

# *Fire Protection Safety - Initial*

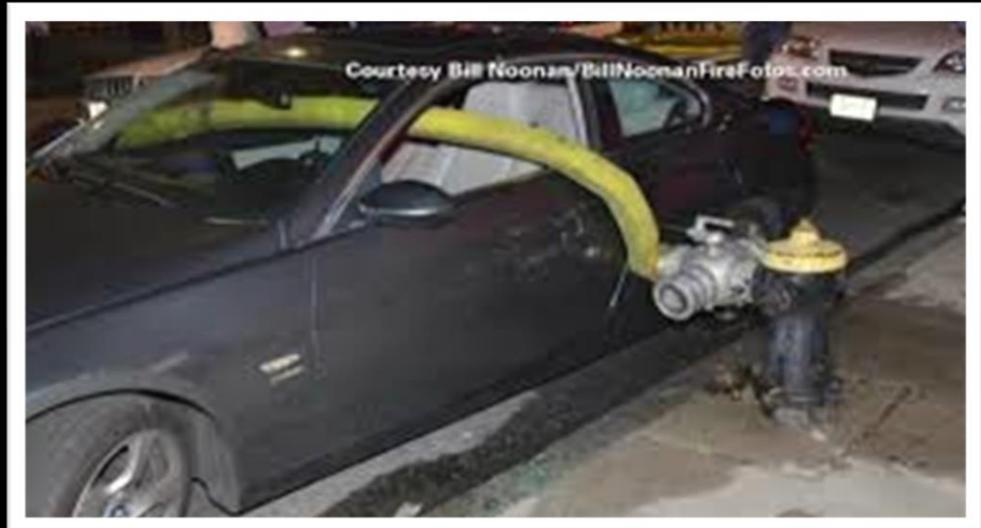
## *Course Number TO 60.18*

This document has been reviewed by a CNS Dual Authority DC/RO and confirmed to be UNCLASSIFIED and contains no UCNI.  
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# WIIFM

In the event of a fire it is imperative that you know your plan for survival. If you choose to use an extinguisher, you must also know how to do so for your protection and others around you.





It is important to follow the rules ...  
Sometimes the reasons are more obvious than others.

# Terminal Objective

After a classroom presentation, the student will be able to identify the established basic fire safety and fire protection systems.

# Enabling Objectives

- EO 1 - Identify the five classes of fire
- EO 2 - Identify the different types of portable fire extinguishers
- EO 3 – Identify the proper procedure for reporting a fire
- EO 4 – Identify the Fire Protection Objectives
- EO 5 – Identify the proper steps required to successfully use a portable fire extinguisher
- EO 6 – Identify fire barriers and whom to notify if a fire barrier is found out of place
- EO 7 – Identify transient fire load and how it affects fire growth
- EO 8 – Identify site fire protection systems
- EO 9 – Discuss site smoking policy

# Pantex Fire Department

State of Texas certified Firefighters/EMT's

On duty 24 hours a day, 365 days per year

Contact Numbers:

- EMERGENCY - [477-3333](tel:477-3333)
- Non-Emergency - 477-4454

Fire Department Support Team –

- Plant employee Volunteers who are trained to assist in the event of emergencies.

