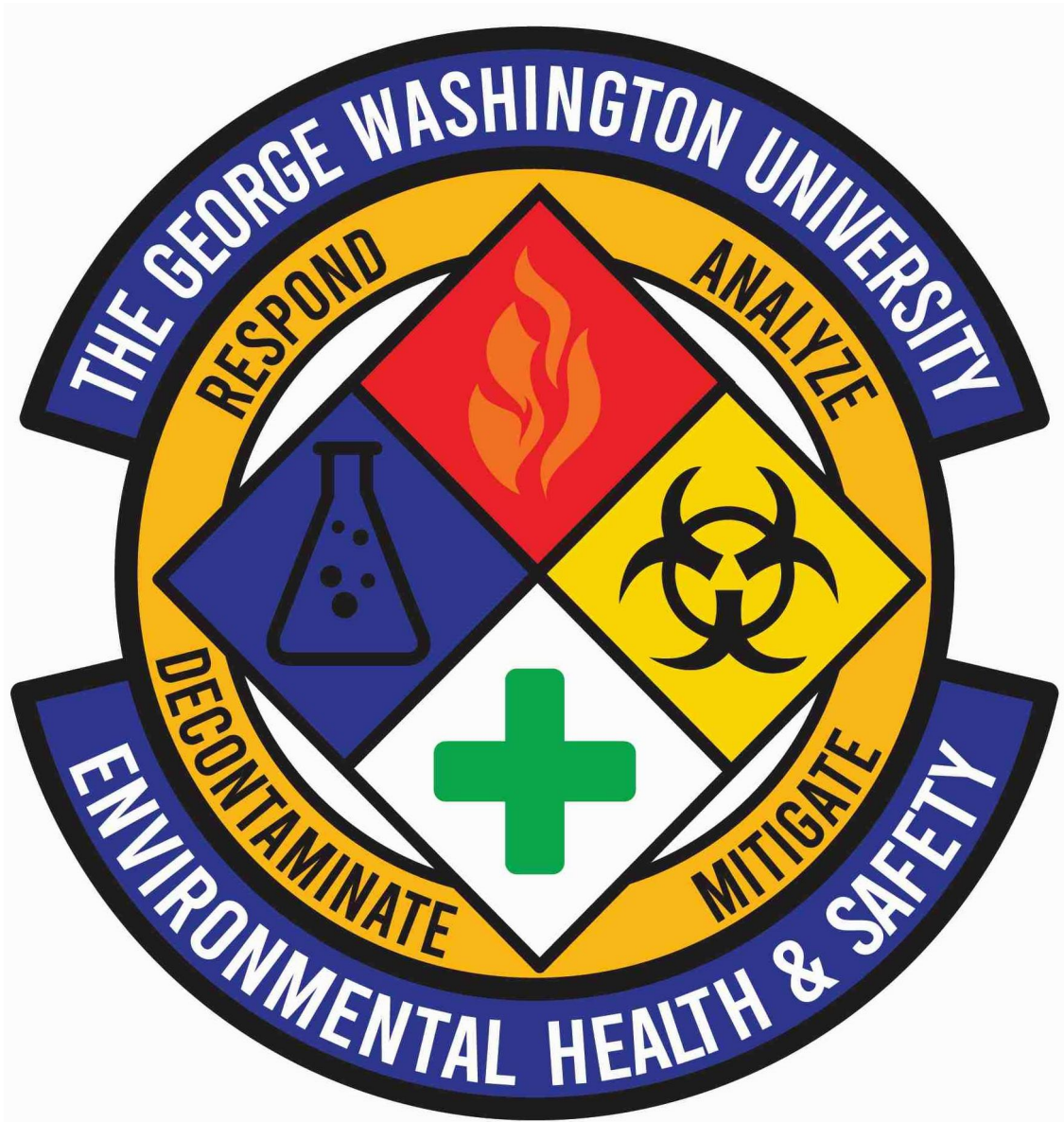


# Fire Prevention Plan

The George Washington University



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# George Washington University Fire Prevention Plan

## I. Objective

The purpose of this Fire Prevention Plan (the Plan) is to provide information and guidance to members of the University community about steps to take necessary to recognize, report, and control major fire hazards to prevent the loss of life and property by fire. This Plan complies with applicable federal, state, and local fire codes.

## II. Background

The George Washington University's (GW) Office of Environmental Health and Safety (EHS) is committed to minimizing the threat of fire incidents to students, staff, faculty, visitors, and property. GW complies with applicable Washington, DC, Loudoun County, VA, and federal laws, regulations, and codes pertaining to fire prevention. This Plan aims to reduce the risk of fires on GW campuses in the following ways:

1. Documenting materials and conditions that are major fire hazards, and methods used to control their handling and storage of hazardous materials;
2. Controlling potential ignition sources and establishing proper control measures for those materials;
3. Tracking fire protection equipment and/or systems to be used to control fire in the facility;
4. Identifying the persons responsible for maintenance of the fire protection equipment and systems installed to prevent or control ignition of fires;
5. Identifying the persons responsible for the control and accumulation of flammable or combustible material;
6. Establishing proper housekeeping procedures necessary to ensure the control of accumulated flammable and combustible waste materials and residues to avoid a fire emergency; and
7. Specifying training requirements for employees regarding the fire hazards to which they may be exposed.

## III. Assignment of Responsibility

Fire safety is everyone's responsibility. All employees and students should know how to prevent a fire and the process for responding to fire incidents. Employees, students, and visitors are responsible for adhering to the [GW Fire Prevention policy](#).

### A. Environmental Health & Safety

The Office of Environmental Health and Safety (EHS), along with the Office of Life Safety, determines GW fire prevention and protection policies. These units have responsibility for establishing and communicating to the university community fire safety standards to provide a safe campus. EHS will provide resources and training to employees and students to encourage fire prevention and the safest possible response to a fire emergency.

