Hot Work, Welding, and Cutting

March 2024

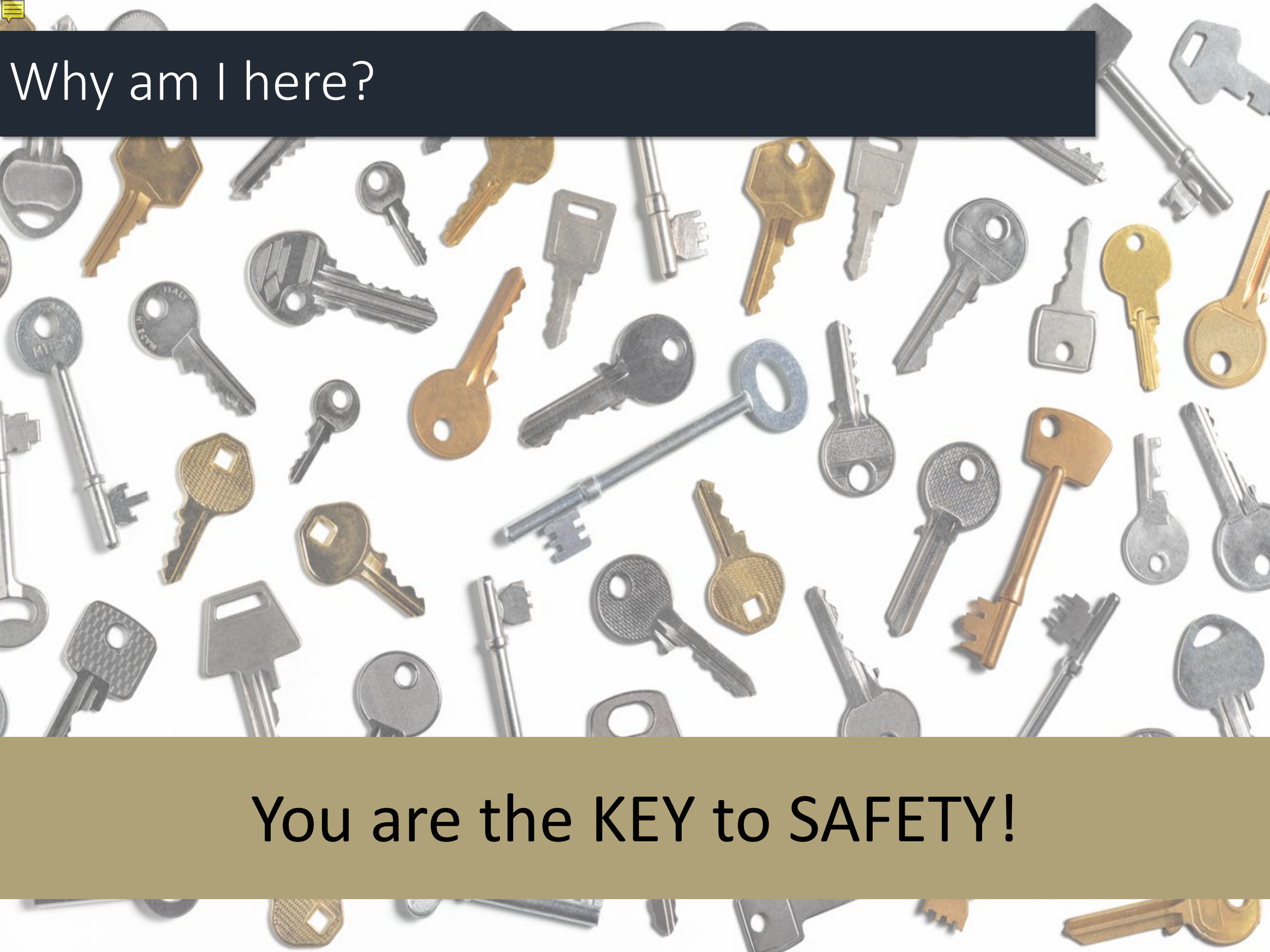
Housekeeping

Muster Point

Presenter & Introductions

Safety begins with me!

