

**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION PROGRAM GUIDE**

**RH-02, REV. 3
PAGE 1 OF 8**

APPROVAL: This Qualification Guide is approved for use.


RH Waste Handling Manager / Date 4/23/07

FORMAT: This Qualification Guide has been reviewed and meets format requirements in effect.


Training Manager / Date 4/24/07

GENERAL INSTRUCTIONS:

This Qualification Card Guide is used by Waste Handling Personnel qualifying as RH Waste Handling Engineer. The candidate may perform duties without direct supervision ONLY for those evolutions and/or operations for which training has been completed (i.e. all identified knowledge and practical competencies).

All signatures must be made by qualified individuals identified in each section. The signatures indicate that the trainee has satisfactory knowledge and ability to perform the task(s) indicated.

All items must be completed unless deletion is indicated by the associated Section Manager with initials, date, and reason for each item deleted.

> **Indicates a revision to the text of the qualification card for this revision number. This indicator will be shown in the left margin, adjacent to the change.**

The Qualification Program Guide is divided into the following sections:

- I. Prerequisites
- II. Required Reading
- III. References
- IV. Equipment Knowledge Requirements
- V. Equipment Practical Requirements

QUALIFICATION LIMIT: This Qualification is valid for two years.

REQUALIFICATION: Competency statements that must be completed during requalification are designated with asterisks. (*)

I. PREREQUISITES:

1. The Waste Handling Engineer candidate is recommended for the qualification program which includes Tagout/Lockout Authorizing Supervisor and Temporary Plant Modification Authorizing Supervisor.
2. Completion of RH Waste Handling Technician Administration Qualification Card (B-07)

II. REQUIRED READING

1. Issues Management Processing of WIPP Forms, WP 04-IM1000
2. SDD, Waste Handling System (WH03 & WH05)

III. REFERENCES:

1. WP 04-AD3012, Temporary Plant Modification Control
2. WP 04-AD3011, Equipment Tagout/Lockout
3. WP 04-AD3027, TSR Violation Reporting and Recovery Plan
4. WP 05-WH1723, Underground RH Transuranic Mixed Waste Disposal Area Inspections
5. WP 05-WH1744, Surface RH Transuranic Mixed Waste Handling Area Inspections
6. DOE/WIPP 06-3178, WIPP RH Technical Safety Requirements
7. WP 12-HP3600, Radiological Work Permit
8. WP 05-WH.01, WIPP Waste Handling Operations WWIS Manual
9. 41-J-527-W1, Facility 411, WHB 480v MCC 41P-MCC04/2 Single Line Diagram
10. 41-J-511-W1, WHB 480v MCC 41P-MCC04/1 Single Line Diagram
11. 41-J-514-W1, WHB 480v MCC 41P-MCC04/6 Single Line Diagram
12. 41P-DP03/1, Distribution Panel Schedule
13. 41P-LP04/1, Lighting Panel Schedule
14. 41P-DP03/2, Distribution Panel Schedule
15. 41P-DP04/8, Distribution Panel Schedule
16. 41P-DP04/14, Distribution Panel Schedule
17. 41P-DP03/42, Distribution Panel Schedule
18. 41P-LP04/4, Lighting Panel Schedule
19. 25-J-020-W2, WIPP Site Primary Power Distribution One Line Diagram
20. 41P-LP04/2, Lighting Panel Schedule
21. 31-J-511-W1, Facility 411, Waste Hoist Tower 480v MCC 31P-MCC04/1 Single Line Diagram
22. SDD-HVOO, Heating, Ventilation and Air Conditioning (HV01 & HV02) System SDD

23. WP 04-HV1001, Waste Handling Building Zone 1 HVAC
24. WP 04-HV1021, Waste Handling Building Zone 2 HVAC
25. WP 04-HV1061, Waste Handling Building RH Area Zone 4 HVAC
26. WP 04-HV1081, TRUPACT Maintenance Facility Building 412 HVAC
27. WP 02-EC3506, Environmental Incident Reporting
28. 41P-DP04/3, Distribution Panel Schedule
29. 41P-DP03/3, Distribution Panel Schedule
30. 25-J-056-W1, Yard Electrical Area Substation No. 2 25P-SWG04/2 Electrical Diagrams, Details and LPU Interconnect
31. 41P-DP03/5, Distribution Panel Schedule
32. 25-J0700W1, Yard Electrical Area Substation No.1 25P-SWG04/1 Electrical Diagrams and Details
33. 41P-DP04/4, Distribution Panel Schedule
34. 41P-DP03/6, Distribution Panel Schedule
35. WP 04-CO, Conduct of Operations

