Pre-Job ALARA Checklist

ALARA Review No./Revision No.	ReviewDate	RWP No.
11-FTF-147A	3-17-2011	11-FTF-147

Job Description

Tank 5 Crawler Riser 8 Sampling

Work Package: 01059846

ALARA TRIGGER LEVELS

- Infrequent/First Time Activity
- Individual Dose > 50% of ACL
- Total Man-Rem Dose > 1 rem
- Entry Where Dose Rate > 1 rem/hr
- Skin/Extremity Dose Rate > 10 rem/hr
- Predicted Airborne Levels >200 DAC-hr
- Potential for Environmental Release Exists
- Removable Contamination Levels > 100,000 d/m α and/or > 10 mrad $\beta\gamma$
- Other ________

Section I: Administrative and Pre-Job Walkdown Information

1. Extensive Pre-Job Planning: (Check those that apply) N/A

Mock-ups Specialized Training Other ALARA Review

2. Contingency Plans: (Check those that apply) N/A

Work Plan Failure Loss of Breathing Air Security Measures Other Time Out Program w/Notifications
Remote Worker SNM Fire Alarm

3. Radiological Alarms: (Check those that apply) N/A

EPD CAM ARM NIM TAM Other VAMP Placed in ByPass & Upscale CAMS

4. Spill/Release Pathways: (Check those that apply) N/A

Storm Drains Floor Drains HEPA Filters System Breaches Other Opening Cask
Ditches Stacks Tank Openings Containment

5. Pre-Job Briefing Data: (Check those that apply) N/A

VSDS Drawings/Sketches Injury Response Rescue Plan
Air/Soil Sampling Plan(s) Dose Profile Photos Other Work Instructions
Emergency Phone Number ________ Videos Special Tools
RWP Workers Allowable Dose Rally Points

Section II: Job Planning/ALARA/Radiological Considerations

6. Engineering Controls: (check those that apply)

Ventilation: N/A

Adequate Fan Configuration Planned Fan Manipulations Spark Arrestor
Facility Ventilation Localized Ventilation Other Hut Ventilation (If Needed)
Airflow Verification Supplemental Ventilation

Containment: N/A

Pre-Fab Hut Tube-Lok Hut Leak Collection Device Sleeving
Reusable Hut Panel False Inner Wall Windbreak Radiobench/Hood
Layered Paper/Plastic Deployment Device Polybottle Glovebox
HEPA Filtered Sleeving Glovebag Launderable Tarp Other PVC Sample Containers

Pre-Job ALARA Checklist *(Continued)*

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Section II: Job Planning/ALARA/Radiological Considerations (Continued)

7. Monitoring Equipment: (Check those that apply) N/A

Teletrax	CRM/PCM	EPD	Other Finger Rings
Personal Air Sampler	High Volume Air Sampler	Low Volume Air Sampler	
Battery Operated Air Sampler	Kanne/Scintrex/TAM	CAM	
ARM	Effluent Monitoring	Environmental Monitoring	

8. Additional Hazards: (Check those that apply) N/A

Punctures Heat Stress Cold Stress Other Reference AHA & HCD

9. Waste Minimization: (Check those that apply) N/A

Recycling	Generate Tool List
Remove Packaging	Staging Area in Non-Radiological Area
Reuse of Contaminated Equipment/Tools	Clean Areas w/Rad History or Adjacent to Rad Area
Generate Material List	Other ~~Re-use of Hut panels and/or hut~~

10. Survey/Dose Reduction Techniques

Source Reduction: (Check those that apply) N/A

Relocation of Source	Blue Fog	Exterior Flush	Fixative Coating
Flooding	Interior Flush	Hydro Seeder	Pre-Job Decon
Passive Aerosol Generator	Decon Tank	Post Job Decon	Other PVC Container & 8 Ton Cask

Comment See comments for exterior flush of the crawler (e.g., limited amount of flush water can be used).

Dose Reduction: (Check those that apply)

Remote Tools: N/A

Camera	Power Tools	Manipulators
Portable Tools	Remote Cutter	Extended Tools
Robotics	Binoculars	Other

Comment

Shielding: N/A

Lead Blankets	Apron (lead/non-lead)	Rad Clad	Lexan
Shielded Monitor Station	Vinyl Lead X	Non-Lead Shielding	Other 8 Ton Cask
Water Filled Shielding	Temporary Shielding Wall	Tungsten Gloves/Sleeves	

Comment Lead Blankets and Lead Vest are available for use. PVC containers will house the sample baskets after the basket is sleeved out of the glovebag.

