From: Waggoner, Larry O
Sent: Friday, December 09, 2005 1:47 PM
Subject: ALARA Center Activities for Week of December 5, 2005

Attachments: Corroded TRU Drum.JPG
Visit our Website at http://www.hanford.gov/rl/?page=974&parent=973/
Comment from Rocky Flats: Demolition is accomplished using a "Graded Approach". "If you keep hitting it hard and often, it will eventually fall."

Salesrep from Novatek Corporation will be at the ALARA Center on Monday, December 12 from 10:30 to 3:00 demonstrating his line of shrouded tools and HEPA filtered vacuum cleaners. These are very good tools that limit contamination spread. Visit their website at: http://www.novatekcorporation.com/html/vse_tools.html

1. Forwarded suggestion from Vit Plant (R. Lauber) to Radcon Engineer at PFP on their job to cut access holes into radioactive waste tanks. He said that West Valley used a circular saw made for cutting stainless steel to cut access holes. He also suggested that a series of holes could be hole-sawed and a saws-all used to cut between the holes. This is called "stitch-drilling". Last weeks report described testing that was going to be done by PFP on plasma arc cutting of stainless steel. The results of the testing revealed there is much less airborne particulate generated using the new plasma arc torches. Plan is to go ahead and accomplish a full mockup training exercise with formal attribute sheets and qualification cards. Forwarded Mockup Attribute checklists developed at the ALARA Center to the Rad Engineer to help with planning the training.

2. Met with Engineering Manager from Waste Retrieval Ops and was briefed on the plans for recovering waste drums from the 218-12-B burial ground in 200 East. *See write up in FYI below*. Conducted a Basic Containment class for 5 CH2M personnel. Attended meeting of the Respiratory Protection Committee. This committee is led by senior management and is going to meet often and try and solve several respiratory issues. Jerry Eby is one of the committee members. These issues include upgrading the available equipment and better training for the workers.

3. PFP requested help in getting an Anti-C hood with a longer bib to wear over the PAPRs worn in highly contaminated areas. Found the Procurement person that ordered these hoods before and she has placed an order. Received a shipment of Excess equipment from West Valley Site that included some hand tools and NOMEX Fire Resistant Coveralls and booties. Delivered 10 sets to WCH in 300 Area and FFS picked up another 10 sets. New cost on the coveralls is $119 each. Received call from Rad Engineer at the Weapons Test Site concerning the disposable protective clothing sold by Orex. Referred him to the website, www.orex.com, and he will contact the company for samples. Forwarded suggestions to 222-S Labs on inexpensive methods they could use to reduce dose rates on waste drums. These included, use of smaller lead blankets that would strap around the drum, putting additional drums around the stack and filling with water, sand, dirt, etc., use of stackable Ecology concrete blocks from Central Premix, enlarging the storage area, and emphasizing the importance to Lab Techs to place higher reading objects in the center of waste drums.

4. Conducted the Site ALARA Council Meeting for December. Owen Berglund announced that CH2M Hill would take the lead on holding a Hanford ALARA Workshop at a downtown hotel on July 17-19, 2006. This workshop will be similar to the four held during 1999-2003 and feature presentations about ALARA successes and the tools, equipment, work practices and lessons learned. All DOE Sites and the rest of the nuclear power industry will be invited. A committee is being formed with volunteers from all the Hanford contractors.

5. Met with Steve Tilton from SNF Radcon and discussed the new requirements concerning the procurement and testing of HEPA filters. HNF-PRO-8323, Management of HEPA Filters was recently issued and takes effect January 28. It requires all HEPA filters, including filters used in vacuum cleaners

and portable vent units to be tested at the DOE Filter Test Facility in Oak Ridge before they can be used at Hanford. In addition the instruction requires more frequent in-place testing of HEPA filtered systems if conditions change, the filter is wetted, exposed to chemicals, or the system becomes highly radioactive. Forwarded a message to Fluor Radcon managers suggesting they ensure that action is being taken by their procurement, Ops and Maintenance to implement HNF-PRO-8323 on January 28.

