Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

May 28, 2019

CERTIFIED MAIL

Mr. Steven Phillips
Applied Geotechnical Engineering
and Construction, Inc.
P.O. Box 1280
Richland, Washington 99354

Dear Mr. Phillips:

FREEDOM OF INFORMATION ACT REQUEST (FOI 2019-00751)

This letter is in response to the Freedom of Information Act (FOIA) request you submitted to this office requesting the status of the following: 1) "Mack/Schwing concrete pump truck, last known location Hanford 200 East Area – B Plant, and 2) Waste encasement slip-form, last known location Hanford 200 West Solid Waste Landfill trenches." On April 24, 2019, you modified your request for "concise summary record(s), i.e, radiological condition, current location, custodian, etc." for the following:

(1) "Mack/Schwing concrete pump truck (1200 32 meter), last known location Hanford 200 East Area – B Plant (WESF), Administrator Rick Wiseman (CH) at 509-373-9470, Administrator Rex Flaucher (CH) at 509-373-0897, Facility Representative Mark Heeter (DOE) at 509-373-1970. (Note – previous meetings with Mr. J. Schroder, DOE-RL, in 2018.)"

(2) "Waste encasement slip-form (very large metal modular concrete form for encapsulation of class C low level waste), last known location Hanford 200 West Solid Waste Landfill trenches (proximal to trench number 34) Administrator (Vice President) Kalli Shupe (CH) at 509-373-2725. (Note – previous meetings with Mr. J. Schroder, DOE-RL, in 2018.)"

Your request was assigned to CH2M HILL Plateau Remediation Company (CHPRC) to conduct a search of its files for responsive information. CHPRC has completed its search and enclosed are documents responsive to Items 1 and 2 of your request.

You may contact the U.S. Department of Energy, Richland Operations Office (RL) FOIA Public Liaison, Richard Buel, at (509) 376-3375, or by mail at P.O. Box 550, Richland, Washington, 99352 for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at ogis@nara.gov; telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

Should you have any questions regarding your request, please contact me at (509) 376-6288.

Sincerely,

-Original signed by-

Dorothy Riehle
Freedom of Information Act Officer
Office of Communications
and External Affairs

OCE:DCR

Enclosures

Enclosure 1

WESF

Radiological Controlled Vehicle History Log

The Schwing 1200/32 Grout Pumper Truck plate # A38112I was brought to WESF from an outside contractor and used during the W-130 project to pump grout into the WESF hot cells. During backflush, a pipe pig was pushed through the lines with air pressure to a catch pan near the rear of the truck. When the pig and air entered the catch pan, it splashed water and grout out of the catch pan contaminating the ground and the driver's side rear outrigger. Surveys of the outrigger showed 4,500 DPM/100cm2 b/g removable before it was deconned to <D b/g.
NOTE: WESF is an Alpha exempt facility, therefore Alpha surveys are not required.
The Schwing 1200/32 Grout Pumper Truck plate # A38112I is an RCV because it has not been radiologically cleared after exposure to unconfined radioactive material above background as a consequence of past operations or activities. The pumper truck does not have any areas of fixed contamination on exposed surfaces and there has been no contamination detected during maintenance. The RCV is surveyed monthly as part of the RMA Monthly surveillance CS-M07.
ON 11-14-18 the pumper truck was transferred to ERDF.

Vehicle Number	Vehicle Description	Custodian	Contractor	Location
Plate # A38112I	Schwing Grout Pumper Truck	R. Wilbanks	CHPRC	WESF-RMA-026

CHPRC RCV INVENTORY LOG

Facility Code: CS **Date:** 11/5/2018

RCV HO/ Serial Number	Task Number	Representative Picture	Type: (Crane, Truck, Trailer)	Fixed Contamination B/G dpm/100cm²	Fixed Contamination Alpha dpm/100cm²	Location of Known Fixed Contamination/Comments	Assigned Custodian	Normal Storage Location	RCV Eliminated or New Custodian/Date
					ADD ROW				
SCHWING 1200/32	CS-M07		Grout Pumper Truck Plate # A38112I	No Known Fixed Contamination	N/A WESF is Alpha exempt	No Known Fixed Contamination	Rick Wilbanks	WESF-RMA-026	11-14-18 Transfered to ERDF. New Custodian. X
									X

Reviewer:

T. TERRY *Print*

Sign

11/5/2018 *Date*

Upon completion, send original to the Records Processing Center, Attn: RadCon Records, MSIN T1-41

Enclosure II

*** RECORD COPY *** *** RECORD COPY *** *** RECORD COPY ***

Work Document 2X-04-07086

09/27/2004 3:50 PM

Document Number	2X-04-07086 W GENERIC WORK ITEM	**Record Status**	ACT
Work Item Title	Move AGEC slip form from 218-W-3AE T8 To Trench 31	**Record Copy Printed**	Yes 1

Documents

Component Number	Component Name

Temporary Component Number	Temporary Component Name
N/A	

Symptom, Problem, or Condition

Install end section on AGEC slip form and move from 218-W-3AE trench 8 to 218-W5 trench 31

Location

Facility 2X System 94
Building / Room
Other N/A

Charge Code

CACN 118200 BG 9/23/04 4/19/05
COA 5100 4/15/05 BG 9/23/04

Origination

Name Godwin, Bob Date 09/01/2004
Need Date Phone 373-9712

Validation

Name Mitchell, Jim Date 09/07/2004
Request Number 190953

Phase Designator 09 SEPTEMBER
Priority 2 Priority Two

Mode A ANYTIME
Personnel Safety Rel. No
Correct. Maint, Assesment No
Plant Forces Work Review Required No
Plant Forces Work Review Number

Resources Required

Code	Description	No	Est Hr	Act Hr
04A	OPERATIONS PERSONNEL	1	4.0	24
13	CRANE OPERATOR	1	4.0	12
14B	TRUCK DRIVER - HEAVY	1	4.0	24
23	MILLWRIGHT	2	8.0	—
35	IRONWORKER/RIGGER	2	8.0	36
PIC	PERSON IN CHARGE	1	4.0	~~12~~ 12

RCT

Cognizant Engineer Pratt, Dean A Phone 373-2464

Cognizant Manager Bottenus, R. Jay Phone 373-3511

Reference Documents

Type	Document
AJHA	✓2X-357
RWP	✓ SWSD-001
RWF	✓ SWSF-04-078
USQ	✓ SW-USQ-04-204
PJB	Prejob briefing chklist mcr 5/17
	Elec utes site visit form mcr 5/17
	photos mcr 5/17

Tech. Spec. / OSR Requirements Reference

Essential Systems

Code	Descrption

Facility Group SWSD

*** RECORD COPY *** *** RECORD COPY *** *** RECORD COPY ***

Work Document 2X-04-07086

Document Number	2X-04-07086 W GENERIC WORK ITEM	Record Status	ACT
Work Item Title	Move AGEC slip form from 218-W-3AE T8 To Trench 31	Record Copy Printed	Yes 1

Resolution / Retest

1.0 SCOPE AND PURPOSE

1.1 This work package will provide work instructions to assemble the AGEC slip form and move it to trench 31

1.2 Hanford hoisting and rigging will lift the slip form end piece using a crane. AGEC will work from their bucket truck to install fasteners to attach end piece to slip form while the end piece is being held in place by the crane.

1.3 After the slip form is assembled it will be placed on a truck with crane and moved to trench 31 and unloaded.

2.0 REFERENCES

2.1 See references on page 1 of work package

3.0 PRECAUTIONS, LIMITATIONS & NOTES

3.1 No personnel at any time shall be permitted to position themselves under the load.

3.2 AGEC will provide fasteners and direction for attaching the end piece to the slip form

3.3 Secure area as directed by PIC to prevent the entry of unauthorized personnel.

3.4 The assembled slip form weighs approximately 40,000 lbs.

3.5 The end piece of the slip form weighs approximately 8,000 lbs

3.6 Electrical Utilities measured the height of the electrical conductors over the access road to trench 31 at 30 feet.

4.0 SPECIAL TOOLS, EQUIPMENT, AND MATERIALS

4.1 Tractor and trailer capable of handling > 50,000 lbs

4.2 Crane capable of handling > 50,000 lbs

4.3 Rigging equipment as required.

5.0 PREREQUISITES

Document Number 2X-04-07086 W GENERIC WORK ITEM
Work Item Title Move AGEC slip form from 218-W-3AE T8 To Trench 31
Record Status ACT
Record Copy Printed Yes 1

5.1 Designated Leader (D/L) for lift shall print name below.

D. T. CARR / D.T. Carr 4-19-05
D/L (Print/Sign) Date

D.T CARR / D.T. Carr 4/21-05

5.2 Conduct a pre-job briefing with all personnel directly involved with this lift. This procedure shall be discussed in detail before starting work. The D/L shall document the pre-lift meeting with date and attendees on the Pre-Job Briefing Sheet. The D/L shall appoint a Designated Signaler to direct all movements of the lift.

D.T.CARR/D.T.Carr 4-19-05
Designated Signaler (Print/Sign) Date

D.T. CARR / D.T. Carr 4-21-05

5.3 Perform pre radiation survey of slip form.

5.4 Contact Electric Utilities to escort shipment of slip form.

5.5 Obtain over size load permit for shipping slip form.

6.0 SPECIFIC WORK INSTRUCTIONS

Note:

The following instructions are general intent they are intended to be followed in sequence. However, at the PIC's discretion certain steps may be performed out of sequence, in parallel, or repeated. In these cases, the PIC is expected to document the reason on the work record. At no time shall any safety steps or hold point be bypassed.

6.1. Secure area as directed by PIC to prevent the entry of unauthorized personnel.

6.2 Pull slip form into position as required for installing end piece.

6.3 Using crane pick up slip form end piece and move it to the location of the slip form.

6.4 Using crane position end piece into position for attaching to slip form

6.5 Attach end piece to slip form per direction of AGEC.

6.6 Using crane load slip form on to truck.

6.7 Tie down slip form to truck to prevent movement during shipping.

6.8 Transport slip form to LLBG 218-W5 and unload at Trench 31 Southeast corner, exact location determined by PIC.

Work Document 2X-04-07086

Document Number 2X-04-07086 W GENERIC WORK ITEM
Work Item Title Move AGEC slip form from 218-W-3AE T8 To Trench 31
Record Status ACT
Record Copy Printed Yes 1

7.0 RESTORATION ACTIONS AND TESTING

7.1 RESTORATION ACTIONS

7.1.1 Perform housekeeping/clean-up of the work areas.

7.1.2 PIC review work package to ensure all work is complete and work area has been cleaned-up.

Stuart Arnold 4/21/05
PIC (Print Sign) DATE

7.2 POST-MAINTENANCE TESTING

7.2.1 None required

Planning Codes

Planning Required Yes

Code	Description

Resolution By

Approval	Date
Godwin, Bob [Approved]	09/27/2004

Screener / Operations Review

Approval	Date
Arnold, Stuart G [Approved]	09/15/2004

Approvals

Code	Description	Approval	Date
CE	Cognizant Engineer	Pratt, Dean A [Approved]	09/14/2004
CM	Cognizant Manager	Hamada, Frank K [Approved]	09/22/2004
I	Occupational Safety & Health	Mickle, Gary D [Approved]	09/09/2004
OP	Operations	Arnold, Stuart G [Approved]	09/15/2004
PIC	Person In Charge	Pawlak, Mike [Approved]	09/14/2004
R	Radiation Protection	Taylor, Rob [Approved]	09/13/2004

Pre-Work Review

Approval	Date
Harder, Daryl D [Approved]	09/27/2004

Lock and Tag

Number	Location
N/A	

Work Document 2X-04-07086

Document Number	2X-04-07086 W GENERIC WORK ITEM	**Record Status**	ACT
Work Item Title	Move AGEC slip form from 218-W-3AE T8 To Trench 31	**Record Copy Printed**	Yes 1

Person in Charge
Name Pawlak, Mike
Organization OPS OPERATIONS

Calibration Standards

Standard	Exp Date	Tolerance
N/A		

Work Release
Release Type F

Approval	Date
[signature]	4-19-05

Work Suspension (See Work Suspension Sheet)

PIC	Date
N/A	

Field Work Complete

Approval	Date
[signature]	4/21/05

Reactor Containment Integrity

Operations Acceptance

Approval	Date
[signature]	4/26/05

Post Work Review

Approval	Date
[signature]	4/27/05

4 Romas 4-28-05

Failure Information

Component Number	Failure Class	Failure Code	Ident. Method	As Found	Action Taken
N/A					

Failure Comments

None

Facility Group SWSD

W. RK RECORD

Document Number: 2X-04-7086

2. Work Item Title: Move AGEC slip form from 218-W-3AE T8 to 218-W-5 Trench 31

Date	Turnover, Problem Description, Action Taken	Name	Craft/ Resource Type	Hours
4/19/05	Completed pre-JOB.			
	2-30' 1" x 30' belly straps			
	4-16' x 7/8" bull hooks			
	1-14' 40-TON spreader			
	2-24' x 1 1/4" slings for above spreader			
	1-Kevlar to lengthen door end rigging			
	C&R positioned end piece in place.			
	AGEC needed to have form sides moved			
	in approx. 15in to match up to			
	end piece. AGEC did not have			
	a come-along hand winch or other			
	appropriate tool to close the gap.			
	SWSB provided additional support			
	and equipment to get the end			
	piece to make up with the slip			
	form. Rigged, picked & loaded			
	slip form onto trailer. EU lineman			
	measured height of slip form on			
	the trailer to be 18'6". EU			
	lineman escorted transport trailer			
	to trench 31			
4/21/05	Rigged picked & placed slip form			
	in South East corner of trench 31.			
	AGEC was on site (Jerry Alexander)			
	and concurred with the placement.			

Summary by Craft/Resource Type

Craft/Resource Type	Total Hours	Craft/Resource Type	Total Hours
Crane operator	12	Rct	12
Riggers	36	FWS	12
Teamsters	24	C&R Supervisor	4
NCO	24		

A-6001-824 (12/03)

Co

AJHA ID: 2X-357 Rev - 0	AJHA REPORT	Status: AJHA completed / Work not complete	Date: 9/17/2004
Prepared By: GODWIN, BOB	Work Package No: 2X-04-7086	Work Location: 218-W5 T8 and Trench 31	

Work Scope/Description: Move AGEC slip form 218-W5 T8 To Trench 31
Move AGEC slip form 218-W5 T8 To Trench 31

Pre-Job Walkthrough Conducted: ☑ Yes ☐ No WalkThrough Date: 9/9/2004

Specific Work Location(s):

Emergency Contact Person(s): Primary: McIntyre Secondary: Arnold

Emergency Radio/Phone No: 911 / 373-3800

KNOWN OR POTENTIAL HAZARDS

	Yes	No		Yes	No		Yes	No
Scaffolding	☐	☑	Powered Hand Held Tools Used	☑	☐	Structure Modification, Construction, Addition	☐	☑
Excavation Work	☐	☑	Confined Space Entry	☐	☑	Demolition work will be performed.	☐	☑
Elevating Work Platform Involved	☑	☐	Painting, Finishing, Preparing Painted Surfaces	☐	☑	NEPA Screening Required	☐	☑
Portable Ladder Used	☑	☐	Lead/Lead Containing Material Involved	☐	☑	Radiological material, area, or hazard involved.	☑	☐
Hoisting, Rigging, and/or Crane Activity	☑	☐	Tanks, Lines, Vessels Opened or Breached	☐	☑	Radioactive or Toxic Air Emissions Potentially Generated	☐	☑
Forklift Trucks Used	☐	☑	Chemicals/chemical products.	☐	☑	Effluent Control or Monitoring Devices Involved in Activity	☐	☑
Fall Hazards Exist	☐	☑	Noise Sources are Present	☑	☐	Liquid or Solid Discharged to Ground or Liquid Effluent Stream	☐	☑
Slip/Trip Hazards Exist	☑	☐	Asbestos Containing Materials Involved	☐	☑	Activity Will Result in a Change to an Existing Effluent	☐	☑
Falling Objects are Potential Hazard	☑	☐	Airborne Dusts/Particulates Generated in Work Area	☐	☑	Waste Generated.	☐	☑
Blind Penetration of Walls, Floors, Ceilings, Roofs, Other Surfaces	☐	☑	Beryllium Contamination Potentially Present in Work Area	☐	☑	Involves Safety Class/Significant, Def-in-Depth, or Worker Safety SSCs.	☐	☑
Hazardous Energy Sources (Lockout/Tagout)	☐	☑	Thermal stress (heat or cold stress/hypothermia)	☑	☐	Involves and Affects controls in facility DSA.	☐	☑
Electrical Shock or Arc Flash Hazards?.	☐	☑	Hazardous Waste Activity (Does Not Include Hazardous Waste Generation)	☐	☑	Activity is outside the facility DSA.	☐	☑
New electrical installation, modifications, or temporary wiring.	☐	☑	Hot Work: Welding, Cutting, Grinding, Brazing	☐	☑	Work Involves >15g Fissionable Material	☐	☑
Gas Cylinders (Bottles) Used or Affected by Work	☐	☑	Roads/Intersections will be Closed or Detours Established	☐	☑	Work Affects Environment Where >15g Fissionable Material are Present	☐	☑
Roof Work/Access Required	☐	☑	Fire Hydrants Used	☐	☑	PPE is Specified for the General Activity (see Controls Section)	☐	☑
Exposed or Rotating/Moving Machinery (e.g., Pinch, Nip Points)	☐	☑	Portable Heating Equipment (Potential Fire, Burn, Exposure)	☐	☑	Other Hazards Exist (See Controls Section of Report or Other Info)	☑	☐
Medical Emergency Provisions are Required	☐	☑	Special Fire Suppression System (e.g., Halon, Dry Chem, C02)	☐	☑			

Thursday, September 23, 2004 7:13:42 AM

✓ 7

AJHA ID: 2X-357 Rev - 0	AJHA REPORT	Status: AJHA completed / Work not complete	Date: 9/17/2004
Prepared By: GODWIN, BOB	Work Package No: 2X-04-7086	Work Location: 218-W5 T8 and Trench 31	

Description: Move AGEC slip form 218-W5 T8 To Trench 31

Comments:

INVOLVEMENT:

SME	Name	Title/Text
Industrial Hygiene	GLOVER, SUSAN S - 9/16/2004	
Radcon Screener	Taylor, Rob by GODWIN, BOB 9/17/2004	per telecon

REQUIRED FORMS AND PERMITS

Form/Permit	Revision	Permit ID	Complete
RWP ID Existing	0	SWSD-001 Latest	Yes

SPECIFIC HAZARD ANALYSIS AND SAFE WORK REQUIREMENTS:

A detailed discussion of the unique hazards specific to the work activity/location, including those noted above, will be provided on subsequent pages of this AJHA. The discussion must include identification of the work activity, the specific hazards present, and the safe work requirements/controls (including PPE) to be used to allieviate/control the hazard(s).