IV. EQUIPMENT KNOWLEDGE:

A. TEMPORARY PLANT MODIFICATIONS (OPS-02)

- * 1. State the purpose of the Temporary Plant Modification Control procedure. (Ref.1)
- * 2. State the definition of a Temporary Plant Modification (TPM). (Ref. 1)
- * 3. Describe the responsibilities of the Cognizant Operations Supervisor in regard to the TPM Control procedure. (Ref. 1)
4. Discuss the precautions and limitations associated with the TPM Control procedure. (Ref. 1)
5. Discuss the policies which govern the use of the TPMs. (Ref. 1)
6. State the type of work which is excluded from the TPM Control. (Ref. 1)
7. State the physical requirements that must be met by mechanical and electrical jumpers. (Ref. 1)
8. State the physical requirements that must be met by lifted leads and blank flanges. (Ref. 1)
9. Discuss the requirements for completing blocks 1 thru 18 for the TPM Control Record Form. (Ref. 1)
10. State the source of retest requirements upon restoration of equipment from a TPM. (Ref. 1)
11. State the frequency of a TPM Control Record Sheet audit. (Ref. 1)

12. State the actions required if a discrepancy is found during a TPM Control Sheet audit. (Ref. 1)
13. Discuss the TPM Control record keeping requirements. (Ref.1)

B. SUPPORT SYSTEMS HVAC

1. State the definition of a Train. (Ref. 22)
2. State the number of Zones the HV01 System is divided into and the areas served by each Zone. (Ref. 22)
3. State the equipment numbers and power supply for the fans controlling Zone 1. (Ref. 22, 23, 28, 29)
4. State the equipment numbers and power supply for the fans controlling Zone 2. (Ref. 11, 22, 24, 29, 30, 31)
5. State the nominal operating differential pressure for the RH Bay and the alarm set points. (Ref. 22)
6. State the number of Zones the HV02 System is divided into and the area served by each Zone. (Ref. 22)
7. State the equipment numbers and the power supply for the fans controlling Zone 4. (Ref. 9, 11, 22, 25, 31, 32)
8. State the equipment numbers and power supply for the fans controlling the TMF. (Ref. 22, 26, 33, 34)

C. ELECTRICAL DISTRIBUTION

1. State the Substation and Motor Control Center that supply power to the RH Waste Handling Area. (Ref. 9, 10, 11, 19, 21)
2. State the power supplies for the following RH area equipment: (Ref. 9 thru 21)
 - a. 140/25 Ton Crane
 - b. Road Cask Transfer Car
 - c. 25 Ton CUR Crane
 - d. Hot Cell Crane
 - e. PAR 6000
 - f. Crane Maintenance Room Shield Door
 - g. 140 Ton Shield Door
 - h. Door 109
 - i. Door 145
 - j. Door 155

- k. Master Slave Manipulator
- l. Hot Cell Cameras
- m. Transfer Cell Cameras
- n. Canister Shuttle Car
- o. CUR Shield Valve
- p. Cask Loading Room Shield Valve
- q. Hot Cell Shield Valve
- r. 6.25 Ton Grapple Hoist
- s. 2.5 Ton Jib Crane
- t. Facility Cask Rotating Device
- u. Facility Cask Transfer Car
- v. Facility Cask Shield Valves
- w. Cask Prep Station Receptacles
- x. Telescoping Port Shield
- y. RH Bay Lights
- z. Hot Cell Lights
- aa. Transfer Cell Lights
- bb. Transfer Drawer
- cc. Hot Cell Crane Retrieval Winch

D. ABNORMAL OPERATIONS

- * 1. Describe responsibilities of the Engineer for notification when waste must be stored in an off-normal configuration because of an abnormal event. (Ref. 27)

E. SURFACE AND UNDERGROUND AREA INSPECTIONS

- * 1. State the process of reviewing and completing the inspection attachments. (Ref. 4, 5)

F. TSR REQUIREMENTS

- * 1. State the waste handling requirements for stand by, storage and handling modes. (Ref. 6)
- 2. Explain actions necessary if a TSR AC is violated. (Ref. 3, 6)
- 3. List the waste container integrity requirements. (Ref. 6)
- 4. Describe the canister array in the underground. (Ref. 6)

G. RADIOLOGICAL CONTROLS

1. Explain when a pre-job briefing is required on the RWP. (Ref. 7)
2. Describe what is included during a pre-job briefing. (Ref. 7)

H. LOCKOUT/TAGOUT AUTHORIZING SUPERVISOR

- * 1. State what sources can be utilized to determine the proper location for placement of danger tags. (Ref. 2)
- * 2. Describe the requirements for stored energy devices. (Ref. 2)
- * 3. Describe the concurrence requirements for tagouts involving Operational Safety Requirement equipment or Controlled Area/Radioactive Material boundaries. (Ref. 2)
- * 4. Describe the requirements for tagging mobile equipment. (Ref. 2)