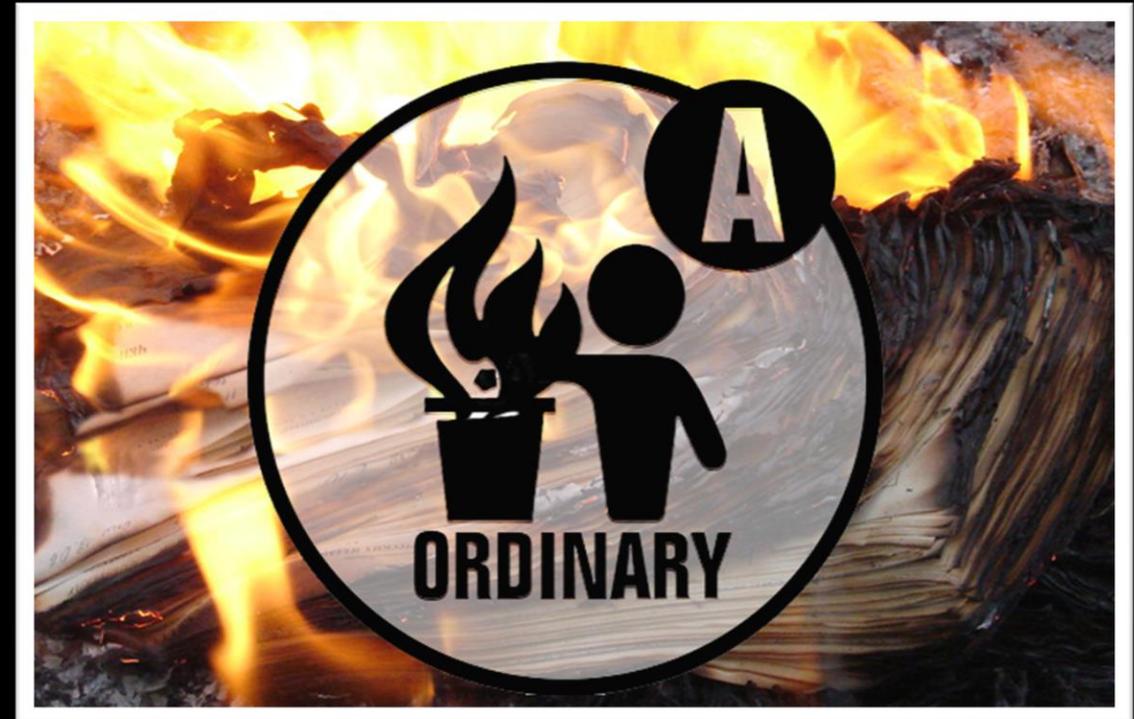
# EO 1 – Identify the five classes of fire.

## Class A

Ordinary combustibles

Leaves an ash product

- Wood
- Paper
- Leaves
- Some Plastics



# EO 1 – Identify the five classes of fire.

## Class B

Flammable liquids

Things stored in barrels

- Hydrocarbons
- Gasoline
- Diesel
- Solvents





# EO 1 – Identify the five classes of fire.

## Class C

Electrically energized



# EO 1 – Identify the five classes of fire.

## Class D

- Combustible Metals
  - Sodium, Magnesium, Lithium
- These fires liberate tremendous amounts of energy and react unpredictably when extinguishing agents are applied



# EO 1 – Identify the five classes of fire.

## Class K

Kitchen fires

- Cooking oils and fats



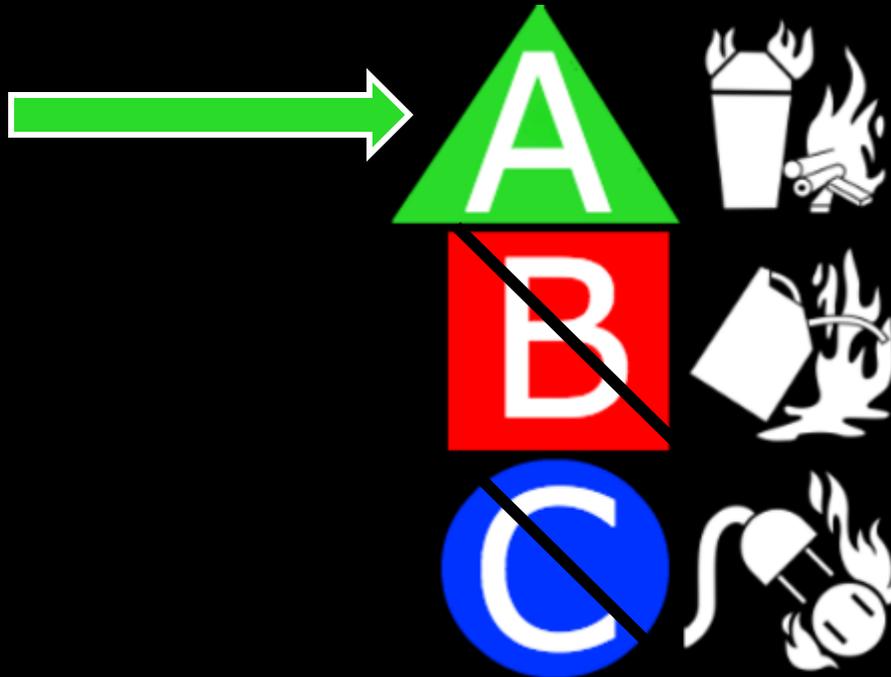
# EO 2 – Identify the type of portable fire extinguishers.

