

**From:** Waggoner, Larry O

**Sent:** Friday, September 29, 2006 7:39 AM

**Subject:** ALARA Center Activities for Week of September 25, 2006

**Attachments:** Pipefitter Receives Electric Shock While Using Port.doc; Worker Involvement in ALARA Process Results in 75.doc; Nilfisk-IVT-1000-CR-Safe-Pack.jpg; lube-group.jpg; Importance of Using Appropriate Decontamination Methods.doc; Supplied Air Respirators.doc; Importance of Using Appropriate Decontamination Methods.doc; Nilfisk-IVT-1000-CR-Safe-Pack.jpg

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1. Forwarded info on containment manufacturers to Rad Engineer working at the Advanced Mixed Waste Treatment Project at INEEL. Provided recommendations on venting a tank being filled with liquid from Bldg 327 Fuel Storage Basin to a WCH engineer. He borrowed three 2 CFM HEPA filters and we gave him a 40 cfm HEPA filter and provided him recommendations on installing the filters. He will return the filters he doesn't use. Met with PFP Engineer who was looking at available options for coating the ventilation system in Bldg 291-Z. The 3' square vent ducting is in poor condition and is rusty on the bottom. Recommended they contact Master-Lee or Matheson Painting and have the duct sprayed with polyurea. Showed him samples of polyurea and a videotape from Line-X on their pickup bed polyurethane spray. According to the chemist that wrote a report done by CH2M, the polyurea is three times tougher than the Rhino Lining/Line-X polyurethane coatings.

2. Met with CH2M planner working on a pipe cut in a glove bag at 222-S labs. Jerry forwarded him five photos taken during Fluor Federal Services glovebag training showing a "German Saw" attached to a mount on a pipe inside a glovebag. The German saw was mounted in a sleeve and the sleeve taped to the forward housing of the saw. This keeps most of the saw outside the contaminated glovebag. Recommended that final grooming of the cut area be done with Emory paper instead of the "Chicken Plucker" sanding wheels. Discussed a previous incident that occurred a few years ago where the chicken plucker spread high levels of contamination and it escaped the glovebag through an untaped Velcro closure. Recommended the Velcro closure be sealed with a glue strip or taped securely on both sides once all the tools/material are in the glovebag.

3. SNF Radcon picked up a brochure from Dyna-Fog on their small aerosol applicators. They are planning the job of removing the canister Plexiglas enclosure at K Basins that has very high contamination levels inside. Plan is to power wash the inside of the enclosure with water and then use the Dyna-Fog to apply an aerosol glycerin and water mixture to capture the contamination. Read about the applicator at [www.dynafog.com](http://www.dynafog.com) or the fixative at [www.fogging.com](http://www.fogging.com)



4. A CH2M planner stopped and looked at the CS Unitec saws-all and porta-band saws and their clamps that attach the tools to piping and I-beams. They will contact CS Unitec and discuss a purchase. The only hang-up is that the CS Unitec saws are made in Germany and have not been inspected by a Nationally Recognized Testing Lab in the United States. The engineer was familiar with the steps necessary to get the tools tested by the Underwriters Lab in Camas, WA. Steve Stecker at 373-7715 has paperwork in place to get equipment tested. CS Unitec offers cutting blades made for stainless steel and has simplified their clamps to make it

easier to change the location of the saw inside gloveboxes. In addition, the ProLube lubricant used to cool the cutting blades has doubled the number of cuts workers can make before changing blades. See lubricant at <http://www.csunitec.com/accessories/lubricants.htm>

5. Scott Brime, WCH and party visited the Center looking for an in-line collection container for a vacuum system for a fan room job at 100N. Showed the commercial in-line collection units and the in-line rock stopper the Center had made at the fab shop. Also discussed the use of in-line filters to collect dust and debris before it reaches the HEPA filtered vacuum cleaner. Received an e-mail from Nilfisk, at [www.pa.nilfisk-advance.com](http://www.pa.nilfisk-advance.com), that the company is in the process of getting an NRTL certification for the IVT1000 vacuum cleaner. This should occur within the next six months. The IVT1000 is the unit with the disposable collection canister that contains a separate HEPA filter. When the lower section of the vacuum cleaner is full, it can be separated and a new lower section installed to continue work. The HEPA filter in the lower section prevents the escape of contamination. This allows the worker to change out the collection canister with minimal radiological controls. For a picture of the IVT1000, see the attached photo. Vent & Balance still has to decide where to place their tamper-proof sticker. Since the lower section contains a HEPA filter, it may be possible to aerosol leak test several bottom sections and not have to have the unit retested each time the vacuum cleaner fills and the bottom section is removed. Buying one upper section and several bottom sections will be cheaper than buying the same number of complete vacuum cleaners.

