

Administrative Procedure, Level 1 - Company Wide

CPCC-PRO-FP-40422

Fire Marshal Permit Interfaces

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Canister Storage Building/Interim Storage Area	GCX-7 (Minor Change)	Garrett, Robert
Waste Encapsulation Storage Facility	GCX-7 (Minor Change)	Garrett, Robert
Transportation	Exclusion Reason: <i>N/A per B-20</i>	
Capsule Storage Area	GCX-7 (Minor Change)	Garrett, Robert
Below HazCat 3	Exclusion Reason: <i>N/A per Section 1.3</i>	
105 KW Facility	GCX-7 (Minor Change)	Meyer, Matthew
324 Building	GCX-8 (Not in Safety Basis Compliance Matrices)	Garrett, Robert
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This procedure defines the process for the request, preparation, review, approval, implementation, and enforcement of Hanford Fire Marshal Permits (HFMP) for Central Plateau Cleanup Company (CPCCo).

As a contractor, CPCCo is required to interface with the Hanford Fire Marshal's office for many different reasons. HNF-51041, Administrative Interface Agreement for Fire Protection Flow-Down Roles, Responsibilities, Authorities, and Enforcement Between CH2MHill Plateau Remediation Company, Washington Closure Hanford, and Mission Control Alliance, LLC, provides the interface agreement that identifies the areas where interface with the Hanford Fire Marshal's Office (HFMO) is required. Areas requiring interface with the HFMO includes but are not limited to the development and approval of exemption and equivalency requests prior to being submitted to DOE for approval; the development of fire system deactivation analyses; the investigation of fires and other fire and life safety events; the development of advisory bulletins, and other unique situations. A routine interface and often used interface with the Hanford Fire Marshal's Office is the development of Hanford Fire Marshal Permits.

1.2 Scope

This Level 2 procedure identifies the process for requesting a permit through the HFMP system, preparing a permit, reviewing and approving permits, the permit manager's responsibility to ensure the implementation of permit requirements, and enforcement of permit compliance.

HNF-52336, *Authority, Responsibilities, and Duties of the Hanford Fire Marshal (Fire Marshal's Charter)*, provides the duties of the Hanford Fire Marshal (HFM) and Deputy Fire Marshal (DFM). Duties not related to the use of CPCCo HFMPs are not governed by this procedure.

HNF-51041, *Administrative Interface Agreement for Fire Protection Flow Down Roles, Responsibilities, Authorities, and Enforcement Between Central Plateau Cleanup Company and Hanford Mission Integration Solutions, LLC*, provides the interface agreement that identifies the areas where interface with the Hanford Fire Marshal's Office (HFMO) is required. All interfaces not related to the use of CPCCo HFMPs are not governed by this procedure.

A CPCCo *Field Hot Work Permit* (Site Form A-6006-115) is not HFMP and is not governed by this procedure. Guidance for field hot work is covered in CPCC-PRO-FP-40421, *Hot Work*.

A *Non-Emergency Hydrant Tie-In Permit* (Site Form A-6003-681) is not an HFMP as is not governed by this procedure. Guidance for nonemergency hydrant use is covered in CPCC-PRO-FP-54134, *Fire Protection in D4 Facilities and Facilities Under Construction*.

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This procedure applies to CPCCo activities as well as CPCCo subcontractor activities at the Hanford Site that require HFMP or interface with the HFMO. Existing HFMPs under CPCCo control remain as written, until they are closed, revised, or expired.

The jurisdiction of the HFMO is limited to the Hanford Site. Activities and facilities outside Hanford are not governed by this procedure.

1.4 Implementation

This procedure is effective upon publication.

2.0 RESPONSIBILITIES

This section identifies overall responsibilities within the procedure process. Responsibilities related to individual process steps are shown in Section 3.0, Process. **Cognizant Fire Protection Engineer**

The Cognizant Fire Protection Engineer (FPE) is the CPCCo Qualified Fire Protection Engineer assigned to provide SME support for the scope.

- Provides interpretation and guidance regarding fire protection and permit requirements.
- Review the conditions of the permit and notify the DFM if permit noncompliance is found.

2.2 Deputy Fire Marshal

The Deputy Fire Marshal (DFM) is the CPCCo FPE deputized by the HFMO.

- Determine if a permit is required.
- Evaluate the scope and determine permit controls.
- Prepare, review, and approve permits.
- Enforce permit compliance.

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The Permit Responsible Manager (PRM) of a permit is the individual charged with complying with the permit requirements. The PRM may be any manager in charge of the facility, project, or scope requiring a permit, or their delegate. The PRM may or may not be a Responsible Manager as defined in CPCC-PRO-WKM-12115, depending on the scope of the permit.

- Provide DFM with documentation for evaluation.
- Provide request for permits and details of the facility or operation requiring permitting.
- Review and approve permits.
- Implement permit requirements.
- Notify the DFM when conditions change that may require reevaluation.
- Notify the DFM if permit noncompliance is found.

2.4 Facility Chemical Coordinator (FCC)

- Inform Cognizant DFM of additions to chemical inventory.

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3.0 PROCESS

This section establishes the steps for the request, preparation, review, approval, implementation, and enforcement of HFMP for CPCCo.

3.1 Basis for Permits

HMIS-RD-FP-8589, *Hanford Fire Marshal Permits*, is endorsed by CPCCo and provides the requirements for obtaining HFMPs. Conditions, operations, or materials hazardous to life or property pursuant to NFPA 1, *Fire Code*, Section 1.12 shall be the basis for permits issued through the HFMP System, as detailed in Section 2.1 of HMIS-RD-FP-8589.

The purpose of the HFMP is to ensure the fire protection program objectives are achieved and notify the Hanford Fire Department of changing conditions and hazards on the Hanford Site as required by DOE O 420.1C, Change 3, Facility Safety, DOE-STD-1066-2016, DOE Standard Fire Protection, DOE O 420.1C, Change 3, Implementation Direction (Attachment to Letter 21-NSD-001047_RL), and the National Fire Protection Association (NFPA) 1, *Fire Code*.

HFMPs are not substitutes for analyses required by CPCC-PRO-FP-40420, *Fire Protection Analyses*. The controls identified in a HFMP do not authorize exceeding controls and limitations in the applicable facility Fire Hazards Analysis (FHA) but may require additional controls or limitations. FHA controls and limitations applicable to the permitted scope may be placed in the HFMP but are not intended to replace the responsible manager's familiarity with the controls and limitations of the applicable documented safety analysis, FHA, technical safety requirements, or any other safety documentation.

3.2 Evaluate Need for Hanford Fire Marshal Permit

Appendix A provides guidance on different permit types and when they are needed.

Actionee	Step	Action
PRM	1.	ENSURE cognizant FPE/DFM is contacted at the beginning of the work planning stage to pre-determine if HFMP is required.
	2.	PROVIDE the cognizant FPE/DFM all documents that are applicable to the scope of work.
	3.	COORDINATE with the cognizant FPE/DFM to conduct an Occupancy, Work Package, and/or Design Package review.

NOTE: Appendix B provides the chemical permit thresholds that if exceeded requires a HFMP.

FCC	4.	<u>IF</u> adding to the chemical inventory, <u>THEN</u> INFORM the cognizant FPE/DFM to determine if a HFMP is required.
	a.	PROVIDE Safety Data Sheet (SDS) for chemicals being added.

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Actionee	Step	Action
NOTE: <i>This review is usually conducted as part of required FPE review of plans, specifications, procedures, and work documentation, which is not governed by this procedure.</i>		

FPE/DFM 5. REVIEW applicable documents to determine if a HFMP is required.

NOTE: <i>Documentation of this review can be in any written format, such as email or approval of work documentation.</i>		
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- a. IF a HFMP is not required,
THEN DOCUMENT the review.
- b. IF a HFMP is required,
THEN GO TO Section 3.3, *Requesting Fire Marshal Permits*.

3.3 Requesting Fire Marshal Permits

Actionee	Step	Action
NOTE: <i>The HFMP System can be accessed via the Hanford Intranet on the Hanford Local Area Network (HLAN). Time sensitive requests may be made via email or verbally when agreed to by the FPE/DFM.</i>		

- PRM 1. GO TO: XXXXXXXXXX [/firepermit](#)
2. IF permitting a recurring scope,
THEN CLONE the permit previously used for the scope.
 3. IF generating a new permit,
THEN CLICK "New Permit/Request" tab to initiate a Fire Marshal Permit Request.
 4. ENSURE the appropriate Hazard Category (Cat 2/3 Nuclear, Less than Cat 3 Nuclear, or Nonnuclear)
 - a. IF the facility is Hazard Category 2 or 3 nuclear,
THEN mark Cat 1/2/3 Nuclear as Yes
AND mark Less than Cat 1/2/3 as No.
 - b. IF the facility is Less Than Hazard Category 3 nuclear,
THEN mark Cat 1/2/3 Nuclear as No
AND mark Less than Cat 1/2/3 as Yes.
 - c. IF the facility is nonnuclear,
THEN mark Cat 1/2/3 Nuclear as No
AND mark Less than Cat 1/2/3 as No.
- PRM 5. ENSURE the appropriate Qualified Unreviewed Safety Question (USQ) reviewer is identified.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM		<ol style="list-style-type: none"> a. All new permits shall be reviewed by a Qualified USQ Reviewer to determine if a USQ is required. b. Revised permits having a USQ Review Number shall receive a new USQ process review. c. <u>IF</u> a USQ Review is required, <u>THEN</u> make USQ Reviewer an additional approval required and assign the cognizant USQ Reviewer. <ol style="list-style-type: none"> 6. ENSURE the correct PRM and DFM are identified. 7. GO TO the relevant section for the type of permit required <u>AND COMPLETE</u> steps. 8. <u>IF</u> the type of permit required is not covered in Section 3.4 through Section 3.14 <u>THEN GO TO</u> Section 3.15 <u>AND COMPLETE</u> steps.

3.4 Occupancy Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM		<ol style="list-style-type: none"> 1. PREPARE the HFMP <u>AND INCLUDE</u> at least the following: <ol style="list-style-type: none"> a. Building Number and Name. b. Building Location. c. Building's intended use. d. Building specific fire or life safety hazards (e.g.: chemical storage areas, storage of bulk plastics, blocking of egress routes, etc.). e. Additional information requested by the DFM.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
DFM	2.	PROVIDE precautions and limitations.

NOTE:

- *Chemical quantities exceeding the permit threshold may be addressed in the occupancy permit. Quantities exceeding the MAQ must be addressed in a separate permit, detailed in Section 3.7.*
- *Appendix H and I provides guidance for permit scoping and options to consider.*

	3.	COMPLETE AND ATTACH an Occupancy Permit Checklist (Site Form A-6007-366) to new occupancy permits. Recommended to attach form on Occupancy revisions, but not required. If a structure is relocated, the Occupancy Permit is considered new.
DFM	4.	<u>IF</u> additional life safety analysis is required for occupant load, <u>THEN</u> ATTACH it to the permit.
	5.	ASSIGN expiration date not more than five years from date of issue.
	6.	GO TO Section 3.15, Finalizing Permits, <u>AND</u> COMPLETE steps.

3.5 Relocatable Structure Placement/Relocation/Demobilization Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM	1.	PREPARE the HFMP <u>AND</u> INCLUDE at least the following: <ul style="list-style-type: none"> • Building Number and Name. • Building Location. • Building's intended path forward. • Anticipated schedule. • Additional information requested by the DFM.
	2.	ASSIGN expiration date corresponding with the anticipated scope completion.
DFM	3.	PROVIDE precautions and limitations.
	4.	GO TO Section 3.15, Finalizing Permits, <u>AND</u> COMPLETE steps.

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3.6 Construction, Modification, and Demolition Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM	1.	<p>PREPARE the HFMP <u>AND INCLUDE</u> at least the following:</p> <ol style="list-style-type: none"> a. Detailed descriptions of all work activities. b. Personnel required to enter the facility. c. Any of the following are needed to complete the work: <ol style="list-style-type: none"> 1) Fuel-fired equipment (including the required type and quantities of generators, light plants, air compressors, etc.). 2) Off-road travel, vehicle parking/staging, or other proximity to wildland by fueled equipment. 3) Flammable, combustible, or hazardous chemicals. 4) Hot work. 5) Heaters (may require separate permit). 6) Containment or support structures required to be constructed, including tents. 7) Smoking areas.
DFM	2.	PROVIDE precautions and limitations.
<p>NOTE:</p> <ul style="list-style-type: none"> • <i>Chemical quantities exceeding the permit threshold may be addressed in the construction, modification, and demolition permit. Quantities exceeding the MAQ must be addressed in a separate permit, detailed in Section 3.7.</i> • <i>Appendix C provides guidance for permit scoping and options to consider.</i> 		
	3.	ASSIGN expiration dates not more than 1 year from date of issue.
	4.	GO TO Section 3.15, Finalizing Permits, <u>AND COMPLETE</u> steps.

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3.7 Flammable and Combustible Liquids, and Hazardous Materials

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM, or FCC	1.	<u>IF</u> adding flammable, combustible, or hazardous chemicals, <u>THEN</u> NOTIFY the cognizant DFM.
	2.	PROVIDE DFM total quantities, SDS, and the locations and arrangements for all chemicals planned to be used and/or stored.
	3.	<u>IF</u> NTRL listed rated cabinets will be used, <u>THEN</u> INFORM DFM.
DFM	4.	EVALUATE if the chemical inventory exceeds the permit threshold or MAQ.
	a.	<u>IF</u> the chemical inventory exceeds the permit threshold, <u>THEN</u> ENSURE the chemical inventory is permitted.
	1)	Chemical inventories in excess of a permit threshold and not exceeding a MAQ may be added to an existing permit for the building or work scope or a separate chemical permit.

NOTE: *Chemical inventory in a rated cabinet should be individually permitted so that the permit can be attached to the cabinet for ease of inspection.*

2) Chemical inventory in excess of an MAQ requires a separate Chemical permit for first responder's notifications.

5. PERFORM a Building MAQ analysis; includes evaluating the building, chemicals, and features that can be credited for each control area.