MAIN TASK: Assemble and move slip form

IDENTIFIED HAZARD	CONTROLS	ADDITIONAL TEXT
Elevating Work Platform Involved Vehicle Mounted Elevating Platform Involved A "boom-supported" lift is used?	Verify the correct work platform type and related controls have been specified. Perform visual inspection and test operation of platform daily Survey work area to identify and control any worksite hazards immediately prior to starting work. Select platform that is current with periodic maintenance, inspection, and testing. Wear personal fall protection with lanyard attached to an approved anchorage point. Engage vehicle parking brake for elevation of boom Assign trained equipment operator(s) for platform Provide approved means of access to ascend/descend platform Know maximum load capacity and weight distribution restrictions of platform Use properly connected full body harness at all times	
Portable Ladder Used	Assign users who have completed training in recognizing ladder hazards, safe practice rules, and inspection criteria Visually inspect the portable ladder before use to ensure its safe condition Select proper type and size of ladder Protect against exposure to moving vehicles/equipment, and access doorways Good Housekeeping around top and base of ladderway Proper placement, lashing, or holding ladder required if used on slippery surfaces. Note: Slip-resistant feet not a substitute for requirement.	
Hoisting, Rigging, and/or Crane Activity Mobile Crane	Assign a Designated Leader Use a qualified crane operator	

	Assign a qualified rigger for load handling
	Assign a qualified person to operate any "below-the-hook" lifting device
	Use a qualified signal person for communications
	Complete required inspections and maintenance of crane
	Ensure up to date inspection and maintenance of rigging/hoisting equipment
	Foot protection
	Eye protection
	Head protection
Slip/Trip Hazards Exist	Worker awareness briefing
	Secure hoses, cords, lines, portable equipment
	Material control before/during activity
	Slip-resistant footwear
Falling Objects are Potential Hazard	Identify specific hazard in "Controls by Task", and select/identify additional controls.
	Foot protection
	Eye protection
	Head protection
Powered Hand Held Tools Used	Inspect tools for proper guards, electrical cords, plugs, grounds, and function
	Hearing protection
	Eye protection
Noise Sources are Present Exposure Potential to Noise = or > 85dBA	Hearing conservation program enrollment, including training and medical monitoring
	Ensure workers' EJTA/PEH reflects noise exposure
	Identify the noise source(s)
	Hearing protection
Thermal stress (heat or cold stress/hypothermia)	Industrial Hygiene Review Required
	Train workers/supervisors in heat stress, cold stress/hypothermia recognition, prevention, and control
	Obtain general (weather station) WBGT readings
	Provide water/fluids
	Buddy system
Radiological material, area, or hazard involved. RWP(s) required. Low risk Rad activity.	Radiological work permit (Verify the RWP is still current prior to commencing work)
Other Hazards Exist (See Controls Section of Report or Other Info)	Be alert to possible animals/snakes/insects
Potential animal, snake, or insect bites.	Communicate "Other" hazards and control measures prior to commencing work
Severe weather conditions potentially exist.	Monitor weather forecast and conditions for warnings of severe weather

2X-04-07086(W)

AJAH 2X-357 meetins

Bob Godwin	Bob Godwin
Keith Best	Keith Best
Dan Pratt	Dan Pratt
Gary Mickle	Gary Mickle
STEVE PHILLIPS	STEVE PHILLIPS
R.G ALEXANDER	R.G Alexander
Judy	
ROB Taylor	
MIKE TANLAK	

HANFORD RADIOLOGICAL WORK PERMIT

Contractor: Fluor Hanford

General [X] Job Specific [ ]	Tech. Document No. N/A	Location Code 01, 02, 03, 09 (if escorted)	RWP Number SWSD-001, Rev. 005 ✓
Start Date 07-26-2004	End Date 07-26-2005	Responsible Organization Solid Waste Storage and Disposal (SWSD)	

Job Location: All SWSD Facilities (CWC, Burial Grounds, Sodium Storage, Alkali Metal Storage, etc)

RWP Screening No.: SWSF-03-030

Job Description and Type of Area:
Perform regular or routine radioactive material handling activities such as: Receipts, Shipments, Storage, Movements, Overpacking, and Radiological Surveys within SWSD Facilities. Also perform general activities such as: routine inspections, surveillances, housekeeping, sampling, etc. (RA, RMA, RBA)

Primary Isotope(s): [X] MFP [X] MAP [X] Cs [ ] Sr [X] H-3 [X] U [X] Pu [ ] Other:

Radiation Emitted	Estimated Dose Rates	Contamination Levels	Radiological Worker Training Req.
[X] Alpha [X] Beta [X] Photons [X] Neutrons	General Area: 2 mrem/hr Maximum Contact: 200 mrem/hr	Beta-gamma: <1,000 dpm/100 cm² Alpha: <20 dpm/100 cm²	I [ ] II [X]

Internal Dosimetry Requirements (for routine work under this RWP, except those entering for observation only)
[X] Annual Whole Body Count [ ] Lung Count [ ] Urinalysis Isotopes to Test for (if any):

MINIMUM RADIOLOGICAL PROTECTION REQUIREMENTS

HPT Coverage		Dosimetry	
	Continuous	X	HSO - TLD
SI2	Intermittent		HCND - TLD
SI2	Start of Job	SI6	Pocket Dosimeter
SI2	End of Job	SI6	Electronic Dosimeter
SI4,5	Self Survey (if qualified)		Finger Rings
SI4,5	HPT Survey Required		Time Keeping
	Auto. Survey Device (if available)	X	Entry Control System
	See SI#	X	Aces Brick

MINIMUM PROTECTIVE EQUIPMENT

	Coveralls		Shoe Covers
	Lab Coat		Canvas Boots
	Waterproof Suit		Rubber Overshoes
	Gortex Suit		Rubber Boots
	Cap		Full Face Respirator
	Hood		PAPR
	Surgeon's Gloves		Supplied Air Respirator
	Leather Gloves		SCBA
	Canvas & Surgeon's Gloves		Undressing Assistance
	Waterproof Gloves	SI3	Air Sampling Required
	No Personal Outer		ARM Required
	Modesty Clothing		
	See SI#		

SPECIAL INSTRUCTIONS (SI)

1. Limiting Radiological Conditions:
   a) Contamination limits (for all areas)
      1) 1000 dpm/100 cm² removable βγ contamination
      2) 20 dpm/100 cm² removable α contamination
      3) 10,000 dpm/100 cm² removable tritium contamination
   b) Radiation Limits
      1) 100 mrem/hr at 30cm from any source (for RA only)
      2) 5 mrem/hr at 30cm from any source (for all other areas)
   c) Air Monitoring Limits (for H_3, when applicable)
      1) 20 uCi/m³ using Scintrex Tritium Air Monitor
      2) See SI 3 for requirements

   If the above levels are exceeded, discontinue work, place work in a safe condition and contact RC Management for direction and recovery actions.
2. The cognizant RCT and the Shift Duty Officer (SDO) shall be notified of all waste container movement activities; personnel shall contact the RCT at the start of each job for specific coverage. The RCT will acknowledge that proper RadCon coverage is in place prior to the start of work. Minor activities such as inspections, audits, surveillances, etc. do not require RCT coverage.
3. Air sampling for tritium during receipt shall be required for any load that meets both of the following conditions: Total tritium level ≥ 100 curies, and the waste containers were transported inside of an enclosed truck or trailer. Other sampling may be required on a periodic basis to be determined by RC Management. This monitoring will be performed using the Scintrex Tritium Monitor.
4. At a minimum, personnel must survey their hands and feet when exiting a RBA (for contamination control). All equipment leaving a RBA (for contamination control) requires RCT verification survey.
5. At a minimum, personnel must survey their hands and feet upon completion of manual movement of waste containers.
6. PD-3i or Pencil may be issued as determined by RadCon Management, based upon an individuals potential to exceed an Administrative Control Level.

COPY

ALARA Review: YES [ ] NO [X]	Pre-Job Briefing: YES [ ] NO [X]	Post Job ALARA Review: YES [ ] NO [X]
RWP Prepared By: Rick Miller	Phone: 373-4010	HPT Phone: 373-4096
Line Mgt. Print: Tom Brown Sign:	Phone: 372-0049	Date: 7/22/04
RC Mgt Print: Mark Higbee Sign	Phone: 376-5696	Date: 7/22/04
Acknowledged By:		Date
RWP Change Approvals:		Date:

1.1

FLUOR HANFORD RADIOLOGICAL RISK SCREENING FORM

Work Document No.: 2X-04-7086	AJHA No.: 2X-357

Title:
Transfer AGEC Slip Form

Job Description:
Transfer AGEC Slip Form From 218-W-3AE Tr. 8 to 218-W-5 Tr. 31.
Radiological Risk Screening Form #: SWSF-04-078

FILE COP.

Job Location:
200 West Low Level Burial Grounds 218-W-3AE Tr.8 and 218-W-5 Tr.31

Part A – High Risk Radiological Work Screening	Yes	No
1. Will the estimated collective dose exceed 2,500 person-mrem?	○	◉
2. Will predicted airborne radioactivity concentrations exceed 10 DAC or result in an integrated exposure of over 200 DAC-hours?	○	◉
3. Will work area[1] removable contamination be greater than 1,000 times HNF-5173 Table 2-2 values?	○	◉
4. Will there be entry into areas where whole body dose rates are >1 rem/hr?	○	◉

If any of the above questions were answered "YES," then the work is designated as HIGH RISK radiological work. Do not continue with Part B. An ALARA review is required based on the final determination of radiological risk.

If all the answers to the above questions are "NO," then the work is not HIGH RISK radiological work. Continue with Part B.

Part B -- Medium Risk Radiological Work Screening	Yes	No
1. Will the estimated collective dose exceed 500 person-mrem but be less than or equal to 2,500 person-mrem?	○	◉
2. Will a respirator be worn for radiological purposes?	○	◉
3. Will work area[1] removable contamination be greater than 100 times Table 2-2 values but less than or equal to 1,000 times Table 2-2 values?	○	◉
4. Will there be entry into areas where whole body dose rates are >100 mrem/hr but be less than or equal to 1,000 mrem/hr?	○	◉
5. Is there a potential for an unplanned release of radioactive material to the environment that meet or exceed HNF-PRO-060 reporting requirements?	○	◉

If any of the answers to the above Part B questions are "YES," then the work is designated as MEDIUM RISK radiological work. An AJHA may be required based on the final determination of radiological risk.

If all of the above Part B questions were answered "NO," then the work is designated as LOW RISK radiological work. Conduct an informal ALARA review of the work activity before preparing or assigning the RWP.

PART C -- RADIOLOGICAL RISK DESIGNATION

◉ LOW RISK Radiological Work ○ MEDIUM RISK Radiological Work ○ HIGH RISK Radiological Work

Justification / Comments:
This task is deemed to be low risk work. Governing RWP #: SWSD-001 current rev.

PART D -- ADMINISTRATION

Preparer (Signature)	Printed	Date
R. L	Rob Taylor	9-13-04

[1] The work area is described in the job hazard analysis, and is typically the area transited and occupied to perform the work activity.

NOTE: This form is a radiological record when complete.
Reference: HNF-5173, Article 311.

A-6003-838 (04/04)

UNREVIEWED SAFETY QUESTION (USQ)

USQ Number	USQ SCREENING	Page 1 of 2
SW-USQ-04-204		

Title: 2X-04-07086 Move AGEC Slip Form from 218W3AE Trench 8 to Trench 31

Applicable Facilities: Low Level Burial Ground

Scope: Category 3 waste requires stabilization before being disposed in order to meet Performance Assessment requirements. Stabilization of this waste has been done in the past in Trench 8 by placing the waste in a slip form and encasing the waste in concrete. Direction has been given to move all waste disposal to the lined trenches. This encasement activity is being moved to Trench 31. This requires the slip form to be moved to Trench 31.

Description: The slip form is a rectangular steel form that is 27 feet long by 13 feet wide by 14 feet tall. It weighs approximately 40,000 pounds. The west end of the slip form is currently removed. This end will be lifted in place with a crane and attached to the slip form. The slip form will then be lifted onto a trailer and moved to Trench 31. At Trench 31 the form will be removed from the trailer with a crane and placed in the south east corner of the trench.

Safety Basis Documentation Reviewed: HNF-14741, Rev 1B; HNF-15280, Rev. 1B; Letter 03-ABD-0101; Letter 04-ABD-0024; HNF-11724, Rev. 1; Letter 04-SED-012; Letter 03-ABD-0057; Letter 01-ABD-0038; Letter 03-ABD-0118; Letter 03-ABD-0136; FH-0304917; 04-ABD-0032; Letter 04-SED-054;Letter 04-SED-070; FH-0401466; Letter 04-SED-0063.

Other References: 2X-04-07086, Move AGEC Slip Form from 218W3AE Trench 8 to Trench 31

1. **Does the proposed activity or occurrence represent a change to the facility or procedures as described in the Safety Basis?**

   [X] No [ ] Yes/Maybe

   Basis: The slip form is being lifted with a crane. Waste encasement activities are described in section 2.5.2.25 of HNF-14741. Moving the slip form is a necessary part of the encasement activity as described. The slip form is being lifted with a crane. This activity does not represent a change to the facility as described in the Safety Basis.

2. **Does the proposed activity or occurrence represent conditions (e.g., new or changed hazards) that have not been analyzed in the Safety Basis?**

   [X] No [ ] Yes/Maybe

   Basis: Possible accidents associated with this work include vehicle accidents and dropping loads on the waste containers in Trench 31. Small, medium and large outside fires due to vehicle collisions with waste containers are analyzed in Section 3.4.2.2 of HNF-14741. Spills due to vehicle collisions with waste containers are analyzed in Section 3.4.2.7 and box drop accidents are analyzed in Section 3.4.2.8. These accidents bound the proposed scope of work.

   This activity does not represent conditions that have not been analyzed in the Safety Basis.

3. **Does the proposed activity represent a test or experiment not described in the Safety Basis?**

   [X] No [ ] Yes/Maybe

   Basis: Waste encasement activities using slip forms are described in Section 2.5.2.25 of HNF-14741. This activity does not represent a test or experiment not described in the Safety Basis.

Conclusion:

UNREVIEWED SAFETY QUESTION (USQ)

USQ Number	USQ SCREENING	Page 2 of 2
SW-USQ-04-204		

[X] The proposed activity screens negative and no USQ Evaluation is required.

[ ] The proposed activity screens positive and a USQ Evaluation is required.

USQ Screener #1

DA Pratt
(Print Name)

Signature Date: 09/14/04

USQ Screener #2

JR Rosser
(Print Name)

Signature Date: 09/14/04

A-6000-615 (05/04)

FH PRE-JOB BRIEFING CHECKLIST

Work Document No.: 2X-04-07086/W	FWS/PIC:	Date: 4/19/05

Task Description: MOVE AGEC SLIP FORM FROM 218-W-3AE T8 TO TRENCH 31

NOTE: A graded approach may be used during the conduct of pre-job briefings. Level of detail discussed is at the discretion of the pre-job facilitator and attendees. Briefings should be held prior to the conduct of work anticipated to exceed the trigger levels of HNF-5173, Article 312.3. Retain completed form in the Work Package. For guidance on conducting pre-job briefs, refer to HNF-GD-14047, Pre Job Briefings and Post Job Reviews.

TOPICS FOR DISCUSSION

Verify personnel involvement:

- Verify appropriate personnel are present: Craft, Radcon, Engineering, QC, Safety, Operations, Environmental, other SMEs
- First Aid Provider identified and available for support Al McIntyre
- Two person rule: assigned personnel, escort responsibilities, training verification, turnover, etc. (PFP Specific)

Discuss work to be performed:

- Discuss scope of work to be performed for shift
  - Use sketches, floor plans, etc.
- Procedure type and compliance expectations
- Coordination with other groups and plant activities that might affect persons during job (alarm/horn testing, drills, etc.)
- Discuss job assignments and confirm worker readiness
  - Training requirements, WPP complete, etc.
- Material requirements and availability for job
  - PPE, special containments, engineered controls, HEPA vacuums, respiratory protection, dosimetry, etc. Ensure all are staged and ready for use.

Key parts of Work Instructions/procedure:

- Precautions/Limitations
- Lock and Tag requirements
- Applicable Technical Safety Requirements (TSR)/Limited Condition of Operations (LOC) including time clocks, impacts to equipment operability and restoration requirements
- Work document radiological requirements
- Post system/component testing requirements
- Critical lifts
- Hold points and recovery actions in the event of a missed hold point (per HNF-PRO-5432)

Radiological Safety:

- Radiological Work Permit (RWP)
  - Special radiological requirements, engineered controls (ventilation, containments, drapes, etc.)
  - ALARA - AMW controls, temporary shielding use, radiological postings and low dose standby areas (as applicable)
  - PPE: extra layers of surgical gloves, changing the outer pair or frisking after handling contaminated equipment
  - Contamination checks/glove changes for work in HCAs
  - For HCAs with high background, remove the outer layer of anti-Cs at the first step-off pad and go to a low background for surveys
  - Surveys in areas "not routinely surveyed"
  - Planned or special monitoring or sampling requirements
  - Action levels and void limits
  - Temporary suspension of work and requiring decontamination prior to resuming work
  - Pressure wash, bag/cover, or misting of items being removed from Basin to minimize airborne materials
  - Use of drapes/catches for breaches of potentially contaminated systems
  - Layered, removable flooring for high contamination levels
  - Area bull-pens/walls used to mitigate contamination spread
  - Air space boundaries (PFP: ZSP-006)
- Emergency Response
  - Alarm response actions
  - Emergency communications systems
  - Identify personnel decontamination facility to be used, if needed, and verify availability

Discuss Job Hazards and Controls (AJHA):

- Permits (EEWP, Fall Protection Plan, Hot Work, etc.)
- Flow path of work with regard to identified hazards
- MSDS for chemicals being used
- Environmental permits and conditions
- Industrial Hygiene requirements
- Waste minimization and disposal requirements
  - If employed, must document on work record

General Discussion:

- Work start time, breaks, and stopping points
- Work area/equipment conditions (weather, lighting, temperature, radiological conditions, accessibility, protection from outside interference, suspect/counterfeit item awareness, etc.)
- Response to abnormal conditions, contingency plans, emergency actions, abort criteria
- Casualty response actions (e.g., secure area and notify management before proceeding)
- STOP WORK AUTHORITY
- STAR Philosophy (Stop, Think, Act, Review)
- PFP Specific: Possible error precursors and flawed defenses. Determine if additional defenses are warranted (i.e., self or peer verification).
- Applicable Criticality Posting Specification (CPS) and postings
  - CPS No. _____
- Housekeeping / Post-job cleanup

Lessons Learned:

- Lessons learned from previous tasks

QUESTIONS OR CONCERNS: - Ask one final question: "Is everyone comfortable with the job and his/her part in it?"

FH PRE-JOB BRIEFING CHECKLIST (continued)

Comments or other areas discussed:

Pre-Job Briefing **ATTENDEES** fill in below (including all repeat briefings).

Date	Name (Print)	Signature	Date	Name (Print)	Signature
4/19	ARMCINTYRE		4-21	S SHOOK	
4/19	D. T. CARR				
4/19	R.D. HANSON				
4/19	MARK RAY				
4-19	Shook J L				
4 19	Ashlock				
4-19	FIGUERS				
4-19	ALEXANDER RG				
4-19-05	S. Phillips				
4.19.05	Ryan Fillion				
4.19.05	F. HUMMIT				
4.19.05	NJ METZGER				
4/21/05	BRUCE KASOT				
4/21/05	Michael Hicks				
4/21/05	Steven Kent				
4/21/05	SCOTT HAMAKER				
4/21/05	HAMMITT, E				
4/21/05	ALEXANDER, RG				
4/21	Ellingsworth K				
4/21					
4/21	D. T. CARR				
4.21	R. Wheatley				
4.21	K. Larouche				
4.21	DA SMITH				

Pre-Job Briefing **PRESENTER** fill in below (including all repeat briefings).