### B. Plan Administration

The EHS Director shall manage this Fire Prevention Plan for GW and shall maintain records pertaining to the Plan, including:

1. Develop and administer the GW fire prevention training program ([safety.gwu.edu/training](http://safety.gwu.edu/training)).
2. Coordinate with Life Safety to ensure that records are being generated and maintained pertaining to the inspection, testing, and maintenance of the fire suppression systems.
3. Monitor storage of fuel source hazards.
4. Conduct annual fire safety inspections of all GW-owned buildings and make recommendations to correct deficiencies.

### C. Employees

All employees are expected to:

1. Review the fire prevention plan.



2. Conduct operations safely to minimize the risk of fire.
3. Report potential fire hazards to their supervisors.
4. Follow GW fire prevention policy and emergency procedures.
5. Follow applicable local, state, federal, and GW code and design standards
6. Provide continuous oversight of all contractors
7. Supervisors will notify EHS when changes in operations increase the risk of fire and provide general expectations to be followed during a fire emergency.

#### **D. Contractors**

Contractors working at GW shall follow this Plan. Construction contractors shall also follow the guidelines outlined in the [GW Contractor Safety Manual](#).

These guidelines include but are not limited to:

1. Establishing fire prevention and emergency response procedures before the start of work on all projects.
2. Having all fire prevention and emergency response procedures on-site and made highly visible, along with any other associated documentation (e.g., training records and inspection records), for the duration of work and until consent is received from EHS for removal.
3. Maintaining training records and inspection documentation ensuring that all fires, near-fires, or other incidents that occurred and/or caused a fire extinguisher or fire suppression system to be discharged are reported immediately to a General Contractor/Construction Manager or another contractor representative who must then report to EHS.
4. Having all flammables in containers of less than 10 gallons unless EHS approves otherwise.
5. Ensuring that their employees and subcontractor personnel are aware of and understand the International Code Council and National Fire Protection Association (NFPA) adopted by the DC Fire Marshal's Office.
6. Providing approved portable fire extinguishers of adequate type and capacity, mounting, locating, and identifying them so that they are readily accessible to employees without subjecting the employees to possible injury.
7. Supplying evacuation plans and routes for their employees in case of fire alarm, fire, or any other form of emergency.

The full Contractor Safety Manual can be downloaded from the EHS website at [safety.gwu.edu](http://safety.gwu.edu).

#### **E. Safety Committee**

The GW Safety Committee consists of members from departments and schools throughout the university. The committee reviews GW fire safety programs including but not limited to:

1. Reports from residence hall fire drills;
2. Reports from annual fire alarm/fire suppression testing & maintenance;
3. Reviewing this Plan annually, seeking gaps in the Plan and recommended actions; and
4. Reviewing remodeling and construction of fire and life safety system projects.

### **IV. Roles and Responsibilities**

#### **F. Housekeeping**

To limit the risk of fires, housekeeping staff shall take the following precautions:

1. Minimize the storage of combustible materials, which are materials that pose a significant fire hazard if ignited by a flame, spark, or any other source of ignition.
2. Ensure that doors, hallways, stairs, and other exit routes are kept free of obstructions.
3. When ready to dispose of combustible waste, contact EHS at 202-994-4347 immediately. Combustible waste means any material that is a by-product of a recycling process and poses a significant fire hazard if ignited by a flame, spark, or any other source of ignition.
4. Use and store flammable materials in well-ventilated areas away from possible sources of ignition.



5. Use only non-flammable cleaning products.
6. Keep incompatible materials (i.e., chemically reactive) substances segregated (any questions relating to compatibility, contact EHS).
7. Keep equipment in good working condition (inspect equipment before each use, check for exposed wiring and buildup of grease and dust that could cause a fire).
8. Ensure that heating units are safeguarded. (Space Heaters)
9. Report all gas leaks immediately to GW Emergency Services, EHS, and Facilities, in that order. GW Emergency Services Dispatch will call D.C. or Loudoun County Fire Department.
10. Keep work areas free of dust, lint, sawdust, scraps, and other similar material.
11. Do not use extension cords as permanent wiring. If additional outlets are needed, contact Facilities. Take care not to overload existing electrical outlets with multiple appliances.
12. Turn off all electrical equipment when not in use.

### G. Maintenance

Facilities Planning, Construction, and Management (FPCM) will maintain the university equipment listed below according to manufacturers' specifications. GW will also comply with requirements of the International Code Council and National Fire Protection Association (NFPA) codes for specific equipment. Only properly trained individuals may perform maintenance work.

The following equipment is subject to maintenance, inspection, and testing procedures:

1. Equipment installed to detect leaks and control heating,
2. Pressurized systems,
3. Portable fire extinguishers, automatic sprinkler systems, fire pumps, and fixed extinguisher systems,
4. Detection systems for smoke, heat, or flame,
5. Fire alarm systems, and
6. Emergency backup systems and the equipment they support.

### H. Emergency Evacuation Drills

Emergency evacuation drills are required in residence halls and on a case by case basis in academic buildings by both the DC Fire Code (DCFC) and NFPA. For this Plan, the DCFC will be the governing document.

### I. Fire Watch

A fire watch is a temporary measure intended to ensure continuous and systematic surveillance of a building by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department. Fire watch personnel, defined below, shall remain on duty while places requiring a fire watch are open to the public or when an activity requiring a fire watch is being conducted.

Fire watch can only be placed in effect or removed by EHS or Life Safety. Fire watch must be placed when one of the items below occurs:

- Hot Work
- Fire alarm system is out of service in an occupied building
- When a fire alarm system is placed out of service for an event
- When a fire protection system is out of service

On-duty fire watch personnel shall have the following responsibilities:

- Keep diligent watch for fires obstructions to means of egress, and other hazards.
- Take prompt measures to remediate hazards and extinguish fires that occur.
- Take prompt measures to assist in the evacuation of the public from the structures.

