

**From:** Waggoner, Larry O

**Sent:** Thursday, June 15, 2006 11:01 AM

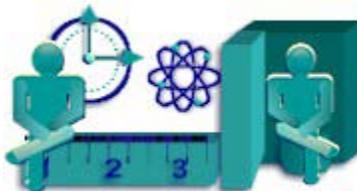
**Subject:** ALARA Center Activities for Week of June 12, 2006

**Attachments:** Remote Operated Wall Decon Unit - FIU.pdf; Large Bore Pipe Decon and Characterization System - FIU.pdf; Uranium Spill.doc; Foaming Techniques.doc; DSCN6391.JPG

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

1. Forwarded the following Website address on ALARA Considerations for Facility System Design to PNNL Radcon personnel working on the design of the new PNNL Radioactive Work Facility. See [http://www.eh.doe.gov/radiation/RST/ALARA\\_files/part4.doc](http://www.eh.doe.gov/radiation/RST/ALARA_files/part4.doc) Forwarded memo written by Robin Hill to Radcon Manager of a facility in Indonesia. Memo concerns the potential dose resulting from cuts or punctures while handling materials that are contaminated with Pu or Am contamination. The facility in Indonesia has to dispose of 85,000 waste drums containing rare earth materials.
2. A meeting was held at the ALARA Center to discuss current methods of surveying the bottom of waste containers without the RCT reaching under the suspended load. A number of personnel showed up and described how they were meeting the requirement. Some have special lifting devices, tipping carts and some use remote tools. Chris Smith from Intellegation demonstrated his high-tech tools that were being used to remove debris from the bottom of the K-Basin fuel pools. Several suggestions were offered on how to modify existing remote tools to make it easier to do a smear survey or modify the tool to hold radiation detectors. Intellegation will see if they can design a simple tool that will do the job. Brian Baumann issued minutes of the meeting outlining additional actions.
3. Dan Beers forwarded the following graphic.

#### Basic Concepts of Radiation Protection



[time](#)   [distance](#)   [shielding](#)

This is the ALARA logo on the EPA Website at [http://www.epa.gov/radiation/understand/protection\\_basics.html](http://www.epa.gov/radiation/understand/protection_basics.html). They seem to have forgotten about "Source Reduction" which is the fourth element of reducing dose.

3. PFP used the ALARA Center Mockup Area to train their personnel on glove changes and other glovebox operations. Groundwater Engineer checked out all the vacuum cleaners to find a replacement for the Euroclean UZ-948 model they currently use. The manufacturer has stopped making this model and spare parts are difficult to find. Engineers from Project Engineering tested the GE Inspection Technologies video scope. They were looking for an attachment to their video probe that would permit better viewing at a distance. They want to peer inside a fan housing that is likely contaminated. Recommended they contact Pat Stanley who has extra parts for a video probe.

4. Forwarded the web address to old Hanford photos to Mark Benecke who is working on a project that will dig up the old trenches. See <http://www2.hanford.gov/DDRS/index.cfm/> Click on "Simple Search" and then type in what you're searching for. Forwarded several documents to S. Barr at SRS on techniques for foaming piping during D&D. One of these documents is attached.
5. Forwarded pictures of the concrete hose-in-hose shielding blocks to the SRS ALARA Center. These "hose barns" are used to shield the above ground transfer lines without putting any weight on the hose. Their "U" shape puts the weight of the shielding on the ground, on each side of the hose. They come in various lengths from 2' to 20'. Photos are not attached to this report due to the size of the electronic files. Points of contact are Ruben Mendoza at (509) 372-1336 or Jeff Marks at (509) 373-3748.
6. The Waste Management Engineering Manager called wanting info on HEPA filtered ventilation units they could use as a backup system during TRU waste retrieval operations. Recommended they look at the websites for NFS/RPS and Bartlett Nuclear Services. See [www.nfsrps.com](http://www.nfsrps.com) or [www.bartlettinc.com](http://www.bartlettinc.com).

