Fluor Hanford ALARA Center

Weekly Activity Report for October 29, 2007

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

1. A Pacific National Laboratory RCT visited the ALARA Center and Fluor Plastic Shop to gather information about glove types and thickness. The RCT had experienced problems with small imperfections in recent glove supplies that could lead to hole development and personnel contamination. We discussed several options such as changing glove thickness to adding a coating to the gloves.

2. Ralph Fabian, the owner of Desco Tools will be on site November 19 from 10:00 to 1:00 at the ALARA Center**.** Desco Tools is one of the leading manufacturers of tools that have a shroud around the tool and a connection for a vacuum cleaner to reduce the spread of debris when the tool is operated. See the Desco Website at http://www.descomfg.com/ The picture below shows some of the older Desco tools. We have several of these tools on display at the ALARA Center. You can see the new catalog and many more tools on the Desco Website.

PLEASE FORWARD THIS MESSAGE TO ANYONE ELSE THAT MIGHT BE INTERESTED.

3. Frham Safety Products will be displaying the latest and greatest in radiation and personal protective equipment right here in the ALARA Center on November 7, 2007 from 9:00 AM to 12:00 noon. Everyone is welcome! For more information, contact Brian Anderson at 615-254-0841. For more information, see attachment 2.

ALARA and ISMS principles are so closely related that you can tell how well one program is working by looking at the other.

4. Received the SRS ALARA Center Monthly Activity Report. See attachment 4 for the full report. The Hanford ALARA Center held the monthly ALARA Chairperson meeting on 11/1/2007.

5. The Hanford ALARA Center facilitated a Hammer training course # 020900, ALARA for Technical Personnel. Fifteen students were in attendance and received a tour to the ALARA following the formal training.

New Process, Tools, or General ALARA Information

1. ALARA Workshop presentation abstracts are due by November 15. Send your abstracts to Lee Livesey (Lee_M_Livesey@rl.gov) or Owen Berglund (Owen_D_Bergund@rl.gov). You may also want to register for the Workshop as soon as possible, space is filling quickly and no more than 150 can attend. An ALARA Workshop registration form is included as attachment 1.

2. Visited the Hanford Technical Library and reviewed the last nine months of magazines from "Nuclear News", "RadWaste Solutions" and "Nuclear Future." Made copies of articles that described to use of ALARA Protective Measures for D&D and other radiological work. Some of these can be read at the American Nuclear Society Website at www.ans.org. Click on "Publications," and then select the magazine. Routed hard copies of the best articles to key D&D, Ops, and Radcon personnel.

3. Received request from Oak Ridge on which vendors sell an alarm that would activate whenever the bucket on an excavator would get within two feet of a glovebag. Searched the internet but did not find a unit that would seem to work well. We did recommend a garage "Park It - Electronic Alarm Valet. See http://www.brookstone.com/sl/product/3998-park-it-electronic-parking-valet.html and suggested they contact the company and see if they can manufacture a bigger unit that would be easier for the excavator operator to see.

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Park your car in the perfect spot—every time.
Avoid the bumps, scrapes and anxiety associated with driving into your garage from now on. With its easy-to-see traffic light design and advanced ultrasonic sensors, Park It™ guides you inside. Simply observe the traffic lights, proceeding slowly until you reach your ideal spot—stopping when the light turns red. Auto On/Off detects your vehicle's movement. Features dual-power AC adapter with DC battery backup. Uses four AA batteries (not included). SKU #541433. Also recommended they install orange plastic barrier netting.

4. Forwarded info to the SRS ALARA Center on the products used at Hanford to repair containment devices. The products include HH-66 Vinyl Cement sold by Lanc's Industries, Super 77 Aerosol Adhesive from 3-M, and G-Flex tape from G/O Corp. The glues are highly flammable and have to be kept in a flam locker when not in use. Engineer from FFTF called concerning their need to drain residual liquid from several hoses. Recommended three options that involved using an adapter and HEPA filter attached to a poly bottle, a glovebag attached to a poly bottle or a containment tent.

5. K. Mortensen at the West Valley site requested info on our experience working with CC Wet fixative and CC Strip strippable coatings sold by Instacote at www.instacote.com. Reported what we knew about the products and recommended he read the DOE Innovative Technology Report at http://www.osti.gov/bridge/servlets/purl/750124-Ur2nOG/webviewable/750124.PDF Forwarded him a memo we give to people wanting to use TLC Stripcoat sold by Bartlett Services. See enclosure 3.

