

**WIPP OPERATIONS
WASTE HANDLING OPERATIONS
QUALIFICATION PROGRAM GUIDE BOOK**

**WH-GUIDE-1 Rev. 24
PAGE 1 OF 44**

APPROVAL: This Qualification Program Guide Book has been reviewed and meets the content requirements for qualification and requalification as CH Waste Handling Backfill, Floor, Yard and Emplacement Technician, CH Waste Handling Technician, and CH Waste Handling Engineer. This Qualification Program Guide Book is approved for use.


27 JAN 09
Waste Handling Mgr. / Date

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


27 JAN 09
Training Manager / Date

TABLE OF CONTENTS

I.	GENERAL INSTRUCTIONS	5
II.	REFERENCES	8
	A. WASTE HANDLING 6/7 TON FORKLIFTS	8
	B. TRAILER JOCKEY	8
	C. 13 TON ELECTRIC FORKLIFT	8
	D. CH CONVEYANCE LOADING CAR	8
	E. U/G TRANSPORTER	9
	F. 6 TON BRIDGE CRANE/ACGLF	9
	G. CH PACKAGING OPERATIONS.....	9
	H. CH PACKAGING MAINTENANCE	9
	I. TRU-DOCK OPERATIONS	10
	J. INTEGRATED PROCESS.....	10
	K. UPENDER.....	11
	L. SPOTTER.....	11
III.	CLASSROOM/QUALIFICATION INSTRUCTION	11
	<i>(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN</i>	11
IV.	REQUIRED READING	11
	<i>(1) BACKFILL, FLOOR, YARD AND EMPLACEMENT TECHNICIAN</i>	11
	<i>(2) CH WASTE HANDLING TECHNICIAN - NONE</i>	12
V.	CLASSROOM INSTRUCTION - CH WASTE HANDLING ENGINEER	12
VI.	REQUIRED READING - ENGINEER	12
VII.	EQUIPMENT KNOWLEDGE REQUIREMENTS	12
	<i>(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN</i>	12
	A. CH WASTE HANDLING 6/7 TON FORKLIFTS	12
	B. 13 TON ELECTRIC FORKLIFT	14
	C. CH CONVEYANCE LOADING CAR	15
	D. U/G TRANSPORTER	15
	E. WWIS BAR CODE READER.....	16
	F. TRAILER JOCKEY	16
	G. UPENDER	17
	H. CH PACKAGING OPERATIONS	17
	<i>(2) CH WASTE HANDLING TECHNICIAN</i>	18
	A. 6 TON BRIDGE CRANE/ACGLF	18
	B. CH PACKAGING OPERATIONS.....	19
	C. CH PACKAGING MAINTENANCE	20
	D. TRU-DOCK OPERATION.....	21
VIII.	EQUIPMENT OPERATION PRACTICAL REQUIREMENTS	21

	(1) BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIANS	21
A.	WASTE HANDLING 6/7 TON FORKLIFTS	21
B.	13 TON ELECTRIC FORKLIFT	22
C.	CH CONVEYANCE LOADING CAR	22
D.	U/G TRANSPORTER	22
E.	WWIS BAR CODE READER	22
F.	TRAILER JOCKEY	22
G.	UPENDER	23
H.	CH PACKAGING OPERATIONS	23
	(2) CH WASTE HANDLING TECHNICIAN	23
I.	6-TON BRIDGE CRANE/ACGLF	23
J.	CH PACKAGING OPERATION	24
K.	CH PACKAGING MAINTENANCE	24
L.	TRU-DOCK OPERATION.....	25
M.	PAYLOAD OPERATION.....	25
IX.	INTEGRATED PROCESS KNOWLEDGE REQUIREMENTS	25
	(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN	25
A.	WORK AUTHORIZATION	25
B.	CONDUCT OF OPERATIONS	26
C.	UNDERGROUND AREA INSPECTIONS	27
D.	ABNORMAL OPERATIONS	27
E.	SURFACE AREA INSPECTIONS.....	27
F.	EMPLACEMENT	28
G.	SPOTTER	
	(2) CH WASTE HANDLING TECHNICIAN	
A.	DERIVED WASTE	29
X.	INTEGRATED PROCESS KNOWLEDGE REQUIREMENTS - CH WASTE HANDLING ENGINEER	
	30	
A.	TEMPORARY PLANT MODIFICATION (OPS-02).....	30
B.	WORK AUTHORIZATION	30
C.	SUPPORT SYSTEMS	31
D.	ABNORMAL OPERATIONS	31
E.	SURFACE AND UNDERGROUND AREA INSPECTIONS.....	32
F.	TSR REQUIREMENTS.....	32
G.	RADIOLOGICAL CONTROLS.....	32
H.	TAGOUT/LOCKOUT AUTHORIZING SUPERVISOR	32
I.	WWIS	32
J.	CONDUCT OF OPERATIONS	33
XI.	INTEGRATED PROCESS PRACTICAL REQUIREMENTS	33
	(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN	33
A.	WORK AUTHORIZATION	33
B.	CONDUCT OF OPERATIONS	33
C.	UNDERGROUND AREA INSPECTIONS	34
D.	ABNORMAL OPERATIONS	34
E.	SURFACE AREA INSPECTIONS.....	34

**WIPP OPERATIONS
WASTE HANDLING OPERATIONS
QUALIFICATION PROGRAM GUIDE BOOK**

**WH-GUIDE-1 Rev. 24
PAGE 4 OF 44**

F.	EMPLACEMENT	34
G.	SUPPORT SYSTEMS	34
	(2) CH WASTE HANDLING TECHNICIAN	35
A..	DERIVED WASTE	35
XII.	INTEGRATED PROCESS PRACTICAL REQUIREMENTS - CH WASTE HANDLING ENGINEER	
	35	
A.	EQUIPMENT TAGOUT/LOCKOUT (OPS-01).....	37
B.	TEMPORARY PLANT MODIFICATION (OPS-02)	35
C.	WORK AUTHORIZATION	35
D.	CONDUCT OF OPERATIONS	36
E.	ABNORMAL OPERATIONS	36
F.	SURFACE AND UNDERGROUND AREA INSPECTIONS.....	36
G.	TSR REQUIREMENTS	36
H.	RADIOLOGICAL CONTROLS.....	36
I.	WWIS	36
	ATTACHMENT 1	38
	ATTACHMENT 2	40

I. GENERAL INSTRUCTIONS

This Qualification Program Guide Book is to be utilized by all Waste Handling Personnel qualifying as CH Waste Handling Backfill Floor, Yard and Emplacement Technician, CH Waste Handling Technician, and CH Waste Handling Engineer. This Qualification Program Guide Book represents the minimum knowledge and competency requirements for INITIAL AND BIENNIAL QUALIFICATION. The individual may perform duties, (material and equipment handling), without direct supervision only for those evolutions and/or operations for which training has been completed. TRU waste handling activities will not be performed unsupervised until the associated Qualification Card and Oral Board are completed.

TASK QUALIFIED (MATERIAL AND EQUIPMENT OPERATIONS VS. TRU WASTE MOVEMENT):

Task Qualified is defined as having the Knowledge Requirements and Practical Requirements signed off as satisfactorily completed for a specific piece of equipment on the associated qualification card. A "Task Qualified" trainee may perform duties, (material and equipment handling), without direct supervision ONLY for those evolutions and/or operations for which training has been completed.

TRU Waste Handling activities outside the waste transportation container (i.e., emplacement, moving loaded facility pallets, downloading) will NOT be performed by a "Task Qualified" trainee unless under the supervision of a qualified Subject Matter Expert (SME) / On-the-job training evaluator (OJTE) and qualified Spotter until the associated Qualification Card and Oral Board are successfully completed.

OPERATION	TASK QUALIFIED	WH-01A	WH-01B
CH Waste Package Movement (Loaded or Empty)	X	X	X
Waste Movement (Outside of CH Package)	**	X	X
Dock Operations (CH Package Processing)		**	X
Waste Movement with the Transporter	** Note #1	X	X
Waste Emplacement	**	X	X
Material Handling	X Note #2	X	X

** Performed ONLY under the instruction of a Qualified Technician

Note #1: Transporter may have one "Task Qualified Trainee **AND** a fully Qualified WH-01A Qualification Card Technician **OR** a fully Qualified WH-01B Qualification Card Technician due to limitations in seating. However, once at the panel an additional Qualified Technician is required if the "Task Qualified" trainee is performing Emplacement activities.

Note #2: This includes handling any material not involving waste outside of a waste transportation container (i.e. MgO, Empty pallets, Racks, Slip-sheets).

Training requirements should be conducted and signed by individuals who are qualified or appointed to the level required on the signature block contained in the Qualification Card Record Form. These include:

ON-THE-JOB TRAINING EVALUATOR (OJTE): A qualified operator who has satisfactorily completed an oral examination on the performance of on-the-job training. The OJTE can only sign practical requirements.

SUBJECT MATTER EXPERT (SME): A Level I Instructor who has completed the required classroom training (SME/OJT) and satisfactorily completed the SME oral board on designated equipment or systems. Operators qualified as SME may also sign an OJTE training requirement.

