
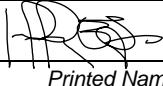
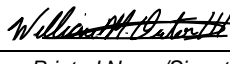
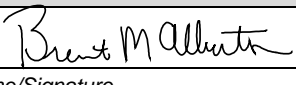


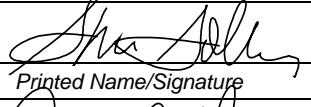





THE NATION'S  
URANIUM  
PROCESSING  
FACILITY

## UPF PAGE/PROCEDURE CHANGE NOTICE (PRCN)


PRCN Number:	PRCN-Y17-95-64-877-R01-01	PRCN Rev:	0	Effective Date:	05/13/2021
<b>NOTE: PRCN Effective Date cannot precede effective date of associated document.</b>					
Associated Document Number:	Y17-95-64-877			Rev:	01
Associated Document Title: UPF Hot Work Permit					
Identify the scope of the change, including any new, removed, or changed content. Notate any references, such as Condition Reports, that are driving the change					
From: 4.1.18 Ensure a fully charged and inspected 20 lb. ABC or equivalent fire extinguisher is available at the work area					
To: 4.1.18 Ensure a fully charged and inspected 10 lb. (minimum) ABC or equivalent fire extinguisher is available at the work area.					

Implements Quality Requirements (Select One)			
<input type="checkbox"/> None	<input type="checkbox"/> BNI	<input type="checkbox"/> CNS	<input checked="" type="checkbox"/> BNI & CNS
Preparer			
Issues Management Procedure Compliance	Jill S. Logsdon	 Printed Name/Signature	04/13/21 Date
Concurrence			
UPF Design Authority Fire Protection Engineer, CNS:	Jeff E. Sipes	 Printed Name/Signature	04/06/21 Date
Contractor Authority Having Jurisdiction, CNS:	W.M. Overton, III	 Printed Name/Signature	04/08/21 Date
Approval			
UPF Fire Protection Engineer, BNI:	Brent M. Albertsen	 Printed Name/Signature	04/06/21 Date
UPF BNI ES&H Manager:	Kieran S. Kelly	 Printed Name/Signature	04/12/21 Date
UPF Project Quality Manager, CNS:	Russell F. Lion III	 Printed Name/Signature	04/08/21 Date
UPF Site Manager:	R. Steve Solberg	 Printed Name/Signature	04/08/21 Date
UPF Project Director:	Dena J. Volovar	 Printed Name/Signature	04/13/21 Date


UPF Hot Work Permit





Prepared by:

  
 \_\_\_\_\_  
 Xavier Mitchell  
 Issues Management Coordinator  
 02/06/18  
 Date

Approved by:

  
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 Matthew Putinas  
 UPF Construction Manager  
 02/06/18  
 Date

  
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 Jamie Horning  
 UPF BNI ES&H Manager  
 02/06/18  
 Date

  
 \_\_\_\_\_  
 Lawrence Lacy Baldy  
 UPF Project Quality Manager, CNS  
 02/07/18  
 Date

Digitally signed by Tom (1XC) Christman  
 DN: c=US, o=U.S. Government, ou=Department of Energy, ou=Y-12  
 National Security Complex, ou=CAAs, ou=people, cn=Tom (1XC) Christman  
 Date: 2018.02.05 11:31:49 -05'00'  
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 Tom (1XC) Christman  
 Tom Christman  
 UPF Fire Protection Engineer  
 02/05/2018  
 Date

Digitally signed by William M (MOO) Overton  
 DN: c=US, o=U.S. Government, ou=Department of Energy, ou=Y-12 National  
 Security Complex, ou=CAAs, ou=people, cn=William M (MOO) Overton  
 Date: 2018.02.06 10:12:40 -05'00'  
 \_\_\_\_\_  
 William M (MOO) Overton  
 W. M. Overton, III  
 UPF Contractor Authority Having Jurisdiction, CNS  
 02/06/18  
 Date

  
 \_\_\_\_\_  
 John Howanitz  
 UPF Project Director  
 02/08/18  
 Date

Pen & Ink Change made on: 5/29/18 Page(s) affected: 2

Reason for change: Revision log did not incidate incorporation of

PRCN-Y17-95-64-877-A001  
 \_\_\_\_\_  
 02/08/18  
 Effective Date

  
 \_\_\_\_\_  
 Xavier Mitchell  
 Requestor – Printed Name & Signature  
 Date  
 05/29/18  
 \_\_\_\_\_  
 Scott Hayes  
 Responsible Manager – Printed Name & Signature  
 Date

UPF Hot Work Permit

### REVISION LOG

Revision	Description	Intent	Non Intent
1	Rewritten to update requirements in accordance with NFPA 51B, <i>Standard for Fire Prevention During Welding, Cutting, and Other Hot work</i> , 2014 Edition and to ensure process is proficient and succinct for upcoming project work scope. Major revision – no revision bars used.	X	
0	Initial Issue DMR Number 11-Y12-095 New Procedure for UPF Project Construction	N/A	

Initials: *KLW*  
Date: 05/29/18

Revision 1 incorporated PRCN-Y17-95-64-877-A001.

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## 1.0 PURPOSE

The purpose of this procedure is to establish and implement controls to prevent fires as a result of hot work at the Uranium Processing Facility (UPF) and establishes areas authorized by management where hot work is permitted.