6. ENSURE the appropriate NFPA 704 signage is posted.

NOTE: *This analysis may be documented in an FHA, FFPA, or standalone analysis.*

7. ASSIGN expiration dates not more than 3 years from date of issue.

8. GO TO Section 3.14, Finalizing Permits, AND COMPLETE steps.

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3.8 Designated Hot Work Area Permits

Designated hot work area permits are for controlled areas that are routinely used for hot work. These areas do not always need to be set up for hot work if hot work is not being conducted. For field hot work, a *Field Hot Work Permit* (Site Form A-6006-115) is required instead, which are not governed by this procedure nor the HFMO. Hot Work must comply with CPCC-PRO-FP-40421.

Actionee	Step	Action
FPE/DFM	1.	<p>PREPARE the HFMP <u>AND INCLUDE</u> at least the following:</p> <ul style="list-style-type: none"> a. Building Number and Name. b. Location and Arrangement of hot work area. c. Types of hot work and tools used. d. Types and Quantities of Flammable/combustible liquids and compressed gases involved and stored. e. ASSIGN expiration dates not more than one year from date of issue.
DFM	2.	PROVIDE precautions and limitations.

NOTE: *Appendix L provides guidance for permit scoping and options to consider.*

3. GO TO Section 3.15, Finalizing Permits,
AND COMPLETE steps.

3.9 Fuel Fired Equipment Permits

Actionee	Step	Action
PRM	1.	<p>PROVIDE FPE documentation for all fueled equipment <u>AND INCLUDE</u> at least the following:</p> <ul style="list-style-type: none"> a. Location, Building Number, and layout diagrams. b. Associated work packages. c. Purpose, type, and quantity of fueled equipment, including specifications.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
DFM	2.	PROVIDE precautions and limitations.

NOTE: *Appendix D provides guidance for permit scoping and options to consider.*

3. ASSIGN expiration dates not more than three months from date of issue.
 - a. A longer frequency may be assigned IF additional guidance for inspection frequency is provided in the permit.
4. GO TO Section 3.15, Finalizing Permits, AND COMPLETE steps.

3.10 Portable Heater Permits

Portable heaters in excess of 1500 watts or fuel-fired heaters of any size require a HFMP. Heaters may be covered in a permit for occupancy or work activities or a standalone permit.

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM	1.	PREPARE the HFMP <u>AND INCLUDE</u> at least the following: <ol style="list-style-type: none"> a. Who will be responsible for the heaters. b. Type and number of heaters to be used (including size, manufacturer, fuel source, and BTU output). c. Indicate where the units will be used and for what purpose.
DFM	2.	PROVIDE precautions and limitations.

NOTE: *Appendix J provides guidance for permit scoping and options to consider.*

- | | | |
|-----|----|---|
| DFM | 3. | ASSIGN expiration dates not more than three months from date of issue. <ol style="list-style-type: none"> a. A longer frequency may be assigned IF additional guidance for inspection frequency is provided in the permit. |
| | 4. | GO TO Section 3.15, Finalizing Permits, <u>AND COMPLETE</u> steps. |

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3.11 Portable Heat Lamp Permits

Actionee	Step	Action
PRM	1.	PREPARE the HFMP <u>AND INCLUDE</u> at least the following: <ol style="list-style-type: none"> a. Number of heat lamps required and their specifications (fixtures with multiple lamps count as one lamp fixture). b. Location of the heat lamp fixtures. c. Indicate how the lamp fixtures will be used and their purpose.
DFM	2.	PROVIDE precautions and limitations.
	3.	ASSIGN expiration dates not more than three months from date of issue

NOTE: *Appendix N provides guidance for permit scoping and options to consider.*

4. GO TO Section 3.15, Finalizing Permits
AND COMPLETE steps

3.12 Planned Fire System Impairment Permits

Actionee	Step	Action
PRM	1.	ENSURE Cognizant DFM is informed of the planned impairment at least 21 days in advance.
	2.	PREPARE the HFMP, <u>AND INCLUDE</u> at least the following: <ol style="list-style-type: none"> a. Coordinate before writing permit with Planner, Fire Systems Maintenance, and the assigned USQ Reviewer to make sure everyone understands the scope of the impairment and that it is addressed. b. Work Package requiring the impairment. c. Duration. d. Extent of Impairment. e. Assign expiration date corresponding to the anticipated end of the impairment.
FPE/DFM	3.	PROVIDE precautions and limitations.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
NOTE:		<i>Appendix O provides guidance for permit scoping and options to consider.</i>

4. GO TO Section 3.14, Finalizing Permits, AND COMPLETE steps.

3.13 Road Closure Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM	1.	PREPARE or contact and coordinate with DFM to prepare the HFMP <u>AND INCLUDE</u> at least the following: <ol style="list-style-type: none"> a. Scope or Work Package requiring the impairment. b. Dates and time of proposed closure c. Duration d. Location e. Means of communication with HFD during the work f. Extent of closure (include a simple sketch) g. Define limitations, precautions, and controls. h. Assign expiration date corresponding to the anticipated end of the road closure.
DFM	2.	CONTACT the HFD Operations Chief <ol style="list-style-type: none"> a. Discuss scope and duration of proposed road closure b. Determine whether a site visit is needed, and schedule is required c. Identify compensatory measures
	3.	COORDINATE with PRM and designated Planner and FWS to establish: <ol style="list-style-type: none"> a. Steps for communication with HFD b. Notification of start and end to road closure activities daily c. Controlled access and signage requirements
	4.	DOCUMENT coordinated controls and precautions in permit

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
DFM	5.	ENSURE the permit adequately conveys the road closure information to emergency responders.
	6.	GO TO Section 3.15, Finalizing Permits, <u>AND COMPLETE</u> steps.
PRM and FWS	7.	COORDINATE with DFM and HFD to: <ol style="list-style-type: none"> Perform site visit prior to issuance of permit, if needed Identify coordination of traffic through or around road closure Establish communications and contacts during road closure, as well as emergency communications

3.14 Fire System Deactivation Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
DFM	1.	PREPARE the HFMP in accordance with the system deactivation analysis.
	2.	ENSURE the Fire Chief and fire system PRM are assigned.
	3.	GO TO Section 3.15, Finalizing Permits, <u>AND COMPLETE</u> steps.

3.15 Finalizing Permits

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
DFM	1.	REVIEW <u>AND APPROVE</u> HFMP.

NOTE: Steps 2 and 3 may be repeated until the HFMP is acceptable to the approvers.

PRM	2.	REVIEW HFMP requirements: <ol style="list-style-type: none"> ENSURE requirements included in work package instructions or procedures are not duplicated in the permit. ENSURE technical accuracy, applicability, and ability of the facility or project to comply. Consider the following questions: <ul style="list-style-type: none"> Does the FWS and RBM fully understand both the why and how of each stated precaution or control? How will the permit information be communicated to workers?
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Actionee	Step	Action
PRM		<ul style="list-style-type: none"> • Where will permit information be posted? • Will the FWS or RBM need Fire Protection Engineering assistance initially to oversee new activities or to assist in carrying out precautions? • What, if any provisions might be required for Fire Protection Engineer (FPE) surveillance to verify compliance? <p>c. COORDINATE corrections, edits, proposed changes to the HFMP and work documentation with the DFM.</p>
DFM	3.	ENSURE the HFMP is compliant and meets the PRM's needs.
PRM	4.	APPROVE HFMP.
Additional Approvers	5.	<u>IF</u> additional approvers are required, <u>THEN REVIEW AND APPROVE</u> the HFMP.
USQ Reviewer	6.	<u>REVIEW</u> HFMP <u>AND COMPLETE</u> USQ Review process.
USQ Reviewer	7.	NOTIFY DFM of USQ determination.
DFM	8.	ENSURE USQ determination and USQ number fields are correct.
	9.	NOTIFY USQ Reviewer the HFMP is updated.
USQ Reviewer	10.	REVIEW <u>AND</u> APPROVE the HFMP.
PRM	11.	COORDINATE implementation activities necessary to meet Hanford Fire Marshal Permit requirements.
<p>NOTE: <i>A copy of the permit is posted or otherwise made readily available at each place of operation or carried by the permit holder.</i></p>		
	12.	POST the approved HFMP at the location of the activity or in the Work Package as appropriate. <ul style="list-style-type: none"> a. ENSURE removal of any previous permit revisions.
	13.	IMPLEMENT HFMP.

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3.16 Revision or Cancellation of a Hanford Fire Marshal Permit

NOTE: *When conditions surrounding the activities or background of a permit change, the PRM or designate should contact the DFM for re-evaluation and potential revision and work or other activities subject to the change paused until conditions are resolved and the permit revised and approved. (Where feasible, limitations such as the type of activities permitted, or work packages to which the permit applies should be described within the permit to reduce confusion over applicability.)*

The DFM may submit a revision to a permit based upon re-evaluation of conditions and should coordinate with the PRM for concurrence and final approval.

Permits may be cancelled when:

- *Requested by the PRM*
- *When determined by the DFM that the work, operations, or occupancy are no longer being performed or have been suspended*
- *A specific expiration date established in the permit has lapsed.*

(Expiration dates should be provided for all permits, to ensure at least periodic DFM review for changes in conditions)

Prior to cancellation by the DFM, the PRM should be contacted to discuss potential impacts.

Actionee	Step	Action
PRM	1.	When aware of a potential change of conditions that may require revision or cancellation, COORDINATE with the DFM to confirm that the permit is no longer required or needs additional review for potential changes.
DFM	2.	When aware of a potential change of conditions that may require revision or cancellation, PERFORM review, and revise or cancel permit, as applicable.
PRM	3.	Review, coordinate, and approve revisions to permit
	4.	REPLACE prior posted editions of permit(s) with approved revision copies. ENSURE the removal of the cancelled or expired posted permit(s), if applicable, after the permit is cancelled.

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3.17 Enforcement

Compliance with permits and the DOE fire protection program is the obligation of the PRM. In some cases, the terms of a permit may not be met. In such cases, the DFM will arbitrate a resolution based on the increased hazard caused by the noncompliance.

This process is separate from the Stop Work process, which is not governed by this procedure. If a situation exists which places personnel or the public at risk or in danger; could adversely affect the safe operation or cause damage to the facility; or result in a release of radiological or chemical effluents to the environment above regulatory requirements or approvals then the stop work process should be immediately initiated.

Actionee	Step	Action
PRM	1.	<u>IF</u> a permit noncompliance is identified or suspected, <u>THEN</u> CONTACT the DFM.
DFM	2.	ASSESS the noncompliance.
	3.	<u>IF</u> the issue is editorial in nature, <u>THEN</u> CORRECT the HFMP.

NOTE: In cases where no additional precautions or limitations are required operations may continue while the HFMP is revised.

	4.	<u>IF</u> the issue has not been analyzed or requires additional precautions or limitations, <u>THEN</u> :
	a.	ENSURE proper hazard mitigation:
		1) Verbally COMMUNICATE compensatory measures and operational limitations at the time of notification.
PRM	2)	LOG <u>AND</u> IMPLEMENT DFM provided controls.
DFM	3)	CONFIRM in writing via email to PRM within 24 hours of the initial notification.
PRM	4)	ENSURE written controls are implemented.
DFM	b.	REVISE the HFMP to include the new controls.
	c.	ENSURE the HFMP is compliant and meets the PRM's needs.
PRM	d.	IMPLEMENT the revised permit and ENSURE compliance.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
PRM		<ol style="list-style-type: none">1) <u>IF</u> the implementation is achieved prior to the at-risk operation OR the noncompliance is resolved in a timely manner, <u>THEN</u> COMMUNICATE with the DFM and receive concurrence in writing that compliance is achieved. 2) <u>IF</u> the implementation cannot be achieved prior to the at-risk operation OR the noncompliance exists and cannot be resolved within 48 hrs, <u>THEN</u> TRACK the resolution through iCAS.

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4.0 FORMS

A-6002-692, *Initial Construction/Demolition Fire Safety Inspection Checklist*
A-6003-681, *Non-Emergency Hydrant Tie-In Permit*
A-6007-366, *Occupancy Permit Checklist*
BT-6007-659, *Fire Protection Impairment Tag*

5.0 RECORD IDENTIFICATION

None

6.0 SOURCES**6.1 Requirements**

10 CFR 851, *Worker Safety and Health Program*
CPCC-STD-FP-40404, *Fire Protection Program*
DOE O 420.1C, *Facility Safety*

6.2 References

ANSI/FM 4950, *American National Standard for Evaluating Welding Pads, Welding Blankets and Welding Curtains for Hot Work Operations*
CPCC-PRO-FP-40420, *Fire Protection Analyses*
CPCC-PRO-FP-40421, *Hot Work*
CPCC-PRO-FP-40424, *Equivalencies/Exemptions/Interpretation/Clarification (ICRs)*
CPCC-PRO-FP-40425, *Fire Protection System Inspection, Testing and Maintenance*
CPCC-PRO-FP-40426, *Fire Protection System Discrepancies*
CPCC-PRO-FP-54131, *Fueled Equipment and Heat-Producing Appliances*
CPCC-PRO-FP-54134, *Fire Protection in D4 Facilities and Facilities Under Construction*
CPCC-STD-FP-54135, *Control of Compressed and Flammable Gases*
CPCC-STD-FP-54137, *Control of Flammable and Combustible Liquids*
DOE-0343, *Hanford Site Stop Work Procedure*
HMIS-RD-FP-8589, *Hanford Fire Marshal Permits*
HNF-51041, *Administrative Interface Agreement for Fire Protection Flow-Down Roles, Responsibilities, Authorities, and Enforcement Between CH2Mhill Plateau Remediation Company, Washington Closure Hanford, and Mission Control Alliance, LLC*
NFPA 1, *Fire Code*
NFPA 101, *Life Safety Code*
NFPA 241, *Safeguarding Construction, Alteration, and Demolition Operations*
NFPA 30, *Flammable and Combustible Liquids Code*
NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*
NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*
NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*
NFPA 400, *Hazardous Materials Code*
NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*
NFPA 70, *National Electrical Code*
NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*

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Appendix A - Permit Requirements

Operations and Materials	Permit Required
Aerosol Products	To store or handle an aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 lb (226.8 kg).
Battery System	To install or operate stationary lead-acid battery systems having an electrolyte capacity of more than 100 gal. (379 L) in sprinkler buildings or 50 gal. (189 L) in non-sprinkler buildings.
Chemical and Chemical Waste	To store, use, or handle chemicals in excess of the amounts listed in Appendix B.
Combustible Material Storage	To store more than 2500 ft ³ (70.8 m ³) gross volume.
Compressed Gases	To store, use, or handle compressed gases in excess of the amounts listed in Appendix B.
Construction/Facility Modification/Demolition	New construction projects, modifications to or relocation of existing facilities/structures, field remediation projects (dig sites) and demolition of facilities and structures, or portions thereof (includes using the <i>Construction/Demolition Fire Safety Inspection Checklist [A-6002-692]</i>).
Cryogenics	To produce, store, or handle cryogenics in excess of the amounts listed in Appendix B. EXCEPTION: Where federal or state regulations apply or for fuel systems of a vehicle.
Explosives and Ammunition	Storage, use, or transport of explosives and ammunition.
Fire Alarm and Detection Systems and Related Equipment	Installation or modification to fire alarm and detection systems and related equipment.
Fire Pumps and Related Equipment	Installation of or modification to fire pumps, jockey pumps, controllers, and generators.
Flammable and Combustible Liquids	1. To use or operate, repair, or modify a pipeline for the onsite transportation of flammable or combustible liquids.