Date	Name (Print)	Signature	Date	Name (Print)	Signature
4/19/05	Stuart Arnold				
4/21/05	Stuart Arnold				

ELECTRICAL UTILITIES SITE VISIT FORM

Customer Contact: Mike Pawlak   Phone Number: 430-5593

Scheduled Date: 4-19- 4-24   CACN: 118812

Location: Trench 31

Line(s) Number: C8L15   Pole Number(s): ______

Voltage Level: ☐ Communication ☐ 120/240/480 v ☒ 2400 v

☒ 13.8 KV ☐ 115 KV ☐ 230 KV

Purpose of "Site Visit":

☒ Transportation of over height load   Height (approx.) ______

☐ Equipment working near overhead lines   10 ft. / 20 ft. Other ______

☐ Excavation near aerial / underground   10 ft. / 20 ft. Other ______

☐ Other: Describe ______

Recommendations:

☐ Immediately Before commencement of operating near power lines, notify the Electrical Utilities Dispatcher at 373-2321 or 373-7753

☒ No Support Needed ☐ Lineman Standby: Duration: ______

☐ Insulated Barriers ☐ Raise Line ☐ Reclosures Off

☐ Lines / Equipment Deenergized/Grounded Isolation Points ______

☐ Other: Describe ______

EU Representative John Johnson [signature] Date: 4-13-05
Print/Signature

Customer Contact Mike W. Pawlak [signature] Date: 4/13/05
Print/Signature

[illegible]

☐ Faxed to Dispatcher

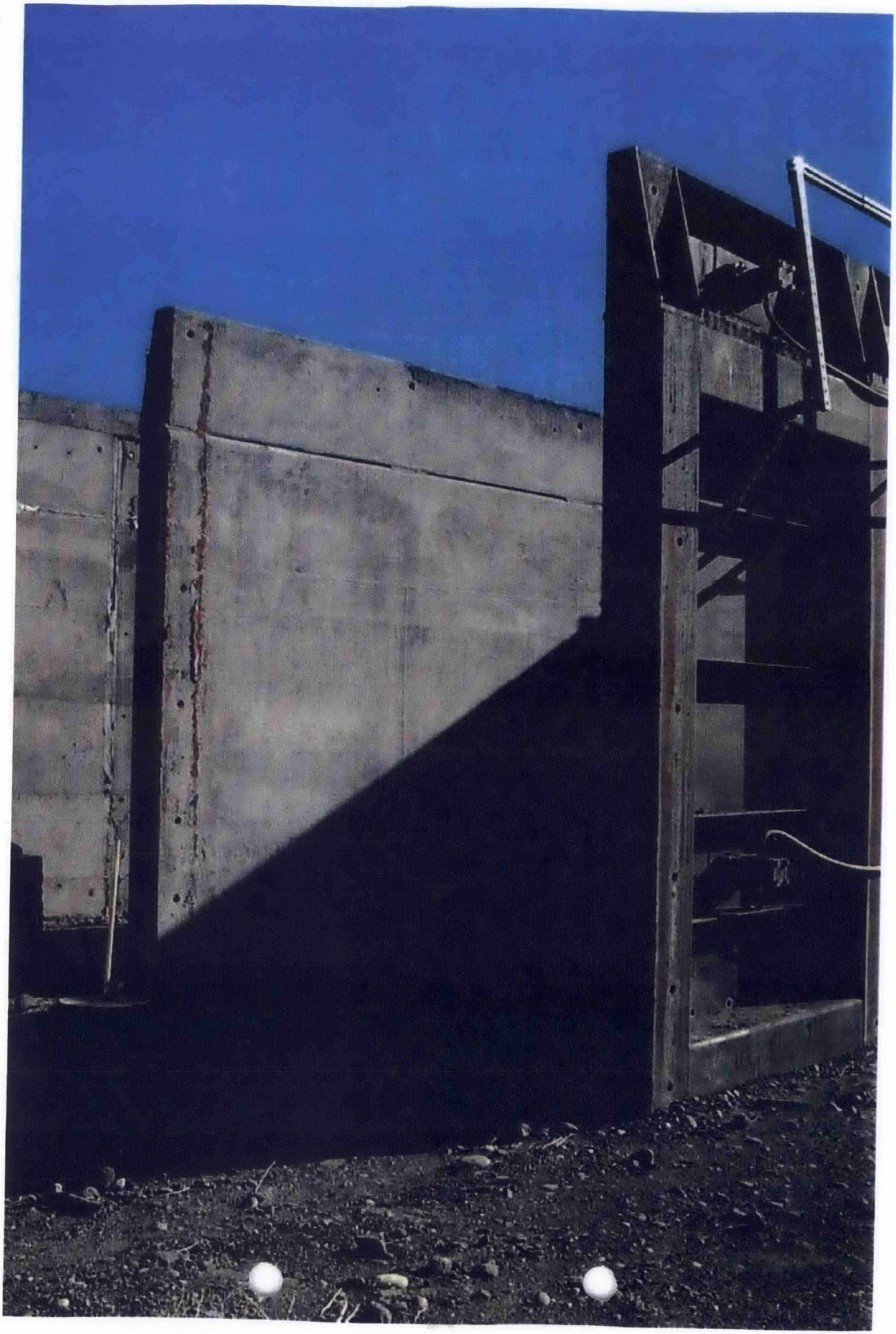
Distribution: White - Planning; Yellow - Customer; Pink - Dispatcher

BC-6003-941 (01/05)

18

19

UC



Work Document 2X-07-04470

JD216703

11/26/2007 8:13 AM

Document Number 2X-07-04470 W GENERIC WORK ITEM
Work Item Title REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31

Record Status ACT
Record Copy Printed Yes 1

Symptom, Problem, or Condition

Waste disposal in 218-W-5, Trench 31 has reached the point that removal of the AGEC slip form is in jeopardy. This is because any additional placement of waste containers will negate the setting of a crane to remove it. A work package is required to remove the slip form from the trench and place it in storage for future use.

Component Number
N/A

Component Name

Temporary Component Number
N/A

Temporary Component Name

Location
Facility 2X
System N/A
Building / Room 218-W-5-T31

Other

Charge Code

CACN	COA
118800	EA00

Origination
Name Steen, Dick **Phone** (509) 372-2337 **Date** 07/12/2007

Screening Information
Phase Designator 11 NOVEMBER
Priority 3 Priority Three
Mode A ANYTIME

Cognizant Engineer
Name Steen, Dick **Phone** (509) 372-2337

Resources Required

Code	Description	COCS	Role	No	Act Hr
04A	OPERATIONS PERSONNEL	R050	N/A	1	34
13B	HEAVY EQUIPMENT OPERATOR	R030	N/A	1	34
54	RADIOLOGICAL CONTROL TECHN	T050	N/A	3	32
PIC	PERSON IN CHARGE	M010	N/A	1	17

Facility Group SWSD

Work Document 2X-07-04470

JD216703

11/26/2007 8:13 AM

Document Number 2X-07-04470 W GENERIC WORK ITEM
Work Item Title REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31

Record Status ACT
Record Copy Printed Yes 1

Reference Documents

Category	Type	Description	Sheet	Coord	Revision
Reference	AJHA	2x-496			
Reference	AJHA	HSO-930			
Reference	AJHA	HSO-931			
Reference	MSDS	MSDS # 014258			
Reference	NEPA	HSO-930			
Reference	NEPA	HSO-931			
Reference	PJOB	PRE-JOB FORM BD-6000-696			
Reference	PWPP	PRE-WORK WALKDOWN & POST PERFORM CHKLST			
Reference	RRS	SWSF-07-211			
Reference	RWP	SWSD-001			
Reference	RWP	SWSD-004			
~~Reference~~	~~SLOG~~	~~SIGNATURE LOG~~			
Reference	USQ	SW-USQ-07-141			
Reference	WPC	2X-07-04470/W			

ELW 4/5/09

USQ Screening
Required USQ
N/A 11/20/2007

AJHA Review
Required Yes
N/A 11/05/2007

NEPA Screening
Required ECO Memo
Faulk, Darrin E [Transcribed] 08/14/2007

Tech. Spec. / OSR Requirements Reference
N/A

Essential Systems

Code	Description
N/A	Not Applicable

Facility Group SWSD

Work Document 2X-07-04470

JD216703

Document Number 2X-07-04470 W GENERIC WORK ITEM **Record Status** ACT
Work Item Title REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31 **Record Copy Printed** Yes 1

Approvals

Code	Description	Approval	Date
CM	Cognizant Manager	Hamada, Frank K [Approved]	11/26/2007
CR	CRANE AND RIGGING PERSONNEL	Best, Keith M [Approved]	11/20/2007
DA	Design Authority	Steen, Dick [Approved]	11/20/2007
E	Environmental	Faulk, Darrin E [Approved]	11/05/2007
I	Industrial Hygiene & Safety	Mickle, Gary D [Approved]	11/20/2007
OPS	Operations	Ramon, Paul [Approved]	11/26/2007
R	Radiation Protection	Haan, Thomas P [Approved]	11/06/2007

Facility Group SWSD

Work Document 2X-07-04470

JD216703

11/26/2007 8:13 AM

Document Number 2X-07-04470 W GENERIC WORK ITEM
Work Item Title REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31

Record Status ACT
Record Copy Printed Yes 1

Pre-Work Review

Approval	Date
Ramon, Paul [Approved]	11/26/2007

Tagout Information

Number	Location
N/A	

Person In Charge

Name	Phone
Ramon, Paul	(509) 373-3242

Work Release

Release Type F FULL RELEASE

Approval J.D. KUETHER-ULBERG Date 11/26/2007

Work Suspended? ☐

Resolution / Retest

See embedded Word file

Resolution By

Approval	Date
Remer, Frank L [Approved]	11/20/2007

Calibrated Standards/Equipment

Standard/Equipment	Exp Date
N/A	

Field Work Complete

Approval Date 11/28/07

Operations Acceptance

Approval Date 11-4-08

Post Work Review

Work Record Feedback Exists? ☐

Code	Description
CE	Cognizant Engineer
POSTRVW	Post-Work Review

Approval	Date
R.T. Steen	4/14/09
Ella L. Noland	4/14/09

Facility Group SWSD

Work Document 2X-07-04470

JD216703

Document Number 2X-07-04470 W GENERIC WORK ITEM **Record Status** ACT
Work Item Title REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31 **Record Copy Printed** Yes 1

Facility Group SWSD

1.0 PURPOSE AND SCOPE

1.1 This work package will provide instructions to remove the "Slip Form" from Trench 31 and prepare it for storage.

2.0 REFERENCES

2.1 See references on page 2 of "Work Document."

3.0 SUGGESTED SPECIAL TOOLS, EQUIPMENT, AND MATERIALS

3.1 JLG (to access lifting lugs)

3.2 2 each cranes as determined by D/L

3.2 Rigging hardware as designated by D/L

3.3 Flat bed trailer (to transport slip form)

3.4 Electric Rotary Hammer

3.5 Generator (for rotary hammer)

3.6 Kroil penetrating oil (MSDS # 014258)

3.7 Air driven impact wrench

3.8 Truck mounted air compressor

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Be alert to overhead power and communication lines. Some lines are as low as 15' and may be snagged if equipment is extended while traveling. DOE-RL-92-36, Hanford Site Hoisting and Rigging Manual requires operators to maintain a minimum of 4' clearance between equipment and overhead lines of any kind. Spotter support is required for all activities involving a crane at SWSD.

4.2 Cranes shall not be used to perform any lifting operations under or near power lines if any combination of boom, load, load line, or machine component has the capability of contacting a power line.

4.3 Side wall pieces weigh 12,000 lbs each, back wall weighs 8,000 lbs, and the door and door frame weighs 8,000 lbs. total.

5.0 PREREQUISITES

None

6.0 WORK STEPS

6.1 **CONDUCT** a Pre-Job safety meeting with all personnel directly involved with this activity. ENSURE all personnel have reviewed AJHA-HSO-930, HSO-931, AND work steps associated with this activity.

NOTE: *This work activity was radiologically screened as low risk work. Work performed in a High Contamination Area, High Radiation Area, Very High Radiation Area, or Airborne Radioactivity Area requires additional hazard analysis and Rad screening.*

NOTE: *The following instructions are general intent and are intended to be followed in sequence. Sections should be performed in sequence. However, at the PIC's discretion certain steps may be performed out of sequence, in parallel, or repeated. In these cases, the PIC is expected to document the reason on the work record.*

CAUTION:
Care should be taken to avoid contacting overhead lines. Some lines are as low as 15' and may be snagged if equipment is extended while traveling. If positioning of equipment requires passing under overhead lines a spotter is required.

6.2 Utilizing a JLG and an electric rotary hammer **REMOVE** concrete spillover from area around lifting lugs on side walls of "Slip Form."

6.2.1 **PREPARE** "Slip Form" for removal as directed by DA and/or PIC.

6.3 **POSITION/LOCATE** cranes and flat bed trailer as directed by D/L.

NOTE: *The Slip Form Door and Door Frame must be separated and loaded on the trailer individually.*

Door to be separated from door frame.

6.4 **RIG** "Slip Form" door to crane.

6.5 **REMOVE** latch bolt from door.

6.6 **LIFT, SWING, AND LOWER** "Slip Form" door onto trailer.

6.7 **RIG** one of the long sides of "Slip Form" (riggers choice).

6.8 **LIFT, SWING, AND LOWER** "Slip Form" wall onto trailer.

6.9 ***PIC's Option*** Slip Form may be loaded onto a trailer individually and transported to new location OR may have all sections loaded on a trailer and transported in one move. **IF** all sections are to be moved at once **THEN** perform steps 6.9.1 through 6.9.3 and **REPEAT** until all sections have been moved to the new location. **IF** sections are loaded on a trailer and transported in one move **THEN** skip to step 6.10.

6.9.1 **PREPARE AND TRANSPORT** "Slip Form" section to area above Trench 31 as designated by Operations PIC.

6.9.2 **OFF LOAD** "Slip Form" section in area designated by Operations PIC.

6.9.3 **RETURN** to "Slip Form" **AND RIG** next section of "Slip Form" (riggers choice).

6.10 **RIG** door frame to first crane to support door frame.

6.11 **RIG** second crane to wall (long side) of "Slip Form".

6.12 **LIFT, SWING, AND LOWER** "Slip Form" wall onto trailer.

6.13 **LIFT, SWING, AND LOWER** "Slip Form" door frame onto trailer.

6.14 **TRANSPORT** "Slip Form" components to area above Trench 31, (located between Trench # 31 and Trench # 34) as designated by the PIC.

7.0 RESTORATION

7.1 **PERFORM** housekeeping/clean-up of work areas.

7.1.1 **ENSURE** equipment owner (ACEG) has removed components (vibrators, scaffold pieces (unistrut), tow cables, and air hose) from area.

7.1.2 RCT to provide **COURTSEY SURVEY** of ACEG components.

7.2 FWS **REVIEW** work package to **ENSURE** all work is complete and work area has been cleaned-up.

7.3 **PERFORM** Post-Job Review as necessary.

WORK RECORD

Document Number: 2X-07-04470/W

2. Work Item Title: REPOSITION SLIP FORM IN 218-W-5 TRENCH 31

Date	Turnover, Problem Description, Action Taken	Feed-Back (X)	Name	Craft/ Resource Type	Hours
11/26/07	Conducted Tee-JOB, AND			04(2)	18
	MATERIALS FOR JOB. STAGED			13(1)	9
	JLG AT TRENCH 31.			14(1)	9
	LUBRICATED PINS ON			38(4)	36
	SLIP FORM. VERIFIED			54(2)	10
	TRAINING. SIDEWALL				
	REMOVED AND GROUT				
	WAS REMOVED FROM				
	PICK POINTS ON NORTH				
	WALL. & VIBRATORS WERE				
	REMOVED FROM NORTH				
	AND SOUTH WALL. WILL				
	CONTINUE WITH REMOVAL				
	OF SLIP FORM ON 11/27/07.				
11/27/07	PRE-JOB COMPLETED,			04(2)	14
	TRAINING VERIFIED.			18(2)	14
	SLIP FORM REMOVED, STAGED			14(1)	7
	BETWEEN T31 & T34 IN LAYDOWN			35(4)	28
	AREA. ALL VIBRATORS REMOVED			54(2)	10
	AND PLACED ON PALLET FOR				
	AGEC PICK UP FOR				
	MAINTENANCE. HOUSEKEEPING				
	WILL COMPLETE ON 11-28-07.				

WORK RECORD	Document Number: 2X-07-04470/W

2. Work Item Title: REPOSITION SLIP FORM IN 218-W-5 TRENCH 31

Date	Turnover, Problem Description, Action Taken	Feed-Back (X)	Name	Craft/ Resource Type	Hours
11/28/07	Conducted TBT - JOB,			04(2)	2
	Completed ALL Housekeeping,			13(1)	1
	AND ALL EQUIPMENT HAS			14(1)	1
	been Removed. Work			B5(1)	1
	Package is Complete.				

ENHANCED PRE-WO[illegible] WALK DOWN AND POST PERF[illegible]ANCE CHECKLIST

Walk Down Date: 11/26/07	Area/Building Work To Be Performed: T31 218-W-5
Person In Charge (Please print): Paul Rixon	Procedure/WP/MWT No.: 2x-07-04470/w
Task Title: REPOSITION SLIP FORM IN 218-W-5 TRENCH 31	

A. Documentation Readiness (Paper)	Sat	Unsat*	N/A
1. Hazard Analysis is appropriate and correct for current conditions.	✓		
2. Radiological Work Requirements are implemented and clear.	✓		
3. Hold points are clearly delineated.			✓
4. Permits are approved and expiration dates allow enough time for work to be performed.	✓		
5. Procedure/work instruction written to address current facility/equipment conditions.	✓		
6. Procedure/work instruction can be performed as written.	✓		
7. Task Demands Error Precursor issues have been addressed.	✓		

B. Field Readiness (Parts)	Sat	Unsat*	N/A
1. Configuration of equipment and systems meet PREREQUISITE requirements.	✓		
2. Chemical Hazards are mitigated.	✓		
3. Required material is approved and staged ready.	✓		
4. Area is house kept/Equipment travel paths are free of hazards.	✓		
5. Primary and alternate means of egress have been identified and are free of obstructions.	✓		
6. Lighting (including emergency lighting) is in place and adequate.			✓
7. Signs/Postings (Radiological, Noise, etc.) are appropriate and legible.	✓		
8. Electrical Hazards are mitigated / inspect electrical cords and GFCI used for task.	✓		
9. Pre-use inspections documented/equipment ready to use (Forklift, Scaffolding, Ladders, etc.).	✓		
10. Weather Conditions allow work to be performed.	✓		
11. Overhead lines/obstructions do not prevent performance of work.			✓
12. Work Environment Error Precursor issues have been addressed.	✓		

C. Resource Readiness (People)	Sat	Unsat*	N/A
1. Personnel are trained and ready to work (reference Individual Capabilities and Human Nature Error Precursors).	✓		
2. First responders/First Aid Providers have been identified.	✓		
3. "What-if" reviews/scenarios and resulting actions have been discussed.	✓		

*All UNSAT items noted in Sections A, B, &C must be resolved/corrected prior to start of work. Document disposition actions: (use back of form if additional space is needed)

D. Post Completion Review

Person In Charge (Please print): DON PYZEL **Date:** 4/17/07

	Yes**	No
1. Work was a first time performance or an upset occurred during performance.		✓
2. RWP or AMW requires performance of Post Job Review (PJR).		✓
3. Work exceeded radiological criteria established (void limits) to trigger a formal PJR.		✓
4. An employee incurred an injury during performance of the work.		✓
5. Procedure/work instruction issues identified.		✓
6. Procedure/work instruction required changes.		✓
7. STOP WORK was implemented or a work team member requested a PJR.		✓
8. Repeat failures or Significant lessons learned exist.		✓
9. Material issues (lack of, wrong kind, QA issues).		✓
10. Technical data problems/Support equipment issues.		✓
11. Training issues were encountered.		✓
12. Work went as planned but exceeded estimates.		✓
13. Error Precursors (Task Demands, Work Environment, Individual Capabilities, Human Nature) occurred or had the potential to occur.		✓

Filled on to close package to the best of my knowledge DON PYZEL 4/17/07

**If a YES response in section D, further action is required. A formal documented, PJR may be required (refer to HNF-GD-14047). If a formal PJR is not required, capture feedback below: (use back of form if additional space is needed)

