other combustibles shall be stored outside of the IT equipment room.
  - (7) The space beneath a raised floor shall not be used for storage purposes.

- (8) Raised floor panels shall always remain in place, except during maintenance and repair operations.

d. Pallet and Outside Storage

- (1) All unnecessary wooden pallets shall be removed from a building and stored a safe distance from the exterior of the building.
- (2) If pallets must be stored on the interior of a facility they shall be stacked no higher than 6 feet.
- (3) Each pallet pile of no more than four stacks shall be separated from other pallet piles by a minimum of 8 feet or 25 feet from other storage.
- (4) Proposed pallet storage configurations shall be submitted to OSHEM for review and approval.
- (5) Empty wood pallets and combustible materials stored outside a building shall be a minimum of 25 feet from the facility.
- (6) Trash dumpsters shall have metal covers that are kept closed when the dumpster is not in use, shall not be located under metal eaves of a facility, in close proximity to combustible buildings, or adjacent to window openings. They shall be located no less than 15 feet away from a building.

e. Storage of Hazardous Materials

- (1) Flammable and combustible liquids shall be separated from regular combustible storage and must be stored in accordance with NFPA 30 – Flammable and Combustible Liquids Code. The provisions of [Chapter 19, “Chemical Handling and Storage”](#), of this *Manual*, must also be met.
- (2) Quantities of stored flammable and combustible liquids greater than 10 gallons shall be kept in safety cans, liquid storage cabinets, or within flammable liquid storage areas. *Exception:* Flammable liquid quantities stored in dedicated laboratory units may exceed the quantities listed, provided they are maintained in accordance with [Chapter 26, “Laboratory Safety Plans,”](#) of this *Manual* and NFPA 45 – *Fire Protection for Laboratories Using Chemicals*.
- (3) No more than 120 gallons of flammable liquids shall be stored in a single liquid storage cabinet.
- (4) No more than three storage cabinets shall be stored in a single storage area.
- (5) Storage cabinets shall not be vented for fire protection purposes. Vent openings shall be sealed with metal bungs supplied with the cabinet or as specified by the cabinet manufacturer.
- (6) Flammable liquids shall be kept in closed containers when not in use.

- (7) All containers (tanks and drums) which contain a flammable mixture shall be grounded. The ground shall be physically applied or shall be inherently present by the nature of the installation.
- (8) All flammable liquid transfer from metal container to metal container shall include bonding between the containers and grounding from some point in the system.
- (9) Transfer of liquids from drum shall be performed with a Listed or Approved pump or by an Approved self-closing safety faucet. Additionally, drums being used to draw flammable liquids shall be provided with safety vents. Safety faucets with built-in vents are permissible. (Listed and Approved equipment will typically bear the mark of a recognized testing laboratory ([UL](#), [FM](#), [SWRI](#), etc.).
- (10) An approved drip can shall be provided beneath faucets catch spills during transfer operations. Drip cans must be emptied on a regular basis.
- (11) Diking, remote impounding, spill and spread control, or some other means to contain the largest credible flammable/combustible liquids spill shall be provided for storage and dispensing of such commodities.
- (12) The transfer of flammable or combustible liquids from container to container shall be performed in a dedicated flammable liquid storage area. The area shall be well ventilated, shall prevent flammable vapor / air mixture accumulation, and shall be free of ignition sources.
- (13) A drum of flammable or combustible liquid shall be moved only with an approved drum cradle or other approved device.
- (14) Use of portable radios, cell phones, lamps, heaters, computers, and other electrical devices shall be prohibited inside liquid storage rooms, unless the device is approved for use in a hazard location, as defined by NFPA 70 – *National Electrical Code*.
- (15) Explosive materials and oxidizers (e.g. fertilizers, pesticides, sanitizers, etc.) shall be stored outdoors (if possible), and stored separately from combustible materials. If stored in buildings, these materials shall be kept within metal cabinets, away from other materials, and in well-ventilated one-hour fire-rated rooms. In all storage locations, the storage area or room shall be marked as to the hazard of contents. The storage of any potentially explosive material shall be reported to OSHM for review and approval.

#### **D. RECORDS AND REPORTS**

Fire Prevention hazards identified during the self-inspection (including inspection of heat producing appliances) shall be documented and maintained by the Safety Coordinator with the facility self-inspection documentation. This documentation shall be readily available for audit by the OSHM METR inspection team.