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Appendix A - Permit Requirements

Operations and Materials	Permit Required
	<p>2. To store, handle, or use Class I liquids in excess of 5 gal (18.9 L) in a building or in excess of 10 gal (37.9 L) outside of a building.</p> <p>Exception to item (2): A permit is not required for the following:</p> <p>(a) The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant, or mobile heating plant unless such storage in the opinion of the chief would cause an unsafe condition.</p> <p>(b) The storage or use of paints, oils, varnishes, or similar flammable mixtures when such liquids are stored for maintenance, painting, or similar purposes for a period of no more than 30 days.</p> <p>3. To store, handle, or use Class II or Class III-A liquids in excess of 25 gal (94.6 L) in a building or in excess of 60 gal (227.1 L) outside a building.</p> <p>EXCEPTION to item (3): Fuel oil used in connection with oil-burning equipment.</p> <p>4. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary onsite pumps normally used for dispensing purposes.</p> <p>5. To install, construct, alter, or operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries, and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed, or used.</p> <p>6. To install, alter, clean, repair, line with a protective coating, remove, abandon, place temporarily out of service, or otherwise dispose of a flammable or combustible liquid tank.</p>

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Appendix A - Permit Requirements

Operations and Materials	Permit Required
	7. To change the type of contents stored in a flammable or combustible liquid tank to a material other than those for which the tank was designed and constructed.
Hazardous Materials	<ol style="list-style-type: none"> To store, transport on site, dispense, use, or handle hazardous materials in excess of the Permit Thresholds listed in Appendix B. To install, repair, abandon, remove, place temporarily out of service, close, or substantially modify a storage facility or other area regulated by NFPA 1 – Chapter 60 when the hazardous materials in use or storage exceed the Permit Thresholds listed in Appendix B.
Heat Lamps	To use a heat lamp for any reason.
Hot Work Area (Designated)	<p>Designated area for cutting and welding operations (See CPCC-PRO-FP-40421).</p> <p>NOTE: Designated Hot Work Permits shall only be issued for no more than one year.</p> <p>NOTE: Field Hot Work Permits (for non-designated areas) are obtained using CPCC-PRO-FP-40421.</p>
Liquefied Petroleum Gases	<ol style="list-style-type: none"> To store, use, handle, or dispense LP-GAS of 125 gal (0.5 m³) *(water capacity) aggregate capacity or greater. To install or modify LP-GAS Systems.
Membrane Structures, Tents, and Canopies – Permanent	For construction, location, erection, or placement.
Membrane Structures, Tents, and Canopies – Temporary	To erect or operate in air-supported temporary membrane structure or tent having an area in excess of 200 ft ² (18.6 m ²) or a canopy in excess of 400 ft ² (37.2 m ²).
Modification of a means of egress	Modification of a means of egress.
Occupancy	The use and occupancy of a facility, and the re-occupancy or change of use and

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Appendix A - Permit Requirements

Operations and Materials	Permit Required
	occupancy of an existing facility including portable structures.
Off-Road Vehicle Travel	Required before vehicles can travel off-road. Off-road terrain is defined as any natural terrain surface or any road surface including dirt, gravel, or pavement that is not being maintained in a way that prevents the underside of the vehicle from coming in contact with natural vegetation.
Oil-and Gas-Fueled Heating Appliances	To install oil-and gas-fired heating appliances.
Planned Impairment	A permit may be issued for a planned impairment to a fire protection system.
Relocatable Structure, Placement, Relocation or Demobilization	Construction, location, erection, or placement of a relocatable structure. NOTE: Permits are not necessarily required for relocatable storage units (conex boxes). The requirement for permits will be at the discretion of the FPE based on factors such as hazards and occupancy.
Road Closure	Road Closure.
Standpipe Systems	For installations, modification, or removal from service of any standpipe system*.
Special Outdoor Events	For Location and operation of special outdoor events.
Suppression Systems, including Standpipes	The installation or modification of a fire suppression system.
System Deactivation	Deactivation of a fire protection system, including a fire suppression system, fire alarm and detection system, fire hydrant, or standpipe. NOTE: For the deactivation of fire hydrants, a documented request to Fire Systems Maintenance to remove (snap-off) the hydrant must be in place as a condition of permit approval.

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Appendix A - Permit Requirements

Operations and Materials	Permit Required
Tar Kettles	To place a tar kettle, a permit must be obtained prior to the placement of a tar kettle.
Torch-Applied Roofing Operations	For the use of a torch for application roofing materials.
Water Supply	Installation or modification of water supplies, fire hydrants or underground mains.
Wild-land Fire-Prone Areas	For use of hazardous areas within fire-prone areas.
Wood Products	To store lumber, or plywood in excess of 200 ft ³ (5.7 m ³).
Other Activities	Other activities, at the discretion of the Fire Marshal's representative, and not meeting one of these distinct categories, yet falling under the scope of NFPA 1 permitting requirements. Examples could include exhibit and trade shows, combustible material storage, and battery systems.

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Appendix B - Chemical Permit Threshold Requirements

The table in Appendix B is found in NFPA 1, *Fire Code*, Chapter 60. The Cognizant Deputy Fire Marshal is the interpretive authority for when a permit is required. This section is intended to aid the DFM, but they may choose to require a permit for a lower amount in special circumstances.

Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Cellulose Nitrate Plastic	Cellulose Nitrate Plastic (Pyroxylin) is a plastic substance, material or compound, having cellulose nitrate as a base, or whatever name known, when in the form of blocks, slabs, sheets, tubes or fabricated shapes.	25 pounds
Combustible Fiber	Readily ignitable and free-burning fibers, such as cotton, sisal, henequen, ixtle, jute, hemp, tow, cocoa fiber, oakum, baled waste, baled wastepaper, kapok, hay, straw, excelsior, Spanish moss, or other like materials.	100 cubic feet
Combustible Liquids	A liquid having a flash point at or above 100°F. Combustible liquids are subdivided as follows. The category of combustible liquids does not include compressed gases or cryogenic fluids. <ul style="list-style-type: none"> CLASS II liquids are those having flash points at or above 100°F and below 140°F. CLASS III-A liquids are those having flash points at or above 140°F and below 200°F. 	25 gallons inside 60 gallons outside (except fuel oil used in conjunction with oil burning equipment)
Corrosive Gases	Corrosive – a chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. A chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described in Appendix A to CFR 49, Part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four hours. This term does not refer to action of inanimate surfaces. Example: ammonia	200 cubic feet
Corrosive Liquids	A liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action. Examples include acidic, alkaline or caustic materials.	55 gallons

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Corrosive Solids	<p>A solid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action.</p> <p>Examples: acidic, alkaline, or caustic materials</p>	500 pounds
Cryogenics	<p>A fluid that has a normal boiling point below -130°F.</p> <p><i>Examples (flammable):</i> hydrogen, methane</p> <p><i>Examples (oxidizing):</i> fluorine and liquid oxygen</p> <p><i>Examples (corrosive):</i> fluorine</p>	<p><u>Inside</u></p> <p>Corrosive – 1 gallon</p> <p>Flammable – 1 gallon</p> <p>Toxic/Highly Toxic – 1 gallon</p> <p>Nonflammable – 60 gallons</p> <p>Oxidizer (incl. O₂) – 10 gallons</p> <p><u>Outside</u></p> <p>Corrosive - 1 gallon</p> <p>Flammable – 60 gallons</p> <p>Toxic/Highly Toxic – 1 gallon</p> <p>Nonflammable – 500 gallons</p> <p>Oxidizer (incl. O₂) – 50 gallons</p>

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Explosives	<ol style="list-style-type: none"> 1. A chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure, or high temperatures, or 2. Any chemical compound, mixture, or device, the primary purpose of which is to function by explosion. Regulated by NFPA 1, Chapter 65. <p>Examples: dynamite, TNT, nitroglycerine, C-3, C-4, black powder, smokeless powder, propellant explosives, ammunition, and display fireworks</p>	<p>Any amount</p> <p>EXCEPTION: Charges for propellant actuated devices/tools.</p>
Flammable Gas	<p>Any material which is a gas at 68°F or less at 14.7 psia of pressure (a material has a boiling point of 68°F or less at 14.7 psia) which:</p> <ol style="list-style-type: none"> 1. Is ignitable at 14.7 psia when in a mixture of 13 percent or less by volume with air, or 2. Has a flammable range at 14.7 psia with air of at least 12 percent, regardless of the lower limit. 	<p>200 cubic feet</p> <p>(except cryogenic fluids and Liquefied Petroleum Gas [LPG])</p>
Flammable Liquids	<p>A liquid having a flash point below 100°F and having a vapor pressure not exceeding 40 psia at 100°F. The category of flammable liquids does not include compressed gases or cryogenic fluids. Class I liquids are flammable liquids and include those having flash points below 100°F. Class I liquids are subdivided as follows:</p> <ul style="list-style-type: none"> • Class I-A liquids include those having a flash point below 73°F and having a boiling point below 100°F. • Class I-B liquids include those having a flash point below 73°F and having a boiling point at or above 100°F. • Class I-C liquids include those having a flash point at or above 73°F and below 100°F. 	<p>5 gallons Inside</p> <p>10 gallons Outside</p> <p>See NFPA 1, Table 1.12.8(a) for exception</p>

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Chemical	Definition/Description	Minimum Amount Requiring Permit
Flammable Solids	<p>A solid substance, other than one which is defined as a blasting agent or explosive, that is liable to cause fire through friction or as a result of retained heat from manufacture, which has an ignition temperature below 212°F, or which burns so vigorously or persistently when ignited that it creates a serious hazard. Flammable solids include finely divided solid materials which when dispersed in air as a cloud could be ignited and cause an explosion.</p> <p>Examples (organic): camphor, cellulose nitrate, and naphthalene</p> <p>Examples (Inorganic): decaborane, lithium amide, phosphorous heptasulfide, phosphorous sesquisulfide, potassium sulfide, anhydrous sodium sulfide and sulfur</p>	100 pounds

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
<p>Highly Toxic Gases, Liquids and Solids</p> <p>(including pesticides and fumigants)</p>	<p>A material which produces a lethal dose or lethal concentration which falls within any of the following categories:</p> <ol style="list-style-type: none"> 1. A chemical that has a median lethal dose (LD₅₀) of 50 mg/kg or less of body weight when administered orally to albino rats weighing between 200 g and 300 g each. 2. A chemical that has a median lethal dose (LD₅₀) of 200 mg/kg or less of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the base shin of albino rabbits weighing between 2 kg and 3 kg each. 3. A chemical that has a median lethal dose concentration (LC₅₀) in air of 200 parts per million by volume or less of gas or vapor, or 2 mg/L or less of mist, fume or dust, when administered by continuous inhalation for one hour, or less if death occurs within one hour, to albino rats weighing between 200 g and 300 g each. <p>Mixture of these materials with ordinary materials, such as water, might not warrant classification as highly toxic. While this system is basically simple in application, any hazard evaluation that is required for the precise categorization of this type of material shall be performed by experienced, technically competent persons.</p>	Any amount
<p>Inert and Simple Asphyxiant Gases</p>	<p>Inert Gas – Any gas that is nonflammable, nonreactive, and non-contaminating.</p> <p>Simple Asphyxiant Gas – A gas that does not provide sufficient oxygen to support life and that has none of the other physical or health hazards. Asphyxiants work by displacing oxygen from the ambient atmosphere thus reducing available oxygen inhaled in the lungs which is used by the hemoglobin in the blood to oxygenate the tissues. As a result, the victim slowly suffocates.</p> <p>Examples: nitrogen (N₂), helium (He), neon (Ne), argon (Ar), methane (CH₄), propane (CH₃CH₂CH₃), and carbon dioxide (CO₂)</p>	6,000 cubic feet

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Chemical	Definition/Description	Minimum Amount Requiring Permit
Liquefied Petroleum Gases	A material having a vapor pressure not exceeding that allowed for commercial propane gas that is composed predominantly of following hydrocarbons, either by mixtures: propane, propylene, butane (normal butane or isobutane) and butylene.	125 gallons (water capacity) Installation or modification to LP Gas systems
Nitrate Film	See explosive materials-not in general use today.	Any amount
Oxidizing Gases	A gas that can support combustion in other materials, thereby causing fire either by itself or through the release of oxygen or other gases. Examples: oxygen, ozone, oxides of nitrogen fluorine and chlorine	504 cubic feet
Oxidizing Liquids	A liquid that can support combustion in other materials, thereby causing fire either by itself or through the release of oxygen or other gases. Examples: bromine, hydrogen peroxide, nitric acid, perchloric acid, sulfuric acid	Class 4 – Any amount Class 3 – 1 gallon Class 2 – 10 gallons Class 1 – 55 gallons
Oxidizing Solids	A solid that can support combustion in other materials, thereby causing fire either by itself or through the release of oxygen or other gases. Examples: chlorates, chromates, chromic acid, iodine, nitrates, perchlorates, peroxides	Class 4 – Any amount Class 3 – 10 pounds Class 2 – 100 pounds Class 1 – 500 pounds