Techniques: N/A

Maximize Distance From Source	Pre/Partial Assembly	Prep Area
Identify Low Dose Area	Pre-Stage Equipment	☒ Other Mockups to Improve Time

Comment

Pre-Job ALARA Checklist *(Continued)*

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Section III: Comments/Recommendations

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1) Job Planning: The work package reviewed and approved. This work package does not require FRAT approved based on a similar Crawler Sampling performed on Tank 5, which was FRAT approved.
   a) Other Reviews:
      - AHA & HCD
      - Mockups
      - Tank 5 Post Job with Lessons Leaned for equipment improvements was documented and reviewed for Tank 5 Riser 8 Sampling, Planning Meetings & ALARA Review.
   b) Scope:
      1) Lower the Crawler into Riser (per engineering request). Operate crawler to place the samples taken from the mounds.
      2) A basket will be lowered in into the riser (with two scrape sampling devices) The crawler will retrieve the samples and place them in the basket. The basket will then be removed from the riser (in a glovebag) using a rod and reel. The basket will be sleeved out of the bottom sleeve of the glovebag, into a PVC sample holder and capped.
      3) The crawler will then have to be sleeved out of the Riser and placed in a shipping container and shipped to 299-H. The crawler will be flushed (with a limited amount of flush water) as it is being removed through the sleever.
      Note: The samples will be transferred to the shipping cask (e.g., 8 Ton) with a rigging bag.
2) Contingency Plan: No Formal Contingency Plan for this work package.
   a) The use of the Time Out program w/notifications will be used and a pathforward evaluated.
3) Radiological Alarms:
   a) EPD's will be set for dose rate and dose received (Dose Tracked by either View Point or Teletrac)
   b) VAMP's may be placed in by-pass and CAMS upscale per RCO directions and SOM approval
4) Spill/Release Pathways
   a) Open Riser
      - Control is the Tank Ventilation
      - Airflow checks (verify the airflow is directed into the riser)
   b) Performing Crawler/Scrape Sampling with Glovebag and bag out sleeves
      1) The basket sample will have a b-line cut to sleeve out samples, into a PVC container and capped.
      2) The cameras will be sleeved out of the riser opening.
5) Pre-Job Briefing Required: a) Procedure S4 OPS-SO-LWO.01
6) Engineering Controls
   a) Sleeving
   b) Sleever w/ sleeving installed to remove crawler (Sleeving will be pre-staged on Sleever to remove sleever & crawler from riser.).
   c) Windspeed Guide of 10 mph
   d) Tank Ventilation with air flow checks to verify the air flow is directed into the riser.
   e) Certified Hut with removable roof (including a containment deviation) will be installed.
   f) Glovebag for basket sampling will be use. (Note: RCO will evaluate the Rad conditions of the glovebag (including gloves) after each sample to determine if more samples can be pulled with same glovebag or the need to replace glovebag for additional samples.
   g) Flush of the Crawler may be performed (with a limited amount of flush water). (Note: RCO will evaluate the Rad conditions of the Crawler during removal to determine if the Rad conditions will allow removal of the crawler.).
   h) Rigging bag to be staged for the sample containers (PVC), prior to moving sampling to the 8 Ton Cask.

Lead Work Group Manager/Designee (Signature)	Date	ALARA Coordinator (Signature)	Date
[signature]	3/21/11	[signature]	3-21-11
Radiological Protection FLM/Designee (Signature)	Date	Planner (Signature)	Date
[signature]	3/18/2011	[signature]	3/18/11
Additional (Title/Signature)	Date	Additional (Title/Signature)	Date

Attach Original to RWP or TWD

Pre-Job ALARA Checklist *(Continued)*

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Section III: Comments/Recommendations

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7) Monitoring Equipment
   a) Low Volume Air Sampling
   b) PAS Sampling
   c) EPD's
   d) Finger Rings & Forearm Badges
   f) If removal of the Crawler is required, a EPD will be staged in a Tungsten Glove on an extended tool to provide dose rates during removal of the crawler.
   h) A RO-7 Extended Instrument will be used for extremity dose rates during the sampling activities.
   i) A determination will be made to remove the Crawler based on the dose rates.
8) Additional Hazards
   a) Reference AHA for the Hazards and their respective controls. (e.g., Temperature control A/C Unit or Heat Pump staged on the Containment hut.
9) Waste Minimization:
   a) Equipment list
10) Survey/Dose Reduction
   a) Source Reduction
      - Rigging Bag to transport Samples (inside PVCcontainer's) to 8 Ton Cask (via Crane).
      - PVC Container w/ cap for Basket samples after each sample basket is removed and sleeved out of the glovebag
      -Tungsten Gloves
      - 8 Ton Cask, (Temporary Shielding Lead Vest available)
   c) Dose Reduction
      - Camera's used to perform the sampling activity
      - Each set of basket samples will be sleeved into a PVC container w/cap and then placed in a 8 Ton Cask using a Rigging Bag and Crane.
      - The samples are placed in the basket (located on the bottom of the tank) and then sleeved out of the glovebag
   d) The samples will be transported to the Lab in the 8 Ton Cask.
   d) Individual Dose Received will be set at 100 mrem.
   e) HRA controls to be implemented per SW11.1 Support

Comment:
1) The Command Post will be a Trailer staged at the job site with camera monitors, view point monitors, etc.
2) The Hut will include a Camera (positioned overhead) to assist the PIC with work activities in the containment.
3) The PIC will use the PIC Turnover checklist to provide the SOM with turnover at the end of the day.
4) Hut will include a removable roof (with A/C or Heat Unit).
5) No flushing of sample baskets will performed and a limited amount of flush water can be used for flushing the crawler.

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