## **E. REFERENCES**

1. National Fire Protection Association (NFPA) 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations
2. NFPA 30 – Flammable and Combustible Liquids Code
3. NFPA 58 – Liquefied Petroleum Gas Code
4. NFPA 75 – Standard for the Protection of Information Technology Equipment
5. NFPA 303 – Fire Protection Standard for Marinas and Boatyards
6. NFPA 306 – Standard for the Control of Gas Hazards on Vessels

## Fire Safety During Construction, Tar Kettles, and Bituminous Melters

### 1. Fire Safety During Construction

- a. All SI related construction activities shall adhere to the requirements of NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.
- b. All collections or artifacts within construction areas shall be removed or protected in-place, before construction activities are initiated. All in-place protection shall be facilitated through the use of non-combustible or fire-retardant protective materials, which are approved by OSHEM.
- c. To the greatest extent possible, fire suppression and/or detection systems shall remain in-service and fully functional during construction activities. If the systems must be impaired for any reason, a fire system impairment permit must be obtained and authorized. See [Chapter 36, “Fire Protection”](#), of this *Manual* for fire system impairment guidance.
- d. The means of egress from all construction areas shall be maintained clear of impediments and protected from debris, falling objects, and other obstructions at all times. If a building means of egress must be closed, egress from all portions of the building must be evaluated and alternative routes complying with the NFPA 101 - Life Safety Code shall be provided. If such alternate routes cannot be provided, the affected areas shall be closed.
- e. Fire department access shall be provided for the immediate job site at the start of the project and maintained until project completion.
  - (1) Fire lanes shall be clear and free of obstruction at all times, thus providing usable access to the building and construction site.
  - (2) Fire department connections, post indicator valves, and other exterior fire protection components shall be accessible to the fire department. Signs shall be posted to clearly identify the location of any fire protection feature when visibility is obstructed, or temporary equipment is installed to facilitate protection during construction.
- f. Accumulations of combustible waste material, dust, and debris shall be removed from the job site and its immediate vicinity at the end of each work shift or more frequently if necessary for safe operation.
- g. Trash chutes shall be constructed of non-combustible materials and shall be as straight as practical to avoid accumulations or clogging within the chute.
- h. Commercial trash/waste dumpsters shall be located at least 15 feet away from the building under construction.

- i. Fire extinguishers shall be located throughout the construction area, so that travel distance to an extinguisher does not exceed 50 feet. Contractors are to provide their own portable fire extinguishers, unless specifically stated in contractor's contract.
- j. Flammable and combustible liquids storage and handling shall be in accordance with NFPA 30 – *Flammable and Combustible Liquids Code*, and the requirements below.
  - (1) Storage of Class I and Class II flammable and combustible liquids (as defined by NFPA 30) shall not exceed 60 gallons within 50 feet of the structure, unless within an approved flammable liquids storage cabinet and in a location approved by the COTR and Building Safety Coordinator. Class I and II liquids shall be kept in approved safety containers.
  - (2) Class I liquids shall be dispensed only where there are no open flames or other sources of ignition within the possible path of vapor travel.
  - (3) Flammable and combustible liquid storage areas shall be kept free of weeds, debris, and combustible materials not necessary to the storage.
  - (4) A portable fire extinguisher (minimum rating 2A:40BC) shall be located not more than 50 feet from the flammable liquids storage area.
- k. All hot work operations shall be conducted in accordance with the requirements of [Chapter 14, "Hot Work Management and Permit System"](#), of this *Manual*.
- l. Temporary heating equipment shall be UL Listed or FM Approved, and must be used in accordance with the manufacturer's instructions.
- m. Propane and kerosene heaters shall be prohibited inside buildings and heating equipment shall not be left unattended during operation.
- n. Heating equipment shall be located a minimum of 3 feet away from combustible materials and must be secured.
- o. Refueling of heaters shall occur in an approved manner. This may include allowing the unit to cool down before refueling and/or removal or movement of the unit to a safe area for refueling.
- p. Fuel powered equipment (including propane powered) is prohibited within SI facilities.

## 2. Tar Kettles and Bituminous Melters

- a. Tar Kettles
  - (1) Tar kettles shall not be located on the roof of any SI facility.

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- (2) Tar kettles, associated LP-Gas cylinders, and asphalt shall be located outside a facility and a minimum of 20 feet from any SI facility or structure, and other combustible materials. The tar kettle shall be placed on a non-combustible surface.
- (3) Tar kettles shall be continuously attended by a minimum of one qualified experienced operator knowledgeable of the operations and hazards, during any period of operation. The operator shall be within 25 feet of the kettle at all times, and shall always have the kettle within line of sight.
- (4) A lid that can be closed by gravity shall be provided on all tar kettles.
- (5) A tar kettle shall be charged or loaded in a manner to avoid splashing.
- (6) A vessel shall not be filled closer than 6 inches from the overflow level.
- (7) The tar kettle shall be maintained level when containing molten material.
- (8) The tar kettle shall be equipped with a working temperature gauge.
- (9) A tar kettle shall not be moved while being fired.
- (10) Pipe, tubing, hose and conductors used for hot material from a tar kettle shall be supported when above the ground. Hose, tubing, pipe and conductors running horizontally shall be supported at intervals that will prevent sagging. Connections shall be made with unions or couplings and shall be maintained free of leaks.
- (11) Where a pump unit is mounted on a tar kettle and the fuel container is an integral part of the pump, the pump unit shall be shielded from the tar kettle by a barrier of rigid noncombustible material.
- (12) A minimum of two 2A:40B:C dry chemical fire extinguishers for each tar kettle shall be located within 25 feet, on opposite sides of the kettle. These extinguishers shall be readily accessible at all times in case of an emergency.
- (13) The fuel for a tar kettle or pump motor shall be limited to a quantity necessary for daily tar kettle functions shall be maintained at the work site. This may include LP gas for firing the burner and/or gasoline to fuel the pump motor. Excess fuel shall not be maintained at the SI facility for these operations.
- (14) Used roofing mops and rags shall be cleaned of excessive asphalt and stored away from the building and combustible materials.
- (15) Discarded roofing mops and rags shall not be in contact with combustibles.
- (16) Tar kettles shall not block exits, means of egress, gates, roadways, or entrances. In no case shall kettles be closer than 10 feet from exits or means of egress.