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Organic Peroxide Liquids and Solids	<p>An organic compound that contains the bivalent –O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical. Organic peroxides can present an explosion hazard (detonation or deflagration), or they can be shock sensitive. They can also decompose into various unstable compounds over an extended period of time.</p> <p>Examples:</p> <p>Unclassified detonable organic peroxides – Organic peroxides that are capable of detonation.</p> <p>Class 1 – acetyl cyclohexane sulfonyl 60-65% concentration by weight, fulfonyl peroxide, diisopropyl peroxydicarbonate 100%</p> <p>Class 2 – acetyl peroxide 25%, t-butyl hydroperoxide 70%, peroxyacetic acid 43%</p> <p>Class 3 – benzoyl peroxide 78%, cumene hydroperoxide 86%, decanoyl peroxide 98.5%</p> <p>Class 4 – benzoyl peroxide 70%, t-butyl hydroperoxide 70%, decumyl peroxide 98%</p> <p>Class 5 – benzoyl peroxide 35%, 1,1-di-tbutyl peroxy 3,5,5-ttrimethylcyclohexane 40%</p>	<p>Unclassified Detonable – Any amount</p> <p>Class I – Any amount</p> <p>Class II – Any amount</p> <p>Class III – 10 pounds</p> <p>Class IV – 20 pounds</p>
Pyrophoric Gases	<p>A gas with an autoignition temperature in air at or below 130°F.</p> <p>Examples: diborane, phosphine, silane</p>	Any amount
Pyrophoric Liquids	<p>A liquid chemical that spontaneously ignites in air at or below a temperature of 130°F.</p> <p>Examples: diethyl aluminum chloride, diethyl beryllium, diethyl phosphine, diethyl zinc, dimethyl arsine, triethyl aluminum etherate, triethyl bismuthine, triethyl boron, trimethyl aluminum and trimethyl gallium</p>	Any amount

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Pyrophoric Solids	<p>A solid chemical that spontaneously ignites in air at or below a temperature of 130°F.</p> <p>Examples: cesium, hafnium, lithium, white or yellow phosphorus, plutonium, potassium, rubidium, sodium, and thorium</p>	Any amount
Toxic Gases	<p>A gas with a median lethal concentration (LD₅₀) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by continuous inhalation for one hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.</p> <p>Examples: arsine, cyanogen, diborane, fluorine, germane, hydrogen cyanide, nitric oxide</p>	Any amount
Toxic Liquids	<p>A liquid material which produces a lethal dose or a lethal concentration within any of the following categories:</p> <ol style="list-style-type: none"> 1. A material that has a median lethal dose (LD₅₀) of 50 milligrams or less per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each. 2. A material that has a median lethal dose (LD₅₀) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the bare skin of albino rabbits weighing between 2 and 3 kilograms each. <p>Examples: acrolein, acrylic acid, 34henylmer, hydrocyanic acid, tromethane, tetraethylstannane</p>	10 gallons

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Chemical	Definition/Description	Minimum Amount Requiring Permit
Toxic Solids	<p>A solid material which produces a lethal dose or a lethal concentration within any of the following categories:</p> <ol style="list-style-type: none"> 1. A material that has a median lethal dose (LD₅₀) of 50 milligrams or less per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each. 2. A material that has a median lethal dose (LD₅₀) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the bare skin of albino rabbits weighing between 2 and 3 kilograms each. <p>Examples: acrolein, acrylic acid, 35henylmer, hydrocyanic acid, tromethane, tetraethylstannane</p> <p>Examples: 35henylmercury, arsenic pentoxide, calcium cyanide, aflatoxin B, barium chloride, cadmium chloride, chromium oxide, mercury chloride</p>	100 pounds
Unstable (Reactive) Gases	A gas that is in the pure state or as commercially produced will vigorously polymerize, decompose, condense, become self-reactive, or otherwise undergo a violent chemical change, under conditions of shock, pressure, or temperature.	Any amount
Unstable (Reactive) Solids	A solid material that in the pure state or as commercially produced will vigorously polymerize, decompose, condense, become self-reactive or otherwise undergo a violent chemical change, under conditions of shock, pressure or temperature.	Class 4 – Any amount Class 3 – Any amount Class 2 – 50 pounds Class 1 – 100 pounds

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Unstable (Reactive) Liquids	<p>A liquid material that in the pure state or as commercially produced will vigorously polymerize, decompose, condense, become self-reactive or otherwise undergo a violent chemical change, under conditions of shock, pressure or temperature.</p> <p>Examples:</p> <p>Class 4 – acetyl peroxide, dibutyl peroxide, dinitrobenzene, ethyl nitrate, peroxyacetic acid, trinitrobenzene</p> <p>Class 3 – hydrogen peroxide >52%, hydroxylamine, paranitroaniline, perchloric acid</p> <p>Class 2 – acrolein, acrylic acid, hydrazine, methacrylic acid, sodium perchlorate, styrene</p> <p>Class 1 – acetic acid hydrogen peroxide 35% to 52%, paraldehyde, tetrahydrofuran</p>	<p>Class 4 – Any amount</p> <p>Class 3 – Any amount</p> <p>Class 2 – 5 gallons</p> <p>Class 1 – 10 gallons</p>
Water-Reactive Liquids	<p>A material which explodes; violently reacts; produces flammable, toxic or other hazardous gases; or evolves enough heat to cause self-ignition or ignition of nearby combustibles upon exposure to water or moisture.</p> <p>Examples:</p> <p>Class 3: triethylaluminum, isobutylaluminum, trimethylaluminum, bromine pentafluoride, bromine trifluoride</p> <p>Class 2: calcium carbide, calcium metal, cyanogen bromide, lithium hydride, potassium metal, sodium metal, sodium peroxide, sulfuric acid</p> <p>Class 1: acetic anhydride, sodium hydroxide, sulfur monochloride, titanium tetrachloride</p>	<p>Class 3 – Any amount</p> <p>Class 2 – 5 gallons</p> <p>Class 1 – 10 gallons</p>

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Appendix B - Chemical Permit Threshold Requirements

Chemical	Definition/Description	Minimum Amount Requiring Permit
Water-Reactive Solids	Same definition as Water – Reactive Liquids above.	Class 3 – Any amount Class 2 – 50 pounds Class 1 - 100 pounds

The tables in Appendix B are found in NFPA 1, *Fire Code*, Chapter 60.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix C - Construction and D4 Activities**

Construction and D4 activities are varied and complex. CPCC-PRO-FP-54134, *Fire Protection in D4 Facilities and Facilities Under Construction*, provides guidance for permit considerations. Additionally, when aspects of other types of permits, such as fuel-fired equipment, are incorporated the corresponding appendix should be considered.

Construction Permit Example Controls:

LIFE SAFETY:

1. The Pre-Job meeting shall specifically address the emergency egress plan with those working within the construction zone.
2. A mechanism for two-way communications must be maintained for each separate party/group.
3. A 10 lb Type ABC fire extinguisher shall be placed within 50 ft of the work location.
 - o Extinguishers utilized for work activities may be staged on the ground during work activities.
4. Waste containers (i.e., RO/Ros) shall not obstruct emergency vehicle access or obstruct the view and use of fire hydrants.

CONTROL OF COMBUSTIBLE MATERIALS:

1. Plastic sheeting shall meet NFPA 701, Test 2 criteria, unless approved by Cognizant FPE and documented in work package.
2. Air Ducting/Trunks shall meet NFPA 701, Test 2 criteria, unless approved by Cognizant FPE and documented in work package.
3. Air Ducting/Trunks shall not block roadways or impede egress from the dig site or building.

FLAMMABLE AND COMBUSTIBLE LIQUIDS, COMPRESSED GASES, AND HAZARDOUS MATERIALS:

1. Maintain/store aerosols in an approved flammable liquid storage cabinet, an enclosed metal cabinet, or metal job box when not in use.
2. At the end of the day, retrieve used and empty aerosol products and either dispose of them or place them in storage.
3. Dispose of unwanted aerosol cans in a noncombustible enclosure (job box or can with metal lid).

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Appendix C - (Cont.) Construction and D4 Activities**FUEL-FIRED EQUIPMENT (STATIONARY EQUIPMENT – GENERATORS/AIR COMPRESSORS/FUEL-FIRED HEATERS):**

1. A 10 lb ABC portable fire extinguisher shall be available for use in an emergency at each unit.
2. A material capable of absorbing hydraulic fluid in the event of a spill or leak shall be provided at the location of each unit.
3. When not in use and unattended, the hydraulic lines on the equipment shall be depressurized.
4. The power pack and grout plants, drill rig/power pack, excavator, front end loader, and all equipment with a fuel capacity greater than 50 gal shall be located no closer than 25 ft from a building.
5. Grades shall be sloped so that any liquid spill shall pool and flow away from the building.

HEAVY EQUIPMENT:

1. Limited heavy equipment use is permitted for pre-demolition activities, such as excavation.
2. Heavy equipment shall be parked and refueled at least 35 ft from vegetation and structures.
3. Place 1 in. plates over water supply lines to offer protection from damage prior to operations.

REFUELING:

1. Refuel equipment per the owner's manual and when engine is off and allowed to cool.
2. Refuel equipment from an NRTL approved safety container not more than 5 gal, or a compliant refueling vehicle.
3. The fuel lines and connections from the refueling vehicle to the fueled equipment shall be inspected for leaks during refueling operations.
4. A spill kit shall be available in the event of a fuel leak or spill.
5. Refueling shall be from a vehicle having a maximum capacity of 100 gal.
6. Refueling vehicles must be separated from the building by at least 25 ft and 25 ft from the fueled equipment when refueling is not taking place.

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Appendix C - (Cont.) Construction and D4 Activities

VEHICLE PARKING:

1. Vehicle parking shall be maintained at least 25 ft from building walls.
2. Vehicle parking shall not obstruct emergency vehicle access or obstruct the view and use of fire hydrants.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix D - Fuel-Fired Equipment**

The following is a sample template based on CPCC-PRO-FP-54131, *Fueled Equipment and Heat-Producing Appliances*:

If the equipment is in use unattended:

Surveillance shall be conducted every 4 hours to ensure the equipment is in good working order.

The following standard fueled equipment precautions shall be provided throughout the term of use:

1. **VERIFY** that a visual inspection of the safety features of the equipment has been conducted:
 - Trailer, vehicle mount, and transportation vehicle, including tires, lights, brakes, exhaust system, etc., as applicable.
 - Engines, fuel tank and system, exhaust system, spark arrestors and heat shields.
 - Equipment, cables, connectors, grounding/GFCIs, and safety interlocks.
 - Equipment guards shall be secured and intact.
 - Engine compartment, fuel system, tank, exhaust system, and vehicle or trailer shall be clean, free of combustible debris, and oily residues.
2. **PLACE** the equipment:
 - Upon level ground.
 - Free of combustible debris, oily residues.
 - Protected from mechanical damage.
 - Maintain minimum separation of:
 - 25 ft from combustible building walls and all building openings
 - 10 ft from noncombustible building walls
 - 25 ft from combustible storage
 - 25 ft from vehicle parking
 - 35 ft from wildland vegetation
 - Day tanks are separated from fuel-fired equipment by at least 3 ft.

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Appendix D - (Cont.) Fuel Fired Equipment

3. **PARK** portable equipment:
 - Wheels shall be chocked.
 - For larger truck- or trailer-mounted units, the entire truck or trailer assembly shall be placed on top of a nonpermeable membrane with spill prevention berm or curbing. Alternatively, one or more metal catch pans with at least 2 in. high curbing, providing coverage under the engine and fuel compartments may be used.
 - At least one fire extinguisher shall be within 25 ft of the unit, minimum of 10 lb ABC Fire Extinguisher (4A:80B:C).
 - Provision shall be made for fuel, oil, or lubricant spill containment and cleanup.
4. **INSPECT** cables and connectors before use to ensure they are free of defects and in satisfactory condition:
 - Insulation jackets are free from nicks, abrasions, and checking.
 - Connectors and grounding fixtures are intact and free from cracks or breaks.
 - Cables are run in as direct and short a path as practical.
 - Cables and connectors are protected from mechanical damage.
 - Connectors arranged and protected from moisture and water accumulations.
5. **CONDUCT** an inspection of the portable equipment upon initial setup and at least once per worked shift thereafter, consisting of at least:
 - Location and arrangement of the equipment.
 - Condition of engine, fuel system, and exhaust system.
 - Electrical conditions, electrical interlocks, and grounding.
 - Cable and connectors.
6. **IF** strange odors, smoke, or fire is detected, **THEN** immediately **SWIM**, if it is safe to do so **POWER DOWN** the equipment.
 - Before restarting, **ENSURE** fuel-fired equipment is thoroughly evaluated by a qualified technician.

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7. **REFUEL** the equipment when it is not in operation and has been allowed to cool.
 - Supply fuel from approved NRTL-approved safety containers 20 L (5.3 gal) or less, or
 - From bulk fuel vehicle systems with NRTL-approved fuel lines, shut-off devices, grounding, and safety interlocks.
 - Exception: Day tanks may be refueled while the equipment it serves is in operation.
8. Upon initial placement of fuel-fired equipment and when relocated, notify the cognizant Fire Protection Engineer to review and approve the arrangement prior to operation.
9. When no longer needed, the fuel-fired equipment shall be removed from the area and stored at a designated site.

Post this permit in a clear weatherproof container mounted on or near each piece of permitted fuel-fired equipment and in the applicable work package.