WASTE HANDLING MANAGER: The member of management appointed to direct the Waste Handling Operations section.

The integrated process practical requirement identified in section E, Derived Waste for technicians and engineers, should be completed to the indicated level of performance. Levels of performance are as follows:

PERFORM (P) - All aspects of the practical requirement will be performed in accordance with the designated procedure(s).

SIMULATE (S) - The practical requirement should be walked through in the field using the procedure and discussing the desired reaction and indication(s) expected as would be seen if the procedure were being performed.

DISCUSS (D) - The candidate should discuss all aspects of the requirement including desired reaction(s) and indication(s). A discuss may be completed in a training area.

Where multiple levels of performance are indicated for a practical requirement, the goal of the candidate and evaluator is to complete the highest level possible. The level achieved may be limited by equipment status, facility conditions, or compliance modes. The hierarchy of levels of performance, from highest to lowest, are perform, simulate, discuss. The evaluator will circle the level of performance achieved on the practical requirement.

If certain training requirements become obsolete, the manager may line through the requirement, initial the deletion, and provide an explanation for the deletion. For items deleted due to obsolescence, Technical Training must be notified to revise the Qualification Program to ensure "up-to-date" status of all training requirements is on file.

This Qualification Program Guide Book is divided into the following sections:

- I. General Instructions
- II. References
- III. Classroom/Qualification Training - CH Waste Handling Backfill, Floor, Yard and Emplacement Technician; and CH Waste Handling Technician
- IV. Required Reading - Technician
- V. Classroom/Qualification Training - CH Waste Handling Engineer
- VI. Required Reading - Engineer
- VII. Equipment Knowledge Requirements - Backfill, Floor, Yard and Emplacement Technician; Waste Handling Technician, and Engineer

-
- VIII. Equipment Practical Requirements - Backfill, Floor, Yard and Emplacement Technician; Waste Handling Technician, and Engineer
 - IX. Integrated Process Knowledge - Backfill, Floor, Yard and Emplacement Technician, and Waste Handling Technician
 - X. Integrated Process Knowledge - CH Waste Handling Engineer
 - XI. Integrated Process Practical - Backfill, Floor, Yard and Emplacement Technician, and Waste Handling Technician
 - XII. Integrated Process Practical - CH Waste Handling Engineer

Section III or V requirements may be completed at any time prior to qualification unless identified prior to individual qualification sections. Section VII requirements must be completed prior to the candidate working on Section VIII requirements. Prior to the candidate working on the practical requirements for a specific topic in Section VIII, the knowledge requirements for that topic in Section VII must be completed.

The applicable Qualification Card Signature Records should be retained by the Waste Handling candidate until completed. When completed, all forms must be routed to the Technical Training Department for review, validation, and retention.

Indicators (>) will be listed in the left margin to identify changes in requirements or revisions to the text.

The CH Waste Handling Engineer Qualification Card Signature Record (WH-02) contains the qualification requirements for OPS-01T (Tagout/Lockout Technician) and OPS-01 (Tagout/Lockout Authorizing Supervisor) and OPS-02 (Temporary Plant Modification Authorization Supervisor). Upon completion of WH-02, specific qualification for OPS-01, OPS-01T and OPS-02 will not be required nor indicated on the training record printout.

The CH Waste Handling Engineer Requalification Card Signature Record (WH-02R) contains the biennial requalification requirements for OPS-01, OPS-01T and OPS-02.

QUALIFICATION LIMIT:

The qualifications contained in this Qualification Program are valid for two years. Extension of qualification is achieved by completion of requalification cards WH-01B(R) or WH-02(R).

ENTRY LEVEL REQUIREMENTS:

The CH Waste Handling Engineer candidate must have completed qualification as a Waste Handling Technician and be recommended by the Waste Handling Manager for qualification to include Tagout/Lockout Authorizing Supervisor and Temporary Plant Modification Authorizing Supervisor.

II. REFERENCES

A. WASTE HANDLING 6/7 TON FORKLIFTS

1. DOE Standard Hoisting and Rigging 1090-2004
2. Yale 6 Ton Forklift O&M Manual
3. Forklift Truck: Operator Training Basic Course MS-02150
4. 6 Ton Electric Forklift, WP 05-WH1401
5. Diesel Particulate Matter Exposure, 30 CFR part 57
6. BRUDI O&M Manual
7. WIPP Mine Ventilation Plan, 00CD-0001
8. Qual Program Guide - Attachment #1
9. SDD WH00
10. Loron O&M
11. Deleted Reference
12. Toyota O&M
13. CH Waste Handling Toyota Forklifts, WP 05-WH1412
14. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)
15. Toyota 7 Ton Forklift O&M Manual
16. Harder Push-Pull Device Manual

B. TRAILER JOCKEY

1. Trailer Jockey WP 05-WH1405
2. Capacity Trailer Jockey Operations Manual
3. Industrial Safety Program, WP 12-IS.01
4. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)

C. 13 TON ELECTRIC FORKLIFT

1. 13 Ton Electric Forklift, WP 05-WH1402
2. Auto Lift O&M Manual
3. Hoist Lift Truck Operators Manual
4. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)
5. Forklift Truck: Operator Training Basic Course MS - 02150

D. CH CONVEYANCE LOADING CAR

1. Conveyance Loading Car, WP 05-WH1406
2. Facility and TRUPACT-II Pallet Handling, WP 05-WH1004
3. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)

- E. U/G TRANSPORTER**
1. U/G Transporter O&M Manual
 2. CH TRU U/G Transporter, WP 05-WH1603
 3. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)
- F. 6 TON BRIDGE CRANE/ACGLF**
1. 6-Ton Bridge Cranes, WP 05-WH1407
 2. Deleted Reference
 3. ACGLF Operation and Maintenance Manual, OM -135
 4. CH Waste Processing, WP 05-WH1011
 5. Drawing #41-J-513 W
 6. ACGLF, WP 05-WH1410
 7. EDERER 6 Ton Crane Operation and Maintenance Manual Volumes 1 and 2
 8. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)
- G. CH PACKAGING OPERATIONS**
1. DOE/WIPP 02-3183, CH Packaging Program Guidance
 2. Preparation of CH Packaging for Empty Shipment, WP 05-WH1015
 3. DOE/WIPP 02-3184, CH Packaging Operations Manual
 4. CH Packaging Trailer Loading , WP 05-WH1005
 5. TRUPACT II SARP
 6. Halfpact SARP
 7. DOE/WIPP 02-3185, CH Packaging Maintenance Manual
 8. CH Packaging Trailer O&M Manual, WP 08-PT.04
 9. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)
- H. CH PACKAGING MAINTENANCE**
1. CH Waste Processing, WP 05-WH1011
 2. DOE/WIPP 02-3183, CH Packaging Program Guidance
 3. DOE/WIPP 02-3184, CH Packaging Operations Manual
 4. TRUPACT II SARP
 5. Halfpact SARP
 6. DOE/WIPP 02-3185, CH Packaging Maintenance Manual

I. TRU-DOCK OPERATIONS

1. Tru-Dock Operation, WP 05-WH1002

J. INTEGRATED PROCESS

1. WP 04-AD3011, Equipment Tagout/Lockout
2. WP 04-AD3012, Temporary Plant Modification Control
3. WP 10-WC3011, Maintenance Process
4. WP 10-AD3005, Control and Use of Maintenance Locks
5. Delete Reference
6. WP 04-CO, Conduct of Operations
7. Delete Reference
8. WP 05-WH1036, Site Derived Mixed Waste Handling
9. Delete Reference
10. Drawing 41-J-578-014 Electrical Schematic of Suspect Waste Collection and Air Sampling System
11. WP 04-HV1001 Waste Handling Building Zone 1 HVAC
12. WP 04-HV1021 Waste Handling Building Zone 2 HVAC
13. WP 04-HV4021 HVAC Alarm Response
14. 41-J-513-W1 Waste Handling Building 411 480V MCC 41P-MCC04/5 Single Line Diagram
15. 41P-DP03/4 Distribution Panel Schedule
16. 41P-DP04/21 Distribution Panel Schedule
17. 41P-DP04/2 Distribution Panel Schedule
18. 41P-LP04/1 Lighting Panel Schedule
19. 41-J-514-W1 Waste Handling Building 411 480V MCC 41P-MCC04/6 Single Line Diagram
20. 41P-DP03/21 Distribution Panel Schedule
21. 41P-LP04/5 Lighting Panel Schedule
22. Maintenance Operations Instruction Manual WP 10-2, section 7
23. 25-J-020-W4 WIPP Site Primary Power one line diagram with surface low voltage interrupter line up
24. WP 05-WH1101, Surface TRU Mixed Waste Handling Area Inspections
25. WP 05-WH1810, Underground TRU Mixed Waste Disposal Area Inspections
26. WP 05-WH4401, Waste Handling Operator Event Response
27. WIPP Safety Analysis Report DOE/WIPP-95-2065
28. WP 12-HP3600, Radiological Work Permit
29. WP 12-HP3300, Radiation Exposure Control
30. Hazardous Waste Facility Permit
31. WP 02-EC3506, Environmental Incident Reporting
32. WIPP Waste Handling Operations WWIS User's Manual, WH.01
33. Delete Reference
34. WP 05-WH1010, Container Overpacking
35. Delete Reference
36. Janus 2020 Hand-Held Computer Users Manual, Intermec Corp.
37. WP EA10-2-1-0, Action Request
38. WP 04-HV1061, Waste Handling Building RH Area Zone 4 HVAC
39. WP 04-HV1081, Trupact Maintenance Facility Building 412 HVAC
40. DOE/WIPP 95-2125, CH TSR