## Multipurpose ABC Dry Chemical



# EO 2 – Identify the type of portable fire extinguishers.

Pressurized Water Fire Extinguisher  
Class A fires only



# EO 2 – Identify the type of portable fire extinguishers.

## Class D – Metal Fire Only Dry Powder

- For flammable metals

**REMEMBER ...**

*Only to be used by  
personnel with  
specialized training*



# EO 2 – Identify the type of portable fire extinguishers.

Class K fires only  
Wet Chemical



# EO 2 – Identify the type of portable fire extinguishers.

Carbon Dioxide *can be* an *asphyxiant*

- Carbon Dioxide Fire Extinguishers are not used as a *principal* extinguishing agent at any DOE Facility





## EO 2 – Identify the type of portable fire extinguishers.

Halotron is used in specified areas. (Fixed system.)



## EO 3 – Identify the proper procedure for reporting a fire.

Notify personnel in the affected area by pulling the manual fire alarm and yelling ...

***Fire !!!***

Notify the Fire Department by calling ...

**477-3333**

If located at JCDC or Y-12, call **911** from a landline

## EO 3 – Identify the proper procedure for reporting a fire.

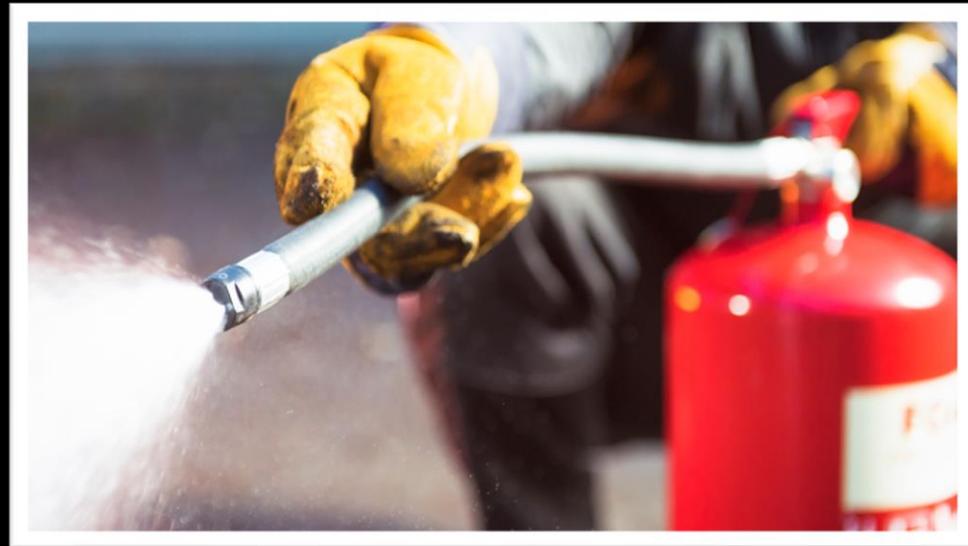
If the fire is small, notify the fire department then you can voluntarily use the appropriate fire extinguisher or evacuate.

If the fire is large, evacuate the facility and get to the nearest muster station.

If you smell smoke, call the fire department.

## EO 4 – Identify the Fire Protection Objectives

1. Life safety of personnel in the area.
2. Life safety of the person using the extinguisher.
3. Preservation of structures.
4. Preservation of the environment.



## EO 5 – Identify the proper steps required to successfully use a portable fire extinguisher

Consider safety factors before attempting to use a portable fire extinguisher:

- Never let the fire block your exit
- Ensure the fire is contained to a small area
- Understand the operation instructions for the fire extinguisher

Hold the extinguisher about 3-13 feet from the fire.