*Please see Appendix H for details on Fire Watch requirements.*



### J. Building-Specific Evacuation Plans

As required, GW has Building-Specific Fire Safety and Evacuation Plans posted. Each plan addresses emergency procedures that may reasonably be expected to affect each building and provide employees, occupants, and coordinating agencies with specific procedures for each type of emergency, and includes the following information:

- Procedures for reporting a fire or other emergency;
- Procedures for emergency evacuation, including the type of evacuation and exit route assignments;
- Procedures to be followed by employees who remain to operate critical building operations before they evacuate;
- Procedures to account for all employees after evacuation;
- Procedures to be followed by employees performing rescue or medical duties (if applicable); and
- The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.

These plans must be updated in the event that there are any changes to the facility, changes in operations, or changes in staffing or responsibilities that may affect the Building-Specific Plan. EHS and the Safety Committee will review plans on an annual basis to confirm that they are current and accurately reflect the required emergency actions and notifications.

EHS offers training for students and employees on the applicable elements of Building Fire & Evacuation Plans.

### K. Fire Alarm Response Procedures

Individuals should familiarize themselves with the building Fire Safety and Evacuation Plan and evacuation diagrams. In general, in the event of an emergency building evacuation, use the following procedures:

1. If you have become aware of a fire or other emergency situation that requires the evacuation of the building, activate the fire alarm by using a manual pull station.
2. If you are unable to activate the fire alarm, contact the GW Emergency Services immediately (202) 994-6111, relaying the situation with as many details as possible. Notify the building occupants of the emergency situation if practicable.
3. Exit the building by way of the nearest safe emergency exit.
4. DO NOT USE elevators during a fire or evacuation.
5. Assist individuals with access or functional needs and those who are unfamiliar with the building evacuation procedures if possible.
6. Assemble at the designated assembly area and await further instruction from emergency response personnel.
7. Immediately report any missing people to emergency response personnel such as GWPD, EHS, or the incident commander from DC Fire and EMS.
8. Do not re-enter the building until advised to do so by emergency response personnel.

The location of designated assembly area for each building is provided in the Building-Specific Fire Safety and Evacuation Plans.

### L. Recordkeeping/Reporting

Records that pertain to the fire protection equipment testing, maintenance, inspection, fire drills, and corrective actions—produced by EH&S, Life Safety or third-party contractor—will be maintained by EHS in accordance with the applicable regulations and GW's Record Retention Policy.

GW publishes an Annual Security and Fire Safety Report as required by OSHA, the Jeanne Clery Disclosure of Campus Security Policy and Crime Statistics Act, also known as the Clery Act, and the Higher Education Opportunity Act. It is prepared in cooperation with local law enforcement, local fire services, GWPD, and EHS. The report can be found here: <https://police.gwu.edu/annual-security-fire-safety-report> The report contains information about,





among other things, emergency procedures and campus fire safety practices and standards of the institution, including in on-campus student housing.

### **M. General Hazards**

The following section addresses the significant fire hazards at GW facilities and the procedures for controlling the recognized hazards. Electrical system failures and the misuse of electrical equipment are the leading causes of building fires. Fires can result from loose ground connections, wiring with frayed insulation, overloaded breakers, fuses, circuits, or outlets.

All portable heaters, where allowed, must be either UL or FM approved appliances. Portable heaters shall have tip-over protection that will automatically shut off the unit if tipped over. Adequate clearance must be provided between the heater and any combustible material (e.g., boxes, bedding, or paper files). Portable heaters must never be plugged into a surge protector, extension cord, or power strip. These units must be plugged directly into a wall outlet.

To prevent fires, abide by the following:

1. Ensure that worn or defective wires are placed out of service and repaired or replaced.
2. Use only appropriate fuses for the equipment in service.
3. Never use extension cords as a replacement for permanent wiring solutions.
4. The use of extension cords is restricted to a period of less than 24 hours unless otherwise approved by EHS. For approval, contact EHS at [Safey@gwu.edu](mailto:Safey@gwu.edu). When in use, extension cords should not be placed behind furniture, under rugs or carpeting, under doors, through walls, or through ceiling spaces.
5. Never use halogen lightbulbs in any GW-owned or leased property.
6. Inspect electrical equipment to verify that it is either properly grounded or double insulated.
7. While performing maintenance, ensure that there is adequate spacing around breakers, fuse circuits, and outlets.
8. All electrical devices used on campus must meet the Underwriter's Laboratory (UL) or FM Global (FM) performance standards and be certified by either organization.
9. Avoid overloading circuits with office equipment. Items such as large copiers, refrigerators, and heat-producing appliances (toaster ovens and coffee pots) should not be plugged into the same circuits.
10. Turn off non-essential equipment at the end of each workday.
11. Keep storage areas clear of trash and remove excess combustible material.
12. Ensure that trash and paper set aside for recycling does not accumulate.

If you have any questions about any of the above, please contact EHS.

### **N. Residence Halls**

The Division for Student Affairs, Campus Living and Residential Education maintains a [Prohibited Items list](#) to keep residents safe.

### **Laundry Facilities**

Laundry facilities are available for resident use and must be kept clean and free of clothing or debris that may act as fuel for a fire. All laundry equipment must be installed, cleaned, and maintained by authorized GW personnel or contractors in accordance with manufacturer's specifications. Individual users of the laundry facilities are responsible for proper usage of the laundry equipment including cleaning or clearing lint traps before and after each drying cycle (where local lint traps are accessible), and use of only approved detergents or additives, timely removal of all personal laundry items, and proper disposal of any waste materials. If laundry equipment appears to be damaged or malfunctioning, submit a [Fix-It ticket](#) to Facilities Services and, if the equipment is deemed unsafe, removed from service until appropriate repairs can be made.



## Cooking

Cooking is permitted only in designated areas or kitchens using appliances approved for the space. Individuals should be familiar with controls of the appliances and know the location of available fire control devices (fire alarm activation stations, fire extinguishers, or local fire control systems for commercial kitchens). At no time is the user permitted to leave the cooking process or a hot appliance or surface unattended.