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#### FOR YOUR INFORMATION

1. Attached are two documents from the Applied Research Center at Florida International University. This organization works with DOE to find better solutions needed to accomplish radiological work. See [www.arc.fiu.edu](http://www.arc.fiu.edu). Also attached is a Lesson Learned from the DOE Website that concerns a spill of highly enriched uranium inside a glovebox.
2. W. Smoot reports their initial testing at CH2M with OREX disposable clothing revealed that 3 out of six personnel split the suit in the crotch area when they wore it to climb a ladder. Wearing the next largest size seemed to help some workers. OREX testing continues.... R. Demarah returned the blacklight and Fluorescent powder he had borrowed. It was used at a mockup to simulate contamination. The workers were convinced they could accomplish a task without spreading contamination but after they performed the operation in a mockup and spread the powder on themselves and throughout the work area, it was easy to convince them about the need for added radiological controls. The powder had been placed in the mockup without the worker's knowledge and then they were asked to accomplish the task using the work practices they thought were needed. When applied lightly on a surface, is "invisible" to the worker, but fluoresces under a blacklight. See [www.lynnpeavey.com](http://www.lynnpeavey.com) to purchase the powder, black light and a small feather duster. This company also sells "Got-Cha spray, which is a liquid.
3. Dan Powers has been researching bar-coding devices to use to inventory ALARA Center tools. R. Brown from CH2M showed what they use at the ACES Station and J. Aguilar showed what the warehouse uses to inventory equipment in storage. He prepared a functional design plan and is going forward to procure hard and software.
4. Found a website that may be very useful to D&D personnel as well as personnel digging up burial grounds or handling waste containers. The website is <http://www.wastehandling.com/ME2/Audiences/Default.asp> At this website you can subscribe to "Waste Handling Equipment News" and receive a monthly magazine, either hard copy or electronic.
5. While digging through the files found info on Novopress Rebar cutters and benders. See <http://www.novopress.com/>

In addition, specialty tools can be found at <http://www.bti-tool.com/>. "Better Tools for Industry" sells special wrenches, small vacuum cleaners and other unique products. Commercial nuclear power plants

with Pressurized Water Reactors have a PWR ALARA Committee made up from each plant that meet periodically to discuss common issues. At each meeting, they compile a list of "Golden Nuggets", which are good ALARA Practices. The website is <http://www.pwralara.org/>. Click on "Golden Nuggets". Some of these are hard to read but we think you might see something you can use.

6. D&D personnel have begun demolishing the 232-Z Waste Incinerator Building. One photo is attached. You can see the water tank on top of the excavator that provides water to a mister nozzle located near the jaws. Misters can be seen in the distance and at the right edge of the photo on the roof of the building (it looks like an orange pipe). A worker with a fire hose is sending additional water on the debris pile from the side. They also have a Fog Cannon they turn on when needed. During the period when it was raining and all misters were in operation, the mist was so dense that the operator couldn't see what he was doing. So far there has been no spread of contamination outside the boundaries. This is the first of several very highly alpha-contaminated buildings being demolished around the outside of the Plutonium Finishing Plant. Contact Earl Lloyd at (509) 373-6541 or email [earl\\_r\\_lloyd@rl.gov](mailto:earl_r_lloyd@rl.gov) if you need more details.

7. D&D operations in Building 291-Z included filling a vent duct with expandable foam. They used Denefoam 200 from De Neef Construction Chemicals Inc. It comes as a two liquid component Material A and Material B in pressurized metal containers. The two components are mixed in a mixing gun as it was sprayed into the duct. It was applied in 6" layers of foam which had a 30 minute cooling/degassing period between layers. Reports are that it worked well in filling a section of 3' diameter ducting in a contained area. Venting of the Diisocyanate gases released during foaming was accomplished with HEPA-like carbon filters. Point of contact is Dave Jeppson at (509) 376-1795. See <http://www.deneef.com/>

8. Met with CH2M engineer J. Propson who has a job to solidify/absorb liquid located at the bottom of a tank that is 40' long, 9' wide and 20' deep. Provided sample of Water Works Crystals, which absorb liquids and recommended he call Dick Hanson Distributing who sell absorbent socks and pads. See <http://www.1water.com/contacts/index.html> or call Dick Hanson at (509) 531-7755.

9. Interested in reading a lot of articles associated with radioactive waste management, Chernobyl, Yucca Mountain, etc? Check out <http://www.radwaste.org/hot.htm>. An even better site might be the National Nuclear Data Center at Brookhaven. See <http://www.nndc.bnl.gov/> Provided tour of the ALARA Center to Jack Williamson who is the ES&H manager from Sellafield. He seemed impressed and indicated that he would have some of his staff contact us and share info.