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Appendix E - Off-Road Vehicle Operations

The following terms are often used as part of well drilling operations:

Off-Road: Any natural terrain surface or any road surface including dirt, gravel, or pavement that is not being maintained in a way that prevents the underside of the vehicle from coming in contact with natural vegetation.

Pre-Treatment of Potential Fuels: A process that involves the removal of vegetation along the path of travel, such that vegetation cannot come in contact with the undercarriage of the vehicle and/or having a water tender vehicle wet down the area immediately before travel into and out of the area.

Red Flag Warning: A term used by fire-weather forecasters to call attention to weather that may result in an extreme fire condition. A red Flag Warning is issued when the fire-weather forecaster has a high degree of confidence that Red Flag criteria exist within 24 hours after the warning is issued. Red Flag criteria can occur whenever the National Fire Danger Rating is HIGH, VERY HIGH, or EXTREME. Meteorological conditions that may contribute to a Red Flag Warning are the following:

- High winds
- Low humidity
- High temperatures
- Lightning potential

Variance to Off-Road Requirements: Proposed deviations to Hanford Fire Marshal Bulletin AB007—001 and this procedure shall be coordinated by the cognizant FPE/DFM and project management, with the approval of the Hanford Fire Marshal and Battalion Chief. If approval is granted, a Hanford Fire Marshal Permit shall be issued documenting the limitations and any additional compensatory measures.

The following apply to all vehicle operations conducted in wildland areas:

- All vehicles, regardless of type, shall be visually inspected prior to introduction to the wildland vegetated area by the owner or custodian to verify that it is in good working order with a properly functioning, exhaust, fuel, and coolant system. Periodic visual inspections should be conducted at least once per shift to ensure there is no vegetation or combustible debris caught under the vehicle that could ignite from the exhaust system, catalytic converter, rotating components, or hot engine compartment.
- During LOW fire danger level, no specific restrictions beyond those for off-road equipment and the cognizant FPE/DFM's Hanford Fire Marshal Permit precautions apply based upon the work package scope.
- During MODERATE fire danger level, requirements for LOW apply, plus no parking or idling over or on standing vegetation.
- During HIGH fire danger level, requirements for Moderate apply, plus pretreatment of potentially ignitable vegetation has occurred.

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- Project management shall notify and obtain concurrence from the HFD's on-duty Battalion Chief (509-373-3856) before activity involving off-road vehicle use and/or travel when the fire danger level is HIGH or above. Notification of the on-duty Battalion Chief should occur between the hours of 0700 and 2000 hours (7 am and 8 pm). This notification must also occur if a Hanford Fire Marshal Permit has been obtained for any deviations to the requirements of Hanford Fire Marshal Bulleting AB07-001.
- During VERY HIGH fire danger level, requirements for HIGH apply, plus access to the wildland area is restricted to the hours of 2200 and 1000 hours (10 pm and 10 am).
- Closure of all off-road activities will occur when any one of the following occurs:
 - Hanford Site is under a Red Flag Warning condition
 - Expected wind speeds exceed 15 MPH, and the fire danger level is HIGH or above
 - Relative humidity is 15% or less when the fire danger level is HIGH or above
- In all cases of off-road travel, a hand shovel, fire extinguisher (Minimum 2A:10B:C), and communications (radio or cellular telephone) shall always be carried in each vehicle. When the fire danger level is VERY HIGH or above, an additional 2.5 gal pressurized water fire extinguisher or approved equal is required in each vehicle.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix F - Outdoor Hot Work Activity**

The following template is for low energy hot work or outside designated hot work areas. Field hot work requires a field hot work permit and cannot be permitted through a HFMP.

- Ensure all welding or cutting equipment and associated regulators, gauges, valves, cables, connectors, and hoses have been inspected beforehand and verified to be in safe condition, per the manufacturer's instructions.
- Any hot work shall be separated by at least 35 ft clear space to the wild land area, free of vegetation and combustible material.
 - This clear space separation may be reduced with the use of NRTL approved fire blankets, and fire retardant wind screens, subject to the review and approval of the DFM in advance of the work.
 - Confirm hot work is being performed at the designated hot work area approved by the cognizant DFM.
- Remove additional combustible materials in close proximity to hot work.
 - Ensure the ground area forms a noncombustible clear space, free of combustible materials, including vegetation, plywood panels, and oily residues.
 - Where this cannot be done, thoroughly wet down and cover the exposed area with approved fire-retardant blanket materials.
- Secure compressed gases to prevent toppling.
- Check wind conditions with the weather station.
- Hot work activities are valid only when the fire danger level on the Hanford Site is MODERATE or below.
 - No hot work will be performed when prevailing winds exceed 15 mph.
 - Hot work will be permitted for welding, torch cutting, and grinding in winds greater than 15 mph but that remain at or below 20 mph sustained, provided wind breaks are used.
 - If winds are greater than 15 mph but remain at or below 20 mph sustained, use and anchor welding curtain windbreaks to prevent flying away.
 - Arrange welding curtain windbreaks in the following manner:
 - Welding curtain windbreak panel materials must be tested and approved in accordance with ANSI/FM 4950, American National Standard for Evaluating Welding Pads, Welding Blankets, and Welding Curtains for Hot Work Operations.
 - Welding curtain windbreaks shall be arranged on all open sides of the hot work and extend at least 4 ft above the horizontal plane of the hot work, or as reviewed and approved in advance by the DFM.
 - Welding curtain windbreak panels shall be arranged, overlapped, and secured to prevent gaps from which sparks or embers may pass and to prevent toppling. (Provide at least a 6 in. overlap at the sides and at the bottom.)

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- Any gaps at the base or sides of wind breaks shall be covered with Factory Mutual-approved welding blanket materials or other secured noncombustible or fire resistive materials.
 - The entry to the welding curtain windbreak area may consist of an overlapping panel or curtain or S-shaped perimeter where the entry is perpendicular to the hot work area.
 - Where pipes or other fixtures must extend outside of the hot work area, welding curtain windbreak panels may abut the pipe or fixture extension, using fire-retardant blanket materials.
 - Maintain a minimum 3 ft clear space free of combustible material on the non-working side of the hot work partition. Alternatively, enclosed metal cabinets and/or job boxes may be used for the storage of combustibles, if reviewed and approved in advance by the FPE/DFM. Flammable liquids or combustible liquids storage in open shelving or in approved flammable liquids storage cabinets is not permitted within 10 ft. of the hot work partition.
- The fire watch will have no other job and remain in the area for 30 minutes after welding has been completed.
 - Constantly verify no combustible materials (brush, paper, sagebrush, etc.) are within 35 ft of the hot work or are suitably wet down and/or covered.
 - Ensure other fueled vehicles or combustible materials are maintained at least 25 ft away from the field hot work area.
 - If conditions change at any time during the validation period, notify the DFM and to review and revise the hot work permit prior to continuation of hot work activities.
 - Ensure the contractor reviews the hot work permit and completes a general work area inspection daily or per shift, as applicable, and records findings on the log sheet.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix G - Relocatable Structure Fire Protection Permitting Criteria**

Summary

The following provides general guidance for the development and evaluation for relocation/construction and occupancy permitting of relocatable structures. Sound engineering judgement shall be applied to the application of these criteria to meet specific site hazards and operating conditions.

Construction

- Deputy Fire Marshal review shall be documented formally using *Review Comment Record (RCR)* (Site Form A-6004-835), *Review Comment Review (RCR) Instructions*, within controlled review software (such as DMCS), or issuing a formal review memo.
- Location/relocation and placement shall require the issuance of a Hanford Fire Marshal Relocatable Structure Permit in advance of the work.
- MO construction shall conform to DOE-STD-1066-2016, Appendix C for relocatable structures.
 - Interior materials shall be NFPA Class A with a flame spread rating of 25 or less, and smoke generated rating of not more than 250.
 - Roof shall be of UL Class A assembly.
 - Interior arrangement of aisles, hallways, and means of egress shall conform to NFPA 101.
 - Plans shall be submitted for review and approval by the cognizant FPE prior to acquisition.
- Skirting or non-combustible wire mesh around both the MO and stairs/ramps/platforms to prevent combustible material accumulations.
- Stair, platform, ramp walking and working surfaces, guard rails, handrails, mid-rails, and toe-board construction shall be
 - In accordance with NFPA 101, (see CPCC-PRO-FP-54128, *Fire Protection Design*, Appendix C – Basic NFPA 101 Stair, Landing, Handrail and Guardrail Requirements)
 - Plans reviewed by cognizant FPE and approved in advance
 - Of noncombustible construction
 - Where this requirement cannot be met, the cognizant FPE will determine if a substitute is allowable

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Location and Exposures

- Spatial separation between MO's and between individual MO's and other buildings or combustible exposures shall be in accordance with NFPA 80A (the Deputy Fire Marshal shall provide supporting sketch as needed and separation distance evaluation and include in the permitting attachments).
- Relocatable siting and exposures shall be evaluated by the Deputy Fire Marshal, per NFPA 80A.
 - Not less than 20 ft from buildings
 - At least 35 ft from wildland vegetation
 - At least 25 ft from designated smoking areas and combustible storage
 - Vehicle parking shall be arranged at least 10 ft from building walls
 - At least 25 ft from all portable fuel-fired equipment, such as generators, lighting stands, and compressors
- Relocatable structures shall not be located directly over water pipe, sewer, or buried electrical utilities. The Project Responsible Manager is responsible for contacting Electrical and Water Utilities to confirm the location of these features in advance of the actual relocatable structure siting and provide confirmation of the suitability of the arrangement to the Deputy Fire Marshal.
- Work performed for the location and arrangement of MOs, including the clearing of vegetation and preparation of the site is subject to local wildland and range fire hazard rating conditions. When the fire hazard rating exceeds "Moderate" or "Red Flag" conditions exist, the Hanford Fire Marshal Permit must address precautions and limitations when work may be during this elevated conditions.

Protection

- Fire department apparatus access shall be in accordance with NFPA 1 and subject to prior review and approval of the cognizant Deputy fire Marshal and Hanford Fire Department.
- Automatic sprinkler protection is not for individual buildings or fire areas of combined buildings when each of the following conditions is met:
 - Less than 5,000 sq. ft.
 - Less than \$5 million MPFL
 - Less than nuclear Hazard Category 3
- When any of the criteria listed above is exceeded, automatic sprinkler protection shall be installed in accordance with NFPA 13.

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- Hydrant protection for relocatable structures shall:
 - Be required in accordance with DOE-STD-1066-2016, Appendix C when greater than the limits of bullet 2, above.
 - Be required if the conditions listed in bullet 2 above are exceeded and shall be capable of providing at least one hydrant within 400 ft capable of at least 1500 gpm in accordance with NFPA 1, Chapter 18.

- NOTE:**
- *See Table 18.5.4.3 for flow reduction for hose lays of over 250 ft to remote point from hydrant.*
 - *In the case the above limits are not exceeded, NFPA 1 requirements for hydrants are still applicable. On a case-by-case basis, utilization of an ICR to the Hanford Fire Marshal's Office supporting the use of NFPA 18.5.1.2 and the examples provided in A18.5.1.2 to show modification or extension of the water distribution system is deemed impractical is allowable.*

Exception: Hydrant protection shall not be required when none of the conditions listed above are exceeded, or when an ICR is submitted to the Hanford Fire Marshal's Office supporting the exception to NFPA 1, Chapter 18, Section 18.5.1.2 and one or more of the examples A18.5.1.2. (The Deputy Fire Marshal shall submit individual ICR's on a case-by-case basis and include in the permitting attachments.)

General Occupancy Precautions and Limitations

- All hot work, off-road activity, and chemicals shall be submitted to the Deputy Fire Marshal for review. CPCCo Field Hot Work Permit or Hanford Fire Marshal Permit is required for field hot work or designated hot work area activities, respectively. Flammable liquids or gases, and other hazardous chemical use or storage in excess of the Maximum Permit Threshold will require additional review by the cognizant Deputy Fire Marshal and Hanford Fire Marshal Permits.
- Metal trash cans with metal lids shall be provided in outdoor areas.
- Indoor trash cans shall be metal.
- Dumpsters shall be located 30 ft away from buildings/structures.
- Oil/solvent soaked rags, and similar materials shall be placed in approved and listed disposal containers.
- Tents and plastic membrane structures/enclosures shall meet NFPA 701, Test 2 criteria.
 - Tents and other plastic membrane structures/enclosures greater than 200 ft² in area require a separate Hanford Fire Marshal Permit.

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Appendix G - (Cont.) Relocatable Structure Fire Protection Permitting Criteria

Smoking Areas

- Designated smoking area shall be posted and maintained:
 - A minimum of 35 ft from vegetation/wildland areas.
 - A minimum of 25 ft from buildings, conex boxes, and staging areas for supplies/waste.
- Provide NRTL-approved metal container(s) (at least one smoking receptacle and one general trash receptacle with trap lid)
 - The NRTL-approved container(s) shall be periodically emptied.

Fuel Fired Equipment

- Fuel-fired equipment (including portable generators, light stands, and air compressors shall:
 - Require a Hanford Fire Marshal Permit with precautions in accordance with CPCC-PRO-FP-54131, *Fueled Equipment and Heat-Producing Appliances*. A Hanford Fire Marshal Permit is issued for up to a maximum of 90 days temporary operation. An additional extension of up to 90 days may be granted upon interim review and approval by the cognizant Deputy Fire Marshal.
 - Comply with NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*. Portable generators in place for greater than 1 week shall be considered as stationary and subject to the provisions of NFPA 37.
 - Precautions from CPCC-PRO-FP-54131 shall apply, along with any case specific conditions identified within the fuel-fired equipment permit.
 - Access for refueling shall be sufficient to drive-through and parking without the need to back-up the vehicle.
- Fuel-fired equipment (including generators, air compressors, and light plants) shall be
 - At least 35 ft from the vegetated wildland space.
 - At least 25 ft from buildings, major fixed equipment, or other combustible yard storage.
 - Protected against physical damage.
 - Equipped with at least one portable fire extinguisher within 50 ft of the unit.
- Vehicles shall be separated from the nearest building or vegetated wildland space by 10 ft.
- Refuel equipment
 - When it is not in operation and is cool (wait at least 5 minutes after shutoff prior to refueling).