Why am I here?



You are the KEY to SAFETY!

Hot Work, Welding, and Cutting Hazards

Fires

Burns

Electric Shock

Flammable Gases

Arc Flash

Intense Light

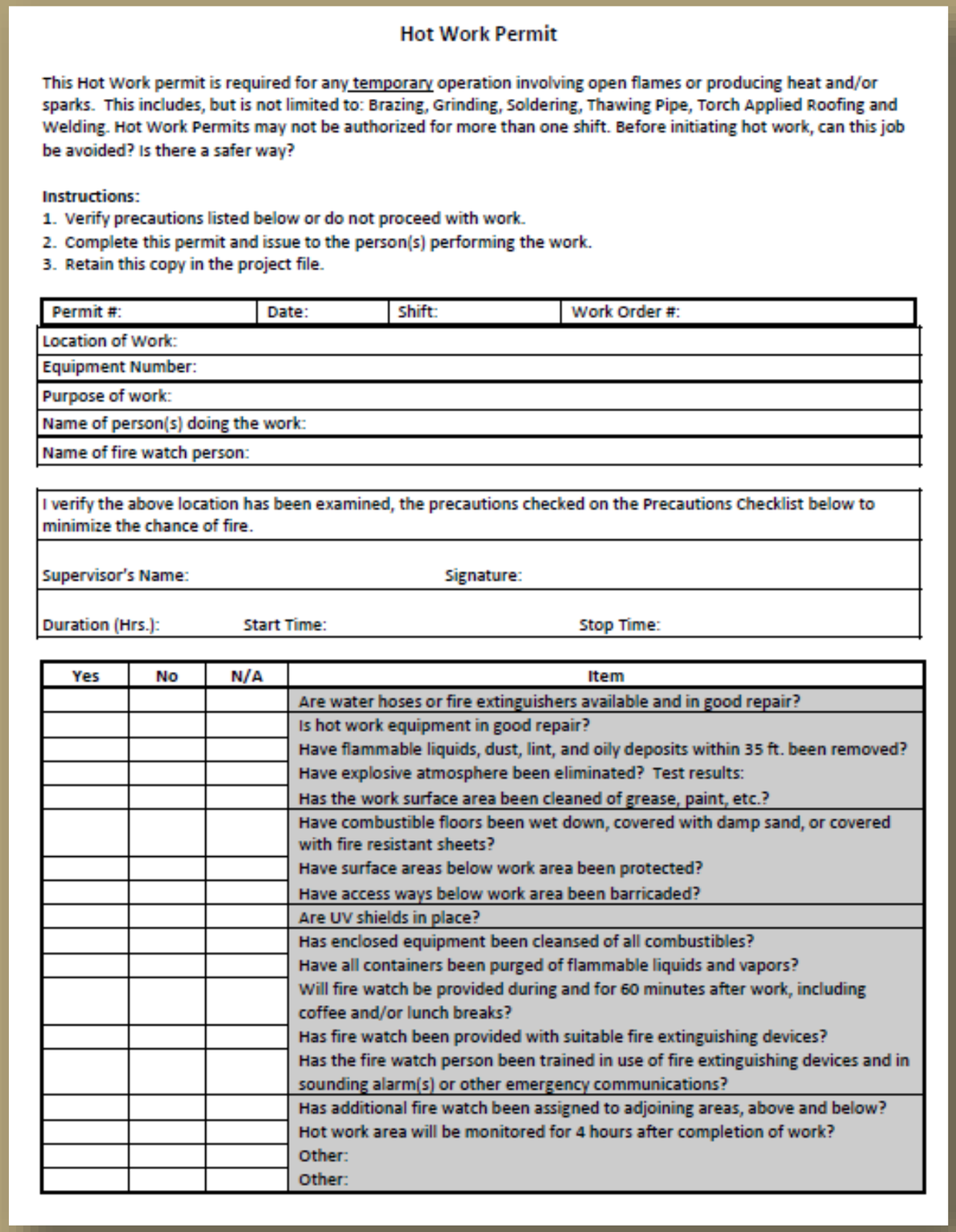
Fire Prevention and Protection

Fire Watch

Hot Work Safety – Firewatch

Hot Work Permits

- Typically used when working in an area that is not specifically designated for hot work activities.
- Reduces the likelihood that a worker will start a fire in an uncontrolled or hazardous workspace.
- Though not “required” under OSHA standards, they are considered a “best practice” and are recommended to be used.



Hot Work Permit

This Hot Work permit is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding. Hot Work Permits may not be authorized for more than one shift. Before initiating hot work, can this job be avoided? Is there a safer way?

Instructions:
1. Verify precautions listed below or do not proceed with work.
2. Complete this permit and issue to the person(s) performing the work.
3. Retain this copy in the project file.

Permit #:	Date:	Shift:	Work Order #:
Location of Work:			
Equipment Number:			
Purpose of work:			
Name of person(s) doing the work:			
Name of fire watch person:			

I verify the above location has been examined, the precautions checked on the Precautions Checklist below to minimize the chance of fire.

Supervisor’s Name: Signature:

Duration (Hrs.): Start Time: Stop Time:

Yes	No	N/A	Item
			Are water hoses or fire extinguishers available and in good repair?
			Is hot work equipment in good repair?
			Have flammable liquids, dust, lint, and oily deposits within 35 ft. been removed?
			Have explosive atmosphere been eliminated? Test results:
			Has the work surface area been cleaned of grease, paint, etc.?
			Have combustible floors been wet down, covered with damp sand, or covered with fire resistant sheets?
			Have surface areas below work area been protected?