## Grilling Procedures

Grills may be used at GW provided that the following safety policies are followed:

1. Use grills **OUTDOORS ONLY**, never inside. Ensure that the grill is placed in a well-ventilated area, on stable ground to prevent tip over. Use a grill mat to protect surfaces.
2. All open flame grills (gas or charcoal) must be no closer than 20 feet to a building or any part of a building such as overhangs, porches, and entry doors.
3. Read and understand the instructions provided with the grilling unit prior to operating it.
4. **NEVER** use gasoline or kerosene to start the charcoal.
5. Wear clothing that does not have hanging shirt tails, frills, or apron strings that can catch fire, and use flame-retardant mitts when adjusting hot vents.
6. **NEVER LEAVE THE GRILL UNATTENDED** during grilling operations. Protect the grilling area from unauthorized entry until the initial fire dies down.
7. Keep either a properly charged fire extinguisher, a garden hose, or a bucket of sand close to the grilling operation in case of fire.
8. Properly dispose of all ashes from the charcoal fire. If the coals cannot be allowed to cool down, they should be flooded with water, and properly disposed of in a noncombustible trash receptacle, away from other combustible items.
9. Never attempt to move a hot grill.

### O. Hot Work Permit Program

EHS or Life Safety will ensure that all requirements of the hot work permit are in place including:

1. All necessary hot work permits have been obtained from the EHS or Life Safety department (a sample hot work permit is attached to this Plan as Appendix F) before starting the hot work operations.
2. All hot work permits are to be completed in their entirety and must be legible, especially the printed names and signatures.
3. Once the permit is completed and accepted, it must be posted near the worksite and be visible to inspection personnel. Hot work operations, barricades, and warning signs must be posted and established for others who are unaware of the operations that are being conducted
4. Cutting and welding operations are done by authorized personnel in designated cutting and welding areas whenever possible.
5. Adequate ventilation is provided throughout the operation.
6. Torches, regulators, and pressure reducing valves are UL listed or FM approved.
7. Oxygen-fuel gas systems are equipped with listed and/or approved backflow valves and pressure-relief devices.
8. Cutters, welders, and helpers must wear eye protection and protective clothing as appropriate.
9. Cutting or welding is prohibited in sprinkler areas when the sprinkler system is out of service.
10. Cutting or welding is prohibited in areas where explosive atmospheres of gases, vapors, or dust could develop from residues or accumulations in confined spaces.
11. Cutting or welding is prohibited on metal walls, ceilings, or roofs built of combustible sandwich-type panel construction combustible construction.



12. Confined spaces such as tanks are tested to ensure that the atmosphere is not over 10% of the Lower Flammability Limit (LFL) before cutting or welding in or on the tank.
13. Small tanks, piping, or containers that cannot be entered are cleaned, purged, and tested before cutting or welding operations begin.
14. A fire watch is required during the work and for 1 hour after the work has been completed.
  - a. The fire watch personnel shall have a fire extinguisher of sufficient type and size to extinguish any spot fires that may arise. The fire watch personnel may make use of other fire extinguishers in the area.
15. At the end of the hot work operation, a copy of the completed Hot Work Permit must be delivered to the EHS office. A scanned copy can also be emailed to Safety@gwu.edu.

#### P. Flammable and Combustible Materials

FPCM and EHS shall regularly evaluate the presence of combustible materials in GW-owned buildings (using the form attached to this Plan as Appendix A). Certain types of substances can ignite at relatively low temperatures or pose a risk of catastrophic explosion if ignited. Such materials require special care and handling.

#### Q. Class A Combustible Materials

These substances include common combustible materials (wood, paper, cloth, rubber, and plastics) that can act as fuel and are found in non-specialized areas such as offices.

To handle Class A substances safely:

1. Dispose of waste daily.
2. Keep trash in metal-lined receptacles with tight-fitting covers (metal wastebaskets that are emptied daily do not need to be covered).
3. Keep work areas clean and free of fuel paths that could allow a fire to spread.
4. Keep combustibles away from accidental ignition sources, such as hot plates, soldering irons, or other heat/ spark-producing devices.
5. Don't store paper stock in metal cabinets that contain chemicals or other combustible material.
6. Store rags in metal bins with self-closing lids.
7. Do not order an excessive amount of combustibles.
8. Make frequent inspections to anticipate fires before they start.

Fighting a Class A fire can be accomplished using a multi-purpose (ABC) fire extinguisher or water. Both methods are approved for this class fire.

#### R. Class B Combustible/ Flammable Liquids

Class B fires include flammable and combustible liquids (oils, greases, tars, oil-based paints, and lacquers), flammable gasses, and flammable aerosols. ***Note that kitchen/cooking grease fires are not covered under Class B and require a special extinguisher discussed under kitchen fires Class K.***

To handle Class B combustibles safely:

1. Use only approved pumps, taking suction from the top, to dispense liquids from tanks, drums, barrels, or similar containers (or use approved self-closing valves or faucets).
2. DO NOT dispense Class B flammable liquids into containers unless the nozzle and container are electrically interconnected by contact or by a bonding wire. Either the tank or the container must be grounded.
3. Store, handle, and use Class B combustibles only in approved locations where vapors are prevented from reaching ignition sources such as heating, electrical equipment, open flames, or mechanical or electrical sparks.
4. DO NOT use flammable liquid as a cleaning agent inside a building or other closed structure (an only exception is a closed machine approved for cleaning with flammable liquids).



5. DO NOT use, handle, or store Class B combustibles near exits, stairs, or any other areas normally used as exits.
6. DO NOT weld, cut, grind, or use unsafe electrical equipment or appliances near Class B combustibles.
7. DO NOT generate heat, allow an open flame, or smoke near Class B combustibles.
8. Know the location of and how to use the nearest portable fire extinguisher rated for Class B fires.