## 2.0 SCOPE

This document applies to UPF activities that involve welding, cutting, open flame, grinding, or other spark-producing activities defined as hot work performed in either designated areas or permit required areas. Use of cutting tools that result in an unintended spark(s) is not considered hot work. Hot work on systems that contain or have contained flammable liquids or gases is prohibited unless specifically approved by UPF Fire Protection Engineer (FPE).

Applicability to subcontractor employees is as specified in subcontract language.

## 3.0 ROLES AND RESPONSIBILITIES

### 3.1 UPF Construction Manager (CM)

The CM is responsible for the following:

- Overall safe operations of hot work activities.
- Ensuring that all individuals involved in the hot operations, including subcontractors, are familiar with and implement the provisions of this procedure.
- Designating Permit Authorizing Individuals (PAIs) via internal correspondence.

### 3.2 Project Field Superintendent

The Project Superintendent (or designee) is responsible for the following:

- Approving Designated Areas.
- Ensuring the FPE is provided with a listing of all approved Designated Areas.
- Ensuring PAIs and supervising individuals are trained and documented through training documentation processes.

### 3.3 Responsible Superintendent

The Responsible Superintendent (or designee) is responsible for the following:

- Ensure individuals involved in hot work operations are trained in the safe operation of their equipment and in the safe use of the process.
- Ensuring workers involved in hot work operations are:
  - Trained to the requirements of this procedure.
  - Aware of the inherent risks involved and understand the emergency procedures in the event of fire.

### 3.4 Permit Authorizing Individual

The PAI is responsible for the following:

- Considering the safety of the hot work operator and fire watch with respect to personal protective equipment (PPE) for other special hazards beyond hot work.
- Determining site-specific flammable materials, hazardous processes, or other potential fire hazards that are present or likely to be present in the work location.
- Ensuring the protection of combustibles from ignition within 35 feet.
- Ensuring that fire extinguishing equipment (e.g., ABC fire extinguisher) is properly located at the hot work area.
- Establishing Permissible Areas for hot work activities.
- Assigning a qualified Fire Watch for hot work operations if necessary.
- Ensuring that conditions required on the Hot Work Permit have been implemented.

### 3.5 Fire Protection Engineer (FPE)

The FPE is responsible for the following:

- Approving exceptions or enhancements to the requirements annotated in this document.
- Providing direction for adequate protection for sprinkler system and fire detection system when they are impaired.
- Determining when the 35 foot boundary can be reduced in Permit-Required Area.

### 3.6 Hot Work Operator

Hot Work Operator(s) are responsible for the following:

- Knowing and understanding the environment in which the work is to be performed, and complying with the permit generated by this procedure.
- Knowing the most current safe operation practices for their equipment.
- Receiving PAI approval before starting hot work operations.
- Ceasing hot work operations if unsafe conditions develop.
- Notifying management, supervision, or the PAI for reassessment of the situation if unsafe conditions develop.
- Signing Hot Work Permit.

### 3.7 Fire Watch

A Fire Watch shall perform duties in accordance with UPF-CP-227, *UPF Safety Watches*, with emphasis on the following:

- Stopping the hot work operations if unsafe conditions develop.
- Having fire-extinguishing equipment readily available and be trained in its use.
- Sounding an alarm or calling the Y-12 Fire Department (e.g., telephone, radio) in the event of a fire.
- Being dedicated to performing the duties of a fire watch for hot work operations.
- Signing Hot Work Permit.

### 3.8 Environment, Safety, and Health (ES&H)

ES&H is responsible for reviewing CFN-1137, *UPF Designated Area Tracking and Inspection Log*, monthly.

**NOTE 1:** *Welding blanket, curtains, and pads are listed and approved.*

**NOTE 2:** *Exceptions or enhancements to the following requirements may be made based on approval by the Fire Protection Engineer (FPE) and documented on the Hot Work Permit.*

**NOTE 3:** *Sensitive and expensive equipment or material may be taken into consideration when performing hot work. Discussions may ensue with the FPE to ensure adequate protection will be provided.*

## 4.0 PROCEDURE

### 4.1 Establishing Permissible Areas

#### Permit Requestor

4.1.1 Ensure a Job Hazard Analysis related to a work package is completed, as applicable, in accordance with Y17-95-64-823, *UPF Safety Task Analysis and Risk Reduction Talk / Job Hazard Analysis (STARRT/JHA) Process*.

**NOTE 1:** *Appendix C, Hot Work Permit Decision Tree, is provided to determine if a hot work permit is necessary.*

**NOTE 2:** *The sprinkler heads and smoke detectors in close proximity to the hot work are identified during inspection.*

4.1.2 Ensure CFN-1139, UPF Hot Work Permit, or Section 1, *Establishment of a Designated Area*, of CFN-1137, *UPF Designated Area Tracking and Inspection Log*, has been initiated for hot work area inspection.

#### Permit Authorizing Individual

4.1.3 Ensure an alternative method to hot work have been considered to protect combustibles from ignition.

**NOTE 1:** *Step 4.1.4 through 4.1.23 may be performed in any order.*

**NOTE 2:** *Hot work operations that might fall into the category where the 35 Foot Rule could be enlarged include, but are not limited to, elevated hot work areas and windy conditions.*

4.1.4 IF the scope of work and the tools used to conduct hot work could result in possible travel of mobile sources of ignition (e.g., slag, sparks, spatter) farther than 35 feet, THEN ensure the distances and areas addressed in 4.1.8 through 4.1.11 is extended.