Decommissioning and Deactivation Activities and Information

Communication equipment technology has made several recent significant advancements resulting in improved sound quality and better capability in the field. If your equipment is even a few years old or does not have noise cancellation technology, Bluetooth wireless headsets, wireless intercom, or throat microphones where you can actually understand what someone is saying, you may want to look at upgrading your equipment. You can search the internet for "communication equipment," or look at Cobalt communication equipment at www.cobaltav.com and click on the 2007 catolog.

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, comments, and your lessons learned via e-mail or you can contact us by phone. Contact information is below.

Jeff Hunter (509) 373-0656, Cell (509) 948-5906, jeffrey_l_hunter@rl.gov
Larry Waggoner (509) 376-0818, Cell (360) 801-6322, larry_o_waggoner@rl.gov

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Jerry Eby (509) 372-8961, Cell (509) 528-3094, jerald_l_eby@rl.gov

Hanford ALARA Center Website: www.hanford.gov/rl/?page=974&parent=973
SRS ALARA Center Website: http://irmsrv35.srs.gov/general/programs/alara/

Please help us keep our e-mail address list current by letting us know if you would like added or removed from our distribution, and by keeping us informed of any e-mail address changes. Thank you for your help. We look forward to hearing from you.

Attachment:

1. ALARA Workshop Registration Form
2. Frham Safety Display Invitation
3. Stripcoat TLC Information Sheet
4. SRS ALARA Center's Monthly Activity Report

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Attachment 1

Hanford ALARA Workshop
"ALARA…From the Beginning" March 4 & 5, 2008
REGISTRATION
(PLEASE PRINT)

Name: _____

Title or Position: _____

E-Mail Address: _____

Address: _____

_____

Representing: _____

Site: _____

Check one: [ ] Presenter [ ] Guest

Registration fee is $75.00 per person. Send checks payable to:

CH2M HILL Hanford Group, Inc.
P.O. Box 1500 C/O Owen Berglund R1-05
Richland, WA 99352

CH2M HILL employees submit an approved CACN _____ COA _____

Registration deadline is January 15, 2008.
Contact Owen Berglund @ 509-376-9035 / E-mail Owen_D_Berglund@rl.gov or Lee Livesey @ 509-308-7650 / E-mail Lee_M_Livesey@rl.gov for details.

Sponsored by CH2M HILL Hanford Group, Inc.

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Attachment 2

Frham Safety Products
Presents
Changing the Protective Clothing Paradigm in the U.S.

Frham Safety will be displaying the latest and greatest in radiation and personal protective equipment on November 7, 2007.

Where: Fluor Hanford ALARA Center 2101M/200E – Richland, WA
When: 9:00 a.m. to 12:00 noon
Who: Everyone is welcome.

Things on display will include but are not limited to the following:

- Full array of Orex single use protective clothing items.
- New disposable latex rubber shoe covers and gloves to compliment single use PPE programs.
- Flame retardant disposables.
- Personal Dosimetry cards. The "RadView."
- General safety items, gloves, glasses, etc…

Contact Information: Brian Anderson 615-254-0841

Hope to see you at the ALARA Center!