**NEVER USE WATER TO EXTINGUISH A CLASS B FIRE CAUSED BY FLAMMABLE OR COMBUSTIBLE LIQUIDS.** Water can cause the burning liquid to spread, making the fire worse. To extinguish a Class B fire caused by flammable or combustible liquid, exclude the air around the burning liquid. Multi-purpose Dry Chemical (ABC) fire extinguishers are approved for Class B fires.

#### S. Class C Fires

Class C fires are classified as any fire involving electrified equipment. Once the electrical hazard is removed by de-energizing the equipment, the class of fire is then related to the type of material burning. Some examples of class C fires include but are not limited to:

1. Electrical transformers.
2. Circuit breaker panels.
3. Energized cooking equipment.

**NEVER USE WATER TO ATTEMPT TO EXTINGUISH A CLASS C FIRE CAUSED BY ELECTRIFIED EQUIPMENT.** A severe electrocution hazard exists. Use dry chemical to extinguish a Class C fire. If dry chemical is not available, remove the power from the device before attempting to extinguish the fire.

#### T. Class D Fires

A class D fire is one that involves combustible metals such as magnesium or titanium. Extinguishing methods with these types of fires can be difficult due to the fact that combustibles such as magnesium can also be water-reactive and will violently react when doused with water. For extinguishing combustible metal fires, a Class D extinguisher, which is specifically designed for combustible metal fires, must be used.

**NEVER USE WATER TO ATTEMPT TO EXTINGUISH A CLASS D FIRE CAUSED BY COMBUSTIBLE METALS.**

#### U. Class K Kitchen Fires

Kitchen fires involving oil or grease mediums require special attention. While they can be extinguished using a dry chemical or CO<sub>2</sub> type agent, the chances of re-ignition are greater than if the proper extinguishing agent is used. Class K potassium acetate type extinguishers work best for this type of fire.

**NEVER USE WATER TO ATTEMPT TO EXTINGUISH A CLASS K FIRE CAUSED BY OIL OR GREASE.**

#### V. Flammable/Combustible Gas

Gasses are typically stored under pressure in metal cylinders, which are designed and constructed to withstand high pressures. Improper handling and usage of compressed gas can result in devastating consequences. The storage and use of flammable gasses shall be in accordance with DCFC Chapter 53 and 58, and NFPA 55. The storage and use of flammable and compressed gasses and amount which do not exceed the maximum allowable quantity per control area must be used and stored in accordance with DCFC Sections 5704. 3.5.4. When bringing flammable/combustible gasses or liquids into campus buildings (e.g., purchasing for use in a laboratory), EHS should be notified in advance so that the amount of flammable liquids in the control area can be determined and tracked.

In addition to the regulatory requirements for the use and storage of flammable and compressed gases, other general compressed gas cylinders storage precautions include:

Cylinders must be secured in an upright position in a safe, dry, well-ventilated place prepared and reserved for that purpose.

- Cylinders must not be kept in unventilated enclosures such as lockers.



- Cylinders must not be stored in the same area as flammable substances such as oil and volatile liquids, or near sources of heat, such as radiators or furnaces.
- Cylinders must not be stored near elevators, gangways, stairwells, or other places where they can be easily knocked down or damaged.
- Cylinders must be stored on a level fireproof floor.
- Empty and full cylinders must be stored separately, with empty cylinders plainly identified as such to avoid confusion.

#### **W. Chemicals**

At GW, several different hazards can be found relating to chemicals that do not fall into the above categories of either flammable or combustible materials. Some of these chemicals are listed below.

#### **Corrosive Materials**

The storage and use of corrosive materials and amounts which do not exceed the maximum allowable quantity per control area must be used and stored in accordance with the DCFC sections 5001, 5003, and 5401. When bringing corrosive materials into campus buildings (e.g., purchasing for use in a laboratory), EHS must be notified in advance so that the amount of corrosive materials in the control area can be determined and tracked. Spills of corrosive material should be cleaned with proper procedures and tools, and EHS notified. If the spill cannot be cleaned, immediately notify EHS.

#### **Oxidizers**

Oxidizing chemicals, including oxidizing gases, have additional fire safety requirements. The storage and use of oxidizing materials and amount which do not exceed the maximum allowable quantity per control area must be used and stored in accordance with DCFC sections 5001, 5003, 6301, and 6303. When bringing oxidizing materials into campus buildings (e.g., purchasing for use in a laboratory), EHS must be notified in advance so that the amount of oxidizing materials in the control area can be determined and tracked.

The storage of oxidizing materials requires automatic sprinkler systems to be installed and designed in accordance with NFPA 430. Additionally, approved smoke detection systems in accordance with DCFC 907 must be placed inside a local alarm upon activation.

#### **X. Types of Fire Extinguishers**

At GW, there are several types of fire extinguishers available on campus, based on the hazards present in that space.

1. Carbon Dioxide fire extinguisher
2. Dry Chemical fire extinguisher
3. Wet Chemical fire extinguisher
4. Clean Agent fire extinguisher
5. Dry Power fire extinguisher
6. Water Mist fire extinguisher
7. Air-Pressurized Water fire extinguisher

#### **Academic and Facility Use of Chemicals**

Academic departments who handle and use chemicals are covered under the Chemical Hygiene Plan (CHP) or research protocols. Facility units are also covered under the Chemical Hygiene Plan and these employees are required to complete lab safety training, in which includes the safe handling, use, storage, and spill response procedures for chemicals used in their day-to-day operations.



**Y. Smoking**

GW is a smoke free campus.

**Z. Training**

EHS team members shall make available fire prevention training to all students, faculty, and staff upon request and maintain documentation of the training to include:

1. Review of emergency action plans, and how it can be accessed.
2. Review of our GW Fire Prevention Plan, and how it can be accessed.
3. Good housekeeping practices.
4. Proper response and notification in the event of a fire
5. Instruction on the use of portable fire extinguishers.
6. Recognition of potential fire hazards.