# EO 5 – Identify the proper steps required to successfully use a portable fire extinguisher

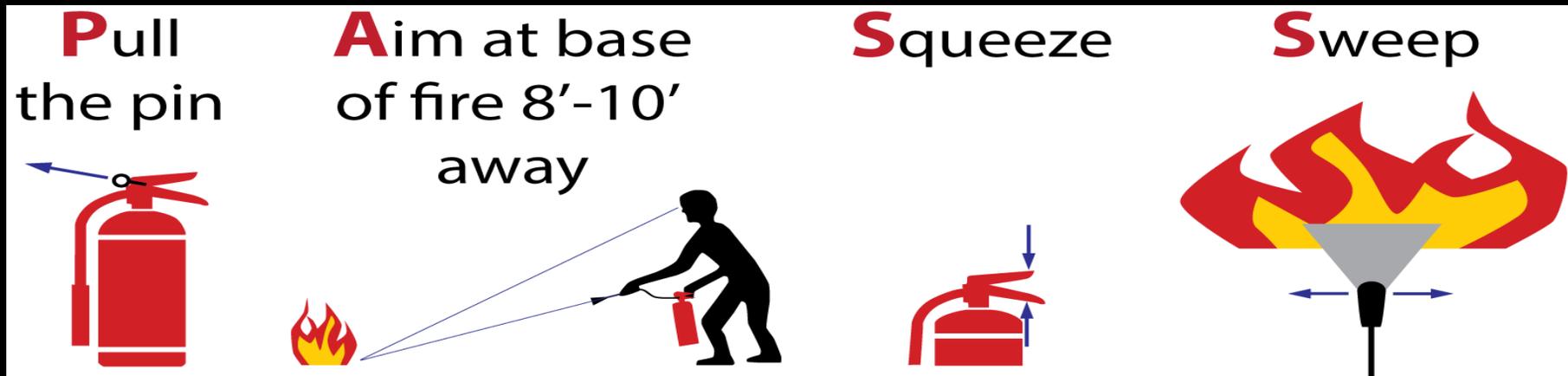
## The **PASS** Method

**Pull** the pin from the handle

**Aim** the nozzle at the base of the fire

**Squeeze** the discharge handle

**Sweep** the nozzle back and forth at the base of the fire



## EO 5 – Identify the proper steps required to successfully use a portable fire extinguisher

After using a fire extinguisher:

- *Back away from the fire area*
- *Lay the fire extinguisher on it side on the ground*
- *Leave through your escape route and report to the muster station.*

## EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place

Fire barriers must be in place to ensure that:

- Threats to the public or the environment resulting from fires are reduced.
- There are no undue hazards to employees from a fire.
- Vital DOE programs will not suffer unacceptable delays as a result of a fire.
- Property damage will be held to a minimum.



# EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place

## Fire Walls

Designed for stability as well as fire resistance  
Must contain the fire and products of combustion on the side of origin

- Smoke
- Heat
- Fire gasses

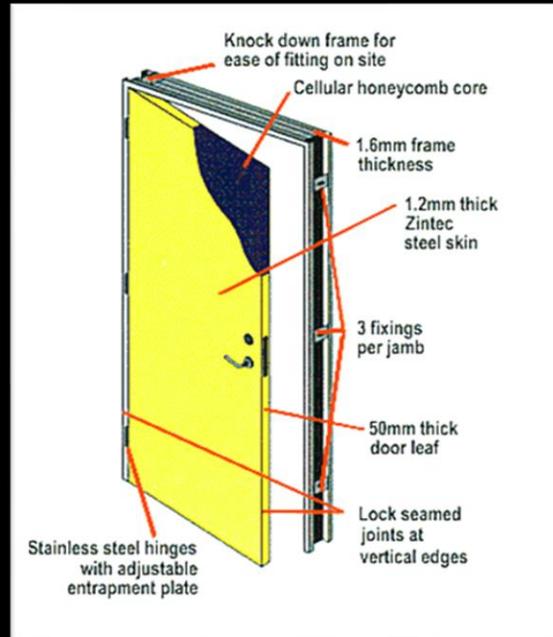
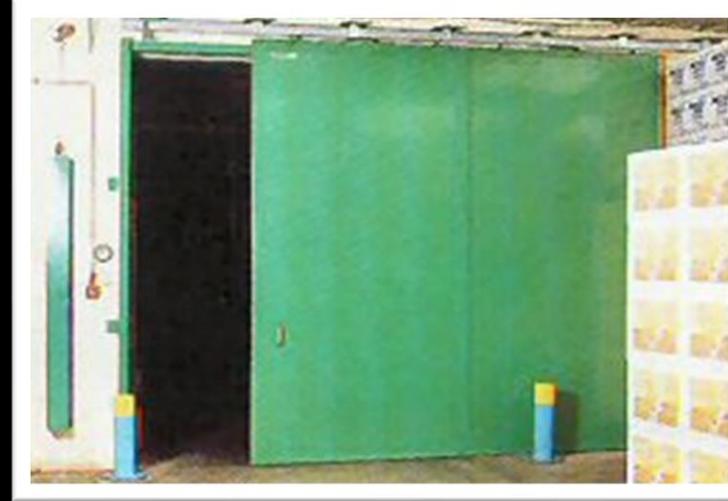
Cannot be breached without proper engineering and approval

# EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place

## Fire Doors

- Fire doors or, “opening protectors”, are an essential component in maintaining the integrity of the fire-resistive barriers that have openings.
- Rated and provide protection for openings in fire walls
- The doors include the frame and hardware
- Cables, chains, rollers, fusible links, and other moving parts cannot be painted or otherwise damaged.
- Cables and/or chains on sliding doors must be in good working condition and operate properly
- There cannot be any obstructions that may interfere with the fire door’s operation.

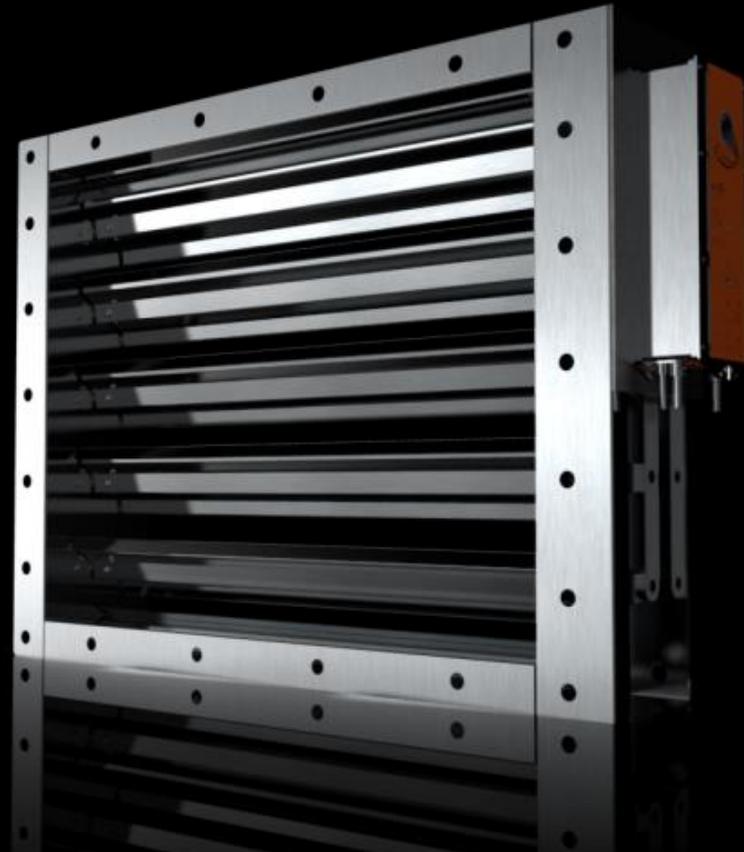
# EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place



# EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place

## Fire Dampers

- Normally located in enclosed spaces such as air ducts and air handlers



# EO 6 – Identify fire barriers and whom to notify if a barrier is found out of place

## Requirements for fire barriers

- There are no hazards to employees from a fire
- No threat to the public/environment will result from a fire
- DOE programs will not suffer unacceptable delays because of fire
- Property damage will be held to a minimum

## What you should do if fire barriers are found damaged or inoperable:

- Notify your immediate supervisor
- Call the Fire Department at **477-4454** and report the problem to the Shift Officer