Feedback/Post Job Review results entered into the AJHA Activity Level Feedback Database:

Initials: DP Date: 4/19/07

NOTE: *If appropriate, consider issuing Lessons Learned as outlined in HNF-PRO-067.*

N/A ecn 4/14/08

AJHA ID: HSO-931 Rev - 0	AJHA R RT	Status: **Standing AJHA**	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L		Work Package No:	Work Location:	

Work Scope/Description: Routine Hoisting & Rigging
Routine Hoisting & Rigging

Pre-Job Walkthrough Conducted: ☐ Yes ☑ No WalkThrough Date:

Specific Work Location(s): Trench 31, SWSD, 200W

Emergency Contact Person(s):	Primary	Secondary
Emergency Radio/Phone No: 911 / 373-3800	Holloman, Stanley M	Brewer, Craig E

KNOWN OR POTENTIAL HAZARDS

	Yes	No		Yes	No		Yes	No
Scaffolding	☐	☑	Manual Lifting/20 lbs or Greater	☑	☐	Structure Modification, Construction, Addition	☐	☑
Excavation Work	☐	☑	Confined Space Entry	☐	☑	Structures will be dismanletd, demolished, and/or removed.	☐	☑
Elevating Work Platform Involved	☑	☐	Painting, Finishing, Preparing Painted Surfaces	☐	☑	NEPA Screening Required	☑	☐
Portable Ladder Used	☑	☐	Lead/Lead Containing Material Involved	☐	☑	Radiological material, area, or hazard involved.	☑	☐
Hoisting, Rigging, and/or Crane Activity	☑	☐	Tanks, Lines, Vessels Opened or Breached	☐	☑	Work influences air flow	☐	☑
Forklift Trucks Used	☑	☐	Chemicals/chemical products.	☑	☐	Radioactive or Toxic Air Emissions Potentially Generated	☐	☑
Heavy Equipment Operation?	☑	☐	Noise Sources are Present	☑	☐	Effluent Control or Monitoring Devices Involved in Activity	☐	☑
Falls from elevation.	☑	☐	Asbestos Containing Materials Involved	☐	☑	Liquid or Solid Discharged to Ground or Liquid Effluent Stream	☐	☑
Hazards form falling objects.	☑	☐	Airborne Dusts/Particulates Generated in Work Area	☑	☐	Activity Will Result in a Change to an Existing Effluent	☐	☑
Blind Penetration of Walls, Floors, Ceilings, Roofs, Other Surfaces	☐	☑	Work with beryllium materials or in a beryllium contaminated area.	☑	☐	Waste Generated.	☐	☑
Hazardous Energy Sources (Lockout/Tagout)	☑	☐	Thermal stress (heat or cold stress/hypothermia)	☑	☐	Involves Safety Class/Significant, Def-in-Depth, or Worker Safety SSCs.	☐	☑
Electrical Shock or Arc Flash Hazards?.	☑	☐	Hazardous Waste Activity (Does Not Include Hazardous Waste Generation)	☐	☑	Involves and Affects controls in facility DSA.	☐	☑
New electrical installation, modifications, or temporary wiring.	☐	☑	Hot Work: Welding, Cutting, Grinding, Brazing	☐	☑	Activity is outside the facility DSA.	☐	☑
Gas Cylinders (Bottles) Used or Affected by Work	☑	☐	Roads/Intersections will be Closed or Detours Established	☐	☑	Work Involves >15g Fissionable Material	☐	☑
Roof Work/Access Required	☐	☑	Fire Hydrants.	☐	☑	Work Affects Environment Where >15g Fissionable Material are Present	☐	☑
Exposed or Rotating/Moving Machinery (e.g., Pinch, Nip Points)	☑	☐	Portable Heating Equipment (Potential Fire, Burn, Exposure)	☐	☑	PPE is Specified for the General Activity (see Controls Section)	☑	☐
Medical Emergency Provisions are Required	☐	☑	Special Fire Suppression System (e.g., Halon, Dry Chem, C02)	☐	☑	Other Hazards Exist (See Controls Section of Report or Other Info)	☑	☐
Powered Hand Held Tools Used	☐	☑						

AJHA ID: HSO-931 Rev - 0	AJHA R RT	Status: **Standing AJHA**	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L	Work Package No:	Work Location:		

Description: Routine Hoisting & Rigging

Comments: This AJHA must be worked in conjunction with job specific AJHA(s) or job hazard analysis fromo thers. This AJHA covers the particular hazards associated with the work task; it does not cover specific hazards associated with facilities, projects or general work locations. This requirement must be discussed in the pre-job meeting prior to any work.

INVOLVEMENT:

SME	Name	Title/Text
CMS Coordinator	MARTINEZ, SAUL G - 12/12/2005	Environmetal
Two-Day NEPA Trained	MARTINEZ, SAUL G - 12/12/2005	Environmetal
	Best, Keith M 12/11/2005	C&R Supervisor-see roster for participating craft
	Holloman, Stanley M 12/11/2005	C&R Manager
Industrial Hygiene	Lilly, Allen W - 12/12/2005	
Industrial Safety	Silvey, Richard D - 12/12/2005	
Radcon Screener	Schieffer, Rick - 12/12/05	
Operations	BREWER, CRAIG E by LOEHDING, DEBORAH L 12/12/2005	

REQUIRED FORMS AND PERMITS

Form/Permit	Revision	Permit ID	Complete
Radiological Risk Screening Form	0		Yes
NEPA CX, SWCX, EIS, EA Form	0	AJHA HSO-931	Yes
AJHA Comments/Instructions Form	0	01	Yes
AJHA Comments/Instructions Form	0	02	Yes

SPECIFIC HAZARD ANALYSIS AND SAFE WORK REQUIREMENTS:

A detailed discussion of the unique hazards specific to the work activity/location, including those noted above, will be provided on subsequent pages of this AJHA. The discussion must include identification of the work activity, the specific hazards present, and the safe work requirements/controls (including PPE) to be used to allieviate/control the hazard(s).

MAIN TASK (General):

IDENTIFIED HAZARD	CONTROLS	ADDITIONAL TEXT
Elevating Work Platform Involved Manually Propelled, and/or Self Propelled Platform(s) Involved. A "boom-supported" lift is used?	Verify the correct work platform type and related controls have been specified. Perform visual inspection and test operation of platform daily Survey work area to identify and control any worksite hazards immediately prior to starting work. Select platform that is current with periodic maintenance, inspection, and testing. Wear personal fall protection with lanyard attached to an approved anchorage point. Engage vehicle parking brake for elevation of boom Assign trained equipment operator(s) for platform Provide approved means of access to ascend/descend platform Know maximum load capacity and weight distribution restrictions of platform	Reference AJHA HSO-886 Aerial Lift Operations

	Locate overhead electric power and communication lines - contact Electrical Utilities to establish adequate clearance.	
	Control employee exposure to moving parts of platform in tight quarters	
	Fall protection	When working at or above 6 feet, fall protection shall be used unless it creates an additional safety hazard to the employees.
Portable Ladder Used	Select ladder of proper style, size, capacity (duty rating), and composition	
Step ladder used.	Select ladder that is current within its annual inspection (periodic inspection)	
Straight ladder used.	Verify worker training in ladder inspection & use (Refer to the Training Selection Tool)	
Extension ladder used.	User is assigned to inspect the ladder, before use (pre-use inspection)	
Rolling ladder used.	Physical and medical condition of assigned ladder Users is adequate	
	Verify adequacy of supporting foundation for ladder set-up	
	Position ladder (set-up) to prevent leaning or over-reaching (in relation to work zone)	
	Wear adequate footwear to prevent slipping and maintain balance/stability	
	Maintain area around base of ladder maintained clear (housekeeping)	
	Store ladder to prevent damage, upon completion of use	
	Instruct user on three-Point contact rule	
	Verify that spreaders are firmly locked/fully engaged as 'open'	
	Minimum 3-foot ladder extension above intended landing area where ladder is used for 'ACCESS' only	
	Maintain area around top of ladder clear housekeeping – where ladder is used for 'ACCESS' only	
	Set up at 4-to-1 angle	
	Proper use rope and pulley system to raise and lower fly section	
	Upper section overlaps bottom section in accordance with manufacturer specs.	
	Casters/Brakes verified as fully locked before use	
	Use Fall Protection for exposures of 6 feet or greater (fall arrest, fall restraint)	
	Identify sufficient anchorage point for application of fall arrest/fall restraint	
	Complete Fall Protection Permit For Portable Ladders (Site Form A-6003-949), where use of fall protection is not feasible	
	Protect against mud, grease, oil exposure in work area	
	Assign Attendant/Helper to stabilize ladder at the base during use.	
	Establish steps to prevent handling of heavy or awkward material loads from the working position on the ladder	

	When used to provide access, securely tie-off at top, and stabilize at base	
	Use two workers to position and take down ladder	
	Carry the ladder in a balanced and closed position	
Hoisting, Rigging, and/or Crane Activity	Assign a Designated Leader	
Mobile Crane	Assign a qualified hoist operator	
	Use a qualified crane operator	
Overhead Gantry Crane	Assign a qualified rigger for load handling	
Material Hoists/Monorail Crane	Assign a qualified person to operate any "below-the-hook" lifting device	
Critical Lift	Use a qualified signal person for communications	
Rigging with lifting eyes or swivel hoist rings?	Assign a qualified rigger for load handling	
	Develop a step-by-step Plan or work instructions	
	Conduct formal pre-lift meeting to safely prepare for critical lift	
	Complete required inspections and maintenance of crane	
	Ensure up to date inspection and maintenance of rigging/hoisting equipment	
	Complete required inspection and maintenance of equipment	
	Designate a competent "person-in-charge" for the critical lift	
	Develop step by step procedure for the critical lift	
	Conduct a formal Pre-Lift Meeting	
	Ensure equipment inspections are current	
	Verify lifting eyes and/or swivel hoist rings will be used within manufacturer's temperature specifications.	
	Contact Electrical Utilities for work within fully extended boom length of electrical power lines	Review DOE-RL-92-36 Chapter 14 "Mobile Cranes" for info regarding operating cranes near energized transmitters or electrical power lines. Do not operate crane within 10 ft. of overhead electrical lines, inform the DL.
	Follow manufacturer instructions for boom assembly or dismantling	
	Traffic Control	
	Maintain minimum 10 feet clearance for work near electrical power lines	
	Correct lifting techniques during material handling	
	Dust Control	
	Fall Protection	
	Leather gloves or equivalent material.	For access/egress and during inspections
	Safety glasses with side shields: Clear lens or tinted lens when pre-approved by SNF safety.	Dark shaded lenses shall not be worn inside, except for welding.
	Substantial footwear (completely enclosed leather or equivalent material); No canvas or cloth shoes, no high heels, no thin-soled shoes.	
	Hearing protection	Consult sound level survey table for required perimeters during increased RPMs
	Hand protection	Leather gloves are normally the minimal protection for hand protection

	Foot protection	
	Eye protection	
	Hard Hats required	
Forklift Trucks Used	Assign an operator qualified for the Class of forklift truck selected	Reference AJHA HSO-883 Forklift Truck Operations
	Forklift truck of proper Class and sufficient capacity selected for the scope of work to be performed	
	Forklift truck pre-use and periodic inspections to be validated as current (up-to-date).	
	Forklift truck maintenance to be validated as current (up-to-date)	
	Total weight of the load(s) to be determined and communicated to the work team	
	Worksite survey to be completed to plan travel route(s) and identify changes in elevation, slopes, ground conditions, obstacles, blind corners	
Heavy Equipment Operation? Overhead and other Obstructions. Work near possible flying debris.	Qualified operator selected	
	Pre-use/Pre-start inspection (Controls/Maintenance current, no loose items in cab etc).	
	Proper body mechanics established for cab entry/exit	
	Communications established (e.g., hand/radio signals)	
	Establish safe shut-down and parking techniques	
	Determine work clearances (overhead, adjacent or underground to include corridor to and from work location)	
	Review work and adjacent areas for hazards	
	Review routes the equipment will travel for hazards	
	Spotter/Flagger person assigned	
	Hanford Oversized/Overweight Permit completed (A-6003-609)	
	Control of exhaust fumes/ Well-ventilated area	
	Control Traffic Flow	
	Restrict access of co-located workers or visitors/by-standers to work zone.	
	Use of warning signs or barricades	
	Pinch points identified	
	Loading maintained within capacity limits	
	Establish ground integrity controls	
Falls from elevation.	Training for workers who will be exposed to a potential fall of greater than six feet, when working within six horizontal feet of the hazard	
	Other fall protection controls	Job or task-specific fall protection plan
Hazards form falling objects.	Identify specific hazard in "Controls by Task", and select/identify additional controls.	Crane parts, parts of load, rigging, tools
	Restrict access to area beneath work	
	Foot protection - Safety-toe shoe/boot (ANSI Z41)	
	Eye Protection - Safety glasses with side-shields (meeting ANSI Z87.1)	

	Head protection - ANSI Z89, Class C, Provides no voltage protection (Specify Type 1 or Type 2)	
Hazardous Energy Sources (Lockout/Tagout)	Assign workers who are currently trained in "Lockout/Tagout"	
	Plan for completion of "safe condition" check to ensure isolation of energy source	
	Identify the energy source(s), list in the "Controls by Task" screen.	Cable reels, brakes, hydraulics, mechanical
	Identify energy isolation point(s), list in the "Controls by Task" screen.	Per manufacturer recommendation
	Use approved Isolation Procedure to identify means/method/equipment to isolate the energy source	
	Establish energy isolation control means/methods	
	Notify affected workers prior to initiating work activity	Equipment tagout for maintenance purposes (specific to shop repairs or operational instructions)
	Notify affected workers following work activity completion	
	Perform a safe-to-work check (Authorized Workers)	
Electrical Shock or Arc Flash Hazards?.	Use the AJHA "comments" section to record justification why circuits can not by deenergized except when the work is limited to voltage and current measurements.	
	Work inside the Limited Approach Boundary requires justification, but it does not require written authorization from facility management.	
	Verify field conditions match work instructions	
	Conduct pre-job briefing	
	Use the "Controls by Task" screen to specify if any other safe work practices as described in NFPA 70E that apply to this job.	
	Assigned workers are qualified for the task	
	Assigned workers' electrical safety training is current	
	Perform Shock Hazard Analysis and Flash Hazard Analysis (or use 70E tables) to establish protective clothing and PPE requirements	
	Safety glasses	
	Perform Shock Hazard Analysis	
	Notify Electrical Utilities if work is near or may affect EU equipment	
Gas Cylinders (Bottles) Used or Affected by Work	Assign users/handlers who are trained in compressed gas safety	
	Ensure pressure relief valves in place	
	Isolate from vehicular traffic	
	Transport in secure manner	
	Secure and store compatably	
	Store/transport with caps in place	
	Secure bottles	
Exposed or Rotating/Moving Machinery (e.g., Pinch, Nip Points)	Ensure manufacturer installed or recommended guards are in place and operational at pinch and nip points	

	Control loose clothing, gloves, jewelry, long hair	
	Specify any required personal protective equipment in consideration of hazards from equipment moving parts	
Manual Lifting/20 lbs or Greater	For weights exceeding 50 pounds, use engineering controls (e.g., mechanical lifting aids), or work practice controls (e.g., assigning two or more workers to the task)	
	Workers adequately trained in proper lifting techniques for the task	
	Layout of work area supports access, egress, and body positioning	
	Avoid repetitive handling by the same worker(s)	
	Minimize travel distance for carrying object(s)	
	For weights between 20 and 50 pounds, use work practice controls (e.g., assign two or more workers to the task)	Workers should ask for assistance or use mechanical aides when lifting heavy or awkward materials
	Select the workers believed to be of low risk for specific task at hand	
	"Warm-up" for physically demanding tasks	
Chemicals/chemical products. Chemicals/Products will be Opened and Used	Identify significant chemicals/products and the related MSDS number (List in Controls by Task)	
	Brief description of chemical use/activity (Describe in Controls by Task)	
	Keep MSDS, manufacturer's instructions for use, and/or chemical inventory on hand	
	Discuss the emergency provisions identified in the MSDS prior to starting the work.	
Noise Sources are Present Exposure Potential to Noise = or > 85dBA The workers response is affected which could prolong exposure or prevent taking the correct actions in an appropriate time frame.	Hearing conservation program enrollment, including training and medical monitoring	
	Ensure workers' EJTA/PEH reflects noise exposure	
	Establish appropriate compensatory measures to provide alternate notification that meets the requirements for the affected signal.	
	Noise level surveys	Contact IH for evaluation of new equipment, re-evaluation when equipment conditions changes, or new equipment is added.
	Hearing protection	Wear hearing protection in posted areas and areas where noise exceeds 85 dBA. As necessary, consult sound level survey table for perimeters during increased RPMs and/or contact Industrial Hygiene for assistance.
Airborne Dusts/Particulates Generated in Work Area	Industrial Hygiene review and determination of additional contols/PPE is required.	
	Evaluate and record the dust composition in the "Contorls by Task" screen	Routine nuisance dust
	Eye protection	During dusty conditions, employees should wear safety goggles (in addition to safety glasses)
Work with beryllium materials or in a beryllium contaminated area. Equipment with potential beryllium contamination is being transferred or released.	Industrial Hygene review required	This AJHA does not address work in a beryllium-contaminated area. Only beryllium assigned workers may work in known or suspected beryllium areas. Persons sensitive to beryllium shall be restricted from entering areas where beryllium is known or suspected

	Contact Beryllium Interpretatvie Authority regarding equipment transfer or release.	
	IH to perform Beryllium Exposure Assessment.	
	Perform work using beryllium assigned workers (course # 004100)	
Thermal stress (heat or cold stress/hypothermia)	Industrial Hygiene Review Required	
Greenhouse Work Creates Greater Heat Stress Potential	Train workers/supervisors in heat stress, cold stress/hypothermia recognition, prevention, and control	
Radiant Heat Sources Present	Obtain general (weather station) WBGT readings	
Cold stress/hypothermia.	Obtain worksite WBGT readings	
	Provide water/fluids	
	Provide adjacent thermal recovery (cool down/warm up) area	
	Establish work/rest regimens	PPE may increase heat stress potential - adjust work/rest regimens accordingly.
	Buddy system	
	Ventilation for greenhouses/containments	
	Modify work hours	
	Cooling devices	Voluntary use
NEPA Screening Required	NEPA CX, SWCX, EIS, EA Form	
Work is Covered by a SWCX, CX, EIS, SA, or EA (NEPA Screening Not Required)		
Radiological material, area, or hazard involved.	Radiological Risk Screening Required	Comply with facility-specific requirements. If an RWP is required by Project RadCon organization, other hazards may exist that require analysis.
Low risk Rad activity.	Rad worker 1 training	Required when operating a Radiologically Controlled Vehicle (RCV). RCVs shall be operated in accordance with HNF-PRO-330 "Radiologically Controlled Vehicles".
	The attached radiological risk screening form is void if work is to be performed in a posted CS&I radiological area.	
	No RWP required for general movement of radiologically controlled cranes.	
	Project specific RWPs will be followed if required.	
	RCVs must be used within a Radiologically Controlled Area unless approved by the Radiological Control organization.	
PPE is Specified for the General Activity (see Controls Section)	Identify and discuss the use of specific personal protective equipment.	
	Eye/Face Protection - Safety glasses with side-shields (meeting ANSI Z87.1)	
	Head Protection - ANSI Z89, Class C, provides no voltage protection (Specify Type 1 or Type 2)	
	Foot Protection - Safety-toe shoe/boot (ANSI Z41)	
	Hand Protection - Leather work glove	Additional gloves may be required for the hazard or material being handled
	Hearing Protection - Other (specify in controls by task)	Foam plugs or fitted as required for noise level

AJHA ID: HSO-931 Rev - 0	AJHA R RT	Status: **Standing AJHA**	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L		Work Package No:	Work Location:	

	Protective Clothing - Other (specify in controls by task)	Long pants and shirt with minimum of 4 inch sleeve
Other Hazards Exist (See Controls Section of Report or Other Info)	Be alert to possible animals/snakes/insects	
Rodent Contaminated Areas?	Identify the adjacent work and potential impact in the controls-by-task screen.	Notify collocated workers/facility of planned activities prior to commencement of work.
Sharp objects, cut or puncture hazard.	Communicate "Other" hazards and control measures prior to commencing work	See AJHA Comments/Instructions Form(s).
Potential animal, snake, or insect bites.	Worker slip/trip hazard awareness briefing	Be aware of weather conditions such as snow, ice, and wet conditions. Be alert for uneven walking/working surfaces.
Poor lighting conditions exist?	Rodent Contamination, Industrial Hygiene review required (Enter/select addtional controls as needed).	
Severe weather conditions potentially exist.	Ergonomic Hazard, Industrial Safety review required (Enter/select additional controls as needed).	
Ergonomic hazards exist.		
Awkward posture.	List specific cut or puncture hazards with appropriate control measures at the controls by task screen.	Grating for steps, sheetmetal edges, protruding objects
Adjacent Activities.		
Slip/Trip Hazards Exist	Contact Electrical System Dispatcher	As described in DOE-RL-92-36 Chapter 14 Operating Cranes Near Energized Transmitters or Electrical Power Lines.