K. UPENDER

1. Mechanical Upender O & M
2. Guidelines for Waste Handling Mobile Equipment (Required Reading 05:070)

L. EQUIPMENT SPOTTER

1. WP 04-AD3010 Forklift Operations
2. DOE Standard Hoisting and Rigging 1090-2007
3. WH-GUIDE – 1, Attachment 2, CH Waste Handling Forklift Spotter Hand Signals
4. ESO-101, WIPP Mine Operations Equipment Spotter/Observer
5. ESO-103, WIPP Surface Operations Waste Handling Equipment Spotter/Observer
6. CH Waste Handling Job Hazard Analysis (JHA) Binder
7. WP 05-WH1011, CH Waste Processing
8. DOE/WIPP-95-2125, WIPP Contact Handled (CH) Technical Safety Requirements

III. CLASSROOM/QUALIFICATION INSTRUCTION

(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN

NOTE: Items marked with (*) require refresher training.

- * A. Inexperienced Miner or Underground Miner Refresher (SAF-501 or SAF-502)
- * B. Radworker II (RAD-201/202)
- * C. Hazardous Waste Worker (HWW-101 or 102)
- * D. Conduct of Shift Operations (OPS-115)
- E. Forklift Safety (EQP-402)
- F. Waste Handling Equipment (STC-003)
- * G. Incidental Rigger Qualification (OPS-402)
- * H. Hazardous Waste Responder (HWR-101 or 101A)
- * I. Respiratory Protection (SAF-630 & 631)
- * J. Hazardous Material Transportation (HMT-102 or 103)
- K. WIPP TSR Self Study Exam (OPS-122)
- * L. SME/OJT (TRG-293/298)
- M. WIPP Chronic Beryllium Disease Prevention Program (BE-100)
- N. Nuclear Criticality Safety (NCS-001)
- * O. Electrical Safety (ELC-103)
- P. WIPP Mine Operations Equipment Spotter/Observer (ESO-101)
- * Q. WIPP Surface Operations Waste Handling Equipment Spotter/Observer (ESO-103)
- R. Equipment Lockout / Tagout (EQP-405)

(2) CH WASTE HANDLING TECHNICIAN - NONE

IV. REQUIRED READING

(1) BACKFILL, FLOOR, YARD AND EMPLACEMENT TECHNICIAN

- A. Advance 5000B Floor Scrubber, WP 05-WH1404
- B. SDD, Waste Handling System (WHOO)
- C. DOE/WIPP 02-3183, CH Packaging Program Guidance
- D. DOE/WIPP 02-3184, CH Packaging Operations Manual
- E. DOE/WIPP 02-3185, CH Packaging Maintenance Manual
- F. Procedures Guidelines (PDI-101) WP 04-CO, Section 18, Operations Procedures
- G. WP 04-AD3008, Shift Operating Logs
- H. CH Waste Handling Job Hazard Analysis (JHA) Binder

(2) CH WASTE HANDLING TECHNICIAN – NONE

V. CLASSROOM INSTRUCTION - CH WASTE HANDLING ENGINEER

NOTE: Items A thru H will be verified as current prior to the candidate starting this qualification program. Items marked with (*) require refresher training that will be verified as current.

- * A. Inexperienced Miner or Underground Miner Refresher (SAF-501 or SAF-502)
- * B. Radworker II (RAD-201/202)
- * C. Hazardous Waste Worker (HWW-101 or 102)
- * D. Current Respiratory Protection (SAF-630 & 631)
- * E. SME/OJT (TRG-293 or TRG-298)
- * F. Hazardous Material Transportation (HMT-102 or 103)
- * G. Hazardous Waste Responder (HWR-101 or 101A)
- * H. Incidental Rigger Qualification (OPS-402)
- I. Administrative Requirements Self-Paced Module (MAS-112)
- J. Equipment Lockout/Tagout (EQP-405)
- K. Equipment Lockout/Tagout Technician Qualification Card (OPS-01T)
- L. Equipment Lockout/Tagout Authorizing Supervisor Qualification Card (OPS-01)

VI. REQUIRED READING - ENGINEER

- A. Issues Management Program Processing, 04-IM1000

VII. EQUIPMENT KNOWLEDGE REQUIREMENTS

(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN

NOTE: To complete the requirements in the Signature Record Form, the SME will certify, by oral examination, that the candidate has adequate knowledge of the objectives below.

A. CH WASTE HANDLING 6/7 TON FORKLIFTS

- 1. Locate and describe the functions of all the forklift controls. (Ref. A.2,4,12,13,15)
- 2. State the ratings of the forklift as specified on the Data Plate. (Ref. A.2,4,12,13,15)
- 3. Determine the maximum load that can be lifted at any given load center. (Ref. A.8)
- * 4. Describe the tasks that are performed with each of the following attachments: (Ref. A.8,9)
 - a. BRUDI/Loron/Harder Push-Pull Device
 - b. SWB attachment
 - c. Two (2) Drum Handler
 - d. Harder Push-Pull attachments
- * 5. State the load rating of each of the following attachments: (Ref. A.4,13)
 - a. BRUDI/Loron/Harder Push-Pull Device
 - b. SWB attachment

-
- c. Two (2) Drum Handler
 - d. Harder Push-Pull attachments
- * 6. Discuss the basic safety requirements associated with forklift operations. (Ref. A.2, 3,12, 15)
 - * 7. State the precautions to be used when operating underground, on inclines or soft surfaces. (Ref. A.3, 15)
 - * 8. Discuss the precautions to be used when operating near overhead power lines. (Ref. A.3, 4,13, 15)
 - * 9. State the precautions to be used when operating in the Waste Handling Building. (Ref. A.3)
 - 10. Describe the 6-ton forklift battery charging process. (Ref. A.2,4)
 - 11. State the power supply for the battery charging station back to the MCC. (Ref. J.17,19)
 - * 12. Describe the method of attaching the following to the 6/7 ton forklift:
 - a. Brudi
 - b. SWB attachment
 - c. Two Drum Handler
 - d. Loron/Harder Push-Pull Device
(Ref. A.2,4,6,8,10,13,15,16)
 - * 13. State what to look for when performing a pre-operational check on the Forklift, BRUDI, Loron, Harder Push-Pull Device, SWB lift fixture, and Drum Handler. (Ref. A.4,13,15,16))
 - * 14. State the steps to perform a pre-operational check on the forklift, BRUDI, Loron, Harder Push-Pull Device, SWB lift fixture, and Drum Handler. (Ref. A.4,13,15,16)
 - 15. Discuss how to park and secure the forklift. (A.3,4,12,13,15)
 - * 16. Describe the forklift controls that operate the BRUDI, Loron and Harder Push-Pull Device attachments. (A.4,6,10,13,16)
 - * 17. Describe and locate hydraulic lines and their corresponding forklift hydraulic connectors. (A.2,4,6,10,13,15)
 - 18. State the minimum ventilation requirements to operate the CH Waste Handling Diesel forklifts in the underground. (Ref. A.7)
 - 19. State the backfill requirements for each row and column of waste disposed in the underground. (A.9, F.4)

-
- * 20. State your actions if the equipment does not pass a pre-operational check. (A.4,13)
 - 21. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. A.14)
 - 22. Describe how the System of Active Stability (SAS) affects forklift operation for the 7-Ton Diesel forklift. (Ref. A15)
 - 23. Describe the auto fork leveling control system on the 7-Ton Diesel forklift. (Ref. A15)
 - 24. Describe how to lower the fork tines in an emergency for the 7-Ton Diesel forklift. (Ref. A15)
 - 25. State the actions / precautions that are required while operating when pedestrians are present. (Ref. A.3)

B. 13 TON ELECTRIC FORKLIFT

- 1. Describe the use and/or purpose of all forklift controls. (Ref. C.2,3)
- 2. Describe the function of all gages, indicators, and safety systems in the driver's compartment. Include normal and off-normal indications. (Ref. C.1,2,3)
- * 3. Describe the capacity of the forklift. (Ref. C.2,3)
- * 4. State the clearance requirements (i.e. length, width, height and differences in the carriage widths for 41-H-012A/B and 41-H-012C) for operations of the 13-ton forklift. (Ref. C.2,3)
- * 5. Describe the battery charging process for the 13-Ton Forklift. (Ref. C.1)
- 6. Explain the hazards during the battery charging process. (Ref. C.1)
- 7. State the ratings of the forklift as specified on the Data Plate. (Ref. C.1)
- 8. State the pre-operational checks for the 13 Ton Forklift. (Ref. C.1)
- 9. Explain how to utilize forklift mirror(s) to engage forklift tines. (Ref. C.1)
- 10. Explain how engage/disengage parking brake. (Ref. C.1)
- 11. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. C.4)
- 12. State the actions / precautions that are required while operating when pedestrians are present. (Ref. C.5)

