

**From:** Waggoner, Larry O  
**Sent:** Friday, August 18, 2006 2:01 PM  
**Subject:** ALARA Center Activities for Week of August 14, 2006

**Attachments:** Wet Sandblast Kit.jpg; Harris.jpg; Table.jpg; demonstration.jpg

Visit our Website at [www.hanford.gov/rl/?page=974&parent=973](http://www.hanford.gov/rl/?page=974&parent=973) The external website for the Savannah River ALARA Center is [www.srs.gov/general/programs/alara](http://www.srs.gov/general/programs/alara).

1. Forwarded info to the Weapons Test Site at Las Vegas on methods used to fix contamination inside large waste tanks. Discussed the use of the aerosol fixative "Capture Coating" by Encapsulation Technologies and the Rust Doctor product used by BHI on the Emergency Dump Tank at 100N. See [www.fogging.com](http://www.fogging.com) and [www.therustdoctor.com](http://www.therustdoctor.com). Forwarded info on temporary shielding roll-around racks to H. Hedge who is the Radcon Manager at a radiological facility in Indonesia. He has to dispose of 80,000 waste drums containing rare earth materials.
2. Provided info on Polyurea spray coating to WCH Radcon. Gave them a list of vendors and the RMIS database report written for CH2M Hill on the compatibility of polyurea with tank waste. The 109 page report can be found on the RMIS database at Accession #D8660842. The report documents the testing of how the polyurea is compatible with the waste, the adhesion strength, the effects of radiological exposure and decontamination factors. If you can't get on the RMIS database, contact the ALARA Center and we will forward a copy. Forwarded Bill Smoot's Power Point presentation on Heat Stress Mitigation to Myra Long at Oak Ridge. See Item 2 below under "Lessons Learned".
3. Sponsored a demonstration by National Safety and Hex-Armor on puncture and cut-proof gloves. It was a very productive meeting attended by about 15 workers from several facilities. All gloves had a rating of 5 which is the most protection. Workers from PFP preferred the Hercules 400R6E glove, which is a gauntlet style glove with full hand and arm protection. These gloves would be located in gloveboxes so they could be worn over the top of the glovebag gloves, when needed. The sales rep from Hex-Armor offered to work with the facilities to come up with gloves that had all the desirable characteristics and were the proper size. Workers indicated they were wearing leather gloves now for added protection, and the Hex-Armor gloves were superior to the leather. Hex-Armor will ship their 10 most popular gloves to the ALARA Center for display. See [www.hexarmor.com](http://www.hexarmor.com) We will loan the display to facilities/contractors to show their workers and managers. Our concern is not only the need to help prevent worker injury but reduce the possibility that contaminated wounds would have to be decontaminated or surgery performed to remove radioactive contamination. With an increase in D&D work, more workers are required to handle sharp objects created during demolition or during size-reduction of materials and equipment.
4. Loaned a HEPA filtered GM-80 Nilfisk vacuum cleaner with a speed controller to CH2M to demonstrate the use of negative ventilation in a glove bag. Also loaned a blacklight and fluorescent "sneak thief" powder so they could simulate contamination. Forwarded them info to purchase their own vacuum cleaners for training and glovebag work. See [www.lynnpeavey.com](http://www.lynnpeavey.com). Personnel from SWSD stopped to look at tools they can use to recover waste drums that had sunk up to 3" in asphalt. The ALARA Chairperson also called to let us know that drums in Trench #4 have been uncovered and the drum walls are very deteriorated to the point they are almost non-existent. Much of the waste drum contents are visible. Agreed to work with SWSD to establish radiological controls for the recovery of these materials. Discussed methods that could be used to demolish the Building 327 hot cells with WCH Radcon. Recommended they subscribe to "Concrete Openings" magazine which contains a lot of info on cutting and drilling concrete. Read the magazine articles at <http://www.csda.org/displaycommon.cfm?an=2> This magazine is free and comes every two months. *Subscribing to the magazine is better than reading it on the internet because the internet version does not contain the vendor advertisements, which have a lot of information.*

5. Provided tour of the ALARA Center to two instructors from the Energy Northwest Power Reactor. They are preparing for a training class on containment devices to be taught in six weeks. Provided several copies of handouts we have on using glovebags and containment tents. Myra Long, who now works at Oak Ridge forwarded some photos of a worker wearing disposable, breathable clothing that was so thin that it became transparent. The clothing was placed on a table and sprinkled with AJAX cleanser. The last photo shows how much AJAX got through the suit. If you're considering wearing breathable clothing in a Contamination Area, recommend you test it first. You can contact Myra at email [longmp1@bechteljacobs.org](mailto:longmp1@bechteljacobs.org) for details.

