

SRS ALARA CENTER (AC) MAY 2008 ACTIVITY REPORT

ASSISTANCE, DEMONSTRATIONS, RESEARCH, AND TOURS

The external SRS ALARA Center website is posted at www.srs.gov/general/programs/alara/alara_center.htm

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

There was an interesting article in the March 2008 edition of Nuclear Engineering International. Nexia Solutions has developed RadBall, a tennis ball sized radiation mapping device that can locate, quantify, and characterize radiation hazards from a single position. This technology minimizes the need for human access surveys and is suitable for radiation mapping in active cells, gloveboxes, and confined spaces as well as hard to reach places. RadBall consist of two parts: an inner spherical core and an outer collimation sheath. The inner core is made of a special radiation sensitive polymer based material that turns opaque when exposed to radiation. The degree of opaqueness change within the polymer is dependent on the total absorbed dose. The outer collimation sheath consists of a thin lead layer with over one hundred holes and fits tightly around the inner core. Once the device is deployed in a radiation environment the collimation sheath partially attenuates radiation which would otherwise be incident on the inner core while allowing radiation to pass through the collimation holes. This process deposits a three dimensional pattern inside the polymer core which usually consists of "radiation tracts". This information can then be used to map the radiation in the region of interest. Once the device is removed from the radioactive environment, the inner core is removed from the collimation sheath and scanned using an optical computed tomography technique. This technique produces a digitized opacity based three-dimensional visualization of the inner core which is viewable on a suitable PC. www.nexasolutions.com/UserFiles/File/RadBall_final.pdf

Site Training contacted the ALARA Center looking for portable posting kits to be used when conducting radiological worker training off-site. The ALARA Center recommended G/O Corp Portable Posting kits With Retractable yellow and magenta belt. www.gocorp.com/product.php?ID=140

HTF contacted the ALARA Center looking for a tool to cut 6 inch cast iron pipe. The Desco Manufacturing Reciprocating Saw with Dust Attachment (part number 400.001) was recommended. www.Descomfg.com

The ALARA Center contacted G/O Corp to manufacture a vest with design input from rad con personnel in the Defense Waste Processing Facility (DWPF).

The ALARA Center completed its chemical inventory and returned it to the chemical coordinator as required by site procedure. The ALARA Center maintains a small inventory of fixatives.

The ALARA Center 5 buckets of rad barrier chain, #2 double loops, yellow and magenta, 500 ft. per bucket for the Saltstone Facility. It has a patented process, the "EVERLAST" 2-mil ply powder coating that is baked to create a durable and long lasting finish. Part #GZ1380 is from G/O Corporation. www.gocorp.com

The ALARA Center ordered a Nilfisk GM-80I HEPA vacuum cleaner for F-Area Laboratory. www.nilfiskcfm.com/ProductDetail.aspx?m=1

The ALARA Center was contacting by Spent Fuels Engineering who was researching methods to decontaminate a 70 ton cask. The links below were provided.

- *Transportation Cask Decontamination and Maintenance at the Potential Yucca Mountain Repository*, www.osti.gov/bridge/product.biblio.jsp?osti_id=138409
- *Decontamination Techniques and Fixative Coatings Evaluated in the Building 235-F Legacy Source Term Removal Study*, www.osti.gov/bridge/product.biblio.jsp?query_id=0&page=0&osti_id=839571
- Poxy Coat II one part enamel paint to be used as fixative. Color battleship gray is site MSDS# 33863-1, www.poxycoat.com purchased at www.surfacecoatingsllc.com/Home_Page.html

- Desco Manufacturing tools with dust shrouds connected to HEPA vacuum to control contamination and prevent airborne radioactivity. www.descomfg.com

VENDOR INFORMATION AND VISITS

On 5/8/08 Butch Smith, Eastern Region Director of Operations for Bartlett Services, Inc. visited the ALARA Center and provided literature for display in the ALARA Center.

Unitech Services conducted a product demonstration at SRS on 5/28/08. Liquid Waste discussed the possibility of a tube lock scaffold decontamination program. Contaminated scaffolding could be packaged in a B-12 or B-25 container, picked up by Unitech Services, and transported to the Barnwell facility where it would be decontaminated and returned to SRS upon request.

Draeger Safety conducted a gas detection and respiratory protection product seminar at SRS on 5/29/08. Items of particular interest to SRS Industrial Hygiene are listed below.

- Simultaneous Test Kits – Measures several gases at once. There are eight sets available. www.draeger.com/ST/internet/US/en/Products/Detection/Drager-Tubes/DragerTubesSets/DragerSimultantestSet/pd_simultantest_set.jsp
- X-am 2000 4 gas Personal Monitor www.draeger.com/ST/internet/US/en/Products/Detection/PortableInstruments/MultiGasMonitors/X-am2000/pd_xam2000.jsp
- X-am 5000 5 gas Personal Monitor www.draeger.com/ST/internet/US/en/Products/Detection/PortableInstruments/MultiGasMonitors/DragerX-am5000/pd_xam5000.jsp
- X-am 7000 5 gas Monitor www.draeger.com/ST/internet/US/en/Products/Detection/PortableInstruments/MultiGasMonitors/DragerX-am7000/pd_x_am7000.jsp

Pictured below are Lily Miller and Laura Reeves, both with Industrial Hygiene, looking at the X-am 7000 gas monitor.



UPCOMING VENDOR VISITS

NFS-RPS, 6/10/08, 766-H ALARA Center Rm 1027, 9 AM – 12 PM

Cellular Bioengineering Inc. (Decon Gel 1101), 6/16/08, 766-H ALARA Center Rm 1027, 9 AM

Minuteman HEPA Vacuum Systems, 6/26/08, time and room yet to be determined

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