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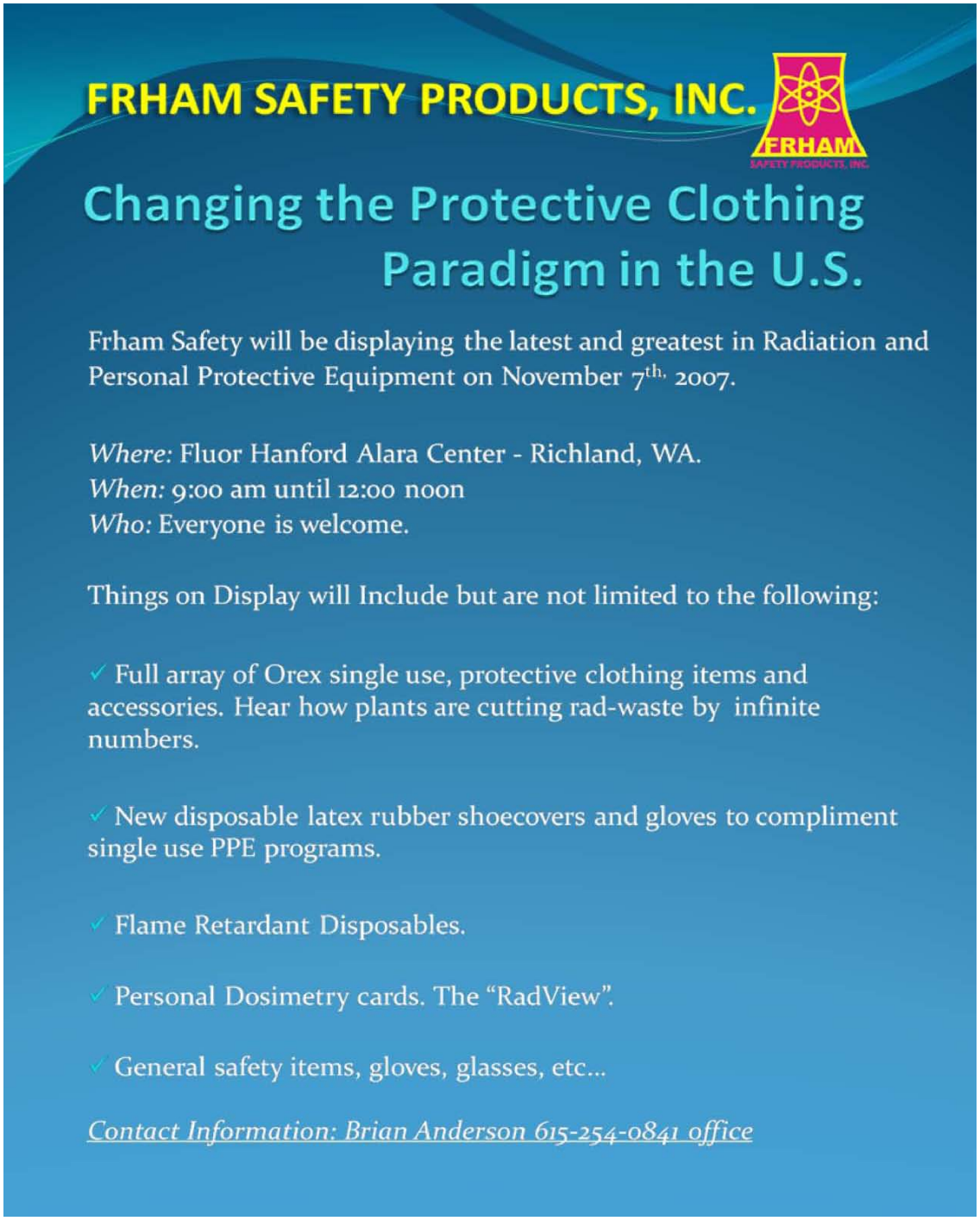

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Attachment 3

- Stripcoat TLC is a great product for decontaminating spills. It is a simple, effective means of removing or preventing the spread of contamination. It can be applied with a paintbrush, roller, or paint sprayer. If you spray it, the painter usually has to put large diameter jets in the paint sprayer, as the product tends to clog, if smaller jets are used.
- If your job involves work with fissile radioactive contamination, you need to get approval from your Criticality Safety person before you use it. They will need to ensure that there is not enough contamination to get a critical mass. As it is stripped from the surface and placed in a waste bag, you need to make sure the waste bag will not "go critical." Boron can be added to the Stripcoat TLC (1,000 ppm) and the Stripcoat TLC Free (1,500 ppm) to reduce criticality concerns.
- Stripcoat TLC comes in two types. The original product has a small amount of ammonia in it to prolong its shelf life. Stripcoat TLC Free means that it is ammonia-free and some other chemical that does not smell as bad is used to prolong the shelf life.
- The MSDS for Stripcoat TLC recommends that you wear a respirator with an ammonia cartridge if you are applying it in a confined space. The ammonia smell is irritating but it is not hazardous to your health. **The Hanford numbers for the MSDS are 031937 (w/ammonia) or 035971 (ammonia-free)**
- QA has inspected the Stripcoat TLC and considers it hazardous material, due to the ammonia, in its liquid form. As soon as it's applied and the ammonia dissipates, it is no longer hazardous. The Stripcoat TLC Free is non-hazardous in both its liquid and dried forms. So neither of these products makes the waste material "mixed waste."
- There are chemicals in this product that are attracted to the radioactive contamination so the Stripcoat forms an ion-bond to capture the contaminated particles. Each coat bonds to the other coat so that when you strip it up, it comes up as one thick coat. It will also capture dirt particles and debris.
- The manufacturer says that it will remove 50-100% of the loose surface contamination. Experience has shown that the decon factors will range from two to several hundreds.
- Cost of this product is about $85.00 per gallon. The manufacturer says one gallon will cover 40-50 square feet if applied at a thickness of about 40 mils.
- This product will cure in 4-12+ hours depending on the temperature, relative humidity, ventilation, and the thickness. The company recommends applying several light coats instead of one heavy coat. If you apply it to concrete, the first coat rather disappears into the pores so you will usually need at least three coats. If you spray it on components that have many crevices it may be difficult to remove. For example, armored electrical cables or components with louvers. Recommend trying it out on similar components before applying it to the radioactive spill. The first coat of Stripcoat encapsulates the contamination. Additional coats just make it easier to remove.