Larry Waggoner / Jerry Eby
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FOR YOUR INFORMATION

1. Attended a briefing at Waste Retrieval to discuss removal of waste drums from the 218-12-B trench in 200 East. Currently, we are recovering waste drums in the 200 West area that are setting vertical, in layers with plywood between each row. The upcoming work will be with drums that are stacked on their sides directly touching the row above and below. Contact radiation levels up to 30 Rem/h are expected. The drums are in direct contact with the soil and there is an increased potential for contamination spread from corroded drums. Plan is to install a movable 90' X 150' containment enclosure that is about 38' high over the vee-shaped trench to provide weather protection, reduce delays, and improve radiological conditions. The distance from the top of the trench to the bottom is about 16'. The enclosure will have two vehicle doors at each end and two personnel doors on the side for personnel egress. The tent is expected to be moved 50 times over a 4 year period. A large A-Frame will be installed inside to provide support for a bridge crane, chain fall or retrieval equipment. The trench may have stacks of TRU and Low Level waste drums located side-by-side. The engineers are still working on a retrieval method that won't require workers to stand on the drums to connect lifting devices. This may be a platform that can be lowered into the trench as the drums at the top of the stack are removed. We don't want the workers standing on top of drums that may collapse.

The ventilation system for the containment will not contain HEPA filters, but will provide about 4 air changes per hour. This is needed to reduce carbon monoxide levels from the operation of an excavator, front loader, and larger vacuum unit (Guzzler). Recent experience at another burial ground revealed that retrieving damaged drums can cause airborne contamination. A HEPA filtered vent system will be installed in case airborne radioactivity is encountered. Plan is to secure the non-filtered tent ventilation if airborne radioactivity is detected and operate the smaller HEPA filtered system until the airborne contamination has settled and the area is decontaminated. Recommended a trunk line be attached inside the tent so the suction hose for the HEPA filtered system could be positioned near the source and eliminate any airborne contamination at a faster rate.

Some of the drums are expected to have deteriorated to a point where the drum sides are rusted away. See attached photo of a recently discovered corroded drum. Note: There are drums that are much worse than the one pictured. Discussed some of the techniques that could be used to reduce worker injuries and reduce dose. Lessons learned from waste retrieval operations in 200 West will be implemented. Mockup training will be conducted at 218-E-12B and will provide additional information. Recommended a camera system be used to track progress and increase safety of workers. The tent will have an inner liner on the roof with an air space between the roof and the liner. Recommended they engineer a way to circulate the air in this space to reduce temperatures in the tent in the summer. Waste Retrieval engineers are continuing to look for better equipment to reduce the hands-on operations by workers. They would like to find equipment that can reach into the trench to pick up the drums. Recommended they contact S.A. Robotics who have built innovative tools for use at K Basin. See www.SARobotics.com The ALARA Center will research our files and network with other sites to see if we can offer other recommendations. Point of Contact is Mark Gibson, who is the Engineering Manager for Waste Retrieval. Contact him at (509) 373-4869 or email mark_w_gibson@rl.gov

D&D UPDATES FROM RADWASTE SOLUTIONS MAGAZINE

Final groundwater cleanup has begun at M Area at the Savannah River Site. They are using a new Dynamic Underground Stripping (DUS) System, now operational in the site's Settling Basin. The system removes volatile organic compounds (VOCs) that had been deposited into the basin from the production process in M Area facilities. DOE estimates it will take about 39 months to remove more than 1 million pounds of VOCs from M area compared to more than 200 years using a pump and treat and/or soil vapor extraction technologies.

D&D work at Maine Yankee nuclear power plant is complete. The 179 acre site now is a 12 acre Independent Fuel Storage Installation. This is the fist United States plant that has been fully decommissioned with all plant buildings removed. This was the first time explosives were used to demolish a containment building.

D&D of older plants in the United Kingdom is in progress and workers are encountering "lots of asbestos" and more lead than was originally estimated. The decommissioning strategy is to leave nuclear plants in a SAFSTOR condition for up to 100 years. This strategy is driven primarily by a lack of disposal facilities for waste and a lack of funding.

In France, shutdown plants are being dismantled so they can be replaced with new operating reactors in the 2020 time frame.

In Germany, steam generators at one plant were filled with water and then frozen, which made cutting the "fixed" tubes easier. In 2002, the internals of a reactor vessel were cut up underwater at a depth >20 meters using plasma arc techniques. The biological shield was segmented using diamond wire cutting techniques.

At Chornobyl, a contractor is being selected to install a large shelter to fit over the existing shelter. The design consists of a self-supporting arch that will be constructed nearby and then rolled into place on rails. The area inside the arch is as big as four football fields. Once in place, it has a life expectancy of 100 years. The old shelter will then be dismantled.