Fire Prevention and Control

(rev 12-2018)

30.1 PURPOSE

The purpose of this plan is to protect employees, facilities, and work sites from the dangers of fire. T.A. Woods Company has developed a fire prevention plan to reduce the risk of potential injuries, death, and property damage. This plans purpose is to identify and control fire hazards.

30.2 RESPONSIBILITIES

Management, specifically Safety, is responsible for see the fire prevention and control procedures are established and enforced; fire suppression equipment is inspected and maintained; supervisors and designated employees are trained in the use of fire extinguishers for incipient fires; and employees are trained to use evacuation routes and procedures.

Supervisors are responsible for following the Fire Prevention plan, for monitoring the use of flammable and combustible materials, training employees in the safe storage, use, and handling of flammables; ensuring appropriate storage of flammables and combustibles; assessing additional site based hazards through the completion of a Job Hazard Analysis prior to the onset of work tasks, implementing an Emergency Action Plan for the work site and training employees regarding the Emergency Action Plan.

Employees are responsible for following company procedures for the safe storage, use and handling of flammable and combustible materials, following safe work practices, and reporting violations of the fire prevention plan.

30.3 FIRE CLASSIFICATION

The Fire Triangle consist of 3 elements needed to ignite a fire: heat, fuel, and oxygen.

Fires can be classified according to the type of fuel or material;

- Class A - wood, paper, cloth
- Class B - flammable gases, liquids, greases
- Class C - fires in live electrical equipment or involving materials near electrically powered equipment
- Class D - combustible metals such as magnesium, potassium, and sodium

30.4 TYPES OF HAZARDS

The following sections address the major workplace fire hazards at T.A. Woods Company, including office facilities, the fabrication facility, work sites, and lay down or storage areas.

30.4.1 *Electrical Fire Hazards*

Electrical system failures and the misuse of electrical equipment are leading causes of workplace fires. Fires can result from loose ground connections, wiring with frayed insulation, or overloaded circuits, motors, or outlets.

To prevent electrical fires, employees will:

1. Make sure worn wires are replaced
2. Use only appropriately rated circuits
3. Use only UL approved extension cords and only all-weather cords on project sites and lay down yards
4. Check electrical equipment and tools to ensure proper grounding or double insulated

30.4.2 *Portable Heaters*

All portable heaters shall be approved for use. Portable electric heaters will have tip over protection and automatically shut off when the unit is tipped over. There will be adequate clearance between the heater and combustible furnishings or other materials.

Flame heaters such as torpedo heaters, kerosene heaters, and similar are prohibited form use on all TAW property including project sites and lay down yards.

30.4.3 *Office Fire Hazards*

Fire risks are not limited to facilities and project sires. Fires in office have become more likely due to increased use of electrical equipment. To prevent office fires, employees will:

1. Avoid overloading circuits with office equipment

2. Turn off nonessential electrical equipment at the end of each work day
3. Keep storage areas free of rubbish
4. Ensure extension cords are not placed under carpets or rugs
5. Ensure trash, paper, and debris are disposed of properly

30.4.4 *Cutting, Welding, and Open Flame Work*

Responsible employees, namely supervisors and those leading cutting, welding, or open flam work will ensure all procedures are in place before beginning work.

1. All necessary hot work permits have been obtained prior to the start of work and are maintained on site
2. Cutting and welding are done by authorized employees in designated area whenever possible
3. Adequate ventilation is provided
4. Torches, regulators, pressure-reducing valves, and manifolds are UL listed or manufacturer approved
5. Oxygen-fuel gas systems are equipped with listed and/or approved backflow valves and pressure-relief devices
6. Cutters, welders, and helpers are wearing the appropriate eye and/or face protection, hand protection, protective clothing and other PPE as dictated by work tasks
7. Cutting and welding is prohibited in areas where explosive atmospheres of gasses, vapors, or dust could develop from residues or accumulations in confined spaces
8. Cutting or welding is prohibited on metal walls, ceilings, or roofs built of combustible sandwich-type panel construction or having combustible covering
9. Confined spaces such as tanks are to be tested to ensure is safe for any type of flame work
10. Small tanks, piping, or containers that cannot be entered are cleaned, purged, and tested before cutting or welding begins on them
11. A fire watch has been established

30.4.5 *Flammable and Combustible Materials*

Certain types of substances can ignite at relatively low temperatures or pose a risk of catastrophic explosion if ignited. Such substances obviously special care and handling

1. <u>Class A Combustibles</u> include common combustible materials such as wood, cloth, rubber, and plastics that can act as fuel and are commonly found in offices, project sites, fabrication facility, lay down yards, and company vehicles.

   To handle Class A combustibles safely:

a. Dispose of waste daily
b. Keep work areas clean and free of fuel paths that could allow a fire to spread
c. Keep combustibles away from accidental ignition sources such as heat or spark producing devices
d. Make frequent inspections to prevent fires

Water, multi-purpose dry chemical (ABC) and halon 1211 are approved to extinguish agents for Class A combustibles.

2. Class B Combustibles and Flammables include liquids such as oils, greases, tars, oil-based paints, and lacquers, flammable gases, and flammable aerosols.