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Exception: Equipment may continue to operate when refueling if it is only the Day Tank that is being refueled.

- Refuel equipment from an approved NRTL-approved safety container not more than 5 gal., or an NFPA 385, *Standard for Tank Vehicles for Flammable and Combustible Liquids*, compliant refueling vehicle if the tank capacity of any one tank exceeds 110 gal.
- NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, paragraph 9.6.2, requires that tank vehicles comply with the requirements of NFPA 385.
 - If the tank capacity of any one tank exceeds 110 gal., the provider of the equipment shall demonstrate in writing that vehicle is in compliance with NFPA 385.
 - For the operation of Tank Vehicles, NFPA 385, paragraph 9.1.1, requires that drivers shall be thoroughly trained in the proper method of operating tank vehicles, emergency and safety procedures, and the proper procedures for loading and unloading tank vehicles. The contractor shall provide evidence in writing of the driver/operator qualifications.
- When refueling from a tank that exceeds 110 gal., all of the following from NFPA 30A, Section 9.6 shall be met:
 - The dispensing hose shall not exceed 15 m (50 ft) in length.
 - A means for bonding the tank vehicle to the motor vehicle shall be provided. Such bonding means shall be employed during fueling operations.
 - Expansion space shall be left in each fuel tank to prevent overflow in the event of temperature increase.
 - The tank vehicle flasher lights shall be in operation while dispensing operations are in progress.
 - Nighttime deliveries shall only be made in areas deemed adequately lighted by the Deputy Fire Marshal.
 - The dispensing nozzle shall be a listed, automatic closing–type without a latch-open device.
 - A spill kit designed for motor vehicle fuels shall be carried on the tank vehicle and employed in case of a fuel spill.
- The Deputy Fire Marshal shall be notified when refueling equipment new to the site is introduced so that they have an opportunity to inspect prior to operation.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix H - Relocatable Structure Occupancy Permit Example**

This permit is for the occupancy of MO254 for the purpose of office, meeting, and break space.

The following items shall be maintained as a condition of this permit:

1. A full-size copy of this permit shall be placed within the structure, near the entrance.
2. Prior to adding/moving structures, storage facilities, Conex boxes, dumpsters, porta potties, parking areas, or ERDF can storage areas, the specific proposed placement and/or construction shall be reviewed and approved by a CPCCo Deputy Fire Marshal.
3. Hazardous materials, compressed gases, flammable or combustible liquids shall not be stored within the building without the review and approval of the CPCCo Deputy Fire Marshal so that the Maximum Allowable Quantities (MAQ) may be communicated to occupants.
 - a. The storage of hazardous materials, compressed gases, flammable, or combustible liquids in excess of the chemical permit threshold limits in CPCC-PRO-FP-40422, *Fire Marshal Permits/Interfaces*, Appendix B and Appendix C, shall require a separate Hanford Fire Marshal Permit.
4. Indoor use is authorized for an Electric Griddle.
 - a. Controls shall be established per CPCC-PRO-FP-54131, *Fueled Equipment and Heat-Producing Appliances*, section 3.8 "Portable and Fixed Cooking Devices."
5. Skirting and screening around the structure, including any attached decking or stairs, shall be maintained.
6. No storage or combustible accumulation, including windblown vegetation, shall be permitted within the crawl space or under decking and stairs in the path of egress.
7. Means of Egress, Exits, and Exit Discharges shall always remain clear and free of obstructions.
8. Combustible accumulation, storage, and vehicle parking shall be maintained at least 10 ft from the structure.
9. No smoking shall be permitted within 25 ft of building openings, such as doors, windows, or ventilation intakes. Designated smoking areas shall be reviewed and approved by the cognizant Deputy Fire Marshal and shall be maintained in accordance with CPCC-STD-FP-54133 AND Hanford Fire Marshal Bulletin AB05-001.
10. A minimum of 35 ft of clear space to the nearest wildland vegetation shall be provided for MO254.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix I - Nuclear Facility Occupancy Permit Example**

This permit is for the occupancy of Building 212H, Canister Storage Building (CSB). Additionally, this permit identifies specific controls required by the CSB FHA.

Precautions and Limitations:

1. Combustibles in the CSB are kept ALARA and separated into fuel packages less than 5 MW.
2. Routes of egress are assumed to be clear and accessible at all times. MHM activities are allowed to move the walking plates over the railways when covered in a pre-job.
3. The maximum fuel quantity of any vehicle operated inside the North Trailer Vestibule is 378.5 L (100 gal) and 284 L (75 gal) in the Receiving Area, Operations Area, Sample/Weld Area, or the South Vestibule. The fuel restriction does not apply to Class IIIB (Flash Point is greater than 93.33°C [200°F]) lube oils and hydraulic oils that are required for vehicle operation.
4. Propane-fueled equipment has tanks no larger than a 37.9 L (10 gal) capacity. Multiple propane-fueled vehicles with less than 37.9 L (10 gal) of propane are acceptable as required for operations as long as the total quantity of propane in the building does not exceed 151.6 L (40 gal).
5. Special hazard operations including but not limited to hot work, flammable/combustible liquids, hazardous chemicals, compressed gases that could exceed the permit amounts identified in PRC-PRO-FP-40422, *Fire Marshal Permit Interfaces*, are subject to a review and may require additional Fire Marshal permits.
6. Whenever a tractor is in the North Trailer Vestibule, the interior Megadoor is closed. The exterior door of the North Trailer Vestibule must be fully open because the tractor and trailer will not fit inside the North Trailer Vestibule with the exterior door closed. The interior Megadoor shall not be re-opened until the tractor is disconnected from the trailer, the tractor is removed from the facility, and the exterior door of the North Trailer Vestibule is closed.
7. Trucks delivering loads to the North Trailer Vestibule are assumed to have no more than 22 tires, which includes tires on both the tractor and trailer.
8. Refueling activities involving diesel delivery trucks shall be prohibited within 30.48 m (100 ft) of the CSB Operations Area shelter.
9. Parking of gas bottle delivery trucks shall be prohibited within 7.62 m (25 ft) of the CSB Operations Area shelter.
10. Storage of diesel lifts shall be prohibited in the North Trailer Vestibule with both the Megadoor and the exterior telescoping door closed.
11. Should any of the above conditions change this permit must be reevaluated by the FPE.
12. Post a copy of this permit near the main entrance to the building.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix I - (Cont.) Nuclear Facility Occupancy Permit Example**

THE FOLLOWING CONTROLS APPLY TO THE MECHANICAL ROOM AND FILTER ROOM (037):

1. Combustible materials shall not be stored in the Filter Room (037).
2. Combustibles shall not be stored or staged within 10'-0" of the Filter Room (037) walls on the Mechanical Room side.
 - In order to define this area a red stripe shall be painted on the floor along with the following signage, "NONCOMBUSTIBLE AREA". This stripe and signage is to be painted at a distance of 10'-0" from the face of the three walls of the Filter Room (037). This red stripe defines the NO Combustibles Permitted zone in which the storage, staging, or accumulation of combustibles is NOT allowed.
3. Flammable storage cabinets shall be located at a minimum distance of 25'-0" from the Filter Room (037) walls.
4. All existing facility documentation in the Mechanical Room shall be stored in metal enclosures. The metal enclosure can be a fire rated cabinet, a metal file cabinet, or a metal wall cabinet.
5. Only noncombustible spare parts shall be stored in the Mechanical Room in an exposed condition. Combustible packaging of spare parts (plastic wrap, shrink wrap, etc.) negates the noncombustible status of the part. Wood pallets are also prohibited for large parts. Spare parts are limited to those which are directly related to the equipment 212H.
6. Combustible supplies in combustible packaging shall be stored in metal wall cabinets or metal job boxes and shall be limited to materials/supplies for operation and maintenance of Mechanical Room equipment. Additional supplies shall be stored in another storage facility.
7. The cognizant Deputy Fire Marshal shall approve the methodology and quantity of additional material storage/staging in the Mechanical Room (such as might be necessary in support of maintenance/repair activities). In such cases appropriate compensatory measures will be established and documented through a Hanford Fire Marshal Permit.
 - This permit allows the storage of three (3) plastic crates and their applicable hoses in the Loading/Staging Area (017), which is located in the Northwest corner of the Mechanical Room. These plastic crates contain welding equipment that is necessary for CSB Operations. The welding equipment includes items such as tubes and hoses, no flammable welding gases are stored inside these crates. These crates must be stored in a climate controlled area, and as such cannot be moved to the Conex boxes outside CSB. The fire suppression system in the Mechanical Room will control a fire involving these crates, and the distance of the crates from the Final Filter Room (037) is substantially greater than 10'-0".

To maintain the control of combustible loading in these areas the appropriate revision to the Daily Surveillance Sheet shall be made to direct that the Operator monitor the combustible loading in these specific areas on the daily rounds.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix J - Portable Heater Permit Example**

The portable 480V 30kW electric heaters to be used shall meet the following restrictions.

1. The electrical equipment heating apparatus should be installed and protected in accordance with the requirements of the National Electrical Code (NFPA 70).
2. All associated electrical control and protective equipment should be inspected, tested, and cleaned annually to ensure its proper operation.
3. The heater shall be located and secured so that it cannot be tipped over. The unit shall be adequately supported to prevent movement.
4. All portable heaters shall be listed by a Nationally Recognized Testing Laboratory.
5. Power supply cords shall be protected from crimping, twisting, crushing and shall be protected from physical injury.
6. Only the prescribed heaters in the accompanying attachment shall be used and shall only be located as approved by the QFPE or DFM.
7. Inspect the heating units and electrical cords on a weekly basis to ensure they are in good working order and not in the path of exit travel.
8. If changes from the above conditions occur, a revision to this permit will be required.

Portable 1500 watt heaters will be used for comfort in Room 117 by personnel monitoring work in the radiologically controlled areas. Up to four 1500 watt heaters may be utilized in the Donning and Doffing area in addition to those in the step off pad area.

1. The 1500 watt heaters will be plugged directly into the main power cables and will not utilize extension cords or power strips.
2. The comfort heaters will be of the type that turn off when knocked over.
3. All comfort heaters will be turned off when the areas are not occupied.
4. The SOE rounds will include verification that the comfort heaters have been turned off.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix K - Well Site Installation Permit Template**

This permit is for the installation of well sites.

OFF-ROAD VEHICLE PRECAUTIONS:

Fire Marshal Advisory Bulletin AB07-001, Latest Revision, shall be applicable to driving off-road when required. Where possible, alternative methods to off-road vehicle operation shall be considered and reviewed and approved by the cognizant DFM in advance of the activity. These alternatives include, but are not limited to:

- Pretreatment (wetting) of dry wildland vegetation prior to operating the vehicle in a specified area and at intervals thereafter.
- Pushing gravel into the vegetated space in advance of the vehicle to ensure that it is operating on a vegetation-free surface.
- Restricted operation of the vehicle from a previously established vegetation-free zone adjacent to the work area.

Off-road travel is not authorized during the following conditions:

- Extreme fire danger
- Red Flag Warning conditions
- If the sustained wind speed exceeds 15 mph and the fire danger is HIGH or above
- If the relative humidity is 15% or less and the fire danger is HIGH or above

When no alternative to off-road travel is available, the controls below shall be followed.

- All off-road vehicles shall have with them:
 - A hand shovel
 - A fire extinguisher with a minimum 2A:10B:C rating
 - A form of communication (Radio or Cell Phone)
- During LOW fire danger, no additional requirements are needed
- During MODERATE fire danger:
 - No vehicle parking or idling over standing vegetation
- During HIGH fire danger:
 - Precautions of MODERATE
 - Pre-treatment of the vegetation
 - Contact cognizant FPE for evaluation of work
 - HFD Battalion Chief notification (between 0700-2000) prior to work starting by calling 509-373-2745
- During VERY HIGH fire danger:
 - Precautions of HIGH
 - Off-road access is restricted to between 10PM to 10AM
 - An additional 2.5-gallon pressurized water fire extinguisher.
 - A continuous fire watch shall be established to watch the traveled path that extends to at least 30 minutes after off-road travel has ended

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Appendix K - (Cont.) Well Site Installation Permit Template**PARKING**

Parking and staging of fueled vehicles shall be maintained on established gravel clear space areas adjacent to roadways that are free of vegetation.

1. Motor vehicles shall not be parked off-road within wildland spaces, unless authorized by the cognizant FPE.
2. Vehicles should be staged or parked on barren ground, such as the roadway or an established parking area free of vegetation.
3. Provisions shall be made to permit the safe passage of wildland firefighting equipment.
4. Motor vehicles shall not be left unattended when the engine is running.

HDPE BONDING

HDPE bonding or welding is not considered to be Hot Work with the following limitations:

1. As much HDPE bonding or welding as possible shall be done on cleared and improved surfaces free of vegetation.
2. Where fusing of the pipe must be performed in a vegetated wildland space, remove combustible materials within 5 ft of the equipment and weld site. The ground area shall form a noncombustible clear space, free of combustible materials, including vegetation, plywood panels, and oily residues.
 - o Where this cannot be done:
 - Wet down the area within the vegetated space where pipe is to be cut or bonded together in advance of the work for at least a 10 ft radius.
 - Place an approved FR welding blanket under the pipe.
 - Place the thermal weld machine on top of the welding blanket, level the unit, and secure to prevent toppling.
3. Arrange power cords away from vegetated areas, if possible. At a minimum, place FR blanket materials under power cord connections.
4. Thermal welding equipment shall be attended during operation.
5. Provide a fire extinguisher within 25 ft of the thermal welding equipment.

PORTABLE FUEL-FIRED EQUIPMENT

The following shall apply to all portable fuel-fired equipment (including but not limited to generators, air compressors, portable light stands associated with large HDPE pipe bonding equipment).