C. CH CONVEYANCE LOADING CAR

- * 1. Describe the function of all indicators and controls on the control panel. (Ref. D.1)
- * 2. State the power sources for the CH Conveyance Loading Car. (Ref. D.1)
- * 3. Describe the function and location of the reflectors associated with the CH Conveyance Loading Car. (Ref. D.1)
- 4. Describe the precautions when loading or unloading the CH Conveyance Loading Car on the Waste Hoist. (Ref. D.1)
- 5. Describe the precautions to be used when connecting the 480v power supply. (Ref. D.1)
- * 6. Describe the precautions for loading or unloading a pallet on the Conveyance Loading Car. (Ref. D.1)
- 7. Discuss the process for using the Conveyance Loading Car to load/unload a pallet onto/from the waste hoist. (Ref. D.1,2)
- 8. Discuss the steps to perform pre-operational checks. (Ref. D.1)
- 9. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. D.3)

D. U/G TRANSPORTER (52-H-008A, 52-H-008B, 52-H-008C)

- * 1. Locate and explain the purposes of the equipment controls on the U/G Transporter. (52-H-008A or B & C) (Ref. E.1)
- * 2. State the purpose of all the gages and give their normal operating range. (52-H-008A or B & C) (Ref. E.1)
- * 3. Describe the operation of the pallet hook. (52-H-008A or B & C) (Ref. E.1,2)
- 4. State the operating parameters of the braking system. (52-H-008A or B & C) (Ref. E.1)
- 5. Describe the operation of the circuit selector valve. (52-H-008A or B & C) (Ref. E.1,2)
- 6. State protective equipment required to run the Transporter. (52-H-008A or B & C) (Ref. B.3)
- * 7. State special precautions to observe when operating the Transporter. (52-H-008A or B & C) (Ref. E.2)
- 8. State the minimum ventilation required to operate the Underground Transporter. (Ref. A.7)

9. Discuss the process for using the U/G Transporter to load/unload a pallet onto/from the waste hoist. (52-H-008A or B & C) (Ref. E.2)
10. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. E.3)

E. WWIS BAR CODE READER

1. Describe the operation of the WWIS Bar Code Reader on the surface.
2. Describe the steps for a new package on the surface.
3. State your actions if the Bar Code reader displays a rejected shipment or assembly screen.
4. Describe the function of the WWIS Bar Code Reader in the underground.
5. Describe the steps for adding dunnage to the underground.
6. Describe the steps for adding MgO to the underground.
7. Describe the two methods for entering data into the Bar Code Reader.
8. Describe how to change the battery in the WWIS Bar Code Reader.

F. TRAILER JOCKEY

- * 1. Locate and explain the purpose of the equipment controls on the Trailer Jockey. (Ref. B.2)
2. State the purpose of all the gages and give their normal operating ranges. (Ref. B.2)
3. Describe the operation of the Fifth-Wheel lift. (Ref. B.1,2)
4. State the operating parameters of the braking system. (Ref. B.1,2)
5. Describe the process to engage and disengage a CH Packaging trailer. (Ref. B.1)
6. Describe what action should be taken in the event the Trailer Jockey does not pass the pre-operational checks. (Ref. B.1)
7. Describe how to raise and lower the Trailer Jockey Cab. (B.2)
8. Explain why high speed running of a cold engine should be avoided. (Ref. B.1,2)
- * 9. Describe the special warnings associated with the Trailer Jockey transmission. (Ref. B.1,2)

- * 10. Describe who has the "right of way" when operating the Trailer Jockey. (Ref. B.3)
- 11. State the caution associated with shutting down the Trailer Jockey. (Ref. B.1,2)
- 12. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. B.4)

G. UPENDER

- 1. Describe how to verify the upender is secured to the facility pallet. (Ref. J.34, K.1)
- * 2. State the location of the following and describe what to look for when performing a pre-op check. (Ref. J.34, K.1)
 - a. rotator chain
 - b. bogey wheel
 - c. cradle
 - d. base platform
 - e. power cable
 - f. control cable
- 3. State the function of the safety pin. (Ref. J.34, K.1)
- 4. State the precautions when connecting or disconnecting the power cord. (Ref. J.34, K.1)
- 5. Describe the balance position. (Ref. J.34, K.1)
- 6. Describe each control and its function. (Ref. J.34, K.1)
- 7. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. K.2)

H. CH PACKAGING OPERATIONS

- 1. Describe the use and/or purpose of proper tine positions for handling CH Packagings. (Ref. A.3)
- 2. State what personal protective equipment must be worn while loading or unloading the CH Packaging. (Ref. G.4)
- 3. Describe the process of removing the CH Packaging from the trailer. (Ref. F.4)
- 4. Discuss what is inspected on the Trailer Tiedown Assembly. (Cam Handle and Screwjack) (Ref. G.4, 8)
- 5. State how to re-work/clean tiedowns. (Cam Handle and Screwjack) (Ref. G.4, 8)

-
6. State how to lubricate tiedowns. (Cam Handle and Screwjack) (Ref. G.4, 8)
 - * 7. State the maximum load limit for the CH Packagings and the CH Packaging Trailer. (Ref. G.4)
 8. State the process of installing CH Packaging Tiedowns. (Cam Handle and Screwjack) (Ref. G.4, 8)
 9. Describe the process of removing CH Packaging from the TRUDOCK including any precautions to be taken with 41-H012A/B and 41-H-012C. (Ref. C.1, A.3, F.4)
 11. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. G.9)

(2) CH WASTE HANDLING TECHNICIAN

A. 6 TON BRIDGE CRANE/ACGLF

1. Locate the local disconnect for the 6-Ton Bridge Crane(s). (Ref. F.1,5)
2. Locate the motor control centers in which the crane(s) receives its power and identify the breakers for both the east and west cranes. (Ref. F.1,5)
3. State the rated capacity of the CH Bridge Crane and ACGLF. (Ref. F.2,3,7)
- * 4. State the functions of all pendant controls and indications for the 6-Ton Crane(s). (Ref. F.1,2,7)
- * 5. Describe the location of the limit switches associated with the following components on the CH Crane(s). (Ref. F.2,7)
 - a. Hoist(s)
 - b. Bridge
 - c. Trolley
- * 6. Describe the controls and indications located on the Adjustable Center of Gravity Lift Fixture (ACGLF) console. (Ref. F.3)
- * 7. Discuss personal protective requirements for crane operations. (Ref. A.1, F.1)
8. State who can signal an emergency stop. (Ref. A.1, F.1)
- * 9. Describe the precaution that should be taken before the ACGLF is lifted without a load. (Ref. F.4)
- * 10. State the WIPP policy concerning suspended loads. (Ref. A.1, F.1)

11. State who can give hand signals. (Ref. A.1, F.1)
 12. State the requirements for using a load cell when making a pick. (Ref. A.1)
 13. State what to look for when performing a pre-operational check on the 6-Ton Crane. (Ref. F.1)
 14. State what to look for when performing a pre-operational check on the AGLF. (Ref. F.6)
 15. State what to inspect for on the SWB adapter/TDOP adapter. (Ref. F.6)
 16. State how to determine if lift clip assemblies are locked in the proper position. (Ref. F.4)
 17. Describe how to change out the RF pendant battery. (Ref. F.7)
 - * 18. Describe how to change operator control from RF pendant to the RF pendant backup. (Ref. F.7)
 19. State what to inspect for on the 85 gallon drum adapter. (Ref. F.6)
 20. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. F.8)
- B. CH PACKAGING OPERATIONS**
1. Discuss the ICV/OCV lid removal process. (Ref. F.4, G.3)
 2. Describe the physical construction of the CH Packaging assembly. (Ref. G.5,6)
 - * 3. Describe the OCV Locking Ring Assembly. (Ref. G.5,6)
 4. Identify the different special tools required for CH Packaging operation and discuss the function of each tool. (Ref. G.1,2,3,5, F.4)
 5. Explain the purpose of the following CH Packaging components. (Ref. G.5,6)
 - a. lids
 - b. pallet
 - c. pick points
 - d. closure ring lock points
 - e. vent and test ports
 6. Discuss the limits associated with CH Packaging operation (i.e. pressure, radiation levels) (Ref. G.5,6)
 7. State the locations of the security seals on the CH Packaging. (Ref. G.5,6, F.4)
 8. Describe the precautions that should be taken when removing the OCV/ICV lids. (Ref.