   To handle Class B substance safely:
   a. 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
   b. 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
   c. Store, handle and use Class B combustibles only in approved locations where vapors are prevented from reaching ignition sources such as heating or electric equipment, open flames, or mechanical or electrical sparks
   d. Do not use a flammable liquid as a cleaning agent inside a building
   e. Do not weld, cut, grind or use unsafe electrical appliances, tools, or equipment near Class B combustibles
   f. Do not generate heat, allow an open flame or smoke near Class B combustibles
   g. Know the location of and how to use the nearest portable fire extinguisher rated for Class B fires

Water should not be used to extinguish Class B fires caused by flammable liquids. Water can cause burning liquid to spread, making the fire worse. To extinguish a fire caused by a flammable liquid, exclude the air around the burning liquid. The following fire extinguishing agents are approved for Class B combustibles: carbon dioxide, multi-purpose dry chemical (ABC), halon (Note: Halon has been determined to be an ozone depleting substance and is no longer manufactured. Existing systems using halon can be kept in place)

30.4.6 *Tobacco and E-Cig Smoking*

Smoking is prohibited in all company buildings, facilities, project-site offices including trailers, storage connex or other temporary storage containers, company vehicles, and specific areas as designated by TAW, the controlling contractor, or the host employer.

Certain outdoor areas may be designated as smoking areas. These will be marked accordingly. Smokers are responsible for the safety associated with these areas by ensuring smoking materials are extinguished prior to exit and ensuring smoking materials are disposed of in the proper containers.

30.5 WARNING AND EVACUATION

At the time of a fire emergency, employees should know the warning signals and the direct evacuation routes.

In the event of fire on site where T.A. Woods Company is the controlling contractor, company offices and facilities, all workers will exit the building and report to the designated Rally Point. Subcontractors are expected to do the same. No readmittance to the site until cleared by the responding fire department authority and TAW Safety.

30.5.1 Warning

The following types of warning systems will be used by T.A. Woods Company to notify employees of a fire and the need to evacuate to the predesignated evacuation relocation point.

Facility Evacuation Warning Systems

Type of Warning	Meaning	Duration
Alarm System	Tone	Determined by host employer
Radio	Verbal	N/A
Word-of-Mouth	Verbal	N/A
Air Horne	Blasts	3X, 30 second break, repeat

Note 1. Evacuate immediately to the Rally Point.
Note 2. Evacuate, begin roll call, determine injured/missing.
Note 3. DO NOT RETURN TO THE BUILDING

30.5.2 Evacuation

All employees will adhere to the following schedule for evacuation and relocation.

30.5.3 Facility Evacuation

The complete dispersal by host or controlling employer of all workers from the work area.

30.5.4 Site Evacuation

Evacuation of work site determined by controlling contractor or TAW. .

a) **Buddy System:** Fellow employees should be made aware of handicapped employees who may need extra assistance, such as using the buddy system, and of hazardous areas to be avoided during emergencies. Before leaving, should check rooms and other enclosed spaces in the workplace for employees who may be trapped or otherwise unable to evacuate the area

30.5.4 Rally Point

After evacuation to the Rally Point, supervisor will take attendance.

30.5.4 Evacuation Procedures

In the event the warning system is activated or advised to evacuate the facility or site, employees will be trained in the following evacuation procedures:

- Panic kills. If you're calm it will help others. Walk quickly, but do not run
- Move quickly in the opposite direction of known hazards towards the nearest unobstructed exit
- Notify workers along the way to exit, talk later
- Once outside, locate to the designated Rally Point
- Report to your supervisor or designated representative of TAW
- Notify your supervisor of missing or injured employees
- Refer media representatives to designated Safety/HR or Owner
- Do not re-enter the building unless authorized

30.5.5 Means of Egress

All facilities and buildings belonging to T.A. Woods Company will meet as a minimum the basic building codes required for safety and health. This section details general fundamental requirements essential to providing a safe means of egress from fire and like emergencies.

Active work sites will follow the directives of the host employer or controlling contractor. If TAW is the controlling contractor, direct paths of egress will be maintained in order for workers to safely exit the structure.

Strides will be taken to ensure stairways, door openings and direct exit routes are maintained clear of debris and obstructions.

30.6 PORTABLE FIRE SUPPRESSION EQUIPMENT

The requirements of this section apply to the placement, use, maintenance, and testing of portable fire extinguishers provided for the use of employees of TAW (this section does not apply to extinguishers provided for use on the outside of workplace buildings or structures).

30.6.1 General requirements. T.A. Woods Company will provide portable fire extinguishers and will mount, locate and identify them so that they are readily accessible to employees without subjecting the employees to possible injury.

30.6.2 Only approved portable fire extinguishers will be used to meet the requirements of this section.

30.6.3 T.A. Woods Company will assure that portable fire extinguishers are maintained in a fully charged and operable condition and kept in their designated places at all times except during use.