1. Pre-Requisite:
 - o Verify that portable fuel-fired equipment, has been tested and inspected by a qualified technician in accordance with the manufacturer's recommended types and intervals within one year of the intended use on site.
2. Site Selection: The portable fuel-fired equipment shall be placed:
 - o Upon level ground,
 - o Free of combustible debris, oily residues,
 - o Located in an area which is free of vegetation.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix K - (Cont.) Well Site Installation Permit Template**

3. Where portable fuel-fired equipment is used, it shall be truck/trailer mounted or placed upon non-combustible spill skids to provide secondary containment.
4. For larger truck or trailer mounted units, the entire truck or trailer assembly shall be placed on top of a non-combustible surface, free of vegetation, and contoured to confine any spill to the immediate equipment area.
5. At least one portable fire extinguisher shall be accessible within 25 ft of the unit
6. During portable fuel-fired equipment operation:
 - o Operator is assigned and within visual site of the portable fuel-fired equipment at all times during periods in which it is running.
7. Use and maintain GFCI protection approved for outdoor use for all electrical circuits.
8. Do not fuel the portable fuel-fired equipment while in operation.
 - o Supply fuel from approved Nationally Recognized Testing Laboratory Approved safety containers, or from bulk fuel vehicle systems with NRTL approved fuel lines, shut-off devices, grounding, and safety interlocks.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix L - Designated Hot Work Area**

Equipment in this area: The DHWAs contains: 480-volt welding machines, an induction heater, and a portable oxygen-acetylene cutting/welding torch set-up with Victor equipment. Additionally, the DHWAs have hand-held: grinders, die grinders, pneumatic scalers, pedestal grinders, and assorted tools.

Gas cylinder types & quantities: Compressed gas cylinders in the DHWAs are attached to the welding equipment and/or attached to a welding cart. Typically, there is one acetylene cylinder, one oxygen cylinder, and one Stargon cylinder in the DHWAs. Spare cylinders and/or empty cylinders are stored neither inside 6618-D nor outside 6618-D.

This permit authorizes performance of hot work in the DHWAs when the DHWAs are established and are maintained in accordance with the requirements of both PRC-PRO-FP-40421 and NFPA-51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work. The permit allows the DHWAs to be deployed and then later placed into stasis/lay-up; the specific requirements for the performance of hot work are listed in the Requirements section below. The footprint of the DHWAs shall be clearly outlined/marked during hot work performance. This permit also allows for the use and storage up to 26 lbs. or ~ 400 ft³ of the Acetylene gas used in the DHWAs.

Requirements: read this section before each hot work evolution/performance:

1. When the Bay 3 DHWA and/or the outside 6618D DHWA are deployed, the following applies:
 - a. Beyond the DHWA boundary there shall be a minimum 35-feet of clear space when the wind is less than 5-miles-per-hour. If the wind is more than 5-miles-per-hour, then the clear space shall be increased to 50-feet. This clear space is to be free of all transient combustibles (i.e., paper, plastics, wood, etc.). Contact the CPCCo FPE/DFM if there are questions.
 - b. The clear space may be reduced by utilizing: welding curtains, welding blankets, and/or welding pads.
2. Welding curtains, welding blankets, and/or welding pads shall be Nationally Recognized Testing Laboratory (NRTL) approved/listed and meet the minimum requirements of ANSI/FM 4950, American National Standard for Evaluating Welding Pads, Welding Blankets and Welding Curtains for Hot Work Operations.
3. Welding curtains shall be arranged, overlapped, and secured in order to prevent gaps from which sparks or embers may pass-through, prevent toppling, and shall provide at minimum of 6-inches of overlap at the sides and at the base/bottom of the welding curtains. Any gaps at the base/bottom and/or sides of welding curtains shall be covered with welding curtains, welding blankets, welding pads, and/or secured with other non-combustible or fire-resistive materials.

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Appendix L - (Cont.) Designated Hot Work Area

4. The DHWA shall be maintained free of flammable liquids and/or combustible liquids when hot work is performed. Flammable liquids and/or combustible liquids storage in open shelving and/or in approved flammable liquids storage cabinets is not permitted within 10-feet of the welding curtain.
5. Enclosed metal cabinets and/or job boxes may be used for the storage of combustibles if reviewed and approved in advance by the CPCCo FPE/DFM.
 - a. **EXCEPTION:** Items in the DHWAs may be covered with welding curtains, welding blankets, welding pads, and/or with other non-combustible or fire-resistive materials.
 - b. **EXCEPTION:** Items may be stored in metal cabinets with tight closing doors/drawers.
6. Enclosed metal cabinets shall be used for storage of clean/used Personal Protective Equipment (PPE) or other combustible supplies and shall be closed except when obtaining or storing items needed.
7. Before performing hot work, conduct a pre-hot work area inspection to ensure all combustible material, all flammable material, and all compressed gases (not directly a part of the hot work activity) are relocated a minimum of 35-feet away from the DHWA and/or are covered with welding curtains, welding blankets, welding pads, and/or other non-combustible or fire-resistive materials.
8. Hot work equipment (welders, induction heaters, torches, regulators, pressure-reducing valves, manifolds, grinders, etc.) shall be listed and/or approved by a Nationally Recognized Testing Lab (NRTL) for the intended use. Additionally, compliance with Manufacturer's requirements and guidelines is required.
9. The fire sprinkler system and the fire alarm system shall be in-service and remain in-service during hot work performances.
10. DHWA shall be provided with a dedicated fully charged and serviced portable 10 lb ABC Fire Extinguisher 4A:80B:C (minimum acceptable rating).
11. DHWA shall be adequately ventilated.
12. UV transparent flash screens are considered combustible and, if used, shall be located a minimum of 35-feet from the DWHAs.
13. The Field Work Supervisor and cognizant Facility Manager shall perform a quarterly visual surveillance of the DHWA to ensure: Location, arrangement, equipment, and/or processes are authorized.
 - a. Precautions remain consistent with the permit criteria.
 - b. Personnel working in the DHWA have been trained and perform hot work safely.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix L - (Cont.) Designated Hot Work Area**

14. The fire-retardant PPE requirements specified by IH and/or IS shall not be waived in a DHWA unless IH and/or IS concurs with the downgrade of fire-retardant PPE and a designated fire watch is provided.
15. A fire watch is not required in the DHWA; however, a fire watch may be instituted for specific jobs.
16. Follow all MSDS/SDS requirements for storage, handling and use of the acetylene gas.
17. Acetylene gas is only to be used in the DHWAs.
18. If the maximum quantity of Acetylene gas is going to exceed 26 lbs. contact the cognizant CPCCo FPE/DFM.
19. A facility modification or change in performance location of hot work will require immediate evaluation by the cognizant CPCCo FPE/DFM for a new hot work permit.
20. Hot work that is performed at locations other than in the DHWA described above shall receive an approved CPCC *Field Hot Work Permit* (Site Form A-6006-115) prior to performing the work.

Post this permit and attachments in the immediate vicinity of the DHWAs for reference.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix M - Planned Impairment Permit Template**

This Permit authorizes a Planned Impairment for _____ (system type/description and system number), protecting _____ (describe area/building protected). The impairment consists of _____ (describe nature and extent of impairment). The reason for this impairment is _____ (describe reason for impairment) to be performed in accordance with work package _____ (Work Package Number), _____ (Work Package Title). HMIS Fire Systems Maintenance will be providing _____ (Describe work performed by HMIS in support of Impairment). This _____ (partial or total) impairment to protection, estimated to last _____ hours in duration. The Permit will remain in effect until _____ (Estimated date).

Building _____ has a _____ (Description of active fire suppression), which _____ (will/will not) remain functional.

The building _____ (is/is not) equipped with a fire alarm system connected to a RFAR to HFD Dispatch, which _____ (will/will not) be operational during this impairment. The outage _____ (will/will not) affect lighting (normal or emergency). The outage will be limited to _____. VOIP telephones and other HLAN connected devices _____ (will/will not) be functional, as well as cellular telephone coverage.

Based upon the scope of work, the following precautions shall be taken:

1. Notify the Hanford Fire Department at least 24 hours in advance of the planned impairment to coordinate isolation of _____.
2. Contact Hanford Fire Department dispatch at (509) 373-2745 before commencing the work.
3. Personnel _____ (are/are not) permitted to occupy Building _____ during the period of the outage.
4. A copy of this permit shall be posted at the entrance to Building _____ prior to the outage.
5. SOM/Facility Fire Protection Impairment Coordinator (FPIC) Complete Site Form BT-6007-659, *Fire Protection Impairment Tag*, per CPCC-PRO-FP-40426.
 - Post Part 1 with SOM Log in accordance Facility procedures
 - Assign Operator to place Part 2 in a clear plastic weatherproof envelope and place at _____ (FACP, Sprinkler riser, Section Valve (-s), etc.) and record time and date of isolation by Hanford Fire Department
6. Hanford Fire Department isolate _____ (Physical isolation is to be completed within _____ minutes of the Work Package Task to minimize the duration of the impairment.)
7. Since automatic sprinkler protection and associated water flow alarms _____ (will/will not) be functional, _____ (additional/no additional) fire surveillance will be required.

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8. When the work Package Task is complete, SOM/FPIC Notify Hanford Fire Department to return _____ (zones or areas of protection) to service.
 - Upon restoration of _____ (water supplies, power supply, zones, etc.), test for _____ (alarm and supervisory signal to confirm transmission to the Hanford Fire Department Dispatch, Water Flow, etc.)
 - Restore RFAR
 - Notify SOM/FPIC that system has been restored and tested.
9. SOM/FPIC assign Operator to retrieve Part 2 of Fire Protection Impairment Tag
10. Obtain time and date Fire Alarm system restored, tested, and returned to service.
11. Facility, remove expired copy of this permit upon restoration of _____ to service.
12. SOM/FPIC attach Part 1 and Part 2 of Fire Protection Impairment Tag together and log completion of impairment, retaining completed copy in accordance with Facility Procedures.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix N - Heat Lamp Permit Example**

The following are the minimum controls for the use of heat lamps:

1. Heat lamps shall be used to dry radiological survey media only.
2. The drying of towels or rags is not permitted without DFM approval and a revision of this HFM Permit.
3. Heat lamps shall not be connected to a power strip type device unless pre-approved by the Electrical AHJ and their approval is attached to this HFM Permit.
4. Heat lamps shall be attended when in use.
5. Heat lamps shall be unplugged when not attended and when not in use.
6. Surfaces used to support the heat lamp shall meet one or more of the following:
 - a. Be constructed of metal.
 - b. Be constructed of wood (includes composites with Formica type finishes) and have a metal sheet or pan under the heat lamp assembly. Additionally, an insulation material (e.g., FM Approved welding blanket material) approved by the DFM shall be placed below the heat lamp assembly and be no smaller than the defined heat lamp footprint.
 - c. Be constructed of plastic and have a $\frac{3}{4}$ inch plywood sheet the full length of the table and have a metal sheet or pan under the heat lamp assembly. Additionally, an insulation material approved by the DFM shall be placed below the heat lamp assembly and be no smaller than the defined heat lamp footprint.
7. Tape, if used, shall be noncombustible or of fire-retardant material in accordance with NFPA 701 or equivalent.
8. Combustible materials, not part of the radiological survey being conducted shall not be within three feet above and to the sides of the heat lamp.
9. All electrical cords shall be maintained at least one foot away from the defined heat lamp footprint.
10. The fixture assembly shall be designed and constructed for heat lamp use (i.e., listed and labeled as a heat lamp fixture).
11. The heat lamp fixture shall not be of the articulating type (i.e., not height adjustable) or the clamp on type.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix O - Impairment Permit Considerations**

The reasons for requiring a permit for the impairment of a fire system vary widely, as does the severity and duration of those impairments. Because of this, the controls required to mitigate the increased likelihood or severity of a fire event also vary widely. The following are guideline considerations for various impairments.

General Considerations

Hot work and other hazardous operations should be disallowed while fire systems are impaired.

For planned impairments, as much work as possible should be completed prior to impairing the fire protection. The objective should be minimizing the amount of time of impaired fire protection.

Consider temporary protection such as fire hoses to the sprinkler systems, small hoses and fire extinguishers available in the area that is impaired, and scheduling impairment work during idle hours when fewer ignition sources are present.

If the fire protection will be impaired for some time, consider sectioning off the affected area and reopening the sprinkler control valve so at least partial protection can be restored to service.

Ensure the FPIC (DOS/SOM/RM) are aware of Fire Protection Impairment Tag requirements and able to facilitate their use.

Compensatory measures should be assigned until the restoration and verification of fire protection system's operability.

The resource requirements of HFD and FSM for the permit scope should be outlined to assist schedulers.

Fire surveillances of affected areas should be at the following frequencies, adjusted based on a graded approach:

1. Continuous where operations are required that may increase the likelihood or severity of a fire event.
2. Hourly, when automatic suppression and alarm systems are out of service.
3. At least every 2 hours where either automatic suppression or alarm is impaired, but the other system is functional.
4. At least once daily for secured, unoccupied facilities with out of service fire suppression.
5. Omitted for secured, unoccupied facilities without fire suppression with impaired alarm capability and without substantial monetary or project value.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix O – (Cont.) Impairment Permit Considerations**Electrical and Fire Alarm Outages

For outages that are anticipated to last less than 12 hours, the FACU and RFAR batteries should remain connected and the system in service with the trouble bypassed.

For outages more than 12 hours, the FACU and RFAR batteries should be disconnected.

If lighting is affected a primary source of worksite illumination plus one personal egress flashlight required for emergency egress should be required unless the area can be effectively illuminated by natural lighting through windows or propping open doors. A mid-interval annual emergency light PM should be conducted at least 24 hours after power is restored to ensure satisfactory egress lighting prior to discontinuing compensatory measures.

If cold weather may be a factor, the temperature of fire service and suppression water should be maintained above 40°F.

Restoration should involve testing the FACU and RFAR capabilities and verifying the panel is in normal operating condition.

Water and Fire Suppression Outages

If water service is disconnected, personnel and emergency responders entering the impaired area should be notified of the lack of fire protection.