**NOTE:** *In instances where the scope of work and tools used to conduct hot work are known to be incapable of generating slag, sparks, spatter, or similar mobile sources of ignition capable of leaving the immediate area of the applied hot work, the PAI is permitted to reduce the 35 foot boundary with permission from the FPE.*

4.1.5 IF it is determined by the FPE that the 35 foot boundary can be reduced in Permit-Required Area, THEN ensure the distances and areas addressed in 4.1.8 through 4.1.11 is reduced to distances and areas that is considered fire safe for the intended operation.

#### Fire Protection Engineer

4.1.5.1 Describe the distance and area(s) on CFN-1139.

4.1.5.2 Approve the distance by signing CFN-1139.

**Permit Authorizing Individual**

4.1.6 Ensure the hot work equipment to be used has been examined by the Hot Work Operator to ensure it is in satisfactory operating condition.

4.1.7 IF floors are combustible, THEN perform any the following:

- keep floor wet
- protect with welding blanket, welding pad, or equivalent

**WARNING: The possibility of electrocution or serious physical harm exists where an employee is working with or near electrical equipment that is in contact with moisture.**

4.1.7.1 IF floors have been wet down AND personnel are operating arc welding equipment or cutting equipment, THEN ensure personnel will be protected from possible shock.

4.1.8 IF combustible materials (e.g., clippings, wood shavings, or textile fibers) are on the floor, THEN remove the material from the floor for a radius of 35 feet.

**NOTE 1:** *Relocation of combustible and flammable contents is unnecessary if combustibles are already protected by a metal/concrete wall or welding curtain that covers all wall and floor openings.*

**NOTE 2:** *When hot work is performed at an elevated level, it should be noted that sparks or slag can fall at a trajectory and land farther than 35 feet horizontally from a point directly under the hot work operator.*

4.1.9 Ensure all combustibles that can be relocated are moved at least 35 feet in all directions from the work site.

4.1.10 IF relocation of combustibles is impractical, THEN ensure combustibles are protected by any of the following or equivalent:

- welding curtain
- welding blanket
- welding pad

4.1.11 IF floor and wall openings are present within 35 feet of the work location, THEN ensure the openings are covered with approved fire-rated or noncombustible material.

4.1.12 IF ducts and conveyor systems that might carry sparks to distant combustibles are present with the work site, THEN protect the ducts and conveyor systems by shielding, shut down, or both.

4.1.13 IF hot work is done near any of the following:

- walls,
- partitions,
- ceilings, or
- roofs of combustible construction,

THEN ensure they are protected by any of the following or equivalent:

- welding curtain,
- welding blanket, or
- welding pad.



4.1.14 IF hot work is done on one side of the following AND combustibles are on the other side of the following:

- a wall,
- partition,
- ceiling, or
- roof

THEN perform one of the following:

- Ensure precautions have been taken to prevent ignition of combustibles on the other side by relocating the combustibles.

OR

- Ensure an additional fire watch is provided on the side opposite from where the work is being performed.

4.1.15 Ensure hot work will NOT be attempted on any of the following that has a combustible covering or insulation:

- partition,
- wall,
- ceiling, or
- roof.

4.1.16 Ensure hot work will NOT be attempted on walls or partitions of combustible sandwich-type panel construction.

4.1.17 IF hot work is close enough to cause ignition by conduction while performing hot work on pipes or other metal that is in contact with combustibles, such as, but not limited to the following:

- combustible walls,
- combustible partitions,
- combustible ceilings, or
- combustible roofs,

THEN prohibit hot work from being performed.

4.1.18 Ensure a fully charged and inspected 20 lb. ABC or equivalent fire extinguisher is available at the work area.

**NOTE:** *Hose lines are not required to be unrolled or charged.*

4.1.19 IF existing fire hose lines are located within the hot work area defined by CFN-1139 or CFN-1137, THEN ensure they are connected and ready for service.

4.1.20 IF hot work will be performed in an area protected by a sprinkler system when the sprinkler system is impaired due to inspection, testing and maintenance (NFPA 25), THEN ensure approval by the FPE (or designee) is documented on CFN-1139.

**NOTE:** *FPE direction for adequate protection for sprinkler heads and fire detection system is documented on the CFN-1139.*

**CAUTION:** Smoke detectors and sprinkler heads can be damaged by contact with residue, heat, fumes and smoke generated by hot work activities. Heat from the hot work activity may damage the metal alloy fusible link within the sprinkler head and affect its activation.

4.1.20.1 Ensure sprinkler heads and fire detection system are adequately protected as determined by the FPE.

**NOTE:** *FPE may be consulted for sprinkler head and fire detection system protection. Any additional protection is documented on the CFN-1139.*

4.1.21 IF hot work will be done in close proximity to a sprinkler head, THEN perform the following:

- Ensure a welding blanket is laid over the sprinkler head.
- Ensure special precautions are taken and documented to avoid accidental operation of automatic fire detection or suppression systems (e.g., special extinguishing systems or sprinklers) during hot work.

**NOTE:** *Personal protective equipment is selected to minimize the potential for ignition, burning, trapping hot sparks, and electric shock.*

4.1.22 Ensure the operator and nearby personnel are suitably protected against dangers such as heat, sparks, and slag by donning PPE in accordance with UPF-CP-205, *Personal Protective Equipment*.