As required, EHS shall train students, faculty, and staff about the fire hazards associated with the specific materials and processes to which they are exposed and will maintain documentation of the training. Employees will receive this training:

1. At their initial assignment,
2. Annually, and
3. When changes in the work process necessitate additional training.

**AA. Program Review**

EHS and the Safety Committee shall review this Fire Prevention Plan at least annually for necessary changes.



V. Appendix A: GW Fire Risk Survey

Building: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Type of Fire Hazard	Location	Emergency Actions	Required PPE

Inspector: \_\_\_\_\_

Signature: \_\_\_\_\_



**VI. Appendix B: GW General Fire Prevention Checklist**

- Yes  No Is the local fire department acquainted with the facility, its location and any specific hazards?
- Yes  No Are the fire alarm systems tested annually?
- Yes  No Are the interior standpipes and valves inspected regularly?
- Yes  No Are the outside private fire hydrants on routine preventative maintenance and flushed at least once a year?
- Yes  No Are fire doors and shutters in good operating condition?
- Yes  No Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights?
- Yes  No Are the automatic sprinkler system and water control valves, air pressure, and water pressure check regularly or periodically?
- Yes  No Has the responsibility for the maintenance of automatic sprinkler system been assigned to an employee or contractor?
- Yes  No Are sprinkler heads protected by metal guards?
- Yes  No Is proper clearance maintained below the sprinkler heads?
- Yes  No Are portable fire extinguishers provided in an adequate number and type?
- Yes  No Are the fire extinguishers mounted in accessible locations?
- Yes  No Are fire extinguishers recharged regularly with the recharge date noted on an inspection tag?
- Yes  No Are employees periodically instructed in the use of extinguishers and fire protection procedures?

Building: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Inspector: \_\_\_\_\_

Signature: \_\_\_\_\_





**VII. Appendix C: GW Exits Checklist**

- Yes  No Is the exit marked with an exit sign and illuminated by a reliable light source?
- Yes  No Are the directions to exits, when not immediately apparent, marked with visible signs?
- Yes  No Are doors, passageways, or stairways that are neither exits nor accesses to exits, and which could be mistaken for exits, marked "NOT AN EXIT" sign or other appropriate markings?
- Yes  No Are Exit signs provided with the word "EXIT" in letters at least 5" in height and with lettering at least 1" wide?
- Yes  No Are exit doors side hinged?
- Yes  No Are all exits kept free of obstructions and the passageways at least 36" wide?
- Yes  No Are there at least two exits provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable or explosive substances?
- Yes  No Is the number of exits from each floor of the building and the from the building itself appropriate from the building occupancy? (NOTE: DO NOT count revolving, sliding or overhead doors when evaluating if there are sufficient exits)?
- Yes  No Are the exit stairways that are required to be separated from other parts of the building enclosed with at least one-hour fire resistant walls (or two-hour resistant walls in buildings over four stories in height)?
- Yes  No Are the slopes and ramps used as part of the emergency building exits limited to 1 foot in height and 12 feet horizontal span?
- Yes  No Are glass and storm doors fully tempered, and do they meet the safety requirements for human impact?
- Yes  No Can exit doors be opened from the direction of travel without the use of a key, specialized knowledge or force?
- Yes  No Where exit doors open directly onto any street, alley, or another area where vehicles may be operated, are the areas protected with barricades and warnings to the employees to prevent them from stepping into the path of traffic?

Building: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Inspector: \_\_\_\_\_

Signature: \_\_\_\_\_



### VIII. Appendix D: GW Flammable and Combustible Material Checklist

- Yes  No Are combustible scrap, debris, and waste materials such as oily rags stored in covered metal receptacles and removed from the worksite properly?
- Yes  No Are approved containers and tanks used for the storage and handling of flammable and combustible liquids?
- Yes  No Are all connections on drums and combustible liquid piping vapor and liquid tight?
- Yes  No Are all flammable liquids kept in closed containers when not in use?
- Yes  No Are metal drums of flammable liquids electrically grounded during dispensing?
- Yes  No Do storage rooms used for flammable and combustible liquids have appropriate ventilation systems?
- Yes  No Are NO SMOKING signs posted on liquefied petroleum gas (LPG) tanks?
- Yes  No Are all solvent wastes and flammable liquids kept in fire-resistant covered containers until they are removed from the worksite?
- Yes  No Is vacuuming used whenever possible as opposed to blowing of combustible dust?
- Yes  No Are fuel gas cylinders and oxygen cylinders separated by distance or fire-resistant barriers while in storage?
- Yes  No Are the fire extinguishers appropriate for the areas in which they are mounted?
- Yes  No Are the appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquid and within 10 feet of any inside storage are for such materials?
- Yes  No Are extinguishers free from obstructions or blockage?
- Yes  No Are all extinguishers serviced, maintained and tagged with monthly inspections?
- Yes  No Are all extinguishers fully charged and in their designated locations?
- Yes  No Where sprinkler systems are permanently installed, are the nozzle heads directed or arranged so that water will not be sprayed into operating electrical switchgear and equipment?
- Yes  No Are NO SMOKING signs posted in areas where flammable or combustible materials are used or stored?
- Yes  No Are safety cans used for dispensing flammable or combustible liquids at the point of use?



Yes  No Are measures and procedures provided for the proper cleanup of flammable and combustible liquid spills?

Yes  No Are storage tanks adequately vented to prevent the development of an excessive vacuum or pressure that could result from filling, dispensing, or temperature change?

Building: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Inspector: \_\_\_\_\_

Signature: \_\_\_\_\_



**IX. Appendix E: Contact Numbers****EMERGENCY NUMBERS**

In the event of a life-threatening emergency, dial 911 or immediately contact GW Emergency Services at (202) 994-6111. Relay the situation, your location, and as many details as possible to the dispatcher.