### b. Bituminous Melters

The requirements below address the operation of a hot rubberized asphalt device known as a "melter" when used on the roof of a building. *Note: This is not to be confused with an asphalt tar kettle, which shall not be utilized on the roof of any SI facility.*

- (1) This application shall be limited to buildings constructed with concrete roof decks.
- (2) A site-plan shall be developed showing the intended location for the melter, propane storage location, hazardous chemical locations, and all emergency equipment locations.
- (3) A site-plan, operation procedures, and information on the type melters being used shall be submitted to OSHEM for approval.
- (4) A SI hot work permit shall be obtained prior to initiation of work. All precautions outlined in this standard shall be followed, in addition to the hot work permit requirements. [Chapter 14, "Hot Work Management and Permit System"](#), of this *Manual*.
- (5) The hot work permit shall be posted in the area of the melter operation.
- (6) Storage and handling of the Liquefied Petroleum Gases shall be in accordance with NFPA 58 – *Liquefied Petroleum Gas Code*.
- (7) Only melters approved by OSHEM shall be used.
- (8) Copies of Material Safety Data Sheets and melter manufacturer manual shall be readily accessible on the job site (at roof level), in possession of the crew chief.
- (9) Each melter shall be placed in an approved metal containment system capable of holding at least 125% of the rated contents of the melter.
- (10) All melters, lighted torches or burners shall be attended at all times by a qualified (melter manufacturer trained) responsible (can assume liability for machine) experienced individual. The responsible individual shall remain in the area of the melter for a minimum of one hour after the device is utilized.
- (11) The propane burner shall be secured to the melter so that it cannot slip free from the channel due to vibration, pulling on the supply hose, or other means.
- (12) A minimum of two 4A:40B:C dry chemical fire extinguishers for each melter shall be located within 25 feet, on opposite sides of the melter. These extinguishers shall be readily accessible at all times in case of an emergency.
- (13) Two additional 4A:40B:C dry chemical fire extinguishers for each such melter shall be readily accessible on the roof deck within the construction site.

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- (14) The number of propane cylinders shall be limited to two (2), twenty-pound cylinders per melter. No more than two melters and four cylinders are permitted on the roof at any time. All cylinders shall be secured to prevent them from falling over.
- (15) SPARE PROPANE CYLINDERS SHALL NOT BE PERMITTED ON THE ROOF OF THE FACILITY.
- (16) PROPANE SHALL NOT BE TRANSPORTED THROUGH THE BUILDING INTERIOR AT ANY TIME.
- (17) Propane cylinders not in use for the melter shall be stored a minimum of 30 feet from the melter.
- (18) All propane cylinders shall be removed from the roof deck at the end of each workday. On site ground level storage of cylinders is prohibited, unless approved by OSHM. If approved the locations shall be identified on the site plan.
- (19) Only propane cylinders equipped with excess flow valves and protective shields for the valve bodies shall be used on the roof.
- (20) All torches and burners shall be kept a minimum of 15 feet from in-use propane cylinders at all times. Therefore, all propane hoses shall be a minimum length of 15 feet and inspected each day for any damage. All damaged hoses shall be replaced before beginning operation. All necessary precautions shall be taken to prevent damage to hoses, cylinders, etc.
- (21) All open flames shall be extinguished during re-fueling operations. Smoking shall be prohibited at all times near the melter and propane storage areas, and "on" any SI facility.
- (22) A maximum of five gallons of fuel shall be permitted on the roof. The gasoline shall be kept in a UL Listed or FM Approved safety can and stored so that vapors do not pose a fire or explosion hazard.
- (23) The melter lid shall be kept closed at all times, except to add rubberized asphalt membrane cakes to the melter, in order to control the temperature of the melter and limit the production of smoke and fumes.
- (24) The COTR and Contractor shall work with the Building Manager to ensure that they are familiar with the roof surface application process and identify air intakes into the building that may allow for fugitive fumes to enter the facility. They shall coordinate shut off and re-supply of fresh air into the building. This may include temporarily shutting down certain air intake equipment and/or temporarily covering air intakes so as to make them smoke and odor proof.

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- (25) The contractor staff shall have the capability to activate the closest manual pull station for the fire alarm system, contact the appropriate OPS control room for the respective facility, and/or notify the Fire Department of an emergency at the site.
- (26) Each worker shall be trained in the proper use of fire extinguishers and in the event of a melter fire, how to close the lid, turn off the propane gas, and make notification of via the fire alarm system, telephone to the OPS control room, or summon the fire department.