

From: Waggoner, Larry O

Sent: Thursday, August 23, 2007 12:53 PM

Subject: ALARA Center Activities for Week of August 20, 2007

Attachments: D&D Significant Steps.doc; Websites for D&D 2.doc; No 3.jpg; Richland Fixatives task # 3 - Final Report.pdf; 3858hotspotjob2.jpg

Visit our website at www.hanford.gov/rl/?page=974&parent=973

In case you missed it, last week we had a fire on the Hanford site and adjacent areas that burned about 67,000 acres. Fortunately, no radioactivity was spread and there were no injuries. The cause of the fire is being investigated.

1. K. Funke of Bechtel Safety returned the 4.5" shrouded grinder they had borrowed to show their personnel there was a better way to grind surfaces without filling a room with airborne material. Workers had been exiting the room at the Vit Plant covered with debris. Connecting a vacuum cleaner to the shroud eliminated the airborne debris. Bechtel is purchasing these tools to eliminate the airborne debris.
2. Taught three classes on "The Life of a Glovebag" to 13 Fluor and 7 CH2m RCTs attending their annual refresher training. The Respirator Protection Committee held their monthly meeting at the ALARA Center. Forwarded M. Schmoldt, the Respiratory Protection Site Technical Authority the link to old Hanford photos. The link is <http://www2.hanford.gov/DDRS/index.cfm/> Click on "Simple Search" and what you're searching for. One of the old photos is attached. This link doesn't work off-site. Note: This is a resource for D&D personnel wanting info on how buildings were constructed. CH2M personnel called wanting information on where to purchase plastic shoe covers. Referred him to Marynn Safety in West Richland.
3. PFP personnel visited the ALARA Center and looked at Tri-Tool Cutting Machines and different saws-alls. They took catalogs from Tri-Tool and CS Unitec. Personnel from SWSD stopped and looked at our hand sprayers that could be used to spray a fixative on a corroded drum before handling. They borrowed one to show their operators. They also looked at the glovebags donated to the ALARA Center by T-Plant. The glovebags are a "Doghouse" design with sleeves on each end that attach to waste drums. T-Plant used them to sort waste from one drum and repack it in another drum.
4. WCH Engineering and RadCon visited the ALARA Center to explore options available to them for a custom designed glovebag. They intend to design a glovebag for sampling anomalies uncovered at the 100-BC field remediation site. The sampling evolution will take place during cold weather conditions. The specific hazards are still unknown but tritium and mercury are of primary concern. We met with the Fluor Hanford plastic shop operators to discussed options and viewed examples of glovebags from Lanc's Industries. CH2MHill Operations and Engineering representatives visited the Center to inquire about cutting tools in support of S-102 clean up activities. They were interested in a hydraulic scissor cutting device to enable a slow cut to prevent airborne contamination. We suggested Champion Rescue Tools Scissor Cutter equipment since they already owned hydraulic pump and they would only need to purchase a scissor cutting attachment. For more information see www.championrescuetools.com
5. Met with N. Clyma of G.E. Inspection Technologies and discussed their new products they are making for CH2M in the Tank Farms. They are making sampling devices for drawing samples of tank sludge and these are apparently working well. Nick can be reached at (425) 210-4729. G. E. Inspection Technologies replaced our videoscope with a camera system that had been developed for CH2M for use in underground tanks. We now have the Ca-Zoom 6.2 remote visual inspection system in the Center for your review. This system puts image management in palm of your hand with interchangeable camera heads, advanced camera setup, integrated image capture and full motion video recording capabilities. You are invited to the Center to view and test this system. For more information about GE's inspection technologies go to: www.ge.com/inspectiontechnologies.

Larry Waggoner / Jerry Eby / Jeff Hunter
Fluor Hanford ALARA Center
(509) 376-0818 / 372-8961 / 373-0656

FOR YOUR INFORMATION

1. Made arrangements for the Radcon Manager of a company working at a facility in Malaysia, to meet with burial ground personnel and learn how Hanford recovers drums from the burial grounds. H.Hedge is a former employee of CH2M and now has to recover 85,000 waste drums filled with rare earth materials. Over time, these drums degraded due to the high moisture content of the waste. Previously, they started to handle one of the drums and it disintegrated. Plan is to move the drums from an above ground storage facility to an on-site engineered cell.
2. In the course of working with Florida International University and DOE EM-23 on the ALARA website and hotline we are creating lists of information and vendors that will ultimately appear on the website. Rather than wait until February 08 when the website is fully implemented we have attached some of this information in Draft form now for your use. [See attachments.](#)
3. A good report that concerns methods to treat contaminated surfaces can be found at <http://www.epa.gov/radiation/docs/cleanup/402-r-06-003.pdf> To read all of DOE's Innovative Technology Reports go to <http://apps.em.doe.gov/OST/itsrddfa.asp> To see a good website on using oxy-gasoline to cut metal see <http://www.petrogen.com/>
4. Received a report written by Florida International University that compares different types of fixatives that were tested with Hanford soil. WCH shipped 500 pounds of soil to FIU where various concentrations of four fixatives were applied to soil samples. The fixatives tested were Road master, DustBond, DuraSoil, and Guar Tackifer. The samples were placed in a wind tunnel and wind was drawn across the samples at speeds from 10-30 mph. The samples were measured before and after to determine how much soil was lost at each speed. The results of the testing revealed that the different products performance were based on the type of soil, its moisture content, ratio of fixative to water, how deep the fixative penetrated, and its chemical makeup. The conclusion of the report recommends *"For all the fixatives, further cost analysis would have to be performed to determine the cost advantage of one versus another, especially when combining the results of the tests performed as a part of this research study."* In our opinion, we would recommend DustBond for use at Hanford. At another DOE site, we would recommend comparing the type of soil, its moisture content, and the prevailing wind speed to determine which fixative is best. This report tells how it was done at FIU with the Hanford soil samples.

LESSON LEARNED

1. 200 LEF forwarded a photo of the device used to vacuum a hot spot off the bottom of a tank. A plastic bottle was modified to connect to a vacuum cleaner hose. Half the bottle was stuffed with filter media. A rubber cone vacuum cleaner nozzle was attached to the other end of the bottle. Debris was sucked into the bottle and the larger particles stayed in the bottle. This didn't work as well as we planned. The collector bottle reads 40 mrem/h and the vacuum cleaner 45 mrem/h. We were hoping that all the radioactive debris would be trapped in the bottle. Plans are to drain some liquid from the tank and go after the remainder of the hot spot which read 250 mrem/h through the tank wall. This type of device