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- If you spread it on the floor and then walk on it after it cures, you will eventually wear a path. Recommend covering the normal traffic paths on the floor with plastic, silver paper or the equivalent. Another product sold by the same vendor called Polymeric Barrier System can be applied over the Stripcoat in heavy traffic areas. This product bonds with the Stripcoat and is removed when the Stripcoat is removed.
- If the Stripcoat is applied outside in sunlight, the UV rays will make it difficult to remove if it is left over two days.
- This product is often applied in areas or rooms before work starts. The contamination is covered up so now work can proceed with significantly less risk of skin/clothing contaminations or airborne contamination. At the end of the job, the Stripcoat is stripped off to decontaminate the surface. RCTs should survey the waste bags to ensure they do not become a high radiation source. If it's applied to a wall, remove it by starting at the top and working downward.
- Rule of Thumb: 1 cubic foot of low-level waste will be generated for approximately 36 square yards (324 square feet) of surface area coated with the Stripcoat.
- If a major spill occurs, the Stripcoat can be applied to fix the contamination and then managers can decide what the next steps are to decontaminate the area. Since the contamination is contained, the immediate concerns about spreading the contamination further are reduced.
- The vendor has an engineering group that can provide a great deal of information about this product. Call Bartlett Nuclear Services @ (800) 225-0385, (508) 746-6464, extension 120 or 136, or fax (508) 830-3616. Their Website is www.bartlettinc.com.
- LESSONS LEARNED
    - R. Lauber, Bechtel - If you dilute it with water you can spray it on with a cheap garden sprayer like Chapman makes and can be found at hardware stores for under $20. Multiple coats can be applied o get a good thickness. The advantage of this is you are not using air and it is not high pressure so you do not generate airborne. When tried at West Valley in some highly contaminated areas it worked great. We diluted it as much as 75% water and 25% TLC although 50/50 worked well. Chapin also makes an electric sprayer that pumps right from a 5-gallon bucket or larger container if you are going to apply it to larger areas. The sprayer was around $400 and we could only get it to spray one application and then had to discard it because it would dry and plug overnight but we had some large rooms we applied it in so it was worth it. PBS can also be applied the same way

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- R. Lauber, Bechtel - If you pour it onto areas like floors and scrub it in a little with a deck brush, leaving it thick, you'll get excellent results. They did this on the lifting arms for the casks after dipping them in the fuel pool, initial surveys indicated >200,000dpm/100cm2 beta/gamma and after applying it and scrubbing it in with a 3M pad the contamination levels were <200dpm/100cm2 beta/gamma. We coated an entire 5'x15'x57' cell with TLC and then applied PBS over the top when we decommissioned the Plutonium Purification Cell (PPC) at West Valley. The removable contamination levels in the cell were generally <50million dpm/100cm2 Alpha.

