

# Fluor Hanford ALARA Center

## Activity Report for September 3<sup>rd</sup> and 10th 2007

This report contains information for a two week period, September 3<sup>rd</sup> and September 10, 2007 because of holiday week.

### **Assistance, Demonstrations, Research, and Tours Provided by the Center**

1. While looking for information on misters I found a website from Arch Environmental that has a "Dust Suppression Handbook". Recommend looking at <http://www.aeec.com/Conveyor/Dust%5FControl/Default.aspx> if you're interested in misting technology and searching this site to see the typical components that make up a water mister system. We use misters during building demolition to eliminate airborne particulate.
2. Washington Closure Hanford requested information on asbestos tile removal machines for large tiled areas. We forwarded several examples of asbestos tile removal machines with their web page links back to Washington Closure but could not recommend on over another because we have not used the equipment. For asbestos abatement equipment and contractor information, search the internet for "asbestos abatement equipment." If you have first hand experience with the machinery, please let us know what worked best for you.
3. Met with sales personnel from Hex Armor and National Safety and discussed new puncture resistant gloves they have developed for WRAP. They have also developed other new styles of gloves and will forward samples to add to our collection. They are also meeting with representatives from the other Hanford contractors and Perma-Fix northwest. See [www.hexarmor.com](http://www.hexarmor.com)
4. CH2MHill Operations and RadCon visited the ALARA Center to brainstorm ideas for building an inline filter for a vacuum. They want to vacuum a potentially contaminated vent duct and stop the contamination before it reaches the vacuum unit. One idea they will be testing is placing two air sample filter heads back to back with a air sample filter and charcoal cartridge in the down-stream filter housing. The two air sample heads can be connected with tape and hose clamp.
5. The Center held two classes (020729) Basic Glove Bags and three classes at the Hammer facility for continuing training for RCT and HPT on Radiological Control Containment.
6. Received a hard copy of the DOE Occupational Radiation Exposure Report for 2006. To access this report go to [www.hss.energy.gov](http://www.hss.energy.gov) The report provides a summary and an analysis of occupational radiation exposure information for all monitored individuals associated with DOE activities. The total effective dose equivalent (TEDE) decreased by 18% from 2005 to 2006 due primarily to decreases in the amount of work performed that directly involves radioactive materials. In addition, several facilities completed cleanup activities and Rocky Flats was closed. Please read the report for additional information.

### **New Process, Tools, or General ALARA Information**

1. Received a one quart sample of the Dust Suppressant "DustBond" from the manufacturer. Earlier we reported that Florida International University had tested four fixatives used at Hanford in a wind tunnel with samples of soil from Hanford. The results of the testing revealed the DustBond fixative was clearly the best of the four tested at soil suppression with wind speeds from 10-30 mph. Received tech data sheets from Instacote on the products they sell to the nuclear industry. See [www.instacote.com](http://www.instacote.com). One product, "CC Doff" is sprayed on personnel exiting highly contaminated areas before they begin doffing their protective clothing. In the past, some of the Hanford facilities used hair spray in aerosol cans to fix contamination on

## **Fluor Hanford ALARA Center**

### **Activity Report for September 3<sup>rd</sup> and 10th 2007**

personnel. CC Doff is spritzed instead of being propelled as an aerosol. Forwarded this info to the facilities that have used hair spray for their evaluation.

2. Received contact from the UK wanting info on erecting containment tents. Sent several handouts on containment design and a photo showing how CH2M inflated their tents during installation at 244-AR. Attached is a photo showing one section erected with the scaffolding inside and a containment being inflated.

3. Received information from the United Kingdom on air flow pattern testing they accomplish before starting high risk work that has a potential for contamination spread. They make a sketch of the work area and show the location of ventilation exhaust and supply points. They also include the location of portable HEPA filtered ventilation hoses. Then they blow smoke in the area and record the air patterns on the sketch. They measure the velocity of the ventilation near the source and record that info on the sketch. Last, they show where they will install pickup points for their air samplers. The result is a sketch that shows the air patterns and direction of flow near the source. The velocity measurements reveal whether there is enough flow to capture airborne contaminants in the air stream. The sketch also reveals whether the air sample pickup points are in the right location. Forwarded this information to key personnel at Hanford and other DOE sites in case they might want to use this technique to document their job planning .



### **Decommissioning and Deactivation Activities and Information**

1. Met with H. Hedge, the Lab Manager from a plant in Malaysia who was on-site looking for information on the retrieval methods used for corroded waste drums. He has the job of

# Fluor Hanford ALARA Center

## Activity Report for September 3<sup>rd</sup> and 10th 2007

recovering 80,000 drums that are in poor condition. Gave him copies of some recent documents written about Hanford's waste drum problems and introduced him to T. Haan of SWSD who briefed him on the techniques used at the Burial Grounds. Read these documents at <http://www.osti.gov/bridge/servlets/purl/875912-DSkn3l/875912.PDF> and <http://www.osti.gov/bridge/servlets/purl/10148786-xgzQLD/webviewable/10148786.PDF>

2. Continued to trade info with a Health Physicist in the UK. He forwarded a written procedure they use when setting up a new job where they intend to use ventilation to help control contamination. An air pattern test is accomplished using a fog or smoke generator. A sketch is made showing ventilation locations, configuration, release locations and air flow patterns. The smoke is introduced in the work area and a sketch is made showing the direction the fog or smoke moves and its velocity. The sketch also shows existing supply and exhaust points in the work area. The test results show them where to place real time and passive air monitoring equipment and, whether the direction of flow and the amount of velocity is correct to capture airborne contamination. An appendix to the procedure provides guidelines on where air monitoring equipment should be placed.

3. Received a message from D. Biella at the West Valley site concerning building demolition. Forwarded him info on misters, fog cannons, fixatives, concrete cutting saws, and links to recent reports on successful D&D projects at Hanford. Conducted the PHMC ALARA Council meeting for September. T. Haan discussed the upcoming plans for retrieving high level waste from burial grounds and the work practices they are using. They are using water misters provided by "Northwest Mist Systems" at (509) 735-9079 and the mist is controlling any contamination spread as they uncover corroded drums. See attached photo. The water molecules squeezed through the mister nozzle are sized so they attach to airborne Pu and return it to the surface.



### Contacts

Come visit us at the Fluor Hanford ALARA Center; we are located on the Hanford site at 2101M/200E/226. We will do our best to help you with your radiological engineering, ALARA, and D&D challenges. You can also send us questions via e-mail or by phone. Contact information is below.

Jerry Eby  
Jeff Hunter

(509) 372-8961, Cell (509) 528-3094, [gerald\\_l\\_eby@rl.gov](mailto:gerald_l_eby@rl.gov)  
(509) 373-0656, Cell (509) 948-5906, [jeffrey\\_l\\_hunter@rl.gov](mailto:jeffrey_l_hunter@rl.gov)

**Fluor Hanford ALARA Center**  
**Activity Report for September 3<sup>rd</sup> and 10th 2007**

Larry Waggoner (509) 376-0818, Cell (360) 801-6322, [larry\\_o\\_waggoner@rl.gov](mailto:larry_o_waggoner@rl.gov)

ALARA Center Website: [www.hanford.gov/rl/?page=974&parent=973](http://www.hanford.gov/rl/?page=974&parent=973)