AJHA Comments/Instructions Form

AJHA ID: HSO-931	Form Number: 01	Revision: 0

Job Description
Routine Hoisting and Rigging

Work Title	Work Location	Work Number
ROUTINE HOISTING AND RIGGIN	ALL AREAS	

Comments:

ASSEMBLY OF LATTICE BOOMS/ DISMANTLING:

Always follow the manufacture's operating instructions for lattice boom assembly and dismantling of boom sections: Never place any part of your body under the boom during assembly. It is good policy to block beneath each end of each section when assembling it. Never attempt to raise any boom being assembled until all boom insert connection pins are installed. Ensure that suspension ropes and pendants do not catch on the boom connection pins or cotter pins. Pendent spreader bars may be required on long boom assemblies. Check the manual. Intermediate (mid-point) suspension may be required as long booms can buckle in the middle from their own weight. Check the manual. Check wind velocity limits before lifting the boom off the ground. Once the boom is raised check that the boom hoisting limiting device (if provided) is working. It should disengage the boom hoist as the boom nears minimum radius.

WORKING UNDER A LOAD:

The operator should avoid carrying loads over people 1910.180(h)(3)(vi). General requirements: Working on or under a suspended load is prohibited, except when the load can be supported by blocking, securely braced or other means of substantial support, which would prevent the load from movement. Loads being lifted and set in place may require special handling control measures that may require riggers to position their hands or other body parts under the load when landing, setting, or controlling the load. When circumstances are determined that employees must position themselves under "suspended loads" the work activity shall stop and a meeting held with all the involved personnel to discuss alternate methods and if other means would provide load control and assure conditions are safe.

WORKING AT HEIGHTS ABOVE SIX FEET:

Procedure HNF-PRO-092 excludes the use of personal fall arrest systems when accessing tanker trucks and servicing large mobile equipment, but individuals must be aware of their surroundings and use care when walking, inspecting and climbing around this equipment. Prior to performing preventive maintenance all employees must be observant to the potential for fall exposure. Where provided, use the manufacturer's hand holds and foot supports when climbing up, on and off the equipment.

PINCH POINTS, CRUSHING:

Wear PPE, watch for pinch points that could catch hand, gloves, clothes, etc.. Between slings and load or rotating parts of equipment. Keep arms, hands and feet clear, never place any part of the body under the suspended load. Assure crane boom point is over the center of the load center of gravity. Consider fleet angle prior to hoisting load. Assign a flag person to assist crane operator and other support equipment into proper position.

USING WIRE ROPE, RUNNING LINES, SLINGS AND ACCESSORIES:
Complete daily pre-use equipment inspection prior to starting assignments. Wear leather gloves when working with wire rope slings, running lines or heavy rigging.

AJHA Comments/Instructions Form

AJHA ID: HSO-931	Form Number: 02	Revision: 0

Job Description
ROUTINE HOISTING AND RIGGING

Work Title	Work Location	Work Number
ROUTINE HOISTING AND RIGGIN	ALL AREAS	

Comments:

DELIVERY OF OR RELOCATION OF FIRE PROOF SAFES AND FILE CABINETS:
Use proper lifting techniques. Use at least two people. Use correct dolly. Check all clearances (door, desk, ramp, hallway, etc.). Find "best" routes before entering building with fire proof safes or file cabinets. Do not move safes with damage that exposes asbestos. Use person to guide dolly operator and warn other personnel.

HOISTING, RIGGING AND TRANSPORTING CONEX BOXES:
Use DL too determine existing conditions, follow DOE-RL-92-36, use fall protection when determined by the supervisor.

HANDLING BARRELS WITH MOBILE CRANES: Use proper techniques, get help, beware of work area; best method to use will be determined by the supervisor or D/L.

USING SHACKLES, SLINGS, RIGGING HARDWARE AND BELOW-THE-HOOK LIFTING DEVICES:
Assure all rigging tackle and lifting devices are properly inspected, certified and marked prior to use. Management shall assure all lifting devices have been properly designed and fabricated prior to use. Any devices found out of compliance shall be tagged out of service, until properly dispositioned. Slings uncertified or with inadequate or missing tags shall be returned and placed in appropriate containers.

WORK AROUND WATER BASINS AND FILTRATION RESERVOIRS:
Observe posted warning signs and stay within area protected by guardrail. If work must be done beyond area protected by guardrail, work should stop and a specific fall protection plan will be developed.

POOR LIGHTING:
Temporary lighting may be required, use caution.

AJHA ID: HSO-930 Rev - 0	AJHA REPORT	Status: **Standing AJHA**	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L	Work Package No:	Work Location:		

Work Scope/Description: Operation of Mobile Cranes
Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Pre-Job Walkthrough Conducted: ☐ Yes ☑ No WalkThrough Date:

Specific Work Location(s): Trench 31, SWSD, 200W

Emergency Contact Person(s):	Primary	Secondary
Emergency Radio/Phone No: 911 / 373-3800	Holloman, Stanley M	Brewer, Craig E

KNOWN OR POTENTIAL HAZARDS

	Yes	No		Yes	No		Yes	No
Scaffolding	☐	☑	Manual Lifting/20 lbs or Greater	☑	☐	Structure Modification, Construction, Addition	☐	☑
Excavation Work	☐	☑	Confined Space Entry	☐	☑	Structures will be dismanletd, demolished, and/or removed.	☐	☑
Elevating Work Platform Involved	☐	☑	Painting, Finishing, Preparing Painted Surfaces	☐	☑	NEPA Screening Required	☑	☐
Portable Ladder Used	☑	☐	Lead/Lead Containing Material Involved	☑	☐	Radiological material, area, or hazard involved.	☑	☐
Hoisting, Rigging, and/or Crane Activity	☑	☐	Tanks, Lines, Vessels Opened or Breached	☐	☑	Work influences air flow	☐	☑
Forklift Trucks Used	☐	☑	Chemicals/chemical products.	☑	☐	Radioactive or Toxic Air Emissions Potentially Generated	☐	☑
Heavy Equipment Operation?	☐	☑	Noise Sources are Present	☑	☐	Effluent Control or Monitoring Devices Involved in Activity	☐	☑
Falls from elevation.	☑	☐	Asbestos Containing Materials Involved	☑	☐	Liquid or Solid Discharged to Ground or Liquid Effluent Stream	☐	☑
Hazards form falling objects.	☑	☐	Airborne Dusts/Particulates Generated in Work Area	☑	☐	Activity Will Result in a Change to an Existing Effluent	☐	☑
Blind Penetration of Walls, Floors, Ceilings, Roofs, Other Surfaces	☐	☑	Work with beryllium materials or in a beryllium contaminated area.	☑	☐	Waste Generated.	☐	☑
Hazardous Energy Sources (Lockout/Tagout)	☑	☐	Thermal stress (heat or cold stress/hypothermia)	☑	☐	Involves Safety Class/Significant, Def-in-Depth, or Worker Safety SSCs.	☐	☑
Electrical Shock or Arc Flash Hazards?.	☐	☑	Hazardous Waste Activity (Does Not Include Hazardous Waste Generation)	☐	☑	Involves and Affects controls in facility DSA.	☐	☑
New electrical installation, modifications, or temporary wiring.	☐	☑	Hot Work: Welding, Cutting, Grinding, Brazing	☐	☑	Activity is outside the facility DSA.	☐	☑
Gas Cylinders (Bottles) Used or Affected by Work	☑	☐	Roads/Intersections will be Closed or Detours Established	☐	☑	Work Involves >15g Fissionable Material	☐	☑
Roof Work/Access Required	☐	☑	Fire Hydrants.	☐	☑	Work Affects Environment Where >15g Fissionable Material are Present	☐	☑
Exposed or Rotating/Moving Machinery (e.g., Pinch, Nip Points)	☑	☐	Portable Heating Equipment (Potential Fire, Burn, Exposure)	☐	☑	PPE is Specified for the General Activity (see Controls Section)	☑	☐
Medical Emergency Provisions are Required	☐	☑	Special Fire Suppression System (e.g., Halon, Dry Chem, C02)	☐	☑	Other Hazards Exist (See Controls Section of Report or Other Info)	☑	☐
Powered Hand Held Tools Used	☐	☑						

AJHA ID: HSO-930 Rev - 0	AJHA RE RT	Status: Standing AJHA	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L	Work Package No:	Work Location:		

Description: Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Comments: This AJHA must be worked in conjunction with job specific AJHA(s) or job hazard analysis from others. This AJHA covers the particular hazards associated with the work task; it does not cover specific hazards associated with facilities, projects or general work locations. This requirement must be discussed in the pre-job meeting prior to any work.

INVOLVEMENT:

SME	Name	Title/Text
	BROWN, DENNIS RAY 12/9/2005	Crane Operator
	Flowers, Kenneth L 12/9/2005	Crane Operator
	Hand, Dwight W 12/9/2005	Crane Operator
	Lanouette, Lowell K Jr 12/9/2005	Crane Operator
	STILLINGS, GERALD WILLIAM 12/9/2005	Crane Operator
	Adams, Dawn E 12/9/2005	CS&I Director
	Caudill, Joe G 12/9/2005	Transportation Services Manager
	Best, Keith M 12/9/2005	C&R Supervisor
	Gillispie, Rex E 12/9/2005	C&R Supervisor
	Holloman, Stanley M 12/11/2005	C&R Manager
Industrial Safety	Silvey, Richard D - 12/12/2005	
Industrial Hygiene	Lilly, Allen W - 12/12/2005	
Radcon Screener	Schieffer, Rick - 12/12/05	
CMS Coordinator	MARTINEZ, SAUL G - 12/12/2005	Environmetal
Facility Waste Coordinator	MARTINEZ, SAUL G - 12/12/2005	Environmetal
Operations	BREWER, CRAIG E by LOEHDING, DEBORAH L 12/12/2005	
Two-Day NEPA Trained	MARTINEZ, SAUL G - 12/12/2005	Environmetal
Asbestos Competent Person	DONAHOE, PERRY D - 12/12/2005	

REQUIRED FORMS AND PERMITS

Form/Permit	Revision	Permit ID	Complete
Radiological Risk Screening Form	0		Yes
Radiological Risk Screening Form	0		Yes
NEPA CX, SWCX, EIS, EA Form	0	AJHA HSO-930	Yes
AJHA Comments/Instructions Form	0	01	Yes
AJHA Comments/Instructions Form	0	02	Yes
AJHA Comments/Instructions Form	0	03	Yes
AJHA Comments/Instructions Form	0	04	Yes

SPECIFIC HAZARD ANALYSIS AND SAFE WORK REQUIREMENTS:

A detailed discussion of the unique hazards specific to the work activity/location, including those noted above, will be provided on subsequent pages of this AJHA. The discussion must include identification of the work activity, the specific hazards present, and the safe work requirements/controls (including PPE) to be used to allieviate/control the hazard(s).

MAIN TASK (General):

IDENTIFIED HAZARD	CONTROLS	ADDITIONAL TEXT
Portable Ladder Used	Select ladder of proper style, size, capacity (duty rating), and composition	
Step ladder used.	Select ladder that is current within its annual inspection (periodic inspection)	
Straight ladder used.	Verify worker training in ladder inspection & use (Refer to the Training Selection Tool)	
Extension ladder used.	User is assigned to inspect the ladder, before use (pre-use inspection)	
Rolling ladder used.	Physical and medical condition of assigned ladder Users is adequate	
	Verify adequacy of supporting foundation for ladder set-up	
	Position ladder (set-up) to prevent leaning or over-reaching (in relation to work zone)	
	Wear adequate footwear to prevent slipping and maintain balance/stability	
	Maintain area around base of ladder maintained clear (housekeeping)	
	Store ladder to prevent damage, upon completion of use	
	Instruct user on three-Point contact rule	
	Verify that spreaders are firmly locked/fully engaged as 'open'	
	Minimum 3-foot ladder extension above intended landing area where ladder is used for 'ACCESS' only	
	Maintain area around top of ladder clear housekeeping – where ladder is used for 'ACCESS' only	
	Set up at 4-to-1 angle	
	Proper use rope and pulley system to raise and lower fly section	
	Upper section overlaps bottom section in accordance with manufacturer specs.	
	Casters/Brakes verified as fully locked before use	
	Use Fall Protection for exposures of 6 feet or greater (fall arrest, fall restraint)	
	Identify sufficient anchorage point for application of fall arrest/fall restraint	
	Complete Fall Protection Permit For Portable Ladders (Site Form A-6003-949), where use of fall protection is not feasible	
	Protect against mud, grease, oil exposure in work area	
	Assign Attendant/Helper to stabilize ladder at the base during use.	
	When used to provide access, securely tie-off at top, and stabilize at base	
	Use two workers to position and take down ladder	
	Carry the ladder in a balanced and closed position	
Hoisting, Rigging, and/or Crane Activity	Assign a Designated Leader	
Mobile Crane	Use a qualified crane operator	
	Assign a qualified rigger for load handling	

	Assign a qualified person to operate any "below-the-hook" lifting device	
	Use a qualified signal person for communications	Assign a qualified signalperson when working within a boom's length of the crane from energized power sources.
	Complete required inspections and maintenance of crane	
	Ensure up to date inspection and maintenance of rigging/hoisting equipment	
	Contact Electrical Utilities for work within fully extended boom length of electrical power lines	Review DOE-RL-92-36 Chapter 14 "Mobile Cranes" for info regarding operating cranes near energized transmitters or electrical power lines. Do not operate crane within 10 ft. of overhead electrical lines, inform the DL.
	Develop written workplan for personnel lifting, to include prevention of two-blocking	
	Aviation safety requirements for extended boom work (200 ft above ground level) within 3.5 mi of an airport (e.g., Richland)	
	Follow manufacturer instructions for boom assembly or dismantling	
	Traffic Control	
	Maintain minimum 10 feet clearance for work near electrical power lines	
	Correct lifting techniques during material handling	
	Dust Control	
	Fall Protection	
	Leather gloves or equivalent material.	For access/egress from cranes and during inspections; not required during operation of crane
	Safety glasses with side shields: Clear lens or tinted lens when pre-approved by SNF safety.	Not required in cab of crane
	Substantial footwear (completely enclosed leather or equivalent material); No canvas or cloth shoes, no high heels, no thin-soled shoes.	
	Hearing protection	When the crane is operating, ear plugs or muffs will be worn within 25 feet of the crane.
	Hand protection	
	Foot protection	
	Eye protection	
	Hard Hats required	Not required in cab of crane
Falls from elevation.	Training for workers who will be exposed to a potential fall of greater than six feet, when working within six horizontal feet of the hazard	
	Other fall protection controls	When feasible use fall protection when working above 6 feet
Hazards form falling objects.	Identify specific hazard in "Controls by Task", and select/identify additional controls.	Crane parts, load devices, rigging
	Foot protection - Safety-toe shoe/boot (ANSI Z41)	
	Eye Protection - Safety glasses with side-shields (meeting ANSI Z87.1)	
	Head protection - ANSI Z89, Class C, Provides no voltage protection (Specify Type 1 or Type 2)	Hard hats shall be worn when working outside of the cab structure of the crane
Hazardous Energy Sources (Lockout/Tagout)	Identify and communicate any exposure to other hazards adjacent to, or in route to assessing,	

Isolation points located outside of the defined work area.	energy isolation point(s).	
	Assign workers who are currently trained in "Lockout/Tagout"	
	Plan for completion of "safe condition" check to ensure isolation of energy source	
	Identify the energy source(s), list in the "Controls by Task" screen.	Cable reel, brakes, hydraulics, mechanical
	Identify energy isolation point(s), list in the "Controls by Task" screen.	Per manufacturer recommendation
	Use approved Isolation Procedure to identify means/method/equipment to isolate the energy source	
	Establish energy isolation control means/methods	
	Notify affected workers prior to initiating work activity	Equipment tagout for maintenance purposes (specific to shop repairs or operational instructions)
	Notify affected workers following work activity completion	
	Perform a safe-to-work check (Authorized Workers)	
Gas Cylinders (Bottles) Used or Affected by Work	Assign users/handlers who are trained in compressed gas safety	
	Ensure pressure relief valves in place	
	Isolate from vehicular traffic	
	Transport in secure manner	
	Secure and store compatably	
	Store/transport with caps in place	
	Secure bottles	
Exposed or Rotating/Moving Machinery (e.g., Pinch, Nip Points)	Ensure manufacturer installed or recommended guards are in place and operational at pinch and nip points	
	Control loose clothing, gloves, jewelry, long hair	
Manual Lifting/20 lbs or Greater	For weights exceeding 50 pounds, use engineering controls (e.g., mechanical lifting aids), or work practice controls (e.g., assigning two or more workers to the task)	
	Workers adequately trained in proper lifting techniques for the task	
	Layout of work area supports access, egress, and body positioning	
	Avoid repetitive handling by the same worker(s)	
	Minimize travel distance for carrying object(s)	
	For weights between 20 and 50 pounds, use engineering controls (e.g., mechanical lifting aids)	
	For weights between 20 and 50 pounds, use work practice controls (e.g., assign two or more workers to the task)	
Lead/Lead Containing Material Involved	Lead containing materials contained in lubricant (follow Material Safety Data Sheet requirements)	
Chemicals/chemical products. Chemicals/Products will be Opened and Used	Obtain and review MSDS and manufacturer's instructions for use for gas/vapor potentially released	
	Identify gas/vapor potentially released	