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ESH-RPS-2007-00242

SRS ALARA CENTER (AC)
OCTOBER 2007 ACTIVITY REPORT

ASSISTANCE, DEMONSTRATIONS, RESEARCH, AND TOURS

The external SRS ALARA Center website is posted at http://irmsrv35.srs.gov/general/programs/alara/ The internal SRS ALARA Center website is available in ShRINE at the ES&H Regulatory and Radiological Technologies web-site. www.srs.gov/general/programs/alara/

The FLUOR Hanford ALARA Center website is available at www.hanford.gov/rl/?page=973&parent=0

The ALARA Center worked to resolve an issue with the G/O Corporation 5 gallon carboy in Stores. Caption item number 32-21894.00 has replaced 23-1300.00. The new caption item number is the same carboy but it includes plug closure instructions and an inner ¾ inch plug to be used after removing the HEPA filter assembly. A 3/8" drive torque wrench and two sockets (one for the 2" buttress plug and the other for the ¾" inner plug) will be required to properly install the plugs. Below are the additional caption item numbers assigned by Procurement. This information is also included in the description of the 5 gallon carboy (caption item number 32-21894.00).

- 3/8 inch drive torque wrench socket for 2 inch pastiplug, 32-21895.00
- 3/8 inch drive torque wrench socket for ¾ inch inner plug, 32-21897.00
- 3/8 inch drive torque wrench, 67-17.25 or 67-17.10 or equivalent
- HEPA Filter, 32-4772.00
- Adapter, 23-14197.65
- Tubing, 23-18080.00
- Pinch clamp, 23-14197.65

Below are pictures;

5 gallon carboy Closure instructions Sockets

Here are the closure instructions

The ALARA Center provided D&D with a Nilfisk VT Mercury Vacuum system for use in 719-H Medical Facility due to a broken blood pressure manometer resulting in a mercury spill.

The ALARA Center demonstrated operation of the Dover Crimping System to personnel from Pit Disassembly Conversion Facility. This system is an alternative to the traditional horsetail and cutting method.
www.ilcdover.com/products/pharm_biopharm/operations/doverpac.htm

Attached below are the results of a test completed by the SRS Containment Fabrication Facility documenting the effectiveness of Enduro Shade material in reducing the temperature inside containments. Questions can be directed to Randy Reames at (803) 557-6719. This test documents the benefit of using Enduro Shade material to reduce the temperature inside containments during high temperature days.

The ALARA Center loaned three EZ Reachers to personnel in the Savannah River National Laboratory for use in a Homeland Security project to handle sealed radioactive sources.

The ALARA Center provided F-Area Completion with samples of HexArmor Hercules Hot Box gloves and 5033 SteelLeather III gloves for potential use over glove box gloves when reprocessing TRU waste. The SteelLeather III glove now available in XXXL was preferred and ordered for further evaluation.

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This is a reminder that SoftKnees disposable knee pads are available in Stores (32-20725.00). They are peel and stick application used to protect the knee and add comfort. There is 36 pair per case.

VENDOR INFORMATION AND VISITS

Technical representatives from DMS Ltd were in the Savannah River Research Campus October 8 & 9 to demonstrate operation of their Mobile RF Welder. The demo was well attended and further research is ongoing for potential use in SRNL and H-Area facilities. Below is a picture of Angela Bowser and Carolyn Conley from SRNL operating the welder to seal a poly sleeve. Med Allen from SRNL is in the background.

Mike O'Neill with Cellular Bioengineering Inc. visited the ALARA Center on Oct. 16 and demonstrated use of Decon Gel 1101. It is a one-component water-based, broad application, peelable decontamination hydrogel that lifts, binds and encapsulates contamination into a rehydratable polymer matrix. The site MSDS for this chemical is 38502-1. It has been used successfully in H-Area Canyon and SRNL. Stop by the ALARA Center if you are interested in seeing this product. Below is a picture of Decon Gel 1101 being applied to an SRNL hot cell window to fix contamination prior to relocation.

The Desco Manufacturing Southeast Regional Manager, John Soeder, visited the ALARA Center on October 17 to discuss their line of dust free surface preparation tools. John has an extension background in coating application and removal and will return in 2008 to conduct a tool safety, selection, and maintenance training class. www.descomfg.com

John Shannon with NFS-RPS will be in the ALARA Center on Nov. 20 to discuss their air filtration systems, shielding products, and Perma Con containments. www.nfsrps.com

POINT OF CONTACT

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