

From: Waggoner, Larry O
Sent: Thursday, January 26, 2006 3:23 PM
Subject: ALARA Center Activities for Week of January 23, 2006

Attachments: PTZ70a.jpg

Visit our Website at www.hanford.gov/rl/?page=974&parent=973

1. Forwarded info to Bob Elder on the shielding effectiveness for beta radiation if workers wear safety glasses or face shields. Info we have from Brookhaven Labs is the beta dose is attenuated by 90%. Received word that GE Inspection Technologies has developed a pan-tilt-zoom camera that will fit down small diameter risers into underground tanks. This camera was specially developed for Tank Farms and a prototype will be provided in March for testing. This camera is designed so that it can be used at distances up to 1,600 feet from the camera control unit. For info, contact Nick Clyma at (425) 391-4036. See attached photo.
2. Received a message from Russ Lauber who works at the Vit Plant. After reading our last weekly report he forwarded some lessons he learned at the West Valley Site on cutting stainless steel and use of strippable latex decon paint. We agreed that many workers who try to cut hard materials like stainless steel run the cutters too fast. This prematurely dulls them and requires frequent replacements. Forwarded him info on determining the optimum cutting speed for clam shell circular cutters. He also recommended that the strippable latex paint does a more effective job of concrete decontamination if it is poured on the surface and scrubbed into the pores. Forwarded this info to the PECOS facility who have already applied two coats of TLC Stripcoat in a highly contaminated room.
3. Received call from Savannah River concerning our experience in decontaminating Pu gloveboxes. They have some gloveboxes they want to modify and the high levels of contamination inside the glovebox are making the work difficult. Contacted Mike Minette and he will contact SRS and tell them about the success PFP is having decontaminating the PFP gloveboxes. Construction forces dropped by to look at our Portable HEPA Filtered Vent Units. Their unit has apparently been damaged and won't pass the aerosol leak test. Work has been held up waiting for the vent system. Recommended they contact H. Doolittle from WCH who purchased several new vent units and had them tested last week. Gave a Desco catalog to J. Parson from WRAP. They need to grind sharp edges inside one of their gloveboxes and want to use a shrouded grinder attached to a HEPA vacuum cleaner.
4. Provided tour of the ALARA Center to the INEEL Radcon Manager for the Advanced Mixed Waste Treatment Facility. He was interested in the polyurea spray coating, Unitec Saws, Nilfisk HEPA filtered vacuum cleaners, drum inspection hood from NFS/RPS and the Wachs Guillotine Saw. Provided him a list of fixatives used on site and all the websites we use for information and finding vendors. Jerry has been developing material for Fluor's participation at the Waste Management Symposium in Tucson, next month. Material includes; a poster board and handouts on the ALARA Center for the corporate booth and material for Tony Umek's presentation at a Respiratory Protection Workshop at the Waste Conference. He has also been gathering information for the February RadCon COE meeting on availability of signs for posting radiological areas outside at Hanford, that do not deteriorate rapidly in the Hanford environment.
5. Provided tour of the ALARA Center to personnel attending the ALARA Training for Technical Support Personnel.

Larry Waggoner / Jerry Eby
Fluor Hanford ALARA Center
(509) 376-0818 / 372-8961

FOR YOUR INFORMATION

1. The ALARA Center has begun writing a document that will probably be called the "Fluor Hanford Radiological Work Practices Handbook" in order to capture everything we know about radiological work practices, tools and equipment. Based on our writing skills, a better title might be "ALARA for Dummies". The goal is to record what we know and keep adding to it as we gain additional experience and lessons learned. Our plan is to put the Handbook on our external website so that it is available to everyone. We will be documenting the best industry practices from Hanford, other DOE Sites and wherever we can find a "nugget" from the nuclear power industry. There is no timetable for completing this Handbook but we expect to issue it chapter-by-chapter as we complete it. More on this later.

2. Last weeks report provided the website for the newly issued DOE 2004 Occupational Radiation Exposure Annual Report. It can be found at <http://www.eh.doe.gov/rem/annual/2004report.pdf> The conclusions listed in the report are as follows:

The six highest dose sites (in descending order of collective dose: Hanford, Savannah River, Los Alamos, Oak Ridge, Idaho and Rocky Flats) accounted for 77% of the collective dose at DOE in 2004.

The collective dose TEDE (Total Effective Dose Equivalent) decreased 24% from 1,445 person-rem (14.45 person-Sv) in 2003 to 1,094 person-rem (10.94 person-Sv) in 2004. This is the largest decrease in the collective dose in the past 15 years since the decrease in the collective DDE between 1989 and 1990.

Decreases in collective dose at five of the top six sites were attributed to Rocky Flats radioactive source material being shipped off site for disposal; completion of thermal stabilization and repackaging of plutonium-bearing materials, and deactivation & decommissioning activities at the PFP and a decreased number of tank farm entries at Hanford; completion of work, including de-inventory of a number of facilities at Savannah River; suspension of nonessential operations at LANL, during the second half of 2004; and a decrease in the isotope production work that took place at ORNL during 2004.

There were no exposures in excess of the DOE 5 rem (50 mSv) annual TEDE limit.

There were two exposures in excess of the DOE Administrative Control Level of 2 rem (20 mSv) TEDE. The two individuals who received exposures in excess of the 2 rem (20mSv) annual TEDE limit resulted from plutonium intakes at Hanford and Rocky Flats.

The collective internal dose (CEDE) (Committed Effective Dose Equivalent) decreased by 18% between 2003 and 2004. Due to the decrease in the collective CEDE and a 19% decrease in the number of internal depositions, the average measurable CEDE remained the same at a value of 0.037 rem (0.37 mSv) in 2004.

The collective dose for transient workers decreased by 54% from 56.1 person-rem (561 mSv) in 2003 to 25.6 person-rem (256 mSv) in 2004. As a result, the average measurable dose to transients decreased by 45% from 0.093 rem in 2003 to 0.51 rem (0.051 mSv) in 2004.

FIELD TRIP

Visited the well drilling site ZR-9 near PFP with the Rad Engineer and looked at the new Sonic drilling rig being set up next to a crib. Plan is to drill a hole at 30 degrees under the crib to determine carbon tetrachloride and contamination levels. The drill bit will be stopped when it's under the center of the crib. The sonic drill technique is new to Hanford and is being used to reduce the risk to workers. A clear Plexiglas enclosure will be installed around the drill rig at the location where it enters the ground. HEPA ventilation will remove any airborne contamination and carbon tet. Dirt removed from the drill string will be discharged into 55 gallon drums that have a doughnut shaped scoop around the top of the drum to prevent airborne contamination in the worker's breathing zone. High levels of contamination may be present inside the Plexiglas box so the RCT Supervisor is testing different decon solutions. Gave him a

quart of "Taginator" to test. Taginator is a solution that is used to remove graffiti and is sold by the Columbia Basin Hotsy dealer. Last week's report described how well the product worked at the PECOS facility. Still to be determined is what affect the carbon tet will have on the Plexiglas. Provided info and suggestions to personnel on the HEPA filtered portable vent systems that will be purchased for this job. The ALARA Center intends to follow this job and record the ALARA protective measures used.