Containerized Chemicals Present or Handled, But Not Opened	Identify significant chemicals/products and the related MSDS number (List in Controls by Task)	Specific list is maintained in Crane & Rigging office - refer to MSDS log
Gas/Vapor Could be Released to the Work Area	Brief description of chemical use/activity (Describe in Controls by Task)	General maintenance and operation of crane
	Keep MSDS, manufacturer's instructions for use, and/or chemical inventory on hand	
	Discuss the emergency provisions identified in the MSDS prior to starting the work.	
	Contingency actions based on field monitoring or potential release/odors	
	Personal protective equipment	Wear minimal PPE as required by the MSDS
Noise Sources are Present	Hearing conservation program enrollment, including training and medical monitoring	
Exposure Potential to Noise = or > 85dBA	Ensure workers' EJTA/PEH reflects noise exposure	
The workers response is affected which could prolong exposure or prevent taking the correct actions in an appropriate time frame.	Establish appropriate compensatory measures to provide alternate notification that meets the requirements for the affected signal.	
	Noise level surveys	Contact IH for evaluation of new equipment, re-evaluation if muffler added, or other situations that create changes to noise levels.
	Hearing protection	Provided for crane operators for noise levels above TWA; when the crane is operating, ear plugs or muffs will be worn within 25 feet of the crane; refer to crane noise chart or contact IH if in doubt.
Asbestos Containing Materials Involved	Applies to 518 Linkbelt friction crane only	
	IH will provide monitoring for operation of 518 Linkbelt	
Airborne Dusts/Particulates Generated in Work Area	Industrial Hygiene review and determination of additional contols/PPE is required.	
Particulates more hazardous than nuisance dust.	Evaluate and record the dust composition in the "Contorls by Task" screen	Silica (sand), vegetation, miscellaneous dust particles
	Eye protection	When dusty conditions exist, goggles should be worn, in addtion to safety glasses
Work with beryllium materials or in a beryllium contaminated area.	Industrial Hygene review required	
Equipment with potential beryllium contamination is being transferred or released.	Contact Beryllium Interpretatvie Authority regarding equipment transfer or release.	
	IH to perform Beryllium Exposure Assessment.	Evaluate potential for beryllium exposure from mobile crane parts
	Perform work using beryllium assigned workers (course # 004100)	
Thermal stress (heat or cold stress/hypothermia)	Industrial Hygiene Review Required	
Radiant Heat Sources Present	Train workers/supervisors in heat stress, cold stress/hypothermia recognition, prevention, and control	
Cold stress/hypothermia.	Obtain general (weather station) WBGT readings	
	Respiratory protective equipment, considering heat stress potential	
	Personal protective equipment, considering heat stress potential	
NEPA Screening Required	NEPA CX, SWCX, EIS, EA Form	
Work is Covered by a SWCX, CX, EIS, SA, or EA (NEPA Screening Not Required)		

AJHA ID: HSO-930 Rev - 0	AJHA R RT	Status: **Standing AJHA**	Expiration Date: 12/12/2007	Date: 12/12/05
Prepared By: LOEHDING, DEBORAH L		Work Package No:	Work Location:	

Radiological material, area, or hazard involved. Low risk Rad activity.	Radiological Risk Screening Required	Comply with facility-specific requirements. If an RWP is required by the Project RadCon organization, other hazards may exist that require analysis.
	Rad worker 1 training required for the operation of a radiologically controlled vehicle as per HNF-PRO-330.	Required when operating a Radiologically Controlled Vehicle (RCV). RCVs shall be operated in accordance with HNF-PRO-330 "Radiologically Controlled Vehicles".
	Radiologically controlled vehicles must be managed and controlled in accordance with HNF-PRO-330.	
	No RWP required for general movement of radiologically controlled crane.	
	Crane operators will follow project specific RWPs if required.	
	RCVs must be used within a Radiologically Controlled Area unless approved by the Radiological Control organization.	
PPE is Specified for the General Activity (see Controls Section)	Identify and discuss the use of specific personal protective equipment.	
	Eye/Face Protection - Safety glasses with side-shields (meeting ANSI Z87.1)	Not required when in crane cab
	Head Protection - ANSI Z89, Class C, provides no voltage protection (Specify Type 1 or Type 2)	Not required when in crane cab
	Foot Protection - Safety-toe shoe/boot (ANSI Z41)	
	Hand Protection - Leather work glove	Leather gloves or equivallent shall be worn when outside of the crane cab
	Protective Clothing - Other (specify in controls by task)	Long pants and shirts with a minimum of a 4 inch sleeve
Other Hazards Exist (See Controls Section of Report or Other Info)	Be alert to possible animals/snakes/insects	
Rodent Contaminated Areas?	Identify the adjacent work and potential impact in the controls-by-task screen.	Notify collocated workers/facility of planned activities prior to commencement of work.
Sharp objects, cut or puncture hazard.	Communicate "Other" hazards and control measures prior to commencing work	See AJHA Comments/Instructions Form(s)
Potential animal, snake, or insect bites.	Worker slip/trip hazard awareness briefing	Be aware of weather conditions such as snow, ice, and wet conditions. Be alert for uneven walking/working surfaces.
Poor lighting conditions exist?	Rodent Contamination, Industrial Hygiene review required (Enter/select addtional controls as needed).	
Severe weather conditions potentially exist.	Ergonomic Hazard, Industrial Safety review required (Enter/select additional controls as needed).	
Ergonomic hazards exist. Highly repetitive motion. Awkward posture.	List specific cut or puncture hazards with appropriate control measures at the controls by task screen.	Grating for steps, sheetmetal edges, protruding objects
Adjacent Activities.	Secure hoses, cords, lines, portable equipment	
Slip/Trip Hazards Exist	Material control before/during activity	
	Housekeeping before/during activity	Keep immediate work area clean
	Monitor weather forecast and conditions for warnings of severe weather	

AJHA Comments/Instructions Form

AJHA ID: HSO-930	Form Number: 01	Revision: 0

Job Description

Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Work Title	Work Location	Work Number
Operation of Mobile Cranes	ALL AREAS	

Comments:

PINCH POINTS, CRUSHING:
Always follow the manufacturer's operating instructions for lattice boom assembly and dismantling of boom sections: Never place any part of your body under the boom during assembly. It is good policy to block beneath each end of each section when assembling it. Never attempt to raise any boom being assembled until all boom insert connection pins are installed. Ensure that suspension ropes and pendants do not catch on the boom connection pins or cotter pins. Pendent spreader bars may be required on long boom assembles. Check the manual. Intermediate (mid-point) suspension may be require as long booms can buckle in the middle from their own weight. Check the manual. Check wind velocity limits before lifting the boom off the ground. Once the boom is raised check that the boom hoisting limiting device (if provide) is working. It should disengage the boom hoist as the boom nears minimum radius.

WORKING AT HEIGHTS ABOVE SIX FEET:
Personal fall arrest systems is excluded when accessing tanker trucks and servicing large mobile equipment, but individuals must be aware of their surrounds and use care when walking, inspecting and climbing around this equipment. Prior to performing preventative maintenance, all employees must be observant to the potential for fall exposure. Where provided, use the manufacturer's hand holds and foot supports when climbing, on and off the equipment.

AJHA Comments/Instructions Form

AJHA ID: HSO-930	Form Number: 02	Revision: 0

Job Description

Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Work Title	Work Location	Work Number
Operation of Mobile Cranes	All Areas	

Comments:

Ensure Hanford Site Oversize/Overweight Permit (A-6003-609) is obtained from Transportation Services for extra-legal vehicles/loads.

*See 12/12/05 email (on file with C&R adminsitration) from Transportation Safety Organization (John B Woodbury) authorizing specific exemptions to WAC 468-38-100.

The following is an excerpt from WAC 468-38-100 "Pilot/Escort Vehicle and Operator Requirements":

(4) Must an operator of a pilot/escort vehicle be certified to operate in the State of Washington? Yes.

(5) What are the pretrip procedures that must be followed by the operator of a pilot/escort vehicle?

(a) Discuss with the operator of the extra-legal vehicle the aspects of the move including, but not limited to, the vehicle configuration, the route and the responsibilities that will be assigned or shared.
(b) Prerun the route, if necessary to verify acceptable clearances.
(c) Review the special permit conditions with the operator of the extra-legal vehicle.
(d) Determine proper position of required pilot/escort vehicles and set procedures to be used among the operators.
(e) Assure availability of additional certified flag persons if stated as a condition of the oversize/overweight special permit.
(f) Check mandatory equipment, provided in subsections (9) and (10) of this section. Each operator is responsible for his or her own vehicle.
(g) Check two-way communication system to ensure clear communications and predetermine the channel to be used.
(h) Adjust mirrors, mount signs and turn on lights, provided in subsections (8)(e) and (9)(a) and (b) of this section.

(6) What are the responsibilities of the operator of a pilot/escort vehicle when assigned to be in front of the extra-legal movement? The operator shall:

(a) Provide general warning to oncoming traffic of the presence of the permitted vehicle by use of signs and lights, provided in subsection (9) of this section;
(b) Notify the operator of the extra-legal vehicle, and the operator(s) of any trailing pilot/escort vehicle(s), about any condition that could affect either the safe movement of the extra-legal vehicle or the safety of the traveling public, in sufficient time for the operator of the extra-legal vehicle to take corrective action. Conditions requiring communication include, but are not limited to, road-surface hazard; overhead clearances; obstructions; traffic congestion; pedestrians; etc.;
(c) Provide guidance to the extra-legal vehicle through lane changes, egress from one designated route and access to the next designated route on the approved route itinerary, and around any obstacle;
(d) In the event of traffic building behind the extra-legal vehicle, locate a safe place adjacent to the highway where the extra-legal vehicle can make a temporary stop. Notify the operator of the extra-legal vehicle, and the operator(s) of any trailing pilot/escort vehicle(s), in sufficient time for the extra-legal vehicle to move out of the traffic flow into the safe place, allowing the following traffic to pass safely;
(e) In accordance with training, be far enough in front of the extra-legal vehicle to signal oncoming traffic to stop in a safe and timely manner before entering any narrow structure or otherwise restricted highway where an extra-legal vehicle has entered and must clear before oncoming traffic can enter;
(f) In accordance with training, do not be any farther ahead of the extra-legal vehicle than is reasonably prudent, considering speed of the extra-legal vehicle, other traffic, and highway conditions. Do not exceed one-half mile distance between pilot/escort vehicle and extra-legal vehicle in order to maintain radio communication, except when necessary to safely travel a long narrow section of highway; and
(g) Assist in guidance to a safe place, and/or traffic control, in instances where the extra-legal vehicle becomes disabled.

AJHA Comments/Instructions Form

AJHA ID: HSO-930	Form Number: 03	Revision: 0

Job Description

Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Work Title	Work Location	Work Number
Operation of Mobile Cranes	All Areas	

Comments:

The following is an excerpt from WAC 468-38-100 "Pilot/Escort Vehicle and Operator Requirements":

(7) What are the responsibilities of the operator of a pilot/escort vehicle when assigned to be at the rear of the extra-legal movement? The operator shall:

(a) Provide general warning to traffic approaching from the rear of the extra-legal vehicle ahead by use of signs and lights, provided in subsection (9) of this section;

(b) Notify the operator of the extra-legal vehicle, and the operator(s) of any leading pilot/escort vehicle(s), about any condition that could affect either the safe movement of the extra-legal vehicle or the safety of the traveling public, in sufficient time for the operator of the extra-legal vehicle to take corrective action. Conditions requiring communication include, but are not limited to, objects coming loose from the extra-legal vehicle; flat tires on the extra-legal vehicle; rapidly approaching traffic or vehicles attempting to pass the extra-legal vehicle; etc.;

(c) Notify the operator of the extra-legal vehicle, and/or the operator of the lead pilot/escort vehicle, about traffic buildup or other delays to normal traffic flow resulting from the extra-legal move;

(d) In the event of traffic buildup behind the extra-legal vehicle, notify the operator of the extra-legal vehicle, and the operator(s) of any pilot/escort vehicle(s) in the lead, and assist the extra-legal vehicle in its move out of the traffic flow into the safe place, allowing the following traffic to pass safely;

(e) In accordance with training, be far enough behind the extra-legal vehicle to provide visual warning to approaching traffic to slow or stop in a timely manner, depending upon the action to be taken by the extra-legal vehicle, or the condition of the highway segment (i.e., limited sight distance, mountainous terrain, narrow corridor, etc.);

(f) Do not follow more closely than is reasonably prudent, considering the speed of the extra-legal vehicle, other traffic, and highway conditions. Do not exceed one-half mile distance between pilot/escort vehicle and extra-legal vehicle in order to maintain radio communication, except when necessary to safely travel a long narrow section of highway; and

(g) Assist in guidance to a safe place, and/or traffic control, in instances where the extra-legal vehicle becomes disabled.

(8) What kind of vehicle can be used as a pilot/escort vehicle? In addition to being in safe and reliable operating condition, the vehicle shall:

(a) Be either a single unit passenger car, including passenger van, or a two-axle truck;

(b) Not exceed a maximum gross vehicle weight rating of fourteen thousand pounds;

© Have a body width of at least sixty inches but no greater than one hundred two inches;

(d) Not exceed the legal limits of size and weight, as defined in Chapter 46.44 RCW; and

(e) Be equipped with outside rear-view mirrors, located on each side of the vehicle.

(9) In addition to equipment required by traffic law, what additional equipment is required on the vehicle when operating as a pilot/escort, and when is it used?

(a) A minimum of two flashing or rotating amber (yellow) lights, positioned above the roof line, visible from a minimum of five hundred feet to approaching traffic from the front or rear of the vehicle. Light bars, with appropriately colored lights, meeting the visibility minimums are acceptable. Lights must only be activated while escorting an extra-legal vehicle, or when used as traffic warning devices while stopped at the side of the road taking height measurements during the prerunning of a planned route. The vehicle's headlights must also be activated while escorting an extra-legal vehicle.

(b) A sign reading "OVERSIZE LOAD", measuring at least five feet wide, ten inches high with black lettering at least eight inches high in a one-inch brush stroke on yellow background. The sign shall be mounted over the roof of the vehicle and shall be displayed only while performing as the pilot/escort of an extra-legal load. When the vehicle is not performing as a pilot/escort, the sign must be removed, retracted or otherwise covered.

© A two-way radio communications system capable of providing reliable two-way voice communications, at all times, between the operators of the pilot/escort vehicle(s) and the extra-legal vehicle(s). In the case of failure of the communications system, the pilot/escort vehicle(s) and extra-legal vehicle shall use hand signals to communicate. During pre-trip discussions the pilot/escort and extra-legal vehicle operators shall discuss hand signals to be used in lieu of radio communications.

AJHA Comments/Instructions Form

AJHA ID: HSO-930	Form Number: 04	Revision: 0

Job Description

Operation of Mobile Cranes (to include crane inspection and routine maintenance activities)

Work Title	Work Location	Work Number
Operation of Mobile Cranes	All Areas	

Comments:

The following is an excerpt from WAC 468-38-100 "Pilot/Escort Vehicle and Operator Requirements":

(10) What additional or specialized equipment must be carried in a pilot/escort vehicle?
(a) A standard eighteen-inch STOP AND SLOW paddle sign.
(b) Three bi-directional emergency reflective triangles.
(d) A high visibility safety garment designed according to Class 2 specifications in ANSI/ISEA 107-1999, American National Standard for High Visibility Safety Apparel, to be worn when performing pilot/escort duties outside of the vehicle. The acceptable high visibility colors are fluorescent yellow-green, fluorescent orange-red or fluorescent red.
(e) A highly visible colored hard hat, also to be worn when performing pilot/escort duties outside of the vehicle, per WAC 296-155-305.
(h) A flashlight in good working order with red nose cone. Additional batteries should also be on hand.

(12) Can the pilot/escort vehicle carry any other items, equipment or load? Yes, as long as the items, equipment or load have been properly secured: Provided, no equipment or load may be carried in or on the pilot/escort vehicle that:
(b) Obstructs the view of the flashing or rotating amber lights, or "OVERSIZE LOAD" sign on the vehicle;
© Causes safety risks; or
(d) Otherwise impairs the performance by the operator or the pilot/escort vehicle of the duties required by these rules.

(13) Can a pilot/escort vehicle escort more than one extra-legal load at the same time? No, unless the department determines there are special circumstances that have resulted in an express authorization on the special permit.

(15) Do the rules change when a uniformed off-duty law enforcement officer, using official police car or motorcycle, performs the escorting function? While the spirit of the rules remain the same, specific rules may be modified to fit the situation.

DOE - RL Richland Operations	AJHA REPORT	Status	Date
Solid Waste	AJHA ID: 2X - 496 Rev: 0	Complete	11/20/2007

Title:
REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31

Prepared By:	Work Package No:	Work Location:	Project Title:
Remer, Frank L	2X-07-04470/W	218-W-5-T31	

Work Scope Description
Waste disposal in 218-W-5, Trench 31 has reached the point that removal of the AGEC slip form is in jeopardy. This is because any additional placement of waste containers will negate the setting of a crane to remove it. A work package is required to remove the slip form from the trench and place it in storage for future use.

Specific Work Location(s):
Trench 31

Comments:

Involvement:

SME	Name	Approvals
Chemical Management	Faulk, Darrin E	**Approved Date:** 11/19/2007
Company Fire Protection Engineer	Keene, James R	**Approved Date:** 11/19/2007
Facility Waste Coordinator	Faulk, Darrin E	**Approved Date:** 11/19/2007
Industrial Hygiene	Aardal, Pamela	**Approved Date:** 11/19/2007
Industrial Safety	Mickle, Gary D	**Approved Date:** 11/15/2007
Radcon Screener	Haan, Thomas P	**Approved Date:** 11/14/2007
AJHA Session	Ellingsworth, Randy D	**Review Date:** 11/12/2007 **Comments** NCO
AJHA Session	Faulk, Darrin E	**Review Date:** 11/13/2007 **Comments** Environmental Compliance Officer
AJHA Session	Mickle, Gary D	**Review Date:** 11/12/2007 **Comments** Industrial Safety
AJHA Session	Ramon, Paul	**Review Date:** 11/12/2007 **Comments** Operations PIC
AJHA Session	Steen, Dick	**Review Date:** 11/12/2007 **Comments** Engineering
AJHA Session	Welch, Tom	**Review Date:** 11/12/2007 **Comments** NCO

Forms and Permits

Form/Permit	Revision	Permit ID	Status
FH - RWP ID Existing	0	SWSD-004	Complete
FH - RWP ID Existing	0	SWSD-001	Complete
FH - Fluor Hanford Radiological Risk Screening Form	0	SWSF-07-211	Complete
FH - Waste Planning Checklist	0	2X-07-04470/W	Complete

Training

Portable Ladder Safety Training
Course: 044391 - PORTABLE LADDER SAFETY - CBT

OSHA electrical cord and power tool safety (NOT required for journeyman electricians)
Course: 044480 - OSHA ELECT CORD/PWR TOOL SAFTY

Hazards with Training Requirements

Portable ladder?

Portable hand tools and hand-held power tools used?

Staffing Considerations	Hazards with Staffing Requirements		
Assign trained equipment operator(s) for platform.	Aerial lifts/elevating work platforms?		
Physical and medical condition of assigned ladder users is adequate.	Portable ladder?		
Assigned workers trained in ladder safety.	Portable ladder?		
Assign a designated leader for hoisting and rigging activities.	Hoisting, rigging, or cranes?		
Assign a Qualified Person to operate any 'below-the-hook' lifting device.	Hoisting, rigging, or cranes?	Mobile crane?	
Assign a qualified rigger for load handling.	Hoisting, rigging, or cranes?	Mobile crane?	
Assign a qualified signal person for hoisting and rigging communications.	Hoisting, rigging, or cranes?	Mobile crane?	
Assign a qualified crane operator.	Hoisting, rigging, or cranes?	Mobile crane?	
Assign a qualified forklift truck operator for the selected forklift class.	Use of forklift truck?		

Notifications	Hazards with Notifications Requirements	
Notify Electrical Utilities before working within 20 feet (6.1 m) of nearest high-voltage (≥ 600 volts) electrical conductor.	Hoisting, rigging, or cranes?	Mobile crane?

