

SRS ALARA CENTER (AC)

Engineered Solutions for Radiological, Safety & Industrial Hygiene Applications.

JULY 2010 ACTIVITY REPORT

ASSISTANCE, 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 ESH&QA Regulatory and Radiological Technologies web-site. www.srs.gov/general/programs/alara/

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

The D&D Knowledge Management Information Tool (D&D KM-IT) is a web-based knowledge management information tool custom built for the D&D community. The system was developed by Florida International University – Applied Research Center (FIU-ARC) in collaboration with the Department of Energy (DOE EM20), EFCOG, and the ALARA Centers at Hanford and Savannah River. <http://dndkm.arc.fiu.edu/dndkm/>

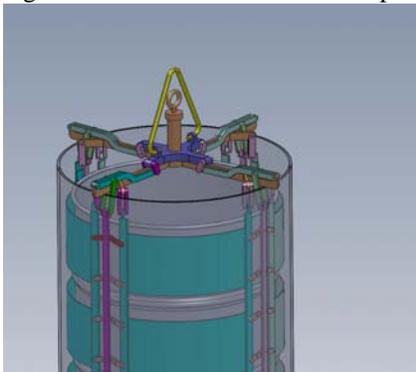
A tacky roll consists of 40 sheets that are perforated every 12 inches. The top sheet may be peeled off to expose a new clean tacky surface. The core of this roll is designed to use a standard paint roller and handle. The nuclear industry uses them to remove contamination. Ten were ordered for H-Area Railroad Tunnel. However, the primary application is to unroll approximately ten sheets and then affix the entire length of sheets to the railroad tracks to prevent them from being contaminated. The rolls are not designed to be used in this manner and tear at the perforation. Therefore, four rolls of the same type material (GJ1251) were ordered that do not have perforations and are wound with the tacky side down like tape. The roll now can be unwound to the desired length and cut with scissors. The manufacturer is G/O Corp and the part numbers are listed below.

- **GJ1023** - Tacky roll refill - 9" - 40 sheets per roll
- **GJ1022** - Tacky roll - 9" with frame & 60" wood handle
- **GJ1250** - 9" wide tack roll, 108 ft. long, non perforated
- **GJ1251** - 9" wide tack roll (tacky inside like tape), 108 ft. long, non perforated

The ALARA Center provided F-Area Laboratory personnel with information concerning the Bullard Isotherm Cooling Vest. They ordered eight vests to be used during work activities to combat heat stress.

The ALARA Center completed work on design specifications for an HB-Line shield plug. It is a Central Research Laboratories Shielded Safety Cover Assembly and contains three one inch thick pieces of self extinguishing borated polyethylene. The assembly affixes to a glovebox glove port when not in use to provide shielding and reduce worker occupational radiation exposure. Ten assemblies were ordered by HB-Line.

Intellegation LLC has developed a drum handling system (graphic below) for a Hanford site application that could have application at other DOE sites. The key feature of this design is that it actually grasps the entire outside shell of the drum with fairly even force and lifts it in such a manner that it can be placed into or out of an 85 or 110 gallon overpack drum. A short demonstration video of the drum handling system can be viewed at <http://www.youtube.com/watch?v=P3UXRaCbXjI>. Visit www.intellegationLLC.com for more information about Intellegation's full line of services and products.



H-Area Canyon personnel contacted the ALARA Center in need of a fire retardant product to spray on tarps prior to disposal. 3M FireDam Spray 100 was recommended. It is a water-based material that dries to form an elastomeric coating that firestops building joints, perimeter joints (curtain wall) and penetration seals. It will control the transmission of fire, heat, and smoke before, during, and after exposure to fire when installed properly. The site MSDS number is 34217-1.

Gary Watson with Tri-Tool visited the ALARA Center on 7/13/10. We were most interested with the Model 550 Tube Cutter. This cutter can be used with a flexible extension rod for hard to reach applicators.

H-Area Canyon personnel have agreed to evaluate Ultra Biocid as a decontamination agent. The site MSDS number is 42509-1. It is a patented acid replacement product. The manufacturer, UCI International Inc., has agreed to provide twelve one-quart bottles for evaluation. See <http://www.ultrabiocid.com/>. Some of the benefits of Ultra Biocid:

SAFETY

- A- no affinity for human flesh
- B- no fumes, odor, or mist
- C- will not burn and does not support combustion as does acetic acid and other acids
- D- no vapor pressure, therefore no volatile choking fumes or mists
- C- very safe to handle even though biocid is very strong
- E- no VOC's
- F- no heat of dilution (unlike other strong acids)
- G- very low corrosion

ENVIRONMENT

- A- extremely low BOD/COD: Will meet all waste water discharge requirements
- B- will reduce waste lagoon sludge up to 95%
- C- phosphate and formaldehyde free
- D- no odor in use or discharge

The ALARA Center is the Radiological Protection Department (RPD) Spare Inventory Coordinator (DSIC) and is responsible for managing spare parts inventory. Currently there are eighty-five items with inventory maintained in Stores. The DSIC lead a team of subject matter experts and determined that due to usage that number can be reduced by thirty-five.

The ALARA Center has a sample of Tungsten Spheres #8 (2.29 mm) Tungsten Shot (tungsten alloy containing nickel and iron). The density is 15 g/cc. http://tungsten-spheres.com/tungsten_shot.html

AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SUPPORT

F-Area TRU Remediation personnel ordered two hundred pair of Hexarmor Piercan USA HOG0408 Overglove. www.piercanusa.com/0901-3184-HOG0408.pdf. This glove was recommended as the best overall cut and puncture resistant glove to be worn on a glovebox glove.

ALARA Center personnel visited F-Area and provided samples of the Bullard Isotherm Cool Vest and Unitech TempVest. They were worn and evaluated for use in a heat stress environment. The temperature in the work area at 7:30 am when work began was 78.7° F. The personal protective equipment (PPE) adjusted wet bulb globe temperature (WBGT) was 78.3 °F. Heat index was 82°F. Relative humidity was 70%. The workers were dressed out for approximately 2-1/2 hours. By 10:30 am, the temperature had risen to 95°F. The PPE adjusted WBGT was 86.3 °F. The heat Index was 95°F and relative humidity was 49%. The workers concluded that the vest were not effective.

UPCOMING VENDOR VISITS

Honeywell Safety Products (formerly North Safety), August 11, 766-H Rm TBD, 9 AM – 12 PM

ALARA CENTER POINTS OF CONTACT

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