F.4, G.1,3,5,6)

9. Describe the precautions that should be taken when installing the lids. (Ref. G.1,3,5,6)
- * 10. Describe the precautions when removing the ACGLF from the OCV/ICV lids and the waste packages. (Ref. F.6)
11. Describe the setup of the Vent Hood. (Ref.)
12. State how to install the A6 monitor. (Ref.)
13. Describe the stuck lid removal process. (Ref. G.3)
14. Discuss the hold points identified in Attachment 1. (Ref. F.4)
15. State the ancillary equipment configurations associated with empty shipments for CH Packaging. (Ref. A.8)
16. In addition to pre-operational inspections at the start of each shift, state the inspections to be performed prior to use of Waste Handling Mobile Equipment that has been inactive for extended periods. (Ref. G.9)

C. CH PACKAGING MAINTENANCE

1. Describe the method of cleaning the port threads. (Ref. H.1,2,3)
2. Describe the purpose and identify the type of seals used on CH Packaging. (Ref. H.2)
- * 3. Discuss the three different types of leak testing required for the CH Packaging and when each must be performed. (Ref. H.4,5,6)
- * 4. List the steps necessary to obtain the correct O-rings for installation. (Ref. H.2,4,5)
5. State the CH Packaging inspection process for the ICV and OCV. (Ref. H.1,3)
6. Identify the materials needed to clean the sealing surfaces. (Ref. H.1,3)
- * 7. State the hazards associated with improper drill depth setting. (Ref. H.2)
8. State the lubrication requirements for the O-ring seals. (Ref. H.1,2,3)
9. Identify materials required to replace ICV Lid Debris Seal. (Ref. H.2)
10. State how to replace ICV Lid Debris Seal. (Ref. H.2)
11. Describe how to complete a CH Packaging maintenance record. (Ref. H.2)
12. Discuss which O-rings require a "Leak Test Required" tag if replaced. (H.2)
13. State the record retention requirement for packaging maintenance records. (Ref. H.2)

D. TRUDOCK OPERATION

1. Draw a single line diagram of the DOCK Vacuum System including the exhaust. (I.1)
- * 2. Discuss the operation and interlocks associated with the DOCK Vacuum System. (I.1)
- * 3. Describe the TRUDOCK pre-operational inspection/system lineup. (I.1)
- * 4. State the normal operating range for the TRUDOCK DP gage(s). (I.1)
5. Describe the TRUDOCK operations when placing and removing a CH Package. (I.1)

VIII. EQUIPMENT OPERATION PRACTICAL REQUIREMENTS

(1) BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIANS

NOTE: Prior to performing the following practicals, the candidate **MUST** have completed the associated knowledge requirements in the previous section. The SME or OJTE will certify, by personal observation, that the candidate possesses the skills necessary to safely perform the tasks without assistance.

A. WASTE HANDLING 6/7 TON FORKLIFTS

- *A008 1. Conduct 6/7 Ton Diesel and 6 Ton Electric Forklifts pre-operational checks with the following attachments. (A.2,4,6,8,13,16)
 - A011 a. BRUDI/Loron/Harder Push-Pull Device
 - A178 b. SWB attachment
 - A180 c. Drum Handler
- A009 2. Operate the 6/7 Ton Diesel and 6 Ton Electric Forklifts by moving and stacking a load designated by the SME. (Ref. A.1,4,13,15)
- *G215 3. Demonstrate hand signals. (Ref. A.1)
 4. Connect the following attachments: (Ref. A.8,10,16)
 - A177 a. BRUDI/Loron/Harder Push-Pull Device
 - A179 b. SWB attachment
 - A181 c. Drum Handler
- A010 5. Charge 6 Ton Electric Forklift Batteries. (Ref. A.2,4)

*A012 6. Operate BRUDI, Push/Pull, Loron and Harder Push-Pull Device Attachments. (Ref. A.6,10,16)

B. 13 TON ELECTRIC FORKLIFT

*A005 1. Conduct 13 Ton Electric Forklift pre-operational checks. (Ref. C.1)

A006 2. Place the Conveyance Car in the Conveyance Loading Room utilizing 13-Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. A.1, C.1, D.1)

A212 3. Remove/Replace a Facility Pallet on the Conveyance Loading Car utilizing 13-Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. A.1, C.1, D.1)

A007 4. Charge 13 Ton Electric Forklift Batteries. (Ref. C.1)

C. CH CONVEYANCE LOADING CAR

*A001 1. Conduct Conveyance Loading Car pre-operational checks. (Ref. D.1)

*A002 2. Load/Unload a Facility Pallet onto/from the Waste Hoist. (Ref. D.1,2)

D. U/G TRANSPORTER

*D084 1. Perform a CH U/G Transporter pre-operational checks. (Ref. E.2)

*D087 2. Load a facility pallet onto the U/G facility platform or waste hoist. (Ref. E.2)

D085 3. Operate the U/G Transporter as designated by the SME. (Ref. E.2, B.3)

*D086 4. Remove a facility pallet from the U/G facility platform or waste hoist. (Ref. E.2)

E. WWIS BAR CODE READER

1. Demonstrate how to run the Bar Code Reader on the surface. (Ref. J.36)

2. Demonstrate how to run the Bar Code Reader in the underground.

3. Demonstrate how to add dunnage to a column of waste in the WWIS Bar Code Reader.

4. Demonstrate how to add MgO to a column of waste or BRT in the WWIS Bar Code Reader.

F. TRAILER JOCKEY

-
- A213 1. Perform Raise/Lower of the Trailer Jockey Cab. (Ref. B.1,2)
 - A003 2. Perform pre-operational checks of the Trailer Jockey. (Ref. B.1)
 - A004 3. Operate Trailer Jockey. (Ref. B.1)
 - *A016 4. Connect Trailer Jockey to trailer and maneuver through a course designated by the SME. (Ref. B.1)
 - A017 5. Park Trailer in designated parking space. (Ref. B.1)
 - *A018 6. Disconnect Trailer and secure Trailer Jockey. (Ref. B.1)

G. UPENDER

- G208 1. Perform Upender pre-operational checks. (Ref. J.34, K.1)
- G209 2. Perform Upender operations. (Ref. J.34, K.1)

H. CH PACKAGING OPERATIONS

- C052 1. Transport a CH Packaging from the trailer to the Dock utilizing 13-Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. C.1,2, 3, A.3, F.4)
- *C069 2. Load a CH Packaging on the Trailer utilizing 13-Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. G.4, C.1,2,3)
- C070 3. Install CH Packaging Trailer Tiedowns. (Cam Handle and Screwjack) (Ref. G.4, 8)
- C068 4. Perform Trailer Tiedown Assembly Inspections. (Cam Handle and Screwjack) (Ref. G.4, 8)
- *C051 5. Unload a CH Packaging from a Trailer utilizing 13-Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. C.1,2,3,F.4)
- 6. Remove a CH Packaging from the TRU Dock utilizing 13 Ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. C.1, A.3, F.4)

(2) CH WASTE HANDLING TECHNICIAN

A. 6-TON BRIDGE CRANE/ACGLF

NOTE: The candidate must have current qualification as Incidental Rigger (OPS-402) prior to starting this qualification section.

- *B020 1. Conduct 6 Ton CH Bridge Crane(s) Pre-operational Checks. (Ref. F.1)

-
- *B027 2. Perform a pre-operational check of the ACGLF. (Ref. F.6)
 - *B022 3. Operate 6 Ton Bridge Crane(s). (Ref. F.1,4) (Not including waste payloads.)
 - B028 4. Operate ACGLF. (Ref. F.3,4,6) (Not including waste payloads.)
 - B202 5. Perform SWB Adaptor and TDOP Adapter Pre-operational Checks. (Ref. F.6)
 - B203 6. Operate SWB Adapter and TDOP Adapter. (Ref. F.4,6) (Not including waste payloads.)
 - 7. Perform 85 gallon drum Adapter pre-operational checks. (Ref.)
 - 8. Operate 85 gallon drum Adapter by supporting CH Packaging Operations. (Ref.) (Not including waste payloads.)

B. CH PACKAGING OPERATION

NOTE: The candidate must have completed the knowledge and practical sections on the 13-Ton forklift and 6-Ton Bridge Crane/ACGLF prior to starting this qualification section.

- *C053 1. Perform Outer Containment Vessel (OCV) Upper Assembly Removal. (Ref. F.4, G.3)
- *C054 2. Perform Inner Containment Vessel (ICV) Lid Removal. (Ref. F.4, G.3)
- C062 3. Load Payload into CH Packaging. (Ref. G.3)
- C063 4. Perform ICV Lid Installation. (Ref. G.2,3)
- C065 5. Perform OCA Upper Assembly Lid Installation. (Ref. G.2,3)
- C067 6. Prepare CH Packaging for Trailer Loading. (Ref. G.2)

C. CH PACKAGING MAINTENANCE

- *F192 1. Replace a Small Plug O-ring. (Ref. H.2,4,5)
- F196 2. Replace ICV/OCV Lock Ring Bolt Threaded Inserts. (Ref. H.2,4,5)
- F197 3. P/S Replace ICV Lid Debris Seal. (Ref. H.2,4,5)
- F057 4. Inspect Outer Containment Assembly (OCA) Lid. (Ref. H.1,3)
- F058 5. Inspect OCV Lower Assembly. (Ref. H.1,3)
- F059 6. Inspect Inner Containment Vessel Lid. (Ref. H.1,3)
- F060 7. Inspect Inner Containment Vessel Lower Assembly. (Ref. H.1,3)

- *F216 8. Remove main O-rings from grooves of packaging. (Ref. H .1)
- *F217 9. Clean and inspect main O-rings. (Ref. H. 1)
- *F218 10. Using measuring tool installed on docks, determine proper O-ring identification for placement on packaging. (H. 1)
- *F219 11. Install main O-rings onto packaging. (H.1)
- F198 12. Complete Maintenance Record. (Ref. H.2)

D. TRU-DOCK OPERATION

- C182 1. Perform Tru-Dock System Inspection/Line up. (Ref. I.1)
- C183 2. Perform Tru-Dock System Operation. (Ref. I.1)
- C078 3. Operate the Tru-Dock Vacuum System. (Ref. I.1)

E. PAYLOAD OPERATION

NOTE: Sections B & D are required to be completed prior to performing this section.