Prerequisite	Hazards with Prerequisite Requirements		
Instruct ladder users on three-point contact rule.	Portable ladder?		
Employee assigned as DL review roles and responsibilities as per Hanford Hoisting & Rigging Manual (DOE-RL-92-36) Chapter 2, Section 2.2.5.	Hoisting, rigging, or cranes?		
Ensure rigging/hoisting equipment is within required inspection certification date and current load test prior to use.	Hoisting, rigging, or cranes?	Mobile crane?	
Complete required inspections and maintenance of crane.	Hoisting, rigging, or cranes?	Mobile crane?	
Determine mobile crane travel routes/paths (e.g., obstacles, bumps, changes in elevation, colocated workers, nearby structures)	Hoisting, rigging, or cranes?	Mobile crane?	
Complete required inspection of the forklift truck.	Use of forklift truck?		
Determine forklift truck travel routes/paths (e.g., obstacles, bumps, changes in elevation, colocated workers, nearby structures).	Use of forklift truck?		
Worker awareness briefing to address specific slip/trip hazards.	Slip or trip hazards?		
During the prejob briefing, discuss the chemicals to be used and the emergency provisions as outlined in the MSDS.	Chemicals/chemical products?		
Obtain a site Fire Marshall permit for the use/storage of quantities of chemicals greater than established limits.	Chemicals/chemical products?	Chemicals/chemical products used?	Combustible chemicals used?
Industrial Hygiene will confirm established controls immediately prior to the start of work.	Thermal stress (heat or cold stress/hypothermia)?		
Verify the radiological work permit is current prior to commencing work. *RWPs SWSD-004 and 001 have been verified as current.*	Radiological material, area, or hazard involved?	RWP(s) required?	

General: General controls or requirements that apply to the job over all.

Hazard	Controls and Comments
Aerial lifts/elevating work platforms? • Boom-supported lift used?	• Don PPE for this hazard as specified in the PPE section • Comply with the maximum load capacity and weight distribution restrictions of platform. • Perform visual inspection and test operation of platform and document daily. • Select the correct work platform type. • Survey work area to identify and control any worksite hazards immediately prior to starting work. • Verify selected platform is current with periodic maintenance, inspection, and testing. • Wear personal fall protection with lanyard attached to an approved anchorage point. • Control employee exposure to moving parts of platform in tight quarters.
Portable ladder? • Step ladder used?	• Area around base of ladder maintained clear (housekeeping). • Position ladder (set-up) to prevent leaning or over-reaching (in relation to work zone). • Select ladder of proper style, size, capacity (duty rating), and composition: • Select ladder that is current within its annual inspection (periodic inspection). • Store ladder to prevent damage upon completion of use. • User is assigned to inspect the ladder before use (pre-use inspection). • Verify adequacy of supporting foundation for ladder setup.

	ear adequate footwear to prevent slipping and t tain balance/stability. (Wear rubber hoes when using a ladder while wearing anti-co...nation clothing) • Wood ladders cannot be painted. • Make sure that spreaders on the step ladder are firmly locked/fully engaged as 'open'. • Select ladder size no less than 6 feet (1.8 m) in length.
Hoisting, rigging, or cranes? • Mobile crane?	• Don PPE for this hazard as specified in the PPE section • Set outriggers to designated position for operation.
Use of forklift truck? • Fuel powered?	• Don PPE for this hazard as specified in the PPE section • Competent Person determine the appropriate forklift and attachments (including lifting platforms / pallets) of sufficient capacity to handle the determined load weight(s). • Provide for adequate clearances in load movement. • identify any overhead electic power and communication lines. Contact Electrical Utilities to establish adequate clearance.
Use of motor vehicles? • Use of vehicle off road?	• Limit use of cell phones to the extent necessary for the safe operation of the motor vehicle. • Operators and passengers in vehicles must wear seatbelts when present and utilize other safety devices as appropriate. • Operators of motor vehicles will comply with the State motor vehicle laws. • Operators will conduct a 360-degree inspection of the vehicle and surrounding area before driving the vehicle for the purpose of identifying any obstructions, vehicle damage, or visible vehicle deficiencies. • Park vehicles only in designated parking areas, except during emergencies or as required by operational necessity. • Vehicle operators must have a current state/federal license/endorsement/certification and be medically qualified if required under state/federal regulations to operate the involved vehicle. • Ensure vehicles to be operated off-road are equipped with a two-way communication device (radio, cell phone, etc.), fire extinguisher, and a shovel. • Do not drive or park over vegetation unless the vehicle's exhaust system is located or relocated so as to minimize the potential for inadvertent ignition of the vegetation. • Operate vehicles off-road only to perform authorized work. • Periodically check exhaust systems for accumulation of vegetation and remove any noted accumulation once the system has cooled.
Transport equipment, hauling, or loading/off-loading? • Powered mobile equipment operated off-highway?	• Perform a vehicle safety check at the beginning of each shift. • Ensure load is secured with appropriate tie-downs. • Ensure safe footing and fall protection for rigger.
Slip or trip hazards?	• Housekeeping before/during activity • Material control before/during activity • Secure hoses, cords, lines, portable equipment. • Slip-resistant footwear
Hazards from falling objects?	• Don PPE for this hazard as specified in the PPE section • Restrict access to area beneath work. • Head Protection - ANSI Z89, Class C, provides no voltage protection (specify Type 1 or Type 2)
Portable hand tools and hand-held power tools used? • Non-powered? • Powered? • AC - alternating current? • Pneumatic tools?	• Don PPE for this hazard as specified in the PPE section • Unplug power cord when the tool will not be used again for more than one shift. • Inspect tools for proper guards, electrical cords, plugs, grounds, and function. • Inspect and ensure the tool is in proper working condition. • Unplug power cord when changing blades, bits, wheels, etc. • Do not exceed 90 psi, or above manufacturer's specifications. • Use hose restraints for "chicago couplings". • Use with GFCI.
Chemicals/chemical products? • Chemicals/chemical products used? • Combustible chemicals used?	• Don PPE for this hazard as specified in the PPE section *Personnel will wear safety glasses during work activity.* • Keep MSDS, manufacturer's instructions for use, and/or chemical inventory on hand. • No open flame near by. • Use approved safety containers.
Significant noise sources?	• Don PPE for this hazard as specified in the PPE section
Airborne dusts/particulates?	• Don PPE for this hazard as specified in the PPE section
Thermal stress (heat or cold stress/hypothermia)? • Cold stress/hypothermia?	• Don PPE for this hazard as specified in the PPE section
Radiological material, area, or hazard involved? *Slip form will need to be dismantled and hoisted out of Trench 31, which is a posted RA/RMA. This meets the requirements of Table 3-1 as low risk work. Slip form is not contaminated.*	• RadCon Screener review required. *Screening number is SWSF-07-211 was generated for this work. See controls above*
• RWP(s) required? *General maintenance RWP SWSD-004 will be used for hands on work. RWP SWSD-001 maybe used by*	

support staff. • Low risk rad activity? *This work was screened as low risk due to dose rates < 100 mr/hr at 30 cm and work involves non-contaminated items. Area is posted RA/RMA*	
Waste generation? • Compactible waste? • Waste minimization technique?	• Don PPE for this hazard as specified in the PPE section
Personal Protection Equipment (PPE) • Head protection? • Eye or face protection? • Hand protection? • Hearing protection? • Foot protection?	• Head Protection - ANSI Z89, Class C, provides no voltage protection (specify Type 1 or Type 2) • Eye/Face Protection - Safety glasses with side-shields (meeting ANSI Z87.1) • Hand Protection - Leather work glove • Hearing Protection - Ear plugs - Formable *Hearing protection will be established around the crane by the Designated leader as applicable. Personnel may wear hearing protection on a voluntary basis when not required.* • Foot Protection - Safety-toe shoe/boot (ASTM F2413)

Task 1: Prep for movement

Hazard	Controls and Comments

Task 2: Lift and Load form sections

Hazard	Controls and Comments

Task 3: Transport and off-load

Hazard	Controls and Comments

Task 4: Clean-up

Hazard	Controls and Comments

PFP PRE-JOB BRIEFING CHECKLIST

Work Document No.: 2X-07-04470/W	FWS/PIC: Paul Larson	Date: 11/26/07

Task Description: REPOSITION SLIP FORM IN 218-W-5 TRENCH 31

NOTE: A graded approach may be used during the conduct of pre-job briefings. For guidance on conducting pre-job briefs, refer to HNF-GD-14047, Pre Job Briefings and Post Job Reviews. Form is retained in work package.

TOPICS FOR DISCUSSION

Verify personnel involvement:

- Verify appropriate personnel are present: Craft, Radcon, Engineering, QC, Safety, Operations, Environmental, other SMEs
- First Aid Provider identified and available for support Tom Welch
- Two person rule: assigned personnel, escort responsibilities, training verification, turnover, etc. (PFP Specific)

Discuss work to be performed:

- Discuss scope of work to be performed for shift
  - Use sketches, floor plans, etc.
- Procedure type and compliance expectations
- Coordination with other groups and plant activities that might affect persons during job (alarm/horn testing, drills, etc.)
- "What-If" scenarios and required actions
- Discuss job assignments and confirm worker readiness
  - Training requirements, WIPP complete, etc.
- Material requirements and availability for job
  - PPE, special containments, engineered controls, HEPA vacuums, respiratory protection, dosimetry, etc. Ensure all are staged and ready for use.

Key parts of Work Instructions/procedure:

- Precautions/Limitations
- Lock and Tag requirements
- Discuss Safe to Work Check
- Applicable Technical Safety Requirements (TSR)/Limited Condition of Operations (LOC) including time clocks, impacts to equipment operability and restoration requirements
- Work document radiological requirements
- Post system/component testing requirements
- Critical lifts
- Hold points and recovery actions in the event of a missed hold point (per HNF-PRO-5432)
- Identify materials used during task that could become prohibited waste; discuss how these items will be controlled/not placed in a waste container

Radiological Safety:

- Radiological Work Permit (RWP) RWP # SWG-001/07
  - Special radiological requirements, engineered controls (ventilation, containments, drapes, etc.)
  - ALARA - AMW controls, temporary shielding use, radiological postings and low dose standby areas (as applicable)
  - PPE: extra layers of surgical gloves, changing the outer pair or frisking after handling contaminated equipment
  - Contamination checks/glove changes for work in HCAs
  - For HCAs with high background, remove the outer layer of anti-Cs at the first step-off pad and go to a low background for surveys
  - Surveys in areas "not routinely surveyed"
  - Planned or special monitoring or sampling requirements
  - Action levels and void limits
  - Temporary suspension of work and requiring decontamination prior to resuming work
  - Pressure wash, bag/cover, or misting of items being removed from Basin to minimize airborne materials
  - Use of drapes/catches for breaches of potentially contaminated systems
  - Layered, removable flooring for high contamination levels
  - Area bull-pens/walls used to mitigate contamination spread
  - Air space boundaries (PFP: ZSP-006)
- Emergency Response
  - Alarm response actions
  - Emergency communications systems
  - Identify personnel decontamination facility to be used, if needed, and verify availability

Discuss Job Hazards and Controls (AJHA):

- Permits (EEWP, Fall Protection Plan, Hot Work, etc.)
- Flow path of work with regard to identified hazards
- MSDS for chemicals being used
- Environmental permits and conditions
- Industrial Hygiene requirements
- Waste minimization/disposal requirements (document on work record)
- Ergonomic issues or physical barriers that would impact the proper operation of respiratory equipment or other PPE

General Discussion:

- Work start time, breaks, and stopping points
- Work area/equipment conditions (weather, lighting, temperature, radiological conditions, accessibility, protection from outside interference, suspect/counterfeit item awareness, etc.)
- Response to abnormal conditions, contingency plans, emergency actions, abort criteria, staging areas, and rally points
- Casualty response actions (e.g., secure area and notify management before proceeding)
- STOP WORK AUTHORITY
- STAR Philosophy (Stop, Think, Act, Review)
- Possible error precursors and flawed defenses. Determine if additional defenses are warranted.
- Applicable Criticality Posting Specification (CPS) and postings
  - CPS No. N/A
- Housekeeping / Post-job cleanup

Lessons Learned:

- Lessons learned from previous tasks

QUESTIONS OR CONCERNS: - Ask one final question: "Is everyone comfortable with the job and his/her part in it?"

FH PI JOB BRIEFING CHECKLIST (co ued)

Comments or other areas discussed:

Pre-Job Briefing **ATTENDEES** fill in below (including all repeat briefings).

Date	Name (Print)	Signature	Date	Name (Print)	Signature
11-26-07	Jimmy Butts	Jimmy Lee Butts	11/28/07	MARK RAY	Mark Ray
11-26-07	Steve Smith		11/28/07	Charles McCarr	
11/26	Kenny Ellingsworth	K Ellingsworth	11/28/07	T Welch	T Welch
11/26	Tom Welch	Tom Welch	11/28	K Ellingsworth	K Ellingsworth
11/26	Beth Roach	B Roach	11/28	B Roach	Roach
11/26	Lew Flowers	Lew Flowers			
11/26	Anthony Simpson	Anthony Simpson			
11/26					
11/26	STEVE FOSTER				
11/26	Keith Larouette	Keith Larouette			
11/27	Keith Larouette	Keith Larouette			
11/27	Beth Roach	Roach			
11/27	Lew Flowers	Lew Flowers			
11/27	Jimmy Butts	Jimmy Lee Butts			
11-27	Steve Wallace	Steve Wallace			
11-27	MARK RAY	Mark Ray			
11/27	BRUCE GRADISHA	Bruce Gradisha			
11-27	DALE SMITH				
11/27	K Ellingsworth	K Ellingsworth			
11/27	C. McCarr				
11/27	R.T. Steen	R.T. Steen			
11-28	L. Holbeach				
11-28	B Dyes				
11-28	Steve Wallace	Steve Wallace			

Pre-Job Briefing **PRESENTER** fill in below (including all repeat briefings).

Date	Name (Print)	Signature	Date	Name (Print)	Signature
11/26/07	Tom Kennon				
11/27/07	Tom Kennon				
11/28/07	Tom Kennon				

JHA ID: HSO-931	**Hanford NEPA CX, SWCX, EIS, EA Identification Form** For NEPA requirements, see HNF-RD-1533	Form ID AJHA HSO-931 Rev: 0

Work Covered By	**Identify By Number / Description**
CX	☐
SWCX	☑ B1.3
EIS	☐
EA	☐
Other	☐
CERCLA	☐

To assign this number you must have a minimum of 2-day NEPA training and have been designated for NEPA evaluations by the facility Environmental Compliance Officer/Representative.

Enter name of person assigning the number:

JHA ID:	Hanford NEPA CX, SWCX, EIS, EA Identification Form	Form ID	AJHA HSO-930
HSO-930	For NEPA requirements, see HNF-RD-1533	Rev:	0

Work Covered By		Identify By Number / Description
CX	☐	
SWCX	☑	B1.3
EIS	☐	
EA	☐	
Other	☐	
CERCLA	☐	

To assign this number you must have a minimum of 2-day NEPA training and have been designated for NEPA evaluations by the facility Environmental Compliance Officer/Representative.

Enter name of person assigning the number:

U...EVIEWED SAFETY QUESTION (...Q)		
USQ Number SW-USQ-07-141	**USQ SCREENING**	**Page 1 of 2**

Title: 2X-07-04470; Reposition Slip Form in 218-W-5, Trench 31

Applicable Facilities: LLBG

Scope: The slip form currently located in 218-W-5, Trench 31, will be lifted onto a trailer in sections and moved to a location outside of the trench.

Description: Waste movement into 218-W-5, Trench 31, has reached a point where the slip form used for Cat. 3 Waste Stabilization needs to be relocated in order that it can continue. At the present time there is no need for another monolith to be poured so the slip form will be moved out of the trench until such time as it is needed. The form will be lifted in sections using a crane and placed on a trailer for transport out of the trench. The form will be stored near the trench until another Cat. 3 Waste Stabilization monolith is needed or the owner, AGEC, removes it from the site.

Safety Basis Documentation Reviewed: HNF-14741, Rev. 4, 4A (submitted but not approved); HNF-15280, Rev. 4, 4A (submitted but not approved); Letter 07-SED-0275; Letter FH-0702134 (submitted but not approved); HNF-11724, Rev. 4; Letter 07-SED-0282; Letter 07-SED-0380; JCO HNF-33936; Letter 07-SED-0361.

Other References:

1. **Could the proposed activity represent a change to the facility or procedures as described in the Safety Basis?**

   [X] **No** [ ] **Yes**

   Basis: HNF-14741, Section 2.5.1.1, Low-Level Burial Grounds, describes stabilization and grouting as an activity performed in 218-W-5 trenches 31 and 34. Section 2.5.2.13, Waste Treatment, of HNF-14741 describes stabilization of waste with grout and the reasons for doing it. Section 3.3.2.1.1, Low-Level Burial Grounds, under Vehicles and Equipment describes mobile cranes as one type of vehicle used in the LLBG. The relocation of the slip form used to stabilize category 3 waste in 218-W-5, trench 31, is a normal operational activity in the LLBG and therefore could not represent a change to the facility or procedures as described in the Safety Basis.

2. **Could the proposed activity represent conditions (e.g., new or changed hazards) that have not been analyzed in the Safety Basis?**

   [X] **No** [ ] **Yes**

   Basis: HNF-14741, Section 2.5.1.1, Low-Level Burial Grounds states, "Currently LLW and LLMW is sent to RCRA-compliant trenches in Burial Ground 218-W-5 (Trenches 31 and 34)... No TRU waste is placed in these two trenches. The slip form will be lifted from its current location which is around a category 3 waste stabilization monolith made in 2005 from 5000 lb. concrete. Other waste containers currently disposed in Trench 31 consist of stabilized waste in boxes or drums and bulk waste covered with clean fill. Accidents involving running into or dropping the form onto waste containers are bounded by FIR-1, FIR-2, FIR-4, SP-1, and SP-3A. The proposed activity could not represent conditions that have not been analyzed in the Safety Basis.

3. **Could the proposed activity represent a test or experiment not described in the Safety Basis?**

   [X] **No** [ ] **Yes**

   Basis: As described in Question 1, moving the slip form with cranes is an activity normally performed in 218-W-5, Trench 31 and is therefore not a test or experiment not described in the Safety Basis.

U...EVIEWED SAFETY QUESTION (...Q)		
USQ Number SW-USQ-07-141	**USQ SCREENING**	**Page 2 of 2**

Conclusion:

[X] **The proposed activity screens negative and no USQ Evaluation is required.**

[ ] **The proposed activity screens positive and a USQ Evaluation is required.**

USQ Screener #1

R.T. Steen
(Print Name)

R.T. Steen
Signature

Date: 11/8/07

USQ Screener #2

J.R. Rosser
(Print Name)

J.R. Rosser
Signature

Date: 11/8/07

OTHER REVIEWS (If Required)

Print and Sign: _____ Date: _____

Print and Sign: _____ Date: _____

HANFORD RADIOLOGICAL WORK PERMIT		Contractor: **Fluor Hanford**	
General [x] Job Specific [ ]	Tech. Document No. As Applicable	Location Code 01,02,03,09 (if escorted)	RWP Number **SWSD-001** Rev. 014
Start Date 10/22/2007	End Date 10/22/2008	Responsible Organization Solid Waste Storage and Disposal (SWSD)	
Job Location: All SWSD Facilities (CWC, Burial Grounds, and Waste Retrieval Project)			"ACES" Good for: 7 Days

Job Description and Type of Area:
Perform routine radioactive material handling activities such as: Receipts, Shipments, Storage, Movements, Overpacking, Radiological Surveys, and ACMP evaluations within SWSD facilities. Also perform general activities such as: Routine Inspections, Surveillances, housekeeping, and sampling.
Radiological Postings: Radioactive Material Area (RMA) / Radiological Buffer Area (RBA) / Radiation Area (RA).