**NOTE 1:** *Appendix D, Fire Watch Decision Tree, is provided to determine when a fire watch is necessary.*

**NOTE 2:** *Appendix E, Hot Work 35 Foot Rule, demonstrates the hot work 35 Foot Rule.*

4.1.23 Assign a fire watch for hot work operations in accordance with Appendix D.

**NOTE:** *Additional fire watches may be necessary in certain situations, such as where hot work is performed near open shafts, elevated heights, where sparks can travel through spaces such as openings, or line of sight and travel path to perform fire watch duties is impeded.*

4.1.23.1 IF combustible materials that could be ignited by the hot work operation cannot be directly observed by the initial fire watch, THEN ensure an additional fire watch is provided to observe combustible materials that could be ignited by the hot work operation.

4.1.24 IF hot work will be performed in a Permit-Required Area, THEN ensure the inspection of the work location is documented and approved on CFN-1139.

4.1.24.1 IF the permit will extend beyond the issued shift not exceeding 24 hours, THEN re-inspect the Permit-Required Area to validate the Hot Work Permit.

4.1.24.2 Post the Hot Work Permit at the job location.

4.1.24.3 WHEN the Permit-Required Area closes or no longer valid, THEN turn CFN-1139 in to Document Management Center (DMC).

4.1.25 IF hot work will be performed in a Designated Area, THEN ensure the inspection of the work location is documented and approved on Section 1 of CFN-1137.

4.1.25.1 Submit CFN-1137 to the Project Field Superintendent (or designee) for approval.

4.1.25.2 Ensure CFN-1138, *UPF Designated Area For Hot Work Placard*, has been completed.

4.1.25.3 Post the approved location as a Designated Area for hot work at all access points.

**ES&H Personnel**

- 4.1.25.4 Maintain CFN-1137 specific to an approved designated area until the designated area status is removed.
- 4.1.25.5 WHEN the designated area closes or no longer valid, THEN turn CFN-1137 in to Document Management Center (DMC).
- 4.1.25.6 Provide a current list of Designated Area(s) to the FPE.

**4.2 Hot Work****Permit Authorizing Individual**

- 4.2.1 Ensure hot work is coordinated so that operations that could potentially expose combustibles to ignition sources is prohibited during hot work operations.

**Permit Authorizing Individual/Hot Work Operator/Fire Watch**

- 4.2.2 IF hot work will be performed in a Designated Area, THEN ensure the area is inspected in accordance with Section 2, *Designated Area Inspection Criteria*, of CFN-1137.

**Hot Work Operator**

- 4.2.2.1 Ensure the following:
- the requirements of 4.1.9 and 4.1.10 are met
  - ventilation is working properly
  - equipment is in working order
  - sign(s) are posted designating the hot work area.

**Hot Work Operator**

**NOTE:** *The PAI inspects the area at least once per shift while the hot work permit is in effect to ensure that it is a fire-safe area.*

- 4.2.3 IF hot work will be performed in a hot work Permit-Required Area, THEN ensure the area has been inspected by a PAI.

- 4.2.3.1 Ensure the Hot Work Permit does not exceed 24 hours.

**NOTE:** *Fire Screens on the inlet to local exhaust may be used if fumes contain sparks.*

- 4.2.4 Use exhaust ventilation devices (e.g., moveable ducts/ hoods or portable exhaust units) to remove welding fumes or other airborne contaminants arising from hot work activities as near to the source as possible as determined by ES&H.
- 4.2.5 Ensure work is confined to the area or equipment specified.
- 4.2.6 IF the PAI approves of the Permissible Area, THEN perform hot work in accordance with the applicable work control document.

**Permit Authorizing Individual/Hot Work Operator/Fire Watch**

- 4.2.7 IF any of the following personnel are changed during hot work operations in a Permit-Required Area, THEN resign the Hot Work Permit.
- PAI
  - Hot Work Operator
  - Fire Watch

UPF Hot Work Permit
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4.2.8 IF conditions covered by a Hot Work Permit change during hot work operations, THEN perform the following:

4.2.8.1 Suspend Work.

4.2.8.2 Ensure the PAI is notified.

4.2.8.3 IF the conflicting condition cannot be corrected, THEN ensure the PAI initiates a new Hot Work Permit to address the changed conditions.

### Fire Watch

**NOTE 1:** *Observations continue while hot work is in progress or until which time the assigned Fire Watch is relieved by another qualified Fire Watch.*

**NOTE 2:** *A single Fire Watch can support multiple hot work activities as long as:*

- *The hot work activities can be observed from the same observation position*
- *Communication exists between each hot work activity and the Fire Watch*

4.2.9 IF a fire watch was provided for the hot work, THEN observe hot work activities to ensure fire safe conditions are maintained.

**NOTE:** *The duration of the fire watch may be extended if the PAI determines the fire hazards warrant the extension.*

4.2.9.1 Remain in the area for at least 30 minutes after the completion of hot work operations to detect and extinguish smoldering fires.

## 5.0 RECORDS

Records generated by this procedure shall be maintained in accordance with Y15-95-800, *UPF Document Management*. Record types for documents submitted to the UPF DMC are identified in ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*. Quality Type is listed as Quality-Lifetime (QA-L), Quality-Nonpermanent (QA-NP), or Non-Quality (Non-QA).