- C055 1. Unload Standard Waste Box (SWB) Payload. (Ref. G.3)
- C056 2. Unload 55 gallon Drum Payload. (Ref.G.3)
- 3. Unload 85 gallon Drum Payload. (Ref. G.3)
- 4. Unload TDOP Payload. (Ref. G 3)
- 5. Unload 100 gallon Drum Payload. (Ref. G.3)

IX. INTEGRATED PROCESS KNOWLEDGE REQUIREMENTS

(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN

A. WORK AUTHORIZATION

- 1. State the purpose of an Action Request (AR). (Ref. J.3, 22)
- 2. State who the initiator of an AR shall be. (Ref. J.3, 22)
- * 3. State the information required on an AR by the originator. (Ref. J.37)
- 4. State who is responsible for determining work order type and priority for an AR. (Ref. J.37)

-
- * 5. State the responsibilities/requirements with regards to retest after a work package/PMI has been completed. (Ref. A.8)
 - * 6. State how to determine if an AR has been generated on a piece of equipment. (Ref. J.3, 22, 37)
- B. CONDUCT OF OPERATIONS (Ref. J.6)**
- * 1. State the required actions when a safe work practice is violated.
 - 2. Discuss the Waste Handling Technician's responsibility when conducting operator inspection tours.
 - 3. Discuss the requirements for logging a problem.
 - 4. Discuss the fundamental principle of "Believe Your Indication" as it pertains to equipment and alarms.
 - * 5. Discuss the requirements for resetting tripped electrical devices.
 - * 6. Describe the required actions for operators during an emergency.
 - 7. Describe good communication techniques.
 - 8. Discuss the requirements governing the performance of On-the-Job training.
 - 9. State the requirements for equipment and systems alignment.
 - 10. Discuss the requirements for good logkeeping practices.
 - 11. State the purpose and requirements of the Required Reading Program.
 - 12. State the purpose and requirements of the Orders to Operators Program.
 - * 13. State the required action during an abnormal or emergency event as it relates to procedure adherence.
 - 14. State the action required if a procedure cannot be performed as written.
 - 15. Describe under what conditions a procedure must be open and followed step-by-step.
 - 16. Describe under what conditions a procedure is not required to be open and followed step-by-step.
 - 17. Describe the requirements for using a working copy of a procedure.
 - * 18. State the required actions if a procedure or evolution has been stopped due to a problem or end of shift.
 - 19. State the information required to be placed in the equipment logs. (Ref. A.4,13, B.1,

C.1,D.1, E.2, F.1,G.2)

20. State the additional information to be added to the log and who is responsible when a deficiency is noted. (Ref. A.4,13, B.1, C.1,D.1, E.2, F.1,G.2)

C. UNDERGROUND AREA INSPECTIONS

1. State the response to an unsatisfactory condition found during an U/G area inspection. (Ref. J.25)

2. State who is authorized to perform these inspections. (Ref. J.25)

3. State when an U/G disposal area inspection shall be performed. (Ref. J.25)

- * 4. Describe the types of items to look for when performing an U/G area inspection. (Ref. J.25)

D. ABNORMAL OPERATIONS

- * 1. State the area alarms/events that could place Waste Handling Operators in immediate danger or undue risk. (Ref. J.26)

- * 2. State the actions when immediate danger or undue risk is present. (Ref. J.26)

- * 3. State the area alarms/events that would not place Waste Handling Operators in immediate danger. (Ref. J.26)

- * 4. State the actions to alarms/events that do not place operators in immediate danger. (Ref. J.26)

5. State the requirements for returning to work. (Ref. J.26)

E. SURFACE AREA INSPECTIONS

1. State the frequency of inspections for the following surface areas when TRU waste is present. (Ref. J.24)

CH TRU-Dock Storage Area
CH Container Storage Area
Trailer Parking Area
Derived Waste Storage Area
Off-normal CH Container Storage Area
Shielded Room Storage Area

2. State the response to an unsatisfactory condition found during a surface area inspection. (Ref. J.24)

3. Describe the prerequisite actions to be performed prior to conducting a surface inspection. (Ref. J.24)

* 4. Describe the types of items to look for when performing a surface area inspection. (Ref. J.24)

5. State the maximum number of loaded pallets that can be stored in the CH Container Storage Area. (Ref. F.4, J.30)

6. State the waste handling requirements for storage and handling modes. (J.27)

7. Explain the actions necessary if a TSR AC is violated. (J.27)

F. EMPLACEMENT

1. Describe the SWB and Drum array in the underground. (F.4)

2. Discuss the method of completing attachment 4 of the CH Waste Processing Procedure. (F.4)

3. State where the 85 gallon assemblies and TDOPs are to be placed in the waste stack. (J.30)

4. State the precautions to be used when stacking waste containers. (F.4)

5. State what non-waste handling vehicles are allowed in the active disposal room during waste handling. (Ref. DOE/WIPP 95-2125, Section 5.6.4 b)

6. State when a spotter is required when diesel powered vehicles are operating around the waste face. (Ref. DOE/WIPP 95-2125, Section 5.6.4 c)

7. State how many transporters loaded with waste may be in transit in the underground at any one time. (Ref. DOE/WIPP 95-2125, Section 5.6.4 d)

8. Explain what requirements must be met for combustible loading control in the DISPOSAL PATH. (Ref. DOE/WIPP 95-2125, Section 5.6.5 a)

9. Explain what requirements must be met for combustible loading control in the ACTIVE DISPOSAL ROOM. (Ref. DOE/WIPP 95-2125, Section 5.6.6 a)

G. EQUIPMENT SPOTTER

1. Describe the hand signals used for forklift operations for the following:

- HOIST – up, down
- TILT – forward, back
- SIDE SHIFT – left, right
- FORK POSITIONER – in, out
- TRAM – forward, back
- SLOWLY
- STOP
- EMERGENCY STOP

- Forklift attachment (BRUDI, LORON, HARDER)
 - PUSH OUT/OFF
 - PULL ON
 - CLOSE GRIPPER
 - OPEN GRIPPER

(Ref. L.2, L.3)

- * 2. Describe when a spotter is required for forklift operations including any TSR requirements and any additional spotter requirements with specific equipment. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- * 3. Describe the spotter's function and responsibilities during equipment operations. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- 4. Describe the spotter's responsibilities in relation to the equipment operator. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- 5. State the spotter's responsibilities when transporting a TRUPACT II/HalfPACT through airlock doors. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- 6. Describe the duties of the spotter when properly positioning a TRUPACT II/HalfPACT into and out of the TRUDOCK including any spacing requirements, any hazards or obstacles to be aware of and any visual verifications to be made prior to removing forklift and closing TRUDOCK bay doors. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- 7. State the spotter's responsibilities when spotting the conveyance loading car into and out of the conveyance loading room. (Ref. L.1, L.4, L.5, L.6, L.7, L.8)
- 8. Describe the duties of the spotter when properly positioning a TRUPACT II/HalfPACT onto and removing from the transport trailer including any spacing requirements, any hazards or obstacles to be aware of and any visual verification to be made prior to removing the forklift. (Ref. L.1, L.4, L.5, L.6)

(2) WASTE HANDLING TECHNICIAN

A. DERIVED WASTE

- 1. State what waste containers are approved for site derived waste, and the vent requirements for each. (Ref. J.8)
- * 2. State what prerequisite action is required prior to handling radiologically contaminated liquids. (Ref. J.8)
- * 3. State the items that **cannot** be disposed as site derived waste. (Ref. J.8)
- * 4. State how many gallons of radiologically contaminated liquid should be pumped into a 55 gallon collection drum. (Ref. J.8)

-
- * 5. Describe the process for filling out the waste container log sheet. (Ref. J.8)
 - 6. Identify three examples of liquid and solid site derived waste. (Ref. J.8)
 - * 7. List the four methods of removing small volumes of radiologically contaminated liquid. (Ref. J.8)
 - * 8. Describe how the acceptable pH is obtained for liquid waste. (J.8)
 - * 9. State the process of solidifying liquid waste. (J.8)
 - * 10. State the process of collecting Site-Derived Solid Mixed Waste. (J.8)

X. INTEGRATED PROCESS KNOWLEDGE REQUIREMENTS - CH WASTE HANDLING ENGINEER

A. TEMPORARY PLANT MODIFICATION (OPS-02) (Ref. J.2)

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

B. WORK AUTHORIZATION

- * 1. Describe all phases of the work authorization process from the discovery of a problem to the close-out of a work package. (Ref. J.3,22,37)