			Have access ways below work area been barricaded?
			Are UV shields in place?
			Has enclosed equipment been cleansed of all combustibles?
			Have all containers been purged of flammable liquids and vapors?
			Will fire watch be provided during and for 60 minutes after work, including coffee and/or lunch breaks?
			Has fire watch been provided with suitable fire extinguishing devices?
			Has the fire watch person been trained in use of fire extinguishing devices and in sounding alarm(s) or other emergency communications?
			Has additional fire watch been assigned to adjoining areas, above and below?
			Hot work area will be monitored for 4 hours after completion of work?
			Other:
			Other:

Oxygen-Fuel Gas Welding and Cutting

Cylinder Identification, Handling, and Storage

Arc Welding and Cutting

Confined Space

Personal Protective Equipment (PPE)

Cover all exposed flesh by wearing:

- A welding hood with adjustable lens filter
- Fire resistant gloves
- Fire resistant jacket with a buttonable collar. The jacket should hang outside of pants, without open pockets
- Fire resistant trousers without cuffs on pant legs
- Leather high-top boots with steel toes

Eye Protection

Welding operation	Shade No.
Shielded metal-arc welding - 1⁄16-, 3⁄32-, ⅛-, 5⁄32-inch electrodes	10
Gas-shielded arc welding (nonferrous) - 1⁄16-, 3⁄32-, ⅛-, 5⁄32-inch electrodes	11
Gas-shielded arc welding (ferrous) - 1⁄16-, 3⁄32-, ⅛-, 5⁄32-inch electrodes	12
Shielded metal-arc welding:	
3⁄16-, 7⁄32-, ¼-inch electrodes	12
5⁄16-, ⅜-inch electrodes	14
Atomic hydrogen welding	10-14
Carbon arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, 6 inches and over	5 or 6
Gas welding (light) up to ⅛ inch	4 or 5
Gas welding (medium) ⅛ inch to ½ inch	5 or 6
Gas welding (heavy) ½ inch and over	6 or 8

Respiratory Protection

Ventilation

Ventilation has been installed to pull air contaminants away from the workspace.

One Team

QUESTIONS?