Records generated during the performance of this procedure include:

Record Number	Record Title	Record Holder	System/ Location	Quality Type
CFN-1137	UPF Designated Area Tracking and Inspection Log	UPF DMC	InfoWorks	QA-L
CFN-1138	UPF Designated Area for Hot Work Placard	UPF DMC	InfoWorks	QA-L
CFN-1139	UPF Hot Work Permit	UPF DMC	InfoWorks	QA-L

## 6.0 REFERENCES

### 6.1 Source References

29 CFR 1926, *Safety and Health Regulations for Construction*

ANSI/ASC Z49.1 94, *Safety in Welding, Cutting, and Allied Processes*

National Fire Protection Association (NFPA) Standard 51B, *Fire Prevention During Welding, Cutting, and Other Hot Work*

PL-CM-801768-A001, *Construction Management and Execution Strategy*

PL-SH-801768-A007, *Bechtel National Inc. (BNI) Uranium Processing Facility (UPF) Environmental, Safety, and Health (ES&H) Plan*

UPF-CP-211, *UPF Fire Prevention and Protection*

Y17-95-64-800, *UPF Construction Work Control Program*

### 6.2 Interfacing References

ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*

UPF-CP-227, *UPF Safety Watches*

Y15-95-800, *UPF Document Management*

Y17-95-64-823, *UPF Safety Task Analysis and Risk Reduction Talk / Job Hazard Analysis Program (STARRT / JHA) Process*

## 7.0 SUPPLEMENTAL INFORMATION

Appendix A, Acronyms and Definitions

Appendix B, Equipment/Materials Within a Permissible Area

Appendix C, Hot Work Permit Decision Tree

Appendix D, Fire Watch Decision Tree

Appendix E, Hot Work 35 ft Rule

## APPENDIX A Acronyms and Definitions

(Page 1 of 2)

### ACRONYMS:

<b>ANSI/ASC</b>	American National Standards Institute/Accredited Standard Committee
<b>CAHJ</b>	Contractor Authority Having Jurisdiction
<b>CFR</b>	Code of Federal Regulations
<b>CM</b>	Construction Manager
<b>DMC</b>	Document Management Center
<b>ES&amp;H</b>	Environment, Safety, and Health
<b>FPE</b>	Fire Protection Engineer
<b>NFPA</b>	National Fire Protection Association
<b>PAI</b>	Permit Authorizing Individual
<b>PPE</b>	Personal Protective Equipment
<b>STARTR</b>	Safety Task Analysis Risk Reduction Talk
<b>UPF</b>	Uranium Processing Facility

### DEFINITIONS:

<b>35 ft Rule</b>	35 ft Rule – The initial radius length extending out and encircling the hot work on a horizontal and vertical plane for 35 ft or less to noncombustible material (e.g., concrete wall or floor) and can be modified (i.e., distance extended or reduced) by the PAI, with permission from the FPE when reducing the area, based upon hot work operations and/or site conditions.
<b>Approved</b>	Acceptable to the Contractor Authority Having Jurisdiction (CAHJ).
<b>Authority Having Jurisdiction</b>	An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure. For this procedure, the CAHJ is the FPE.
<b>Close Proximity</b>	The physical distance from a hot work operation to a smoke detector or sprinkler head where if the smoke detector or sprinkler head is unprotected, is likely to result in damage from heat, fume, or smoke generated by the hot work operation.
<b>Combustible Liquids</b>	Liquids having a flashpoint at or above 100 degrees F.
<b>Combustible Material</b>	A material that, in the form in which it is used and under the conditions anticipated, has the characteristic to ignite and burn.
<b>Designated Area</b>	A specific location designed and approved for hot work operations that is maintained fire-safe, such as a maintenance shop or a detached outside location, that is of noncombustible or fire-resistive construction, essentially free of combustible and flammable contents, and suitably segregated from adjacent areas. (NFPA 51B)
<b>Fire Resistance</b>	Resistant to fire such that, for specified time and under conditions of standard heat intensity, will not fail structurally and will not permit the side furthest from the fire to become hotter than a specified temperature. For purposes of this procedure, fire resistance is determined by NFPA 251, <i>Standard Methods of Fire Tests of Building Construction and Materials</i> .

## APPENDIX A Acronyms and Definitions

(Page 2 of 2)

<b>Fire Watch</b>	A designated individual trained in specific Fire Watch duties and dedicated to both worker safety and property loss prevention for a specified duration. Performs Fire Watch duties, when assigned exclusively; no other duties shall interfere.
<b>Flammable Liquids</b>	Liquids having a flashpoint below 100 degrees F.
<b>Hot Work</b>	Work involving burning, welding, grinding, or a similar operation that is capable of initiating fires or explosions.
<b>Hot Work Area</b>	Encompasses the area defined by the 35 ft. Rule or modified by the PAI.
<b>Hot Work Permit</b>	A permit issued by the Permit Authorizing Individual (PAI) to authorize work involving burning, welding, or a similar operation capable of initiating fires or explosions in a non-designated area, which is based on implementing preventative actions and precautions.
<b>Listed</b>	Equipment, materials, or services included in a list published by an organization that is acceptable to the CAHJ and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.
<b>Minor fire</b>	Incipient stage fire that can be controlled with portable fire extinguisher operated by individual trained in the basic operation and use of portable fire extinguishers.
<b>Permissible Area</b>	A Designated Area or Permit-Required Area as defined by this procedure.
<b>Permit Authorizing Individual</b>	The individual designated by management to authorize Hot Work Permits.
<b>Permit-Required Area</b>	Any location other than a designated area that is approved for hot work and is made fire-safe by removing or protecting combustibles from ignition sources.
<b>Welding Blanket</b>	A heat-resistant fabric listed, approved, and designed to be placed in the vicinity of a hot work operation; intended for use in horizontal applications with light to moderate exposures such as that resulting from chipping, grinding, heat treating, sand blasting, and light horizontal welding; designed to protect machinery and prevent ignition of combustibles such as wood that are located adjacent to the underside of the blanket.
<b>Welding Curtain</b>	A heat-resistant fabric listed, approved, and designed to be placed in the vicinity of a hot work operation, intended for use in vertical applications with light to moderate exposures such as that resulting from chipping, grinding, heat treating, sand blasting, and light horizontal welding; designed to prevent sparks from escaping an area.
<b>Welding Pads</b>	A heat-resistant fabric listed, approved, and designed to be placed directly under a hot work operation such as welding or cutting, intended for use in horizontal applications with severe exposures such as that resulting from molten substances or heavy horizontal welding; designed to prevent the ignition of combustibles that are located adjacent to the underside of the pad.