C. SUPPORT SYSTEMS

HVAC

- 1. State the definition of a Train. (J.11)
- 2. State the number of Zones the HV01 System is divided into and the area served by each Zone. (J.11)
- 3. State the equipment numbers and power supply for the fans controlling Zone 1. (J.11)
- 4. State the equipment numbers and power supply for the fans controlling Zone 2. (J.12)
- 5. State the nominal operating differential pressure for the CH Bay and the alarm set point. (J.13)
- 6. Discuss the response to a loss of differential pressure in the CH Bay. (J.13)
- 7. State the number of Zones the HV02 System is divided into and the area served by each Zone. (J.12)
- 8. State the equipment numbers and the power supply for the fans controlling Zone 4. (J.38)
- 9. State the equipment numbers and power supply for the fans controlling the TMF. (J.39)

ELECTRICAL DISTRIBUTION

- 1. State the Substation and Motor Control Center that supply power to the CH Waste Handling Area. (J.14)
- 2. State the power supplies for the following CH area equipment. (J.14, 15, 16, 17, 18, 19, 20, 21, 23)
 - a. 6-Ton CH Cranes 41-T-151A & 41-T-151B
 - b. CH Trudock gates
 - c. Trudock Ventilation Fans
 - d. CH Charging Station
 - e. Airlock 100
 - f. Airlock 101
 - g. Airlock 102
 - h. Airlock 107
 - i. Doors 140 & 159

D. ABNORMAL OPERATIONS

-
- * 1. Describe responsibilities of the Engineer for notifications when waste must be stored in an off-normal configuration. (Ref. J.31)

E. SURFACE AND UNDERGROUND AREA INSPECTIONS

- * 1. State the process of reviewing and completing the inspection attachments. (Ref. J.24, 25)

F. TSR REQUIREMENTS

- 1. State the waste handling requirements for storage and handling modes. (Ref. J.40)
- 2. Explain actions necessary if a TSR AC is violated. (Ref. J.40)
- 3. List the waste container integrity requirements. (Ref. J.27)
- 4. Describe the drum and SWB arrays in the underground. (Ref. J.27)

G. RADIOLOGICAL CONTROLS

- 1. Explain when a pre-job briefing is required on the RWP. (Ref. J.28)
- 2. Describe what is included during a pre-job briefing. (Ref. J.28)

H. TAGOUT/LOCKOUT AUTHORIZING SUPERVISOR

- 1. State what sources may be utilized to determine the proper location for placement of danger tags. (Ref J.1)
- 2. Describe the requirements for stored energy devices. (Ref. J.1)
- 3. State the concurrence requirements for tagouts involving Operational Safety Requirement equipment or Controlled Area/Radioactive Material boundaries. (Ref. J.1,29)
- 4. Describe the requirements for tagging mobile equipment. (Ref. J.1)

I. WWIS

- 1. Describe how a shipment is received in the WWIS. (Ref. J.32)
- 2. State the purpose of each of the four main Inventory Module functions. (Ref. J.32)
- 3. Explain the buttons for the Bar Code Main Menu. (Ref. J.35)
 - 1. Unload
 - 2. Emplace
 - 3. Review
 - 4. Reports
 - 5. Review Check

6. Gap Check

4. Describe the steps for the Manual Review Check. (Ref. J. 35)
5. Explain the purpose of the "Review Check" Button. (Ref. J.35,36)
6. Explain what types of reports can be done from the Bar Code Reader. Ref. J.35)
7. Describe how to verify the Bar Code Reader is connecting to the WWIS. (Ref. J.35)
8. Explain when and how to clear a supervisor screen. (Ref. J.35)
9. Explain why the Bar Code Reader will stop letting the operator scan bar codes after 6 columns of waste have been emplaced. (Ref. J. 35, 36)
10. Explain how to move an emplaced assembly or incorrect emplacement date within the WWIS. (Ref. J. 35)
11. State the three queries that can be done in the Query module. (Ref. J.32)
12. State how the user can query on container data variables other than the container number. (Ref. J.32)
13. Explain the process for manually entering data into the WWIS in the event of a Bar Code Reader failure. (Ref. J.32,36)

J. CONDUCT OF OPERATIONS

1. Describe the type of information that should be entered in the narrative log. (Ref. J.6)
2. Discuss what information needs to be covered at a pre-shift briefing. (Ref. J.6)
3. Discuss the frequency that the operating logs need to be reviewed. (Ref. A.13, A.4, B.1, C.1, D.1, E.2, F.1, G.4)
4. Describe the items you expect to find when reviewing operating logs. (Ref. J.6)
5. Describe what items you are looking for when reviewing/validating procedure forms. (Ref. G.4, F.4, G.2)

XI. INTEGRATED PROCESS PRACTICAL REQUIREMENTS

(1) CH WASTE HANDLING BACKFILL, FLOOR, YARD & EMPLACEMENT TECHNICIAN

A. WORK AUTHORIZATION (Ref. J.37)

- G204 1. Initiate an Action Request (AR).

B. CONDUCT OF OPERATIONS (Ref. J.6)

G214 1. Demonstrate proper communication techniques.

G163 2. Record information in narrative log book.

G162 3. Record information in equipment logs.

C. UNDERGROUND AREA INSPECTIONS

*G171 1. Conduct an area inspection tour of the U/G TRU mixed waste disposal area. (Ref. J.25)

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 AREA INSPECTIONS

*G170 1. Conduct an inspection of the surface TRU mixed waste handling/storage areas. (Ref. J.24)

F. EMPLACEMENT

D091 1. Emplace Payload Underground. (F.4)

A210 2. Emplace Super Sacks. (Ref. F.4)

G. SUPPORT SYSTEMS

NOTE: Qualified Facility Operations personnel will conduct a walkthrough with the candidate for the following systems affecting Waste Handling. The areas discussed will be building penetrations, major pipe runs, major branch isolations, and locations of equipment components (fans, pumps, electrical distribution panels).

HVAC

Electrical Distribution

Plant Vacuum System

Fire Water

Utility Water

Plant and Instrument Air

>H. EQUIPMENT SPOTTER

1. Spot the removal of a TRUPACT II/HalfPACT from the transport trailer utilizing the 13 ton forklift 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4)
2. Spot the placement of a TRUPACT II/HalfPACT onto the transport trailer utilizing the 13 ton forklift 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4)
3. Spot the placement of a TRUPACT II/HalfPACT onto the TRUDOCK utilizing the 13 to forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4, L.5, L.6)
4. Spot the removal of a TRUPACT II/HalfPACT from the TRUDOCK utilizing the 13 ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4, L.5, L.6)
5. Spot the conveyance car onto the tracks in the conveyance loading room utilizing the 13 ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. . (Ref. L.2, L.3, L.4, L.5)
6. Spot the removal of the conveyance car from the conveyance loading room utilizing the 13 ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4, L.5, L.7)
7. Spot the placement of a facility pallet onto the conveyance loading car utilizing the 13 ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4, L.5, L.7)
8. Spot the removal of a facility pallet from the conveyance loading car utilizing the 13 ton forklifts 41-H-012A or 41-H-012B and 41-H-012C. (Ref. L.2, L.3, L.4, L.5, L.7)

(2) CH WASTE HANDLING TECHNICIAN

A. DERIVED WASTE (Ref. J.8)

- *G158 1. Perform transfer and solidification of simulated radiologically contaminated liquid into collection drum. (Perform, Simulate, Discuss)
- *G161 2. Collect Site Derived Solid Mixed Waste. (Perform, Simulate, Discuss)

XII. INTEGRATED PROCESS PRACTICAL REQUIREMENTS - CH WASTE HANDLING ENGINEER

A. TEMPORARY PLANT MODIFICATION (OPS-02) (Ref. J.2)

- *B025 1. Authorize Temporary Plant Modifications which include:
- a. Prepare a TPM Control Record Form given specific information for placing on a plant component.
 - b. Perform a TPM Control Record Form audit.
 - c. Authorize a TPM Control Record Form for placement in the facility.
 - d. Authorize the restoration of a TPM.

B. WORK AUTHORIZATION (Ref. J.3)

*B023 1. Authorize Work Packages.

C. CONDUCT OF OPERATIONS (Ref. J.6)

B031 1. Record Information in Waste Handling Logs.

B037 2. Conduct a Waste Handling Pre-Shift Briefing.

B042 3. Review Operator Logs.

