

WP 12-FP3002

Revision 11

Hot Work Permits

Technical Procedure

EFFECTIVE DATE: 01/26/11

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APPROVED FOR USE

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CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
11	01/26/11	Revised the hot work list under the Introduction, removing "and soldering" from the bullet with "Brazing" and clarified soldering in the next bullet.

INTRODUCTION ¹

This procedure defines the responsibilities, requirements, and processing of Hot Work Permits (HWPs) for all hot work performed at the Waste Isolation Pilot Plant (WIPP). Management shall be responsible for the safe operations of hot work activities. Hot work is any work activity involving or producing open flames, sparks, or extreme heat and is capable of igniting fires or explosions. Permits shall be issued for designated hot work areas upon review and authorization by the WTS Fire Protection Engineer (FPE), and for temporary hot work activities upon review and authorization by Industrial Safety & Hygiene (IS&H). IS&H shall issue all Temporary Hot Work Permits and maintain an electronic log of the temporary permits issued. Permits may be suspended at any time as warranted.

Hot work includes, but is not limited to, the following activities:

- Welding and torch cutting
- Torches or burners for heating processes
- Brazing
- Soldering, using torch or other open flame process
- Grinding/Sawing that produces sparks
- Activity posing a fire or ignition hazard

Performance of this procedure generates the following record(s), as applicable. Any records generated are handled in accordance with departmental Records Inventory and Disposition Schedules.

- Temporary Hot Work Permit
- Designated Hot Work Area Permit
- Hot Work Permit Log (see sample Attachment 3)

REFERENCES

BASELINE DOCUMENTS

- 29 CFR Part 1910, "Occupational Safety and Health Standards"
- National Fire Protection Association (NFPA) Standard 1, *Fire Prevention Code*
- NFPA Standard 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*
- American National Standards Institute (ANSI) Standard Z49.1, *Safety in Welding, Cutting and Allied Processes*

- DOE Order 420.1B, *Facility Safety*
- DOE Order 440.1B, *Worker Protection Program for DOE (including the National Nuclear Security Administration) Federal and Contractor Employees*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*

REFERENCED DOCUMENTS

- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- WP 04-AD3001, Facility Mode Compliance
- WP 12-FP.01, WIPP Fire Protection Program
- WP 12-FP3001, Fire Protection Impairment

PRECAUTIONS AND LIMITATIONS

- The TSRs contain LCOs and Specific Administrative Controls (SACs) which provide specific preventative or mitigative limits and required actions for identified accident scenarios. Failure to comply with LCOs or SACs may constitute a violation and must be immediately reported to the Facility Shift Manager (FSM). The step affected by the LCO/SAC is followed by the LCO/SAC number in bold brackets (e.g., [**LCO 3.X.X**]). Applicable LCO/SAC Surveillance Data Sheets SHALL be completed as required per WP 04-AD3001.
- Performance of this procedure may require the storage, use, and transport of compressed gas cylinders and the performance of associated LCO Surveillances.

PREREQUISITE ACTIONS

- 1.0 Job supervisor or designee, verify that all fire watches have successfully completed FWT-101, Fire Watch Training.
- 2.0 Job supervisor or designee, review WP 12-FP.01, hot work policy section.
- 3.0 IS&H, determine if special ventilation procedures or respiratory protection will be required for operations involving hazardous materials or a confined space.
- 4.0 Job supervisor or designee, verify equipment has been secured, isolated, and vented when the hot work involves flammable liquids, gases, solids, or pressurized vessels, piping, and equipment.
- 5.0 Job supervisor or designee, verify that hot work activity (Attachment 4, TSR Requirements for Hot Work Activities) does not violate DOE/WIPP-07-3373.

- 6.0 Job supervisor or designee, when compressed gas cylinders are to be used in the PROCESS AREAS as identified in Table 1.1-1 of the Technical Safety Requirements (TSRs), generate an action request (A/R).

PERFORMANCE

NOTE

For Temporary HWPs, use Section 1.0. For Designated Hot Work Area Permits, use Section 2.0.

NOTE

A Temporary HWP must be issued for all hot work outside designated hot work areas. A Temporary HWP for hot work may be issued for a duration of up to five consecutive working days. A Temporary HWP is issued by a safety representative as authorized by the IS&H manager. The FPE may represent IS&H for this purpose in the absence of an IS&H representative.

1.0 TEMPORARY HOT WORK PERMIT

NOTE

A trained fire watch must be posted in accordance with WP 12-FP3001 for all hot work performed under a temporary hot work permit.

- 1.1 Job supervisor or designee, contact IS&H and request a Temporary HWP.
- 1.2 Job supervisor or designee and IS&H representative, perform the following:
- 1.2.1 Review hot work activity for job hazards and TSR requirements. (See Attachment 4.)
 - 1.2.2 Identify on the Temporary HWP all work that involves TSR requirements, if applicable.
 - 1.2.3 **IF** hot work activity is approved,
THEN complete Sections I and II of the Temporary HWP.
 - 1.2.4 **IF** hot work activity is **NOT** approved,
THEN stop performance of this procedure.
 - 1.2.5 Job supervisor or designee, proceed to Step 1.3.