Larry Waggoner / Jerry Eby / Dan Powers

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## FOR YOUR INFORMATION

1. Technology Reference Guide for Radiologically Contaminated Surfaces (EPA-402-R-06-003). The U.S. EPA Office of Radiation and Indoor Air (ORIA) developed this Technology Reference Guide for Radiologically Contaminated Surfaces to help identify surface decontamination technologies that can effectively remove radiological contaminants from building, structure, and equipment surfaces. These technologies may also be useful in the removal of non-radiological contaminants, such as hazardous metals, from surfaces. This Guide is designed to provide easy access to critical information on technologies that are commercially available (March 2006, 150 pages). It covers both chemical decon technologies and physical decon methods and techniques. View or download at <http://www.epa.gov/radiation/docs/cleanup/402-r-06-003.pdf> Our thanks to George Carter for sending this information.

2. The ALARA Center is constantly asked for recommendations and suggestions on how the conduct of radiological work can be improved and made safer for the workers. I found this in a 40 year old Department of the Interior document on how to operate and maintain irrigation systems. It provides some guidelines on "what is a constructive suggestion?".

A CONSTRUCTIVE SUGGESTION is one that gives a "YES" answer to one or more of the following questions:

- Will it simplify? Operations - Forms - Methods
- Will it eliminate? Waste - Accident hazards - Nonessential routines
- Will it improve? Service - Working conditions - Procedures
- Will it establish a new practice? That is better - That is safer - That is more efficient
- Will it provide a solution? That is understandable - That is practicable - That is timely

We can add the following:

Will it be ALARA? That saves dose - That protects people and the environment - That reduces the amount of mixed and/or TRU waste -

3. The employees of the HAMMER Training Facility will be touring the ALARA Center on August 30. They are considering expanding their training classes to include D&D Techniques with emphasis on hands-on training. We will describe how we interface with the facilities and contractors and provide recommendations on tools, equipment, work practices and lessons learned.

4. We said goodbye to Dan Powers, our summer intern who is off to college. While he was here he set up a barcode system that improves our ability to track what vendor tools and equipment we have on hand and who we loaned them to. He will be back at Christmas to see if the two old men at the ALARA Center have learned to use the system.

## LESSONS LEARNED

1. Learned that Enviro-con, a sub-contractor to WCH, was using an innovative method to decontaminate the buckets of large excavators used in the burial ground just north of the 300 area. The excavators were used to collect contaminated dirt and debris that had been "fixed" with a gooey fixative. Attempts to decontaminate the loose and fixed contamination from the buckets coated with the fixative with hand-tools were difficult and very time consuming. They obtained a nozzle from Columbia Basin Hotsy Pressure Washer Co and that injects sand blast sand at the tip. The combination of the grit and high pressure heated water quickly decontaminates the surface. The wet sand particles stay in the area of the bucket rather than fly long distances so they can be easily contained. Enviro-Con rented the pressure washer and purchased the sandblast unit. Comments from the workers included: "We got more work done in 1.5 hours with the Hotsy system than we did in four days using the hand tools" and "if we had this at Rocky Flats we could have saved hundreds of thousands of dollars". See [www.cbhotsy.com](http://www.cbhotsy.com) or call (509) 943-6022. See attached photo of the sandblast kit. Simply attach this sandblast nozzle to the end of the pressure washer wand (instead of the normal high pressure nozzle), put the pickup tube into the sand, and pull the trigger. The nozzle creates a venturi effect and begins to draw the sand immediately, mixing with the high pressure water within the nozzle. The sand never touches any of the pressure washer components, and clean up is a breeze. No airborne dust or debris, due to the weight of the water forcing the sand and debris to fall immediately to the ground. Hotsy pressure washers and equipment can be ordered online from Columbia Basin Hotsy along with all air compressors and pneumatic tools made by Ingersoll-Rand. If you have additional questions about this lessons learned call Rick Park of Enviro-Con at (509) 531-6813 or (509) 373-4915.

2. Bill Smoot reported five workers at Tank Farms wore two sets of OREX disposable protective clothing to work in the 85 degree F Evaporator building for 40 minutes. The two pipefitters wore the OREX Deluxe clothing as the outer garment, which are water resistant. In the past the work was done in rain suits, because of the potential for liquids. There was concern that the high temperatures and contamination levels would cause wicking and result in a skin and/or clothing contamination. All personnel reported they were much more comfortable in the OREX and the observable perspiration on the modesty clothing was reduced from previous entries. No skin or clothing contaminations occurred. Overall, the crew, safety, radcon and ops were impressed and considered this a very successful demonstration of the OREX protective clothing.