**Non-Emergency Contact Numbers**

Environmental Health and Safety (EHS) – 202-994-4347

Facilities Central – 202-994-6706

GW Emergency Services – 202-994-6110




X. Appendix F: Hot Work Permit

# HOT WORK PERMIT

**STOP!**  
**Avoid hot work when possible! Consider using an alternative cold work method.**

This Hot Work Permit is required for any temporary operation involving open flames or producing heat and/or sparks conducted outside a Hot Work Designated Area. This includes, but is not limited to brazing, cutting, grinding, soldering, torch-applied roofing and welding.

Instructions for Permit Authorizer	Part 1			
<ol style="list-style-type: none"> <li>1. Specify the precautions to take.</li> <li>2. Fill out and keep <b>Part 1</b> during the hot work process.</li> <li>3. Issue <b>Part 2</b> to the person doing the job.</li> <li>4. Keep <b>Part 2</b> on file for future reference, including signed confirmation that the post-work fire watch and monitoring have been completed.</li> <li>5. Sign off the final check on <b>Part 2</b>.</li> </ol>	<table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center; border: none;">Y</td> <td style="width: 10%; text-align: center; border: none;">N</td> <td style="width: 80%; border: none;"> <p><b>Required Precautions</b></p> <p><input type="checkbox"/> <input type="checkbox"/> The fire pump is in operation and switched to automatic.</p> <p><input type="checkbox"/> <input type="checkbox"/> Control valves to water supply for sprinkler system are open.</p> <p><input type="checkbox"/> Extinguishers are in service/operable.</p> <p><input type="checkbox"/> Hot work equipment is in good working condition.</p> <p><b>Requirements within 35 ft. (10 m) of hot work</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Shield combustible construction using listed (e.g., FM Approved) welding pads, blankets and curtains.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove or shield nonremovable combustibles using listed (e.g., FM Approved) welding pads, blankets and curtains.</p> <p><input type="checkbox"/> <input type="checkbox"/> Isolate potential sources of flammable gas, ignitable liquid or combustible dust/lint (e.g., shut down equipment).</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove ignitable liquid, combustible dust/lint and combustible residues.</p> <p><input type="checkbox"/> <input type="checkbox"/> Shut down ventilation and conveying systems.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove combustibles and consider a second fire watch on opposite side of floor, wall, ceiling or roof when openings exist or thermally conductive materials pass through.</p> <p><input type="checkbox"/> <input type="checkbox"/> Is work on a combustible building assembly (e.g., torch-applied roofing)? If yes, provide <b>ADDITIONAL REQUIRED PRECAUTIONS</b> below.</p> <p><b>Hot work on/in closed equipment, ductwork or piping</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Isolate equipment from service.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove ignitable liquid and purge flammable gas/vapor.</p> <p><input type="checkbox"/> <input type="checkbox"/> Prior to work, and/or during work, monitor for flammable gas/vapor. LEL reading(s): _____</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove combustible dust/lint or other combustible materials.</p> <p><input type="checkbox"/> <input type="checkbox"/> Is work on/in equipment with nonremovable combustible linings or parts? If yes, provide <b>ADDITIONAL REQUIRED PRECAUTIONS</b> below.</p> <p><b>Fire watch/fire monitoring the hot work area</b>                      Times listed are sufficient for majority. Use Table at back of permit for guidance for combustible concealed cavities, roof work or favorable factors.</p> <p><input type="checkbox"/> Perform a continuous fire watch during hot work.</p> <p><input type="checkbox"/> Perform a continuous fire watch post-work for  <input type="checkbox"/> 1 hour or Other _____ hours.</p> <p><input type="checkbox"/> <input type="checkbox"/> Perform fire monitoring for  <input type="checkbox"/> 3 hours or Other _____ hours.</p> <p><b>ADDITIONAL REQUIRED PRECAUTIONS:</b></p> <hr/><hr/><hr/><hr/><hr/><hr/><hr/><hr/><hr/><hr/> </td> </tr> </table>	Y	N	<p><b>Required Precautions</b></p> <p><input type="checkbox"/> <input type="checkbox"/> The fire pump is in operation and switched to automatic.</p> <p><input type="checkbox"/> <input type="checkbox"/> Control valves to water supply for sprinkler system are open.</p> <p><input type="checkbox"/> Extinguishers are in service/operable.</p> <p><input type="checkbox"/> Hot work equipment is in good working condition.</p> <p><b>Requirements within 35 ft. 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Y	N	<p><b>Required Precautions</b></p> <p><input type="checkbox"/> <input type="checkbox"/> The fire pump is in operation and switched to automatic.</p> <p><input type="checkbox"/> <input type="checkbox"/> Control valves to water supply for sprinkler system are open.</p> <p><input type="checkbox"/> Extinguishers are in service/operable.</p> <p><input type="checkbox"/> Hot work equipment is in good working condition.</p> <p><b>Requirements within 35 ft. (10 m) of hot work</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Shield combustible construction using listed (e.g., FM Approved) welding pads, blankets and curtains.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove or shield nonremovable combustibles using listed (e.g., FM Approved) welding pads, blankets and curtains.</p> <p><input type="checkbox"/> <input type="checkbox"/> Isolate potential sources of flammable gas, ignitable liquid or combustible dust/lint (e.g., shut down equipment).</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove ignitable liquid, combustible dust/lint and combustible residues.</p> <p><input type="checkbox"/> <input type="checkbox"/> Shut down ventilation and conveying systems.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove combustibles and consider a second fire watch on opposite side of floor, wall, ceiling or roof when openings exist or thermally conductive materials pass through.</p> <p><input type="checkbox"/> <input type="checkbox"/> Is work on a combustible building assembly (e.g., torch-applied roofing)? If yes, provide <b>ADDITIONAL REQUIRED PRECAUTIONS</b> below.</p> <p><b>Hot work on/in closed equipment, ductwork or piping</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Isolate equipment from service.</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove ignitable liquid and purge flammable gas/vapor.</p> <p><input type="checkbox"/> <input type="checkbox"/> Prior to work, and/or during work, monitor for flammable gas/vapor. LEL reading(s): _____</p> <p><input type="checkbox"/> <input type="checkbox"/> Remove combustible dust/lint or other combustible materials.</p> <p><input type="checkbox"/> <input type="checkbox"/> Is work on/in equipment with nonremovable combustible linings or parts? If yes, provide <b>ADDITIONAL REQUIRED PRECAUTIONS</b> below.</p> <p><b>Fire watch/fire monitoring the hot work area</b>                      Times listed are sufficient for majority. Use Table at back of permit for guidance for combustible concealed cavities, roof work or favorable factors.</p> <p><input type="checkbox"/> Perform a continuous fire watch during hot work.</p> <p><input type="checkbox"/> Perform a continuous fire watch post-work for  <input type="checkbox"/> 1 hour or Other _____ hours.</p> <p><input type="checkbox"/> <input type="checkbox"/> Perform fire monitoring for  <input type="checkbox"/> 3 hours or Other _____ hours.</p> <p><b>ADDITIONAL REQUIRED PRECAUTIONS:</b></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		
<p>HOT WORK BY</p> <p><input type="checkbox"/> Employee</p> <p><input type="checkbox"/> Contractor _____</p>	<div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold; color: red;">12346219</div>			
<p>DATE _____</p> <p>JOB NUMBER _____</p>				
<p>LOCATION OF WORK (BUILDING/FLOOR/OBJECT)</p>				
<p>WORK TO BE PERFORMED</p>				
<p>NAME OF PERSON PERFORMING HOT WORK</p>				
<p>NAME OF PERSON PERFORMING FIRE WATCH</p>				
I verify the above location has been examined, the Required Precautions have been taken, and permission is authorized for this work.				
<p>PERMIT AUTHORIZER (PRINT AND SIGN)</p>				
<p>THIS PERMIT EXPIRES ON (LIMIT AUTHORIZATION TO ONE SHIFT):</p> <p>DATE: _____ TIME: _____ <input type="checkbox"/> AM <input type="checkbox"/> PM</p>				
<p><b>Note:</b> Emergency notification on back of form.</p> <p><b>Additional FM Global Resources:</b>                      Property Loss Prevention Data Sheet 10-3, <i>Hot Work Management</i>                      Hot Work Permit form (F2630) via <a href="http://fmglobalcatalog.com">fmglobalcatalog.com</a>                      Online training at <a href="http://training.fmglobal.com">training.fmglobal.com</a>                      FM Approved equipment via <a href="http://fmapprovals.com">fmapprovals.com</a></p>				
	<p>F2630 © 2018 FM Global.                      (Rev. 11/2019) All rights reserved.</p>			