NOTE

The FSM reviews HWP's for jobs on the surface. The Underground Facility Engineer (UFE) reviews HWP's for jobs in the underground.

- 1.3 Job supervisor or designee, forward Temporary HWP to FSM or UFE for authorization.
 - 1.4 FSM or UFE, perform the following:
 - 1.4.1 Review hot work activity.
 - 1.4.2 **IF** hot work activity is authorized, **THEN** complete Section III of the Temporary HWP **AND** return to the job supervisor or designee.
 - 1.4.3 **IF** hot work activity is **NOT** authorized, **THEN** stop performance of this procedure.
 - 1.4.4 Job supervisor or designee, proceed to Step 1.5.
-

NOTE

Initials by workers and fire watch personnel on the HWP indicates the requirements, limitations, hazards, and safety precautions to be taken are understood.

- 1.5 Job supervisor or designee, conduct a prejob safety meeting.
- 1.6 Obtain workers' **AND** trained fire watch personnel's initials on the Temporary HWP.
- 1.7 **IF** work activity requires storage, use, or transport of compressed gas cylinder(s) within a TSR defined PROCESS AREA, **THEN** perform LCO surveillances for compressed gas cylinders in accordance with the approved work package associated with the A/R generated in Prerequisite Actions.
- 1.8 Job supervisor or designee, maintain the Temporary HWP at the job site until the task is complete **OR** permit is expired.
- 1.9 Job supervisor or designee, when task is complete **OR** permit expires, perform the following:
 - 1.9.1 Sign and date Section IV of the Temporary HWP.
 - 1.9.2 File copy of Temporary HWP with the Work Order, if applicable.
 - 1.9.3 Return original Temporary HWP to IS&H.

NOTE

Designated Hot Work Area Permits must be approved by a FPE. Designated Hot Work Area Permits are valid for one year and shall must be posted in the designated area.

2.0 DESIGNATED HOT WORK AREA PERMIT

- 2.1 Job supervisor or designee, request a Designated Hot Work Area Permit from IS&H.
- 2.2 FPE, IS&H, and Job supervisor or designee, perform the following:
 - 2.2.1 Review and walkdown proposed Designated Hot Work Area.
 - 2.2.2 Complete Section I of the Designated Area HWP.
- 2.3 FPE, **When** Hot Work Area is approved, **THEN** complete Section II of the Designated Area Hot Work Permit and return to job supervisor or designee.

NOTE

FSM reviews HWPs for jobs on the surface. The UFE reviews HWPs for jobs in the underground.

- 2.4 Job supervisor or designee, forward Designated Hot Work Area Permit to FSM or UFE for authorization.
- 2.5 FSM or UFE, perform the following:
 - 2.5.1 Review the Designated Hot Work Area Permit.
 - 2.5.2 **IF** hot work activity is authorized, **THEN** complete Section III of the Designated Hot Work Area Permit **AND** return to job supervisor or designee.
 - 2.5.3 **IF** hot work activity is **NOT** authorized, **THEN** return Designated Hot Work Area Permit to job supervisor or designee **AND** stop performance of this procedure.
- 2.6 Job supervisor or designee, perform the following:
 - 2.6.1 Post approved Designated Hot Work Area Permit in the designated area until the permit is expired.
 - 2.6.2 When Designated Hot Work Area Permit is expired, perform the following:
 - [A] Sign and date Section IV.
 - [B] Return original Designated Hot Work Area Permit to IS&H.

Attachment 1 - Sample of Temporary Hot Work Permit

Temporary Hot Work Permit

No.: _____

SECTION I: TO BE COMPLETED IN COLLABORATION BY JOB SUPERVISOR OR DESIGNEE AND INDUSTRIAL SAFETY

Description of Hot Work _____

Work Order number _____

Work Location _____

Start Date _____ Permit Expires Date _____

Other Required Permits: Confined Space Permit Radiation Work Permit

Name of Workers (Print):	Initials:	Trained Fire Watch	Initials:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- JOB SUPERVISOR / DESIGNEE RESPONSIBILITIES:**
- Review WP 12-FP.01, Fire Prot. Prog., Hot Work Policy
 - Inspect work area for compliance w/ all safety requirements
 - Verify all known hazards have been identified and adequate protective measures implemented!
 - Identify any work in TSR controlled areas!!

WELDING

WELDING OF ALL METALS EXCEPT MILD STEEL & ALUMINUM
REQUIRES IH APPROVAL,
AND MAY REQUIRE
RESPIRATORY PROTECTION &
PERSONAL EXPOSURE MONITORING!!