30.6.4 Selection and distribution. Portable fire extinguishers will be provided for employee use and selected and distributed based on the classes of anticipated workplace fires and on the size and degree of hazard which would affect their use.

a) <u>Class A fires.</u> Class A fires are classed as ordinary combustibles or fibrous material, such as wood, paper, cloth, rubber and some plastics. Portable fire extinguishers for use by employees on Class A fires will be distributed so that the travel distance for employees to any extinguisher is 75 feet (22.9m) or less.

b) Class B fires. Class B fires are classed as flammable or combustible liquids such as gasoline, kerosene, paint, paint thinners and propane. Portable fire extinguishers for use by employees on Class B fires will be distributed so that the travel distance from the Class B hazard area to any extinguisher is 50 feet (15.2m) or less.

c) Class C fires. Class C fires are classed as energized electrical equipment, such as appliances, switches, panel boxes and power tools. Portable fire extinguishers for use by employees on Class C fires will be distributed so that the travel distance from the Class C hazard area to any extinguishing agent is 50 feet (15.2m) or less.

d) Class D fires. Class D fires are classed as certain combustible metals, such as magnesium, titanium, potassium, and sodium. Portable fire extinguishers or other containers of Class D extinguishing agent used by employees will be distributed so that the travel distance from the combustible metal working area to any extinguishing agent is 75 feet (22.9m) or less.

e) Portable ABC fire extinguishers must be attached to all operating equipment including man lifts, excavation equipment, material lifts, welding machines, and fork lifts.

30.6.5 Inspection, maintenance and testing. T.A. Woods Company will be responsible for the inspection, maintenance and testing of all portable fire extinguishers used by the company.

a) Monthly inspections. Portable extinguishers or hoses used in lieu thereof will be visually inspected monthly and documented.

b) Annual maintenance check. Portable fire extinguishers will be subjected to an annual maintenance check and documented. T.A. Woods company will record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less.

c) Hydrostatic testing. T.A. Woods Company will assure that a qualified vendor with suitable testing equipment and facilities perform hydrostatic testing. Alternate equivalent protection will be provided when portable fire extinguishers are removed from service for maintenance and recharging.

d) In addition to an external visual examination, an internal examination of cylinders and shells by a qualified vendor will be made prior to being tested or subjected to hydrostatic tests.

30.6.5 Training and education. Where portable fire extinguishers for employee use are provided in the workplace, T.A. Woods Company will also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.

30.07 T.A. WOODS COMPANY FIRE PREVENTION POLICY

- Supervisors are instructed to contact 911 in the case of an emergency.
- Supervisors will ensure that alarm systems are tested on a regular basis to ensure the system is in working order.
- A monthly self-inspection will be conducted to identify and correct recognizable fire hazards.
- Inspections of fire extinguishers and hose stations will be conducted on a monthly basis to identify and correct recognizable fire hazards.
- Exit doors, approved hardware and lock devices, exit signs, passageways, and means of emergency exit will be inspected on a daily basis to ensure their working condition and unobstructed access. Padlocking of a designated fire exit door is prohibited.
- Procedures will be established to control the receipt, storage, handling and use of flammable liquids. The use of safety cans for handling separate storage of flammables, minimizing concentrations, and proper identification of containers are typical procedures that will be enforced.
- Procedures will be established for reporting and investigating fire and other incidents.

- The training of selected personnel in the use of fire extinguishers will be accomplished on a periodic schedule

- Fire drills will be carried out in accord with a regular periodic schedule.

- Proposed changes in facilities' layouts, materials, operations, and constructions will be reviewed by unit safety and fire prevention personnel as early in the planning stage as possible in order to establish the necessary fire prevention measures.

- All personnel will:

  a) Evacuate immediately when told to do so.
  b) Take whatever immediate steps are necessary and feasible to minimize any hazard in leaving the work area unattended.
  c) Not use elevators for evacuation purposes.
  d) Assemble at the designated Rally Point for attendance check.
  e) Not reenter the building until the "all clear" signal sounds or responsible authority gives similar verbal instructions.

- Supervisors will:

  a) Direct the evacuation of their area and account for personnel
  b) Advise the responding authority of the situation and warn of potentially hazardous conditions.

LOCATIONS AND TYPES OF PORTABLE FIRE EXTINGUISHERS

Location	Circle Type Extinguisher	Number	Last Annual Check	Remarks
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
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______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________
______________	A B C D H	_______	__________	__________

Class A Fire Extinguishers. Use on ordinary combustibles or fibrous material, such as wood, paper, cloth, rubber and some plastics. Travel distance for employees to any extinguisher is 75 feet (22.9m) or less.

Class B Fire Extinguishers. Use on flammable or combustible liquids such as gasoline, kerosene, paint, paint thinners and propane. Travel distance from the Class B hazard area to any extinguisher is 50 feet (15.2m) or less.

Class C Fire Extinguishers. Use on energized electrical equipment, such as appliances, switches, panel boxes and power tools. Travel distance from the Class C hazard area to any extinguishing agent is 50 feet (15.2m) or less.

Class D Fire Extinguishers. Use on combustible metals, such as magnesium, titanium, potassium and sodium. Travel distance from the combustible metal working area to any extinguishing agent is 75 feet (22.9m) or less.