# EO 7 - Identify Transient Fire Load and how it affects fire growth

## Transient Fire Load

Any combustible material which can be moved in and out of the work area

- Paper
- Cardboard boxes
- Packing materials and shipping palates
- Flammable materials or products

PACK IT IN  
PACK IT OUT  
**PLEASE**  
PACK OUT  
ALL TRASH

**NOTE: When visiting a bay or cell, maintain control of all combustibles that you bring in; take them out when you leave**

# EO 7 - Identify Transient Fire Load and how it affects fire growth

## Fire Growth

Fire may double in size every 30 seconds. Fire can spread 1100% in the first four minutes. Heat rises at the amazing rate of 90 feet per second; that's almost 60 mph.



# EO 7 - Identify Transient Fire Load and how it affects fire growth

- Pantex Plant promotes safe work practices and fire prevention through good housekeeping
- Excessive accumulation of transient fire loading could overwhelm a fire protection system
- Transient fire loading can be found in all areas of the plant





# EO 7 - Identify Transient Fire Load and how it affects fire growth

Flammable storage cabinets are utilized for flammable and combustible materials



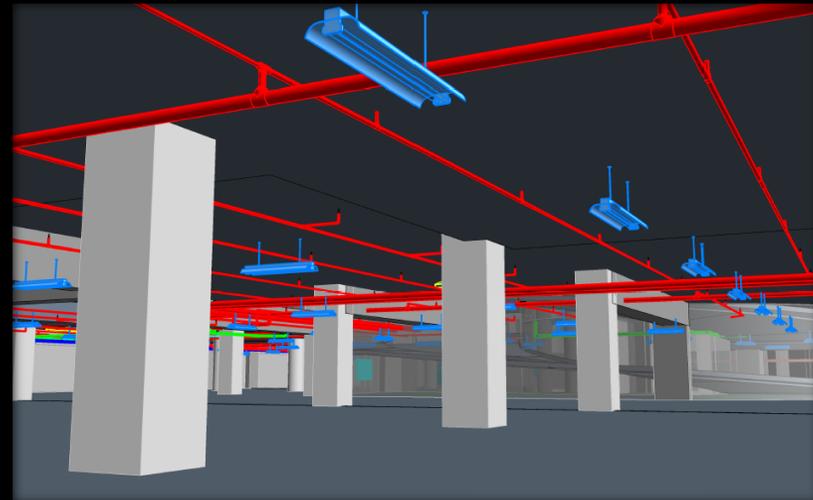
# EO 8 – Identify site fire protection systems

Sprinkler systems are for protection of **facilities** and **equipment**

- Dry Pipe Sprinkler System - For buildings subject to freezing temperatures
- Wet Pipe Sprinkler System - For heated buildings

Sprinkler System Risers

- Always in a heated area



# EO 8 – Identify site fire protection systems

## Sprinkler System Head Activation

- Normal activation temperature of heads is **165° F**
- Fusible links that have been painted will not operate properly and need to be replaced.
- Sprinkler Heads



# EO 8 – Identify site fire protection systems

## Deluge Systems

- Designed for the protection of **PERSONNEL** located in high-hazard operation areas



# EO 8 – Identify site fire protection systems

## Manual Pull Boxes

- Manual fire alarm systems for sending alarm signals to the Fire Department
- If you smell smoke, activate a manual pull box



# EO 8 – Identify site fire protection systems

## Ceiling Tiles

- Rated and ***must be in place*** to contain heated gasses, smoke, and flame to the area of origin

# EO 8 – Identify site fire protection systems

When the fire alarm bell sounds, YOU should ...

- Evacuate to assigned Muster Station
- Ensure accountability is documented
- Stay in the Muster Station until “all clear” is given from a supervisor, the Fire Department, or Security Police Officer



# EO 9 – Discuss site smoking policy

## Pantex

- No matches or lighters are allowed on site without approval
- Must smoke in designated areas only where electronic lighting devices are installed
- Electronic cigarettes, JUULing, vaping are not allowed

## Y-12

- Open flamed is allowed onsite but only in designated smoking areas

## Both Sites

- Discard cigarette butts in designated receptacles.