**XI. Appendix G: Fire Suppression Equipment List (Residence Halls)**

Building	Mandatory Supervised Annual Fire Drills	Smoke Detectors	Exit Signs	Sprinkler System	Manual Pull Stations	Fire Pump	Connected to Central Monitoring Station	Fire Doors & Fire Walls	Strobe Evacuation Alarms	Audible Evacuation Alarms	Voice Evacuation Alarm



## **XII. Appendix H: Fire Watch Implementation Procedures**

Where utilized, fire watches shall be provided with not less than one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

Per NFPA and DCFC, a fire watch includes but is not limited to the following:

1. A licensed monitoring, security/Law enforcement or life safety personal to provided fire watch duties, and notation that personnel will only be utilized for fire watch duties. Residents of buildings, janitorial staff, and maintenance personnel will not meet this requirement.
2. Estimated duration of fire watch, estimated time for completion of repairs, estimated time for removal of hazardous conditions, or other specific situations which required the implementation of the fire watch.  
Note: In general fire watch in residential buildings will remain in place for 24 hours a day, and for commercial buildings will only be required while the building is occupied. The duration of the fire watch will be approved by EHS.
3. Methods that will be utilized for identifying the fire watch personnel. The method of identification can be a uniform, vest, armband, highly visible shirt, or any other approved means.
4. Methods of communication to be used by fire watch personnel. Fire watch personnel are required to have radio communications between each other. This may be accomplished by the use of direct connect wireless, portable radios, etc.
5. Procedure to be used to rapidly notify the Fire Department and building occupants in the event of an emergency. Fire watch personnel shall not congregate at a central location, but should move about their assigned area constantly monitoring for hazardous conditions. (fires or potential situations which could create a fire)
6. Number of personnel required to sufficiently conduct inspections of all areas of the building, and allow for employee breaks. Fire watch personnel shall check all portions of the building at least hourly. More frequent checks may be mandated if required by EHS. Special attention shall be paid to storage areas, janitor closets, utility spaces, basements, attics, penthouses, etc. and other normally unoccupied areas. The number of personnel required will vary depending upon factors such as, building size, and layout, impairment, level of risk, and compensatory measures. In general, the minimum number is as follows:
  - a. One fire watch person for every two floors of a building
  - b. One fire watch person for the main front desk, alarm panel room, or centralized location with a hard-wired telephone for calling Emergency dispatch center.
  - c. One additional person shall be required for each (six) personnel to maintain watch during breaks for various reasons.
  - d. Under no circumstances will one person be acceptable for providing fire watch due to the aforementioned reason.
  - e. The final determination as to the required number of persons will be determined by EHS.
7. Identification of inspection routes to be utilized by fire watch personnel. Note: No partial fire watch patrols are permitted. The entire building must be patrolled.
8. Experience of personnel being utilized for fire watch. Fire watch personnel shall be familiar with the property being protected, including: hazards, occupancies, fixed fire protection systems, manual and automatic detection and alarm systems.
9. Provide method to be utilized to record history of fire watch activities. (Provide example of log book, inspection forms, etc.)