Primary Isotope(s): [X] MFP [X] MAP [X] Cs [X] Sr [X] H-3 [X] U [X] Pu [ ] Other

Radiation Emitted	Estimated Dose Rates	Contamination Levels	Radiological Worker Training Req.
[X] Alpha [X] Beta [X] Photons [X] Neutrons	General Area: 2 mrem/hr Maximum Contact: 200 mrem/hr	Beta-gamma: <1000 dpm/100 cm² Alpha: <20 dpm/100·cm²	I [ ] II [X]

Internal Dosimetry Requirements
[X] Annual Whole Body Count [ ] Lung Count [ ] Urinalysis Isotopes to Test for (if any):

MINIMUM RADIOLOGICAL PROTECTION REQUIREMENTS

HPT Coverage		Dosimetry	
SI 1	Continuous	X	HSD - TLD
SI 1	Intermittent		HCND - TLD
SI 1	Start of Job		Pocket Dosimeter
SI 1	End of Job		Electronic Dosimeter
SI 2	Self Survey (If qualified)		Finger Rings
SI 2	HPT Survey Required		Time Keeping
	Auto. Survey Device (If available)	X	Entry Control System
	See SI#		Aces Brick

MINIMUM PROTECTIVE EQUIPMENT

	Coveralls		Shoe Covers
	Lab Coat		Canvas Boots
	Waterproof Suit		Rubber Overshoes
	Gortex Suit		Rubber Boots
	Cap		Full Face Respirator
	Hood		PAPR
SI 3	Surgeon's Gloves		Supplied Air Respirator
SI 3	Leather Gloves		SCBA
	Canvas & Surgeon's Gloves		Undressing Assistance
	Waterproof Gloves		Air Sampling Required
	No Personal Outer		ARM Required
	Modesty Clothing		
SI 4	HEPA Vacuum	SI 5	Drinking Water

SPECIAL INSTRUCTIONS (SI)

A. **Limiting Radiological Conditions:**

Contamination Levels
RMA/RBA: >1000 dpm/100cm² removable βγ contamination
>20 dpm/100cm² removable α contamination
>10,000 dpm/100cm² removable H-3 contamination

Radiation Levels
RA: >100 mrem/hr at 30cm from any source of radiation
RMA: >5 mrem/hr at 30cm from any source of radiation

If the above levels are exceeded, stop work, assure workers are in a safe location and condition (e.g. upwind and away from source term), contact RadCon/Operations Management for direction and/or recovery actions.

1. **RCT Coverage Requirements**
   - RCT shall be contacted prior to any waste movements to evaluate the potential for Radiological posting changes.
   - Continuous RCT coverage is required during the placement of waste containers with an Elevated Dose Rate sticker to ensure a High Radiation Area will not be created.
   - Continuous RCT coverage is required for vacuuming containers.
   - Continuous RCT coverage is required during dumping of floor sweepers and vacuums for verification surveys.
   - Intermittent RCT coverage is required when moving containers not marked with an Elevated Dose Rate tag or performing sampling.
   - Notify RCT when waste movement activities are complete for end of job surveys.
2. **Survey Requirements**
   - At a minimum, a hand and foot survey is required when exiting the RBA.
   - All equipment leaving the RBA requires a RCT verification survey.
   - At a minimum, personnel shall survey their hands and feet upon completion of manual movements of waste containers.
3. **Personal Protective Equipment Requirements**
   - Leather gloves are required for all waste container handling activities.
   - Leather gloves or Surgeon's gloves are required for handling Radioactive Smear Media.
4. **HEPA Vacuum Use:**
   - Follow Requirements of SW-020-030 for HEPA Vacuum Use
5. **MISCELLANEOUS SPECIAL INSTRUCTIONS:**
   Drinking water is allowed in the RBA if the following conditions are met:
   - Gloves are surveyed and then removed
   - Hands and face are surveyed prior to drinking (self-survey is allowed)

ALARA Review: YES [ ] NO [X]	Pre-Job Briefing: YES [ ] NO [X]	
RWP Prepared By: Rob Taylor	Phone: 373-0155	HPT Phone: 373-4096
Line Mgt. Print: Don Pyzel Sign: For D. Pyzel	Phone: 373-5187	Date 10-18-07
RC Mgt. Print: Mark Higbee Sign:	Phone: 376-5696	Date 10/18/07
Acknowledged By:		Date:
RWP Change Approvals:		Date:

HANFORD RADIOLOGICAL WORK PERMIT		Contractor: **Fluor Hanford**	
General [X] Job Specific [ ]	Tech. Document No. N/A	Location Code 01, 09 (if escorted)	RWP Number **SWSD-004**, Rev. 012
Start Date 12-20-2006	End Date 12-20-2007	Responsible Organization Solid Waste Storage and Disposal (SWSD)	
Job Location All SWSD Facilities (CWC, Burial Grounds, Sodium Storage, Alkali Metal Storage Modules, WRP)			"Ace" Good For **7 Days**

Job Description and Type of Area: Minor maintenance activities such as: Inspections, tours, routine preventative maintenance, construction activities, grouting, or waste encapsulation activities. No intrusive work on known or suspected radioactive systems or abrasive work on contaminated surfaces.

Radiological Postings: Radiation Area / Radiological Buffer Area / Radioactive Material Area. (RA / RBA / RMA)

Primary Isotope(s): [X] MFP [X] MAP [ ] Cs [ ] Sr [ ] H-3 [ ] U [X] Pu [ ] Other

Radiation Emitted	Estimated Dose Rates	Contamination Levels	Radiological Worker Training Req
[X] Alpha [X] Beta [X] Photons [X] Neutrons	General Area: 2 mrem/hr Maximum Contact: 150 mrem/hr	Beta-gamma: < 1,000 dpm/100 cm² Alpha: < 20 dpm/100 cm²	I [X] II [ ]

Internal Dosimetry Requirements

[ ] Annual Whole Body Count [ ] Lung Count [ ] Urinalysis Isotopes to Test for (if any):

MINIMUM RADIOLOGICAL PROTECTION REQUIREMENTS

HPT Coverage		Dosimetry	
	Continuous	X	HSD - TLD
SI1	Intermittent		HCND - TLD
X	Start of Job		Pocket Dosimeter
X	End of Job		Electronic Dosimeter
SI2	Self Survey (if qualified)		Finger Rings
SI2	HPT Survey Required		Time Keeping
	Auto. Survey Device (If available)	X	Entry Control System
	See SI#		Aces Brick

MINIMUM PROTECTIVE EQUIPMENT

	Coveralls		Shoe Covers
	Lab Coat		Canvas Boots
	Waterproof Suit		Rubber Overshoes
	Gortex Suit		Rubber Boots
	Cap		Full Face Respirator
	Hood		PAPR
	Surgeon's Gloves		Supplied Air Respirator
SI3	Leather Gloves		SCBA
	Canvas & Surgeon's Gloves		Undressing Assistance
	Waterproof Gloves		Air Sampling Required
	No Personal Outer		ARM Required
	Modesty Clothing		
X	See SI# 4		

SPECIAL INSTRUCTIONS (SI)

A. Limiting Radiological Conditions:

Contamination Levels

RMA/RBA: ≥1000 dpm/100cm² removable beta-gamma general area
≥20 dpm/100cm² removable alpha general area

Radiation Levels

RA: ≥100 mrem/hr at 30cm from any source of radiation

RMA: ≥5 mrem/hr at 30cm from any source of radiation

If the above levels are exceeded, stop work, assure workers are in a safe location and condition (e.g. upwind and away from source term), contact RadCon/Operations Management for direction and/or recovery actions.

1. **Coverage Requirements:**
   - Prior to any maintenance activities, the RCT and the Shift Duty Officer (SDO) shall be contacted to ensure proper coverage will be provided.
2. **Survey Requirements:**
   - At a minimum, personnel must survey their hands and feet when leaving a RBA that requires exit surveys.
   - All equipment leaving a RBA requires RCT verification survey.
3. **Protective Equipment Requirements:**
   - Leather gloves are required for all waste container handling activities.
4. **Miscellaneous Special Instructions:**

Drinking water is allowed in the RBA if the following conditions are met:

- Gloves are surveyed and then removed
- Hands and face are surveyed prior to drinking (self-survey is allowed)

ALARA Review YES [ ] NO [X]	Pre-Job Briefing: YES [ ] NO [X]	
RWP Prepared By Rob Taylor	Phone 373-0155	HPT Phone 373-4096
Line Mgt Print Don Pycel Sign	Phone 373-5187	Date 12 19 06
RC Mgt Print Mark Higbee Sign	Phone 376-5696	Date 12/19/06
Acknowledged By		Date
RWP Change Approvals		Date

FLUOR HANFORD RADIOLOGICAL RISK SCREENING FORM

Work Document No.: 2X-07-0044	**AJHA No.:** 2X-377

Title:
Removal of Slip Form 218-W-5 Trench 31

Job Description:
Removal of Slip Form 218-W-5 Trench 31

COPY

Job Location/Work Area:
200W/SWSD/218-W-5/Trench 31

Part A -- High Hazard Radiological Work Screening Criteria[1]	**Yes**	**No**
1. Will the estimated collective dose exceed 2,500 person-mrem?	O	⊙
2. Will predicted airborne radioactivity concentrations exceed 10 DAC or result in an integrated exposure of over 200 DAC-hours?	O	⊙
3. Will work area[2] removable contamination be greater than 1,000 times Table 2-2 values?	O	⊙
4. Will there be entry into areas where whole body dose rates are >1 rem/hr?	O	⊙

If the answers to all the above questions are "NO," then the work is not HIGH HAZARD radiological work. Continue with Part B.

If any of the above questions were answered "YES," then the work is designated as HIGH HAZARD radiological work. Do not continue with Part B. An ALARA review may be required based on the final determination of radiological risk.[3]

Part B -- Medium Hazard Radiological Work Screening Criteria[1]	**Yes**	**No**
1. Will the estimated collective dose exceed 500 person-mrem but be less than or equal 2,500 person-mrem?	O	⊙
2. Will a respirator be worn for radiological purposes?	O	⊙
3. Will work area[2] removable contamination be greater than 100 times Table 2-2 values but less than or equal to 1,000 times Table 2-2 values.	O	⊙
4. Will there be entry into areas where whole body dose rates are >100 mrem/hr but be less than or equal to 1,000 mrem/hr?	O	⊙
5. Is there a potential for release or radioactive material that exceed Table 2-2 levels outside of a CA, HCA, or ARA?	O	⊙

If any of the answers to the above Part B questions are "YES," then the work is designated as MEDIUM HAZARD radiological work. An AJHA may be required based on the final determination of radiological risk.[3]

If all of the above Part B questions were answered "NO," then the work is designated as LOW HAZARD radiological work. Conduct an informal ALARA review of the work activity before preparing or assigning the RWP.

PART C -- COMMENT/JUSTIFICATION TO MODIFY RISK[3]

SWSF-07- 211 RWP SWSD-004 for personnel performing hands on work, support work may be performed on RWP SWSD-001

PART D -- FINAL RADIOLOGICAL RISK DESIGNATION[3]

O HIGH RISK Radiological Work O MEDIUM RISK Radiological Work ⊙ LOW RISK Radiological Work

PART E -- ADMINISTRATION

Radiological Work Planner[4] (Signature)	Printed	Date
Tom Haan	Tom Haan	11/06/07
Project/Facility Rad/Con Manager Approval for any Modified Risk Determination[3]		Date

[1]Radiological work screening determinations should be based on the unmitigated radiological conditions of the work area and the planned work activity. The Radiological Work Planner should document the unmitigated hazard determination.

[2]The work area is described in the job hazard analysis, and is typically the area transited and occupied to perform the work activity.

[3]The Radiological Work Planner may modify the final radiological risk determination based on the radiological hazard, type and complexity of the work activity, and frequency of occurrence. Justification for this modification should be included in Part C. Approval from the Project/Facility RCM is required for any risk modification prior to the work being performed.

[4]To approve (sign) this form, the Planner must have completed training and be designated a facility Radiological Work Planner as required in HNF-5173, Article 653.

WASTE PLANNING CHECKLIST

☐ Generic

A. WORK PACKAGE PREPARER COMPLETES	YES	NO	COMMENTS
1. Will waste be generated?	◉	○	If NO, checklist is complete. Sign checklist.
2. Will waste be generated in a radiological buffer area or contamination area?	◉	○	If NO, Go to question A.6.
3. Will waste be generated in a process area?	○	◉	
4. Will process equipment be removed?	○	◉	
5. Will the disposed waste come in contact with radioactive process waste?	○	◉	
6. Will there be any aerosol can(s) disposed?	○	◉	
7. Will HEPA filters be disposed?	○	◉	
8. Will asbestos waste be generated?	○	◉	
9. Will paint waste be generated?	○	◉	
10. Will chemicals / hazardous products be generated?	◉	○	If YES, Go to (a) and complete.

(a) List "ALL" MSDS numbers and their product names:

MSDS No.	Chemical or Product Name	MSDS No.	Chemical or Product Name
014258	KROIL PENETRATING OIL		

11. General description of the waste:
RAGS WITH OVER SPRAY OF KROIL ON THEM

Estimate quantify of waste that will be generated (gal / lbs / M_3): _____ Per: ◉ Day ○ Week ○ Month [check one]

Estimate length of job: ◉ Day(s) ○ Week(s) ○ Month(s) ○ Other _____

Work Package No.: 2X-07-04470 / W Planned Start Date: 11-07-2007

Preparer's Name: FRANK REMER Phone No.: 372-2008

REMOVAL OF SLIP FORM FROM 218-W-5 TRENCH 31 _____
Work Description (Bldg. No., System, Tank No., Room No.)

B. HAZARDOUS WASTE COORDINATOR REPRESENTATIVE COMPLETES	YES	NO	COMMENTS
1. Is waste regulated as a dangerous waste?	○	◉	

2. Disposition Instruction:
If not radiologically contaminated, rags may be disposed of in sanitary trash. If contaminated, dispose of in mixed waste container identified in Trench.

3. The following waste minimization techniques will be used:
Please use only amount necessary.

4. Facility Operations has been notified to take samples? (N/A, if not required)	○	○	n/a
5. Is a container already available for each disposition in B.2?	◉	○	
6. Does the quantity of waste in A.11 exceed capacity of the available container(s)?	○	◉	

7. Identify satellite accumulation area (SAA) or accumulation area container(s) locations:
n/a

8. Does the information on this form fall under OUO? ○ Yes ◉ No

Prepared By: (Signature) _____ Organization: Waste Services

Bree Nielsen (Printed Name) WMR (Title) Review Date: 11/5/07 Expiration Date: (Generic) 11/5/08

Form to be retained in work package permanently if OUO = Yes. If OUO = No, form may be discarded when work is complete.

MATERIAL SAFETY DATA SHEET
SECTION I

MSDS #014258

Product Name or Number (as it appears on label): Kroil
Manufacturers Name: Kano Laboratories, Inc.
Address: 1000 S. Thompson Lane, Nashville, TN 37211-2627
Emergency Telephone No: 615-833-4101
Manufacturer's DUNS No: N/A
Hazardous Material Description, Proper Shipping Name,
Hazard Class, Hazard ID No. (49 CFR 172.101): N/A, Petroleum Distillate, N/A, N/A
Additional Hazard Classes (as applicable): N/A
Chemical Family: Petroleum Lubricant
Formula: Proprietary

SECTION II - INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)	OHSA/ACGIH PEL/TLV PPM	LISTED AS A CARCINOGEN IN NTP, IARC OR OSHA 1910 (z) (Specify)
64742-46-7	30%- 50%	Petroleum Base Oil	5.0 mg/m3 TWA	No
78-92-2	1% - 10%	Aliphatic Petroleum Distillate	50 TWA	No
64742-95-6	1% - 10%	Petroleum Solvent	50 TWA	No
111-76-2	1% - 10%	Aliphatic Hydrocarbon Solvent	50 TWA	No
	1% - 20%	Non-Hazardous Proprietary Mixture	50 TWA	No
64742-47-8	20%-40%	Petroleum Naptha	100 TWA	No
123-42-2	1% - 10%	Hydrocarbon Solvent	75 STEL	No

All ingredients in Kroil are listed in the TOSCA inventory list

SECTION III - PHYSICAL DATA

Boiling Point: 150 degrees F.
Vapor Pressure @ E20 C. 2 MM Hg
Vapor Density (AIR-1): N/A
Solubility in Water: NIL
Percent Solid By Weight (%): 0
Specific Gravity (H2) = 1): .88
Percent Volatile by Volume (%): 60
Evaporation Rate (-1): But.Acet. less than 1
pH: 6.0 - 7.0
Material is: Liquid

NFPA 704 DESIGNATION
Flammability - 2
Health - 1
Reactivity - 0
Special Hazard -

Appearance & Odor: Liquid, slight reddish color, pleasant odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 150 degrees F. - **Method Used:** COC
Flammable Limits: LFL - N/A UFL - N/A
Extinguishing Media: CO2, Dry Chemical, Foam
Special Fire Fighting Procedures: Usual procedure for solvents. Treat as combustible. Do not use water.
Unusual Fire & Explosion Hazards: Never use welding or cutting torch on or near cans or drums. Do not mix or store with strong oxidants. Store at room temperature.

SECTION V - HEALTH HAZARD DATA

Symptoms & Effects of Overexposure: EYE - burning & irritation. SKIN-dryness. Prolonged exposure may cause dermatitis. INHALATION may cause headache, dizziness, anesthesia, nausea, & upper respiratory irritation. INGESTION may cause lung irritation, nausea, vomiting & diarrhea. Harmful or fatal if swallowed.
Primary Routes of Entry: Inhalation
Emergency and First Aid Procedures: EYE- Immediately flush with large amounts of water for 15 minutes. SKIN-wash with mild soap and water, apply skin cream. INHALATION- remove to fresh air. If

breathing is difficult administer oxygen, if breathing stops give artificial respiration. Get medical attention. INGESTION- Contains hydrocarbon solvents and petroleum oil. Do not induce vomiting, call physician immediately. Minute amounts aspirated into lungs during ingestion may cause severe pulmonary damage. Do not administer epinephrine or adrenaline.

SECTION VI - REACTIVITY DATA

Stability: Stable **Conditions To Avoid:** Heat, Sparks, Open Flame. Strong Oxidants.
Incompatibility (materials to avoid): Strong Oxidizing Agents.
Hazardous Decomposition Products: Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide.
Hazardous Polymerization: Will not occur
Conditions To Avoid: NA

MSDS # 014258

SECTION VII - SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released or Spilled: Wipe up immediately with absorbent rags, sweeping compound or other absorbent material. Remove or extinguish all flames and sparks. Do not flush into sewer.
Waste Disposal Method: Bury saturated absorbent in approved landfill. Dispose of as any combustible fuel in accordance with local, state and federal regulations.
Cercla (Superfund) Reportable Quantity (in lbs): NA **RCRA Hazardous Waste No. (40 CFR 261.33):** NA
Volatile Organic Compound (VOC) (as packaged, minus water): NA
Theoretical: 7.8 lb/gal **Analytical:** 7.8 lb/gal,l

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection (specify type): NOISH approved respirator for vapors if desired.
Ventilation - Local Exhaust (specify rate): Normal Local Exhaust System. **Special:** None required.
Ventilation - Mechanical (General) (Specify Rate): Normal Ventilation is sufficient.
Other: None Required. **Protective Gloves:** Chemically resistant gloves if needed to protect skin.
Eye Protection: If splash potential exists, wear chemical splash goggles.
Other Protective Equipment: None needed.

SECTION IX - SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling and Storing: Keep away from excessive heat, sparks and open flame. Do not take internally. Do not leave container open. Store in cool area.
Other Precautions: Use with proper ventilation. Wearing contact lenses is not advisable. If swallowed can enter lungs and may cause chemical pneumonitis. Do not administer epinephrine or adrenaline. Keep away from children and animals. Do not puncture containers.
The above information is based on information available at this time and is believed to be accurate. However, the data is provided without warranty, expressed or implied. It is the user's responsibility to determine safe conditions for use of this product. We expressly disclaim all liability for reliance thereon, and assume no liability with any use of this information.

Title: Chairman
Date: January 27, 1999

Name (print): P. R. Zimmerman
Signature: *P. R. Zimmerman*