6. Responded to message from Oak Ridge wanting a recommendation on decontaminating a Uranium facility floor with deeply imbedded contamination. Recommended contacting Environmental Alternative Inc (EAI) who sell chemicals that might work. They are sprayed on to the contaminated floor with a foam applicator, scrubbed in with a floor brush, and then vacuumed up. The chemical solution sinks into the concrete, gets under the contamination and floats it to the surface. Pacific Eco Solutions had used this process to decontaminate a Pu nitrate spill and had very good results initially. Surveys taken days after the floor was decontaminated revealed more contamination was leaching out of the concrete. Rather than repeat the decon, they pressure washed it and painted with epoxy paint. Recommend Oak Ridge discuss this with EAI and see if their product might work better with uranium. EAI's website is [www.eai-inc.com](http://www.eai-inc.com)

7. Met with WCH personnel looking for equipment to sample sludge through 25' of water. Checked out "grab samplers" on the internet and looked in catalogs. Engineers from Project Engineering looked at tools that could be used to remove cracked areas in concrete. Showed them several options. We set up a booth at the HAMMER Training facility and discussed ALARA tools and techniques with the public who were visiting on Sam Day, which is Friday.

8. Provided recommendations to CH2M on finding flexible beta shielding that could be incorporated into a removal sleeve used when long length components are removed from underground tanks. At present, they are using strips of 1/8" thick rubber matting and it is making their job difficult. Recommended they set up a beta source and detector and place different materials in between to see how much attenuation the materials provide. Also recommended they find thinner rubber matting and see if a thinner piece would stop the beta.

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#### FOR YOUR INFORMATION

1. The weather is getting cooler and the 100 degree heat is becoming a memory. Several facilities implemented new engineered controls and it looks like Hanford made it through the summer without a serious heat stress injury. Naturally, we now find a good article titled "Heat Stress: Guidelines for Recognition, Assessment, and Control in Construction". It is written by the Construction Safety

Association of Ontario, Canada. It is well done and worth your taking the time to read and decide whether additional actions need to be taken now to help your facility next year. You can find it at [http://www.csa.o.org/images/pfiles/251\\_heat\\_stress-datasheet.pdf](http://www.csa.o.org/images/pfiles/251_heat_stress-datasheet.pdf) Facilities are reminded that heat stress is still possible when they send workers in protective clothing into warm areas with little, or no ventilation flow, and have them do moderate to heavy work. Earlier, the ALARA Center had requested that facilities let us know what they did differently this year to mitigate heat stress. The only response received to date has been from CH2M and the newsletter article on the Camelbak units worn at Solid Waste. We will continue to track what is and isn't working for combating heat stress and provide better information next year.

2. Found a report that rates different dust suppression techniques used during structural demolition. Read it at: <http://www.osti.gov/bridge/servlets/purl/955-qPDW72/webviewable/955.pdf> An emerging technology that may benefit D&D work in the future is from Nitrocision. Liquid nitrogen is used to cut stainless steel plus other materials like bread, chocolate cake and cheese. It is also used to remove surface coatings. See the videos at <http://www.nitrocision.com/appCutting.htm#>

3. In case you missed it - The DOE Lessons Learned Website contained several reports this last week that concerned ALARA and the conduct of D&D work. The Website is at <http://www.eh.doe.gov/DOEII>. Four reports on Better Decontamination Methods, Supplied Air Respirators, Dose Savings and an Electrical Shock from a Porta-Band saw are attached to this report.

4. Need info on aggressive methods for removing concrete coatings?  
See <http://www.osti.gov/bridge/servlets/purl/873-U1zVmi/webviewable/873.pdf>

#### UPCOMING EVENTS IN 2007

Jan 21-25	Health Physics Society Mid-Year Meeting on D&D and Environmental <a href="http://hps.org/newsandevents/meetings/">http://hps.org/newsandevents/meetings/</a>	Knoxville, TN
Jan 23-27	World of Concrete <a href="http://www.worldofconcrete.com/">http://www.worldofconcrete.com/</a>	Las Vegas, NV
Feb 26-Mar 1	Waste Management Symposium <a href="http://www.wmsym.org/html/wm_conference.cfm">http://www.wmsym.org/html/wm_conference.cfm</a>	Tucson, AZ
Jul 8-12	Health Physics Society Annual Meeting <a href="http://www.hps.org/newsandevents/meetings/">http://www.hps.org/newsandevents/meetings/</a>	Portland, OR
Jul 13-16	HPS Professional Development School Radiological Assessment: Detection, Identification, and Evaluation <a href="http://www.hps.org/newsandevents/meetings/">http://www.hps.org/newsandevents/meetings/</a>	Corvallis, OR
Sep 16-19	American Nuclear Society Topical Meeting Decommissioning, Decontamination, and Reutilization and Technology Expo <a href="http://ddrd.ans.org/">http://ddrd.ans.org/</a>	Chattanooga, TN