Restoration should include a main drain test to verify flow, confirmation of flow and tamper monitoring, clearing of any troubles and alarms, and valve lineups are confirmed.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix P - Transitional, Idle (Surveillance and Maintenance Mode) and Vacant Buildings**

Summary

The following provides general guidance for the evaluation of buildings for permitting purposes that are:

- Undergoing transition from occupied to unoccupied or unoccupied to occupied status
- In Surveillance and Maintenance (S&M) Mode
- Declared vacant and awaiting disposition

Sound engineering judgement shall be applied to the application of these criteria to meet specific site hazards and operating conditions. A HFMP is not required for all buildings and situations.

Transitional Facility

A “Transitional Facility” is a facility that has been placed in a safe-shutdown condition and may or may not be maintained or is undergoing decontamination and decommissioning (D&D) work and ultimately demolition (see DOE-STD-1066-2016). Refer to CPCC-PRO-FP-54134, *Fire Protection in D4 Facilities and Facilities Under Construction*, Section 3.7, “Facility Transition,” for applicable criteria.

Construction, alteration, additions, and demolition activities at non-DOE facilities are typically completed in less than 2 years. However, for radioactively and chemically contaminated facilities, this process can extend over a period of many years. As a result, terms, such as “Surveillance and Maintenance Mode,” “Min. Safe,” “Cold and Dark,” “pre-demolition decontamination,” “deconstruction,” and “D&D” have been used. While each of these has a meaning within the context of the nuclear safety arena, there is no direct correlation to these distinctions in NFPA Codes.

Facilities transitioning from unoccupied to occupied status shall be re-evaluated per DOE-STD-1066-2016, NFPA 241, and NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*, including applicable provisions of the other chapters of these standards in a graded approach to address life safety, fire hazards, and the potential release of hazardous and radiological materials to the environment during occupied activities such as deconstruction and D&D.

Facilities transitioning from occupied to unoccupied shall also be evaluated for appropriate life safety provisions to address infrequent entries and associated activities such as surveillance and maintenance (S&M). Fire prevention and fire protection for buildings undergoing varying degrees of construction, alteration, deconstruction, or demolition are operationally governed by NFPA 241. NFPA 101 governs safety to life for occupants and the public but is applicable using a graded approach for facilities in the preview of NFPA 241. Concepts, such as applying legacy (formerly operational state) occupancy classifications for non-occupied portions for buildings need to be evaluated and the provisions of NFPA 241 and Section 4.6.10 of NFPA 101 need to be addressed.

The administrative controls developed as part of a Transitional Facility FHA or FFPA provide the basis of precautions and control implemented in work packages and Fire Marshal Permits.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix P – (Cont.) Transitional, Idle (Surveillance and Maintenance Mode) and Vacant Buildings**

Therefore, care should be taken during the permit development process to ensure that the FHA or FFPA as applicable:

- Fully analyzed and bounded the administrative controls.
- The work scope or activities addressed by the permit are suitably bounded.

The choice as to whether a single permit is issued, covering the full scope of activities and hazards or multiple separate discrete permits are used, is determined by the DFM and depends upon the complexity of operations and severity of exposures.

The advantage of a single permit approach is that it provides a single source of fire prevention controls in one point of contact. However, such permits are longer in narrative size and need to be well-organized by both priority and heading to be effective. Depending upon the risks involved, care should be taken to reduce jargon and simplify directions for the understanding of the Field Work Supervisor (FWS) and Responsible Building Manager (RBM).

Multiple permit approaches are often shorter and more focused upon a specific activity. This has the advantage of drawing the attention of the FWS or RBM to the correlation between the hazards and their associated controls. However, multiple permits for the same location can create confusion leading to conflicts between requirements in permits for similar activities or failure to consider a permit precaution applicable to multiple work activities or functions.

Therefore, it is important to discuss permitting strategies with the Planner and Responsible Manager (RM) in advance of the actual issuance of the permit or permits. Issues such as scope of activities, future work packages, or changes in operations/configuration of the building, size of work parties, or potential parallel or serial activities within the building must be considered.

Finally, the aspect of implementation should be discussed. The following questions should be considered:

- Does the FWS and RBM fully understand both the why and how of each stated precaution or control?
- How will the permit information be communicated to workers?
- Where will permit information be posted?
- Will the FWS or RBM need Fire Protection Engineering assistance initially to oversee new activities or to assist in carrying out precautions?
- What, if any provisions might be required for Fire Protection Engineer (FPE) surveillance to verify compliance?

Remember that Fire Marshal Permits for this environment must be tailored to conditions on a case-by-case basis. The environment in which they are applied is dynamic in this situation and should result in revision and adjustments as actual field conditions change and implementing challenges are discovered.

Fire Marshal Permit Interfaces**Published Date: 06/03/2025****Effective Date: 06/03/2025****Appendix P – (Cont.) Transitional, Idle (Surveillance and Maintenance Mode) and Vacant Buildings**

Surveillance and Maintenance Facility

Facilities in S&M mode are generally maintained at a “min. safe” level. This means that only the maintenance required to maintain the integrity of the physical envelope is conducted. They are considered to be “idle” facilities, neither operational nor undergoing demolition. Therefore, a somewhat performance-based approach should be taken when considering classification of the occupancy to achieve a graded approach to fire risks. Varying stages of removal of utilities, heat, lighting, etc. may be encountered. So-called “legacy” waste may be present; contributing to the overall combustible load and potentially obstructing the means of egress. In general, S&M facilities should be issued fully bounding occupancy permits that address one or more of the following as applicable to the work package:

- Maximum occupancy limit. Per HFM ICR CY-2010-06, buildings can be considered unoccupied as long as the number of people in the building is 10 or less. Facility FHA or FFPA shall support the basis for any occupancy permit that exceeds 10 people.
 - When permanent lighting and emergency lights are not available, flashlights may be used when work duration does not exceed 4 hours, and the occupancy is 10 or less.
 - When permanent or temporary lighting and emergency lights are available, the occupancy may exceed 10 if also supported by a life safety analysis.
- Life safety limitations, including adequacy of
 - Means of escape/egress per NFPA 241 and fundamental principles of NFPA 101
 - Egress lighting
- Transient combustible controls
- Management of combustible waste and debris
- Flammable and combustible liquids and gases limits and controls
- Fuel-fired equipment (if portable generators are to provide building or other power)
- Construction lighting and power (if building does not have its own lighting and power)
- Exterior exposures and access control
- Emergency lighting alternatives
- Fire Department Access
- Excluded operations or activities requiring additional permitting (e.g., hot work, spray applied coatings and fixatives, abatement activities, fire prevention items specifically addressed in DSA TSRs or FHA limits)
- Precautions for re-occurring (repetitive) work package activities should also be considered for incorporation into these permits and should make reference to the work package by name and number

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In all cases, work packages shall be reviewed and approved by the DFM even when they are covered in the permits. This ensures that multiple work activities taking place inside the same building will not create fire prevention conflicts or increase hazards. In the case of repetitive work packages, it is important to remember all, or multiple parts of the work package may be performed at a particular time. While these individually may be benign, when performed in parallel they may introduce other fire exposures or life safety hazards.

Where work packages introduce new activities, it is important to review both the FHA or FFPA to make certain the work being performed is currently analyzed and bounded. Similarly, if an S&M Occupancy Permit is provided for the building, determine the extent to which it applies to the facility. Since the use of S&M Occupancy Permits is a developing initiative, a revision to the permit to fully realize the current scope, accompanied by a site verification and FFPA or FFPA revision may be needed before being able to fully address the work package. Once the requirements for a conforming S&M Occupancy Permit have been satisfied, it should be referenced in the work package. Where other precautions are needed to address specific hazards of a work package, the choice may be made to issue a separate permit as well. The permit should not duplicate information or precautions already in existence in the S&M work package; but the permit should make reference to the work package by number. Similarly, the work package specific permit should be reference by number in the work package itself.

Finally, work packages afford an opportunity to address the issue of the removal of legacy waste. While it may not always be within the scope or range of a work package to include removal of waste from earlier periods or operation in the building that is within ready access of the work party, it can provide a significant improvement in fire loading and life safety access that can pay dividends in later phases of the building's eventual deconstruction. Remind the PRM that the first and second priority according to NFPA 241 and CPCC-PRO-FP-54134 is the removal of combustible materials to reduce combustible loading to the lowest quantity achievable, as well as ensuring egress paths are unobstructed. Without the completion of these tasks, the needed compensatory measures for otherwise compromised life safety features cannot be accommodated and the number of people allowed within the building at any one time is significantly reduced.

Vacant Facility

A vacant facility in the context of NFPA 1 is a building that no longer serves an operational purpose and for which the facility management no longer has an interest to maintain. This classification does not apply to S&M facilities, which may be operationally idle, but are still relied upon to maintain a confinement or containment envelope to prevent the spread of radiological or hazardous materials. However, there are occasions in which the "vacant" designation is appropriate. There are several cases in which a building may be declared vacant:

- Where a building has been deconstructed to a level in which no combustibles are within and no further human entry is required and it is awaiting exterior demolition.
- Where a building's structural integrity is compromised or it has otherwise been contaminated to a point in which is hazardous to personnel, the public or environment, it serves no other practical purpose.

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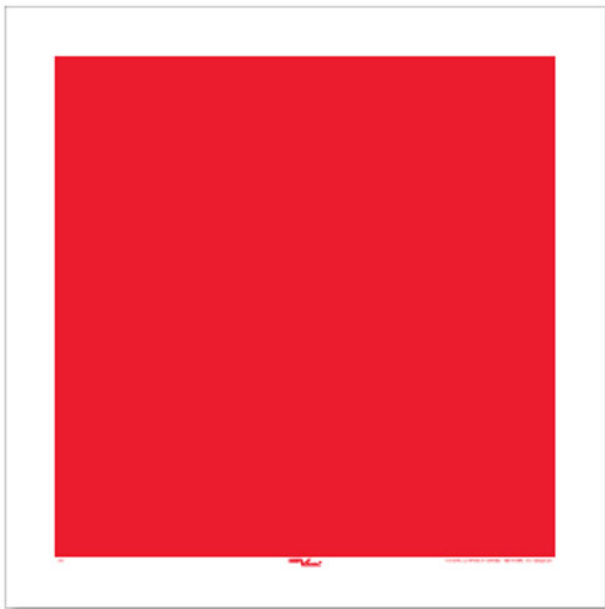
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Appendix P – (Cont.) Transitional, Idle (Surveillance and Maintenance Mode) and Vacant Buildings

The provisions of NFPA 1, Chapter 10 shall apply as implemented by CPCC-PRO-FP-54134, Section 3.7. Before a building is declared vacant:

- A practical effort shall be made to remove combustible materials and reduce combustible loading to the lowest quantity achievable.
- Remove hazardous materials to the extent practicable.
- Secure doors, windows, and service entries to prevent unauthorized access.
- Verify the building valuation has been set to zero in Sunflower.
- Conduct a field surveillance of the subject building and provide an updated FFPA substantiating fire hazards and controls.
- Contact the Hanford Fire Department and invite them to visit the building and concur with the classification and controls.

The signs below shall be reflective in nature and at minimum be mechanically secured to each exterior door surface, so they are clearly visible to emergency responders approaching the facility. Post the building with the following, based upon the degree of interior hazards present:



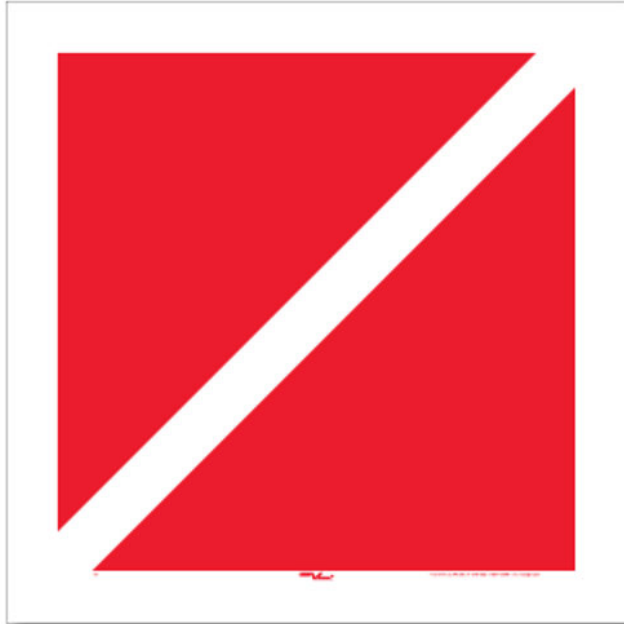
VACANT BUILDING – Normal Hazards
DO NOT ENTER without Fire Marshal Permit

Fire Marshal Permit Interfaces

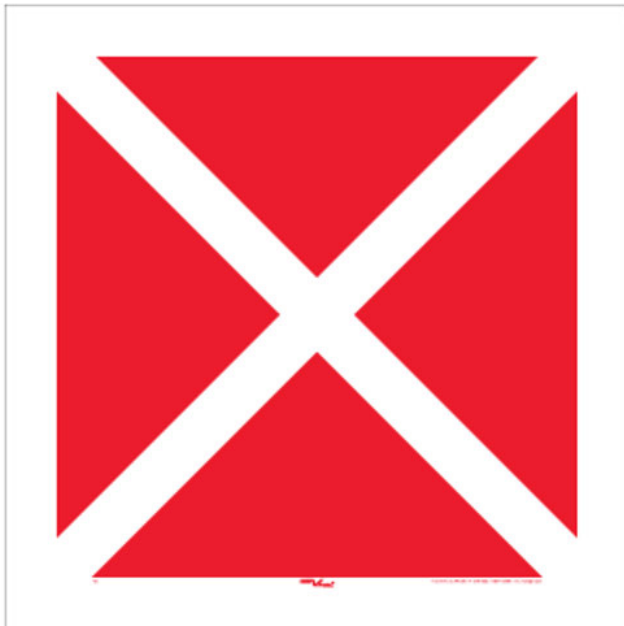
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VACANT BUILDING – Interior Hazards
DO NOT ENTER without Fire Marshal Permit



VACANT BUILDING – Extreme Interior Hazards
DO NOT ENTER without Fire Marshal Permit