From: Waggoner, Larry O
Sent: Thursday, November 17, 2005 1:46 PM
Subject: ALARA Center Activities for November 14, 2005

Attachments: emmisions.pdf; JPCL Power Tool Cleaning Article.pdf
Visit our website at http://www.hanford.gov/rl/?page=974&parent=973/

1. Forwarded info on fixatives to SRS Engineering Manager. She has a job to accomplish D&D on a building containing an incinerator. The inside of the incinerator is a High Contamination Area and the internal surface is brick covered with residual ash. Recommended she contact Bartlett Nuclear Services at www.bartlettinc.com and discuss using Polymeric Barrier System sealant. Forwarded request from Envirocare in Utah to D. Whitten at 373-9290 for purchasing info on "Walking Sticks" used at Hanford to hold survey probes just above the ground. Hanford's committee on improving ergonomics of survey instruments developed a new walking stick that works very well. Recommend they contact the local person who fabricates the walking sticks at RDSHOOKS@msn.com.

2. Forwarded info to PFP engineering on Plasma Arc Cutting. This info was included in the ALARA Center Activities Report for October 3, 2005. PFP is considering cutting man-size openings in stainless steel collection tanks. Recommended they install a prefilter or cyclone separator in their vent system to remove the large amounts of airborne debris generated during plasma arc cutting. In addition, recommended their vent system have metal ducting and a spark arrestor. If they decide not to use plasma arc cutting, recommended the use a nibbler to cut the openings. Nibblers cut up to 39" per minute and the metal chips are directed inside the tank or collected in a bag attached to the nibbler. See www.trumpf.com. As it turns out, the tank's wall thickness is right at the upper limit of the depth of cut of the nibbler and the nibbler might work if the stainless steel isn't made from a hardened alloy. In addition, the experience ALARA Center personnel have with Plasma Arc cutting may be dated. There has apparently been significant improvements in this process that reduces the emissions during cutting. Plan is to test a torch made by Hypertherm. Attached is a report on Fume Emissions Testing done by Hypertherm. PFP will conduct mockup testing to demonstrate this technology. Forwarded two other documents that describe the amount and size of particles generated during Plasma Arc Cutting. They are found at: http://www.osti.gov/bridge/servlets/purl/212430-RTMkqP/webviewable/212430.pdf and http://www.osti.gov/bridge/servlets/purl/793521-KXvi9G/native/793521.pdf.

3. Attended a D&D planning meeting concerning the removal/replacement of air sample piping that is located 85' up the PUREX ventilation stack. Recommended they install a glovebag to accomplish the work and attach it to the stack using insulation "stick-ups" RTV'd to the stack to support the glovebag or install Hilti bolts. A "Screw-Lift" is being assembled now to provide a work platform. We will continue to follow this job.

4. Forwarded info to 200 LEF on the Power Products wet/dry vacuum cleaner RadVac 550. This unit has a float switch that operates a pump to transfer liquids if the vacuum fills with liquid. They need a unit that can be used to remove rain water, dirt and debris from pits and sumps. Reminded them that whatever electrical vacuum or pump they buy, has to be tested by a Nationally Recognized Testing Lab. Also showed them a collector drum mounted in-line in the suction hose that would collect the dirt, debris and water before it reached the vacuum cleaner. They might be able to use their existing vacuum cleaner if they added the collector drum.

5. Provided tour of the ALARA Center to Head of Nuclear Technical Services and ALARA Coordinator from CH2M. David Lowe formally worked at Rocky Flats and was very familiar with the D&D Tools and equipment. Provided additional tour to 4 students attending the ALARA Training for Technical Support Personnel class.

6. Sponsored a vendor demo by 3-M products with their adhesives expert and Tom Bester from Safety & Supply. Personnel from PFP attended the demo and a product "FastBond 49 adhesive was sprayed on

protective clothing using a pneumatic sprayer. PFP currently sprays hair spray from aerosol cans on personnel exiting highly contaminated areas to capture loose contamination on the outside of the protective clothing before disrobing. Goal is to come up with a spray fixative that is as easy to apply as using an aerosol can but doesn't contain the hazardous ingredients of hair spray. The FastBond 49 seemed like it would do the job but isn't sold in an aerosol can. We will continue to look for a hand sprayer that can spray the product as an atomized mist that is convenient to use. Info on this product can be obtained from 3-M Jonathan Stout at (503) 757-1389 or (800) 797-4508. 3-M is working with the PFP Plastic Shop trying to find adhesives or tape that work well on polyurethane. Glovebags made from polyurethane are fabricated with a heat sealer and we want to be able to add extra sleeves to the glovebag in the field, if possible by gluing or taping. PFP personnel continued to use the glovebox mockups at the ALARA Center to train workers on glovebox operations.

7. At the request of M. Lackey, the D&D Site Manager, I met with C. Barton and discussed a job the Fernald Site has to demolish contaminated carbon steel tanks. Their intent is to remove the tanks with a large shear attached to an excavator. Discussed the use of Rust Doctor and misting that was used by BHI to demolish the 1306 Dump Tank at 100N. Showed him a "Snorkel" Tool with air injection sold by Power Products that could be used to empty the tanks if a submersible pump would leave too big a heel. Discussed spraying the concrete pad beneath the tanks with Polyurea or Polyurethane (Rhino or Line-X pickup bed coatings) or using Polymeric Barrier System sealer. They could also place 6" of dirt on top of the concrete pad to reduce the chance that contamination falling from the tanks would contaminate the concrete pad. Apparently, the goal is to cut up the tanks and not contaminate the concrete pad underneath. Forwarded additional info on the "Whirly" used at Tank Farms to fix contamination in valve transfer pits and info on the Fog Cannon used at 233-S and the Mound Site. BHI used a small mister instead of a Fog Cannon at 100N to reduce the chance of contamination spread. The small mister does not create problems dealing with standing water. C. Barton will compile the recommendations and forward them to M. Lackey.

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FOR YOUR INFORMATION

1. During the week of October 31, L. Waggoner attended the Electrical Facility Contractors Group Meeting (EFCOG) on Radiation Protection in Washington DC. During the meeting several presentations were given by other DOE Sites and Senior DOE Managers. Of particular interest were presentations on "Hard to Detect Isotopes", "Lessons Learned from Rocky Flats" and "Radiological Protection for Sites Transferred to the Office of Legacy Management". These and the other presentations will eventually appear on: http://www.eh.doe.gov/radiation/workshop2005/index.html One of the recommendations of the meeting was that the Lessons Learned from closing Rocky Flats needed to be captured in a document for all other sites to read. It was obvious the Rocky Flats personnel have valuable knowledge that would significantly help other sites.

2. An article