Supervisor / Designee: _____

Name	Signature	Date
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SECTION II: TO BE COMPLETED BY INDUSTRIAL SAFETY & HYGIENE:

Special Instructions (if required): _____

Industrial Hygiene (if necessary): _____

Name	Signature	Date
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FPE or ISH Representative: _____

Name	Signature	Date
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SECTION III: TO BE COMPLETED BY FACILITY SHIFT MANAGER (FSM) / UNDERGROUND FACILITY ENGINEER (UFE)

FSM / UFE: _____

Name	Signature	Date
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SECTION IV: TO BE COMPLETED BY JOB SUPERVISOR OR DESIGNEE WHEN PERMIT EXPIRES

Area has been inspected and returned to normal working conditions.

Job Supervisor / Designee: _____

Name	Signature	Date
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Attachment 2 - Sample Designated Hot Work Area Permit

Designated Hot Work Area Permit

No.: _____

SECTION I: TO BE COMPLETED BY/FOR JOB SUPERVISOR OR DESIGNEE			
Area: _____			
Description of Hot Work: _____			
Start Date _____		Permit Expires Date _____	
CHECKLIST ITEMS			
	Yes	No	N/A
Area is maintained free of combustible materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Area is maintained free of explosives and flammable liquids/vapors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriate portable fire extinguisher is readily accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communications to Central Monitoring Room available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot work equipment is in good working condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriate shielding and personal protective equipment in place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local exhaust (if present) is operational and has current flow test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>JOB SUPERVISOR / DESIGNEE RESPONSIBILITIES:</p> <ul style="list-style-type: none"> - Review WP 12-FP.01, Fire Prot. Prog., Hot Work Policy - Inspect work area for compliance w/ all safety requirements - Verify all known hazards have been identified and adequate protective measures implemented! 			
<div style="border: 2px solid red; padding: 5px; width: fit-content; margin: auto;"> <p>WELDING WELDING OF ALL METALS EXCEPT MILD STEEL & ALUMINUM REQUIRES IH APPROVAL, AND MAY REQUIRE RESPIRATORY PROTECTION & PERSONAL EXPOSURE MONITORING!!</p> </div>			
Supervisor / Designee: _____		Signature	Date
SECTION II: APPROVAL: FIRE PROTECTION ENGINEER			
Fire Protection Engineer: _____		Signature	Date
SECTION III: APPROVAL: FACILITY SHIFT MANAGER (surface) or UNDERGROUND FACILITY ENGINEER (underground)			
FSM / UFE: _____		Signature	Date
SECTION IV: TO BE COMPLETED BY JOB SUPERVISOR OR DESIGNEE WHEN PERMIT EXPIRES			
Job Supervisor / Designee: _____		Signature	Date

Attachment 4 - TSR Requirements for Hot Work Activities

NOTE

The controls for the storage of compressed gas cylinders apply at all times and in all process areas when ≤ 100 feet of Waste.

1.0 STORAGE OF COMPRESSED GAS CYLINDERS

- 1.1 Compressed gas cylinders shall be stored in designated storage area when not in use. **[LCO 3.6.1]**
- 1.2 Compressed gas cylinders in storage shall be secured. **[LCO 3.6.1]**
- 1.3 Compressed gas cylinder valve shall be CLOSED and valve cap installed or valve protected by a guard. **[LCO 3.6.1]**
- 1.4 Designated storage areas for non-flammable compressed gas cylinders shall be ≥ 25 feet from Waste. **[LCO 3.6.1]**
- 1.5 Designated storage areas for flammable compressed gas cylinders shall be ≥ 100 feet from Waste. **[LCO3.6.1]**

NOTE

The controls apply at all times and in all process areas when ≤ 100 feet of Waste.

2.0 USE OF COMPRESSED GAS CYLINDERS

- 2.1 Compressed gas cylinders shall be secured during use. **[LCO 3.6.2]**
- 2.2 Use of flammable compressed gas cylinders will be controlled by a Hot Work Permit. **[LCO 3.6.2]**
- 2.3 Flammable compressed gas cylinders shall be attended while in use. **[LCO 3.6.2]**

Attachment 4 - TSR Requirements for Hot Work Activities

NOTE

LCO controls for the transportation of compressed gas cylinders apply to the outside area ≤ 25 feet from Waste, the Contact-Handled (CH) Bay, the Remote-Handled (RH) Bay, the Hot Cell Complex, and the Shaft Access Area during Waste Handling and Waste Storage Modes. The Underground consists of the Waste Hoist Conveyance, the Waste Shaft Station, the Transport Path, and the Disposal Room(s). LCO controls apply at all times in the Underground for the transportation of compressed gas cylinders.

3.0 TRANSPORTATION OF COMPRESSED GAS CYLINDERS

- 3.1 Compressed gas cylinders shall be secured during transportation. **[LCO 3.6.3]**
- 3.2 Compressed gas cylinders shall have valve CLOSED and valve cap installed, if equipped, during transportation. **[LCO 3.6.3]**