## **APPENDIX B**

### **Equipment/Materials Within a Permissible Area**

The list below is an example of items and is not all inclusive. Each area is required to be evaluated by an PAI using their best judgment on a case-by-case basis.

The following is a partial list of example items that would be allowed within a designated area and still be considered essentially free of combustibles:

- Gas lines for hot work equipment
- Air hoses for hot work equipment
- Electric cords/cables for hot work equipment
- Non-combustible walls (concrete, gypsum wallboard on metal studs, steel partitions to segregate a welding area) without openings or cracks in the construction for at least a height of 5 feet above the hot work surface
- Non-combustible floor (concrete, earth, steel) without openings or cracks to floor/area below, as applicable
- Heavy timber (greater than a typical 4" x 4") necessary to support material
- Tools (i.e. wire brush, soap stone, MIG pliers, screw drivers, chipping hammer, torpedo level, etc.) necessary to perform hot work
- Fire resistive lumber necessary to support hot work
- Lumber with fire resistive coating necessary to support hot work

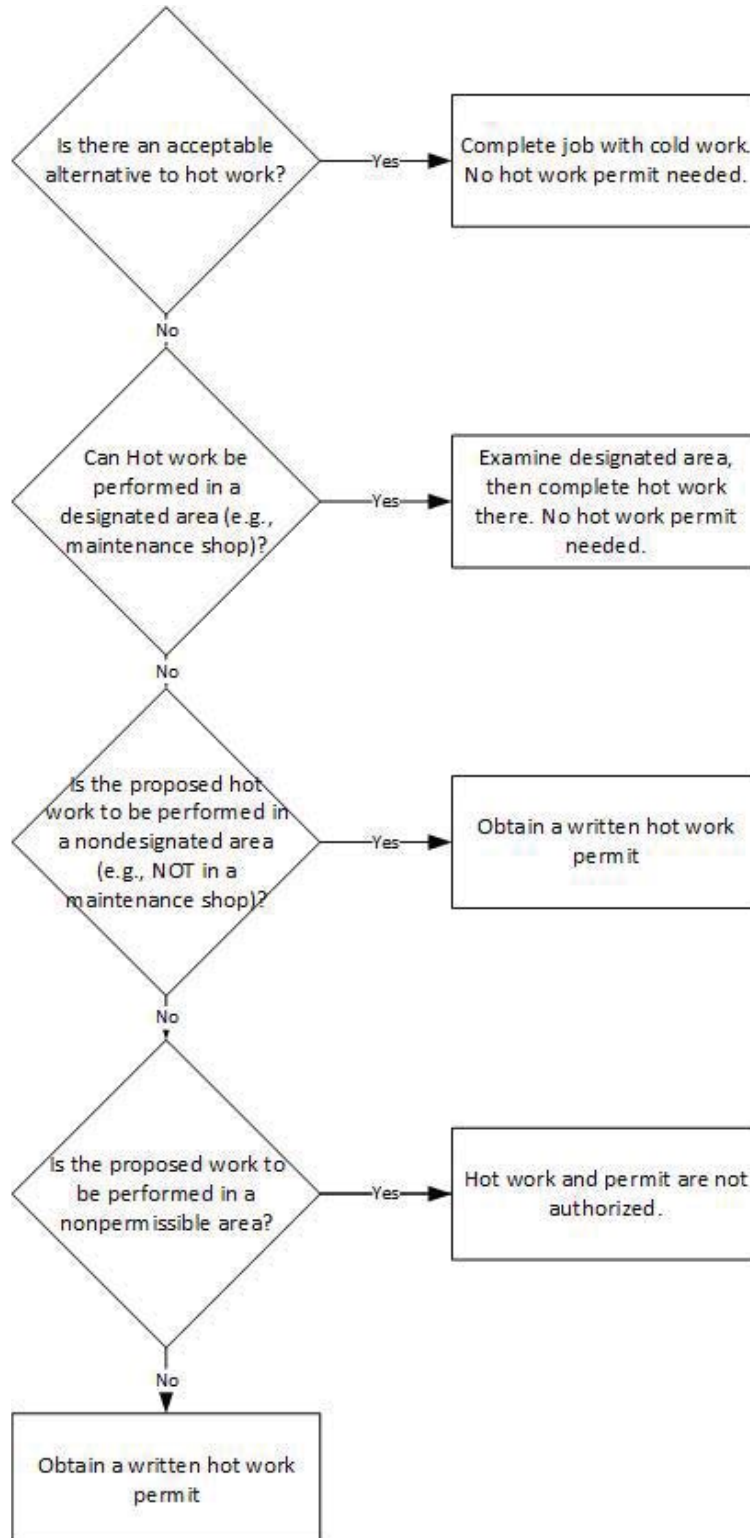
The following list below is to provide guidance of what a Permissible Area evaluation considers as combustibles that are prohibited when uncovered or less than 35 feet from hot work within a Permissible Area.

