From: Waggoner, Larry O
Sent: Thursday, April 05, 2007 12:49 PM
Subject: ALARA Center Activities for Week of April 2, 2007

Attachments: Air Flow Meter.jpg; Spraying 2.jpg
Visit our Website at www.hanford.gov/rl/?page=974&parent=973

1. Held PHMC ALARA Council meeting for April, 2007.

2. Gave a piece of 4" PVC piping to the ALARA Coordinator for CH2M Closure Operations. Plan is to see how much attenuation the 3/8" PVC walls provide from a beta source. He is working on a project to simplify how equipment is removed from underground tanks through a riser pipe. Currently, the equipment is raised into a cylinder made from rubber matting and tape applied in "barber-pole" style so the matting is secured around the rigging. We are looking for a lifting device that can be used to raise and lower the equipment similar to a remote garage door opener or a boat winch. Total height of the lift is about 15' and the weight of the assembly is about ten pounds. If necessary, they will obtain an extension hoist and mount it to a 4-wheeler off-road "Gator" or something similar. Recommended he call Chris Smith at Intellegration who is designing new long-handled tools for CH2M. See www.intellegrationllc.com.

3. Groundwater donated several lead wool blankets to the ALARA Center to give to facilities/contractors that might need them. These blankets had been obtained from Fernald after the Site was closed. Anyone needing lead wool blankets that are 1' X 6' and equivalent to 1/4" lead should contact the ALARA Center ASAP. R. Bodette from WIPP called concerning the actions taken at Hanford when a waste drum is discovered to be corroded and leaking. Discussed the use of a Hurricane hand fogger using a glycerin-base fixative. See www.dynafog.com Also discussed the possibility of putting a fiberglass patch over the hole. Told him about the Zip Patch sold at www.devcon.com. Referred him to Tom Haan at Waste Retrieval to get the latest info on work practices.

4. Loaned samples of the HexArmor cut and puncture resistant gloves to two groups of WCH. So far, everyone that has looked at these gloves has purchased several pair. Workers tell us they are far better than the leather gloves they used in the past. See www.hexarmor.com. Loaned our Kestrel 1000 Pocket Wind Meter to Mark Gibson. He is looking for an inexpensive way to measure air flow when waste drums are vented. See Attached photo. Forwarded our handout on "A Simplified Approach to Mockup Training" to the K-Basin Training Coordinator. Composed a guide of the steps needed to remove a contaminated glove bag and forwarded it to Rad Engineering at K Basin. They will refine it and make it fit their upcoming glovebag work.

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VENDOR INFORMATION

GE Inspection Technologies (who acquired Everest VIT in Aug 2005) will be displaying their latest Remote Visual Inspection and Remote Sampling equipment at the ALARA Center on April 18th and 19th between 9am and 3pm. Two GEIT engineers from New York will be available to discuss any specific camera and/or tooling requirements you may have. They have been working on solving problems at the Hanford Site for five years and have 20+ years experience with commercial nuclear power, nuclear propulsion and D&D work at various DOE sites. These are some of the best cameras, tractors, and videoscopes available so if you're interested, don't miss this.

FOR YOUR INFORMATION

1. Drafted a power point presentation that concerns the D&D Working Group of the Energy Facilities Contractors Organization (EFCOG), the Hanford ALARA Center and the SRS ALARA Center. On October 17, 2007, the SRS ALARA Center will host a one day presentation that will include the latest tools and equipment used in D&D work. The power point presentation will be given at the Federal Project Manager's Conference on May 2 in Las Vegas. Plan is to attend the conference, give the presentation, and then spend a day with Paul Greenbaum on a road tour of the Nevada Test Site looking at their radiological work facilities.

2. Forwarded lesson learned to D&D personnel on D&D of a Former Pu Processing Facility's Process Exhaust System, Firescreen and Filter Plenum Buildings. See http://www.osti.gov/bridge/servlets/purl/212461-RVoyl4/webviewable/212461.PDF The engineered controls used on this project included a "body glove" glove bag that workers entered to perform work. This sounds similar to "half-man suits" worn in Navy Shipyards for work inside the primary plant or to refurbish a reactor vessel head. Workers in the body-glove wore supplied air respirators in case the body glove failed.

3. We get asked from time to time what is D&D work? These questions usually come from workers that haven't begun D&D yet, the Public, or vendors. There are actually four words that start with a "D" that make up what we refer to as D&D or the D4 Process. The following is Washington Closure Hanford's definition of their D4 process:

- Deactivation – Shutting down any operations or processes that may be ongoing as part of the building lifecycle.
- Decommission – Removing energy sources, such as electricity, steam or natural gas.
- Decontamination – Removing or stabilizing radioactive and hazardous contaminated materials, including items such as light ballasts and chemicals.
- Demolition – Removing building structures and slab or foundations.

The D4 Project Team at WCH is removing facilities ranging from small mobile offices to highly contaminated multi-structured facilities, waste storage pads, sewage treatment structures, stacks and tanks. This work is currently in progress in the 100N and 300 Areas. Fluor Hanford is working similar projects in the 200 Area.

LESSONS LEARNED

1. Received message from DOE HQ EM-23 on the results of testing four different fixatives in a wind tunnel to simulate the conditions at Hanford. Four fixatives were tested by Florida International University and Dust Bond was the best. See http://www.ddemulsionsinc.com/Products.htm The complete report will be available in about two weeks. This is the only info we have so far:

- **Florida International University (FIU) Completes an Extensive Set of Tests on Fixatives for Soils at Hanford – "**A Fixatives Analysis for Soil Stabilization Activities at Hanford," a research report by FIU, was completed March 26, 2007. This research utilized uncontaminated soil from Hanford in wind tunnel and other tests and evaluated the four fixatives typically used on Hanford soils. The study showed that the DustBond® fixative was clearly the best at soil suppression at wind speeds of 10 – 30 mph. Engineering Controls at Hanford stop all soil movement operations when wind speeds exceed 20 mph. Tests showed that DustBond® was effective even when applied at less than half the recommended amount per acre. Using less fixative can therefore save DOE over 50% of the cost of the fixative. In addition, it also gives DOE EM documentation on the performance of the fixative on Hanford soils to address safety, stakeholder and liability concerns.

NOTE: A similar report was issued by PNNL in 1997. They obtained soil samples from Hanford and INEEL and tested three fixatives in a wind tunnel. The three dust control agents were made from (1) powdered potato starch, (2) XDCA (liquid mixture of water, sugar beet extract sugars and organic and inorganic additives) and (3) fermented potato waste. Read about this testing at http://www.osti.gov/bridge/servlets/purl/10190697-UOi5k7/native/10190697.pdf The conclusions are on page 5-1 to 5-3.

Info on the Dust Bond websiteincludes the following information:

Dust Bond®

Dust Bond® is D & D's Trademarked dust control product and is used as a dust suppressant as well as a soil stabilizer. It has been specially formulated using a virgin adhesive petroleum resin, which is suspended in a stable emulsion. It was developed to be an environmentally friendly way to solve dust control problems on dusty roads or unpaved industrial lots.

How does Dust Bond® work? - After being sprayed on a dusty surface, the cohesive resins from the Dust Bond® attach themselves to the dusty fine particles, clustering them into particles that are too large to become airborne.

Before

After

Application of Dust Bond®

After Application of Dust Bond®

See Attached photo of a worker applying a dust suppressant to a debris pile during D&D work.