I. WWIS

1. Describe how a shipment is received in the WWIS. (Ref. 8)
2. State the purpose of each of the four main Inventory Module functions. (Ref. 8)
3. State the process for creating an overpack in the Inventory Module. (Ref. 8)
4. State the three queries that can be done in the Query Module. (Ref. 8)
5. State how the user can query on container data variables other than the container number. (Ref. 8)
6. Explain the process for manually entering data into the WWIS. (Ref. 8)

II. PRACTICAL REQUIREMENTS

A. EQUIPMENT LOCKOUT/TAGOUT (OPS-01)

- * 1. Authorize a Lockout/Tagout which includes:
 - The candidate shall sign block 10 of the Lockout/Tagout Control Sheet to specify authorization.
 - Record the log serial number from block 2 of the Lockout/Tagout Control Sheet. (Ref. 2)

- * 2. Authorize an equipment Lockout/Tagout removal.
 - The candidate shall sign block 20 of the Lockout/Tagout Control Sheet to specify authorization.
 - Record the log serial number from block 2 of the Lockout/Tagout Control Sheet. (Ref. 2)

- * 3. Complete tagout filing for the Lockout/Tagout Record Sheet in practical requirement 2. The candidate shall sign block 23 of the Lockout/Tagout Control Sheet to specify closure of the Lockout/Tagout Control Sheet. (Ref. 2)

B. TEMPORARY PLANT MODIFICATION (OPS-02)

- * 1. Authorize Temporary Plant Modifications which include:
 - Prepare a TPM Control Record Form given specific information for placing on a plant component.
 - Perform a TPM Control Record Form audit.
 - Authorize a TPM Control Record Form for placement in the facility
 - Authorize the restoration of a TPM

C. CONDUCT OF OPERATIONS

- 1. Record information in Waste Handling Logs. (Ref. 35)
- 2. Conduct a Waste Handling pre-shift briefing. (Ref. 35)
- 3. Review Operator Logs. (Ref. 35)
- 4. Review completed Procedure Forms (Ref. 35)

D. ABNORMAL OPERATIONS

NOTE: The Abnormal Operations practical section is conducted in classroom training such as; HWW-101, HWR-101, and RAD-201.

E. SURFACE AND UNDERGROUND AREA INSPECTIONS

- 1. Perform Surface Inspections (Ref. 5)
- 2. Perform Underground Inspections (Ref. 4)

F. TSR REQUIREMENTS

1. Perform TSR pre-operational inspection and notification requirements. (Ref. 3)

G. RADIOLOGICAL CONTROLS

1. Initiate a Radiological Work Permit (Ref. 7)
2. Conduct a pre-job briefing using the checklist (Ref. 7)

H. WWIS

1. Generate the WWIS Shipment Summary Report. (Ref. 8)
2. Demonstrate how to receive a shipment in the WWIS. (Ref. 8)
3. Generate the Waste Emplacement Report. (Ref. 8)
4. Demonstrate how to use the Container Query function. (Ref. 8)
5. Demonstrate how to use the Shipment Query function. (Ref. 8)
6. Demonstrate how to use the Repository Query function. (Ref. 8)
7. Demonstrate how to manually enter data in the WWIS. (Ref. 8)
8. Demonstrate how to create a RH 10-160B Assembly in the WWIS. (Ref. 8)

**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION SIGNATURE RECORD**

**RH-02, REV. 3
PAGE 1 OF 6**

CANDIDATE: _____ **COMPANY/DEPT.:** _____

BADGE #: _____ **DATE STARTED:** _____ **INT.** ___ **REQUAL** ___

NOTE: **ALL SIGNATURES MUST BE IN REPRODUCIBLE INK. BLACK INK is PREFERRED.**

This Qualification Card will normally be retained by the trainee until completed. When completed, it must be routed to Training for review, approval, and retention.

> **Indicates a revision to the text of the qualification card for this revision number. This indicator will be shown in the left margin, adjacent to the change.**

REQUALIFICATION: Competency statements that must be completed during requalification are designated with asterisks. (*)

PREREQUISITES:

1. The Waste Handling Engineer candidate is recommended for the qualification program which includes Tagout/Lockout Authorizing Supervisor and Temporary Plant Modification Authorizing Supervisor.
2. Completion of RH Waste Handling Technician Administration Qualification Card (B-07)

REQUIRED READING:

1. Issues Management Processing of WIPP Forms, WP 04-IM1000
2. SDD, Waste Handling System, (WH03 & WH05)

I have read and understand the listed required reading.