Examples of Combustibles (not all inclusive):

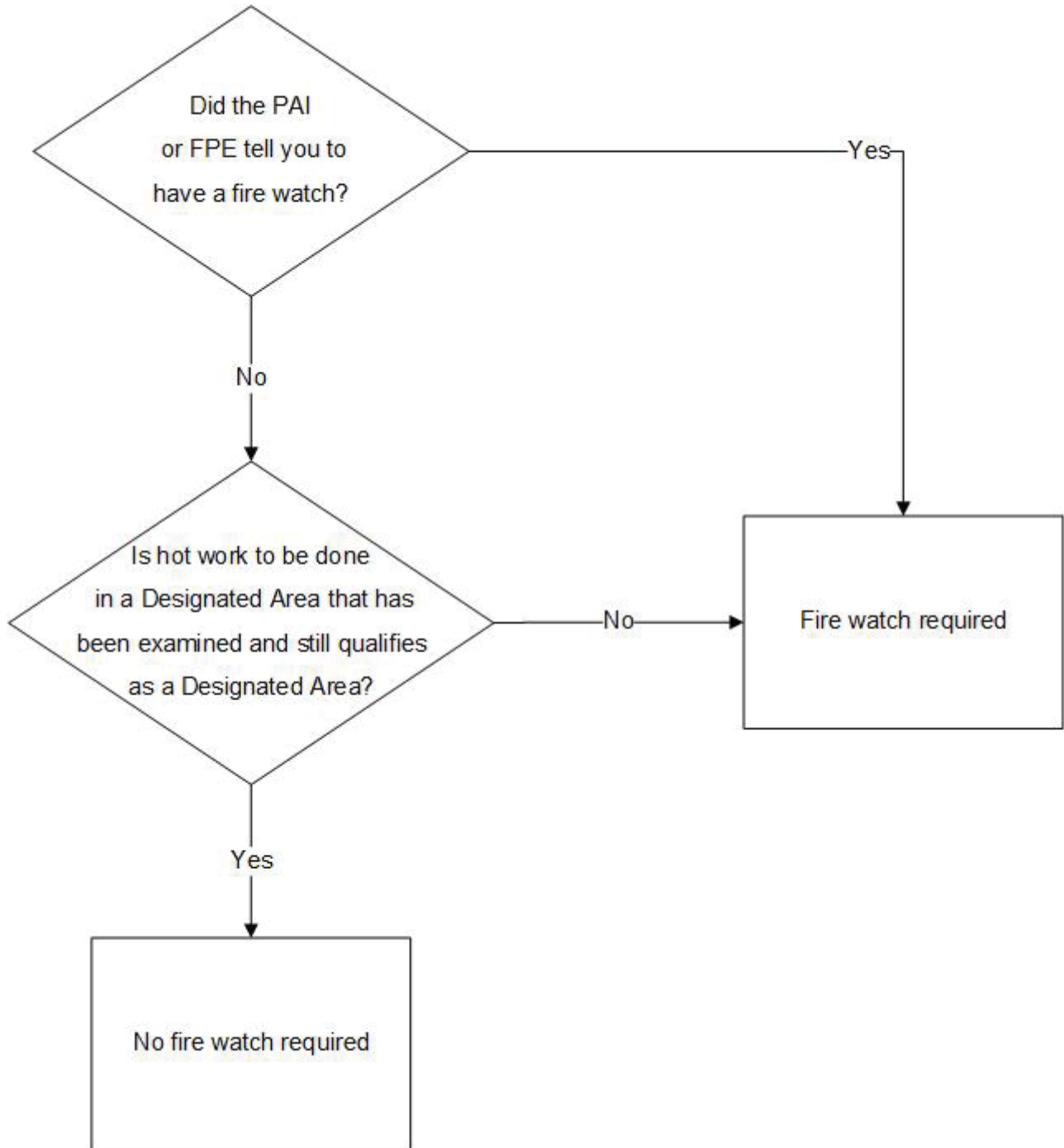
- Cardboard
- Paper
- Shrink-wrap or wind screening material that is not clearly marked or labeled as meeting the listing or approval of a fire retardant cover. Contact FPE or ES&H if you have questions.
- Combustible/Flammable liquids and compressed gases
- Wooden materials not treated with fire retardants
- Plastic products – trash cans, 5 gallon buckets, etc.
- Candlestick stands