B030 4. Review Completed Procedure Forms

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

A006 1. Perform Surface Inspections. (Ref. J.24)

A007 2. Perform Underground Inspections. (Ref. J.25)

F. TSR REQUIREMENTS

B044 1. Perform TSR preoperational inspection and notification requirements. (Ref. J.27)

G. RADIOLOGICAL CONTROLS

B027 1. Initiate a Radiological Work Permit. (Ref. J.28)

B038 2. Conduct a pre-job briefing using the checklist. (Ref. J.28)

H. WWIS

1. Demonstrate how to run the reports function of the WWIS Bar Code Reader. (Ref. J. 35)

2. Demonstrate how to clear a supervisor's screen on the WWIS Bar Code Reader. (Ref. J. 35)

3. Demonstrate how to do the Manual Review Check on the WWIS Bar Code Reader. (Ref. J.35)

4. Demonstrate how to do the Manual Gap Check on the WWIS Bar Code Reader. (Ref. J. 35)

D049 5. Generate the WWIS Shipment Summary Report. (Ref. J.32)

D050 6. Demonstrate how to receive a shipment in the WWIS. (Ref. J.32)

- D052 7. Generate the Waste Emplacement Report. (Ref. J.32)
- D054 8. Demonstrate how to use the Container Query function. (Ref. J.32)
- D055 9. Demonstrate how to use the Shipment Query function. (Ref. J.32)
- D056 10. Demonstrate how to use the Repository Query function. (Ref. J.32)
- D057 11. Demonstrate how to manually enter Bar Code data into the WWIS. (Ref. J.32)

I. EQUIPMENT TAGOUT/LOCKOUT (OPS-01) (Ref. J.1)

- *B024 1. Authorize a Tagout/Lockout which includes:
 - a. Control Sheet for placement in the facility. The candidate shall initial block 12 of the tagout record sheet to specify authorization.
 - b. Authorize an equipment tagout/lockout removal. The candidate shall initial block 21 of the Tagout/Lockout Control Sheet to specify authorization.
 - c. Complete tagout filing for the Tagout/Lockout Record Sheet in practical requirement 2. The candidate shall initial block 23 of the Tagout/Lockout Control Sheet to specify closure of the Tagout/Lockout Control Sheet.

ATTACHMENT 1

Waste Handling 6/7 Ton Forklift

3. **Determine the maximum load that can be lifted at any given load center.**

Known capacity x known load center divided by new load center = capacity of the forklift at that load center.

Attachments used on the 6/7 Ton Forklift and the tasks that can be performed, include:

1. BRUDI - The Brudi is used to lift waste containers and stack them in an emplacement configuration. The Brudi uses hydraulic rams to pull the waste containers onto the lift fixture. After the load has been transported to the proper location, the waste container is then pushed into proper configuration using the same hydraulic rams.
2. Standard Waste Box (SWB) Fixture - This attachment provides a method to lift a SWB using the lift clips attached to each end of the SWB.
3. Two Drum Handler - This attachment is used to pick up and transport 55 gallon drums by means of locking clips that attach to the lid of the drum. This attachment can be used with either the 6 ton or 3 ton forklift.
4. LORON - The LORON is used to lift waste containers and stack them in an emplacement configuration. The LORON uses hydraulic drive motors along chain/sprocket guides to pull the waste containers onto the lift fixture. After the load has been transported to the proper location, the waste container is then pushed into proper configuration using the same hydraulic drive motors.
5. Harder Push-Pull Device - The Harder Push-Pull Device is used to lift waste containers and stack them in an emplacement configuration. The Harder Push-Pull Device uses hydraulic cylinders to pull the waste containers onto the lift fixture. After the load has been transported to the proper location, the waste container is then pushed into proper configuration using the same hydraulic cylinders.

Pre-operational Checks:

1. SWB Fixture
 - a. Verify load rating and center of gravity
 - b. No outstanding AR's written against the fixture
 - c. No cracks, deformation, or abnormal wear on the fixture
2. 2 Drum Handler
 - a. Verify load rating and center of gravity
 - b. No outstanding AR's written against the fixture
 - c. Drum Handler lifting mechanism not bent or cracked
 - d. Safety chain not stretched or broken and ensure that the hook on the end of the chain is intact.

Connecting attachments to 6/7-Ton forklift

SWB Fixture - Raise mast extension plate into the clips mounted on the SWB fixture. Tilt mast back and raise approximately 5 feet to install retainer blocks to the bottom of mast and SWB fixture.

TWO DRUM HANDLER - Insert forks all the way into the fork pockets. Attach safety chain to the mast.

HARDER PUSH-PULL - Insert forks all the way into the fork pockets. Raise approximately 5 feet to install retainer blocks to the bottom of mast of Harder Push-Pull.

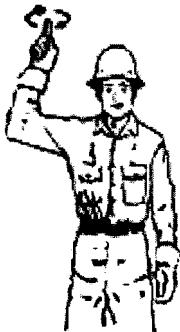
CH Packaging Ancillary Equipment Configuration: After removing waste payloads (in accordance with (AIW) 05 WH-1011), the TRUPACT/halfPact will be prepared for Empty Shipment (IAW 05 WH-1015) back to a generator site. The TRUPACT/halfPACT may be assigned to be loaded with Ancillary Equipment in preparation for the next waste shipment to the WIPP, which consists of the following:

1. TRUPACT - II
 - a. Empty - No Ancillary Equipment installed into TRUPACT
 - b. Drum Payloads - Single Loaded = (1) payload pallet and (3) guide tubes
 - c. SWB Payloads - (3) SWB ratchet straps and bumper pads
 - d. TDOP Payloads - Bumper pads (3)
 - e. Dunnage Payloads - Dunnage will be returned to the originators site. If assembling drum dunnage, place payload pallet on level ground, align one drum assembly on top of the other on payload pallet, install guide tubes through both assemblies to engage payload pallet lift pins. If assembling SWB dunnage, align one SWB on top of the other, install two SWB ratchet straps to top and bottom SWBs one side and one SWB ratchet strap to top and bottom SWBs on the other side ensuring a minimum of 3 wraps around the mandrel.

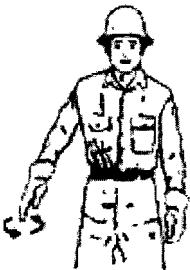
2. HALFPACT
 - a. Empty - No Ancillary Equipment installed into HalfPACT (No spacer)
 - b. Drum Payloads -
 - 100 gallon drums - spacer, (1) payload pallet, (3) HalfPACT short guide tubes
 - 85 gallon drums - (1) 85 gallon drum payload pallet, (3) HalfPACT long guide tubes
 - 55 gallon drums - (1) payload pallet, (3) HalfPACT long guide tubes
 - c. SWB Payloads - bumper pads

ATTACHMENT 2

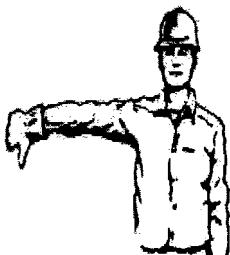
WH-01A Qualification Guide
WIPP – Site Specific
CH WH Forklift - Hand Signals



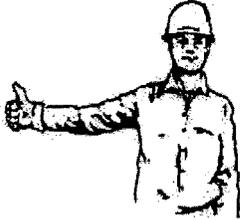
HOIST UP: *Signal hand - palm closed, index finger pointing up, in circular motion.*
(To signal **Hoist Up Slow:** Refer to **"Move Slowly"** below.)



HOIST DOWN: *Signal hand - palm closed, index finger pointing down in circular motion.* (To signal **Hoist Down Slow:** Refer to **"Move Slowly"** below.)



TILT FORWARD: *Signal hand – Arm extended, fingers closed, and thumb pointing down.* (To signal **Tilt Forward Flow:** Refer to **"Move Slowly"** below)



TILT BACK: *Signal hand - palm closed, thumb pointing up.*
(To signal **Tilt Back Slow**: Refer to "**Move Slowly**" below.)



SIDE SHIFT: (Left or Right): *Signal hand -- open palm (sideways) with fingers pointing in the intended direction of travel.*
(To signal **SIDE SHIFT SLOW (left or Right)**: Refer to "**Move Slowly**" below.)



MOVE SLOWLY: *For finite moves, the spotter shall indicate to the operator that short, controlled moves are required by placing the second (2nd) hand, open palm, in front of (as if blocking) the signal hand's direction.*



FORK POSITIONER – IN: *Both palms closed, with thumbs pointing towards each other.*



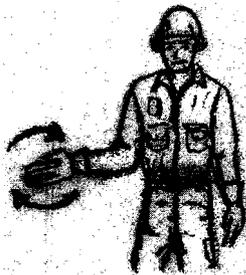
Fork Positioner – OUT: *Both palms closed, with thumbs pointing away from each other*



SECURE EQUIPMENT: *Signal hand – closed palm, with other hand – cupped over signal hand.
(Operator shall engage hand brake and remove hands from operator's controls)*

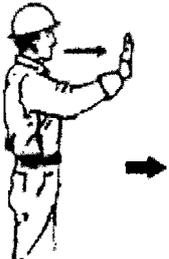


STOP: *Signal hand – closed palm (fist) held vertical.*



TRAM: *Signal hand – palm open, fingers together, rotate hand and lower arm in a circular motion (clockwise or counter clockwise from the operator’s point of view) indicating to the operator to tram forward or reverse.*

FORKLIFT ATTACHMENTS - HARDER, LORON, BRUDI



ATTACHMENT - PUSH OUT/OFF: *Signal hand – arm extended forward with palm open*



ATTACHMENT - PULL ON: *Signal hand – fingers clasped together and arm pulled towards the body.*



CLOSE GRIPPER: *Signal hand – fingers clasped together with arm extended forward*



OPEN GRIPPER: *Signal hand – Open hand from clasped position to fingers fully extended.*