Trainee Signature / Date

REFERENCES:

1. WP 04-AD3012, Temporary Plant Modification Control
2. WP 04-AD3011, Equipment Tagout/Lockout
3. WP 04-AD3027, TSR Violation Reporting and Recovery Plan
4. WP 05-WH1723, Underground RH Transuranic Mixed Waste Disposal Area Inspections
5. WP 05-WH1744, Surface RH Transuranic Mixed Waste Handling Area Inspections
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7. WP 12-HP3600, Radiological Work Permit
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25. WP 04-HV1061, Waste Handling Building RH Area Zone 4 HVAC
26. WP 04-HV1081, TRUPACT Maintenance Facility Building 412 HVAC
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**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION SIGNATURE RECORD**

**RH-02, REV. 3
PAGE 3 OF 6**

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- 30. 25-J-056-W1, Yard Electrical Area Substation No. 2 25P-SWG04/2
Electrical Diagrams, Details and LPU Interconnect
 - 31. 41P-DP03/5, Distribution Panel Schedule
 - 32. 25-J0700W1, Yard Electrical Area Substation No.1 25P-SWG04/1 Electrical
Diagrams and Details
 - 33. 41P-DP04/4, Distribution Panel Schedule
 - 34. 41P-DP03/6, Distribution Panel Schedule
 - 35. WP 04-CO, Conduct of Operations

NOTE: Completion of this qualification satisfies the Tagout/Lockout Technician qualification requirements. (OPS-01T)

NOTE: EACH AUTHORIZING SUPERVISOR, WH ENGINEER, FACILITY SHIFT MANAGER OR FACILITY SHIFT MANAGER DESIGNEE, AND SUBJECT MATTER EXPERT INVOLVED IN THE TRAINEE VALIDATION OF THIS QUALIFICATION CARD SHALL PRINT AND SIGN THEIR NAME ON THE FOLLOWING BLANKS:

_____	_____
Printed Name	Signature
_____	_____
Printed Name	Signature
_____	_____
Printed Name	Signature

**A. KNOWLEDGE REQUIREMENTS:
Temporary Plant Modifications (OPS-02) Authorizing Supervisor / Date**

- | | |
|-----------|-----------|
| *1. _____ | *2. _____ |
| *3. _____ | 4. _____ |
| 5. _____ | 6. _____ |

**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION SIGNATURE RECORD**

**RH-02, REV. 3
PAGE 4 OF 6**

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Support Systems HVAC

**Facility Shift Manager / Designee /
Date**

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Electrical Distribution

**Facility Shift Manager / Designee /
Date**

1. _____

2. _____

Abnormal Operations

WH Engineer / Date

*1. _____

Surface and Underground Inspections

WH Engineer / Date

*1. _____

TSR Requirements

WH Engineer / Date

*1. _____

2. _____

3. _____

4. _____

**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION SIGNATURE RECORD**

**RH-02, REV. 3
PAGE 5 OF 6**

Radiological Controls

WH Engineer / Date

1. _____ 2. _____

Lockout/Tagout Authorizing Supervisor

Authorizing Supervisor / Date

*1. _____ *2. _____

*3. _____ *4. _____

WWIS

Authorizing Supervisor / Date

1. _____ 2. _____

3. _____ 4. _____

5. _____ 6. _____

B. PRACTICAL REQUIREMENTS

Equipment Lockout/Tagout (OPS-01)

Authorizing Supervisor / Date

*D161 1. _____ *D163 2. _____

*D164 3. _____

Temporary Plant Modification (OPS-02)

Authorizing Supervisor / Date

*D165 1. _____

Conduct of Operations

WH Engineer / Date

D170 1. _____ D171 2. _____

D213 3. _____ D214 4. _____

**WIPP OPERATIONS
RH WASTE HANDLING ENGINEER
ADMINISTRATIVE QUALIFICATION SIGNATURE RECORD**

**RH-02, REV. 3
PAGE 6 OF 6**

Surface and Underground Area Inspections	WH Engineer / Date
1. _____	2. _____
TSR Requirements	WH Engineer / Date
1. _____	
Radiological Controls	WH Engineer / Date
1. _____	2. _____
WWIS	SME Signature / Date
1. _____	2. _____
3. _____	4. _____
5. _____	6. _____
7. _____	8. _____

I have read the required reading material and understand my responsibilities covered in the Administrative Qualification Card. I have received on-the-job training and can perform the duties associated with this qualification safely and efficiently.

Candidate Signature / Date

Approved for Administrative duties.

RH Waste Handling Mgr. / Date

This qualification card has been reviewed for completeness and signature verification by the Training Coordinator.

Training Coordinator / Date