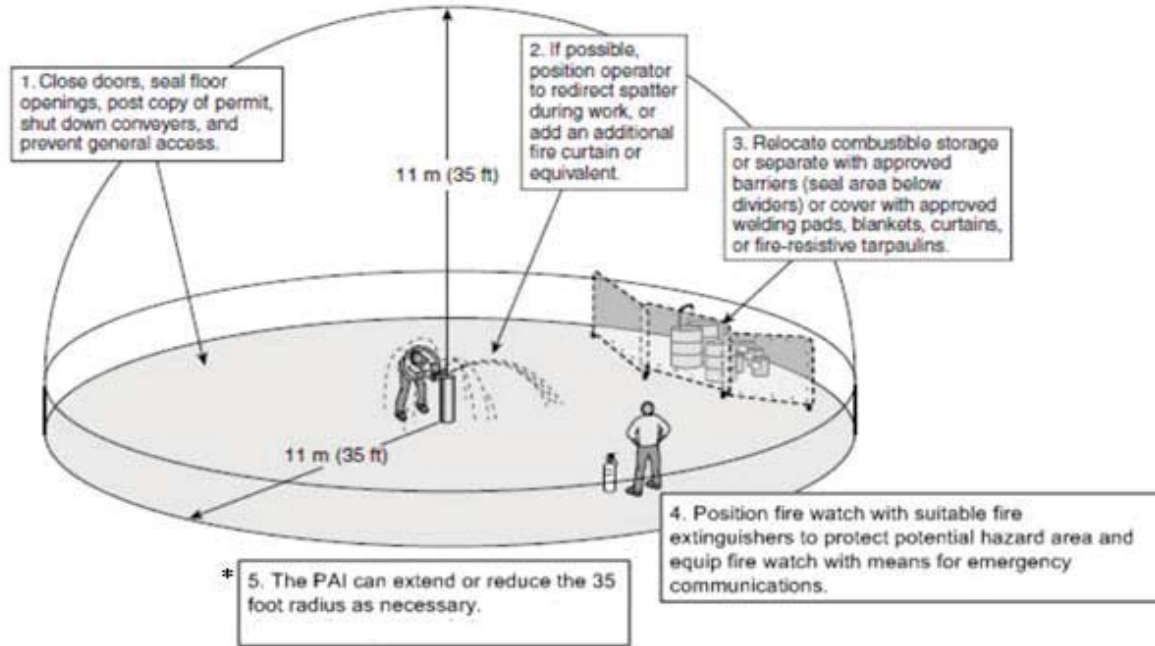
### APPENDIX C Hot Work Permit Decision Tree



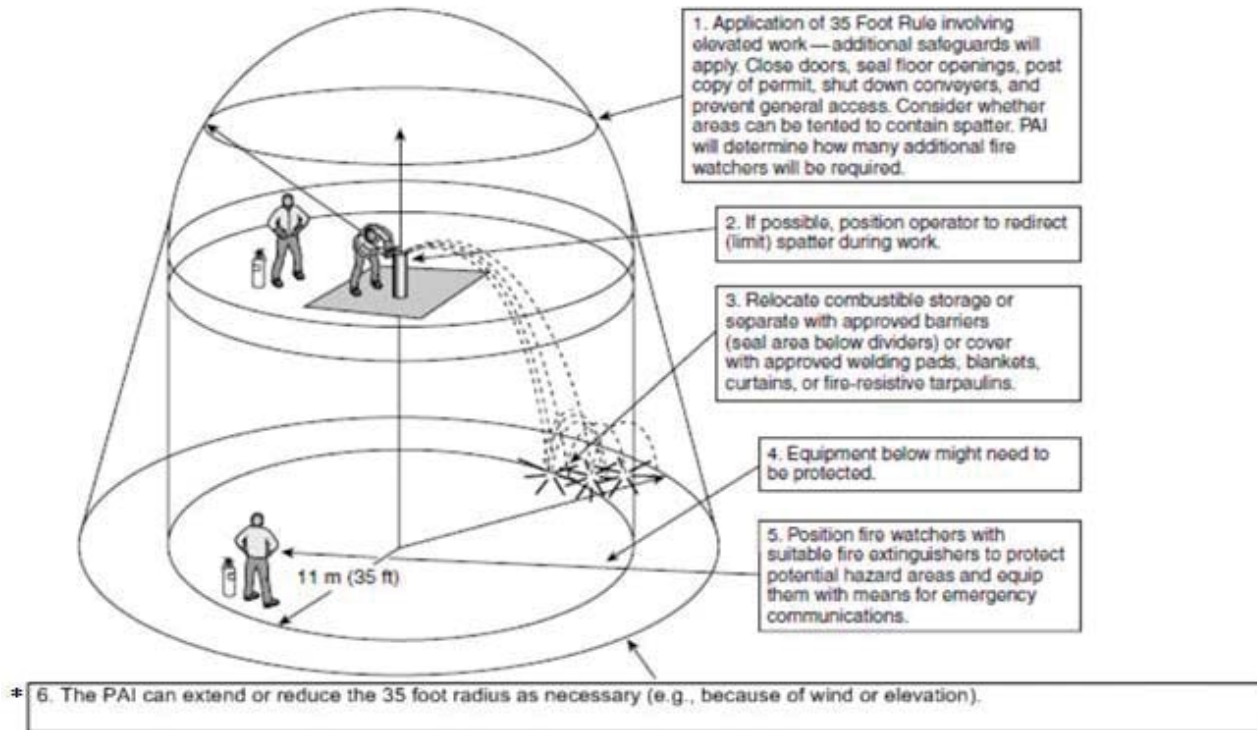
### APPENDIX D Fire Watch Decision Tree



### APPENDIX E Hot Work 35 ft Rule



#### 35 Foot Rule Illustrated



#### Example of Where Multiple Fire Watches Are Needed

\*The PAI is permitted to reduce the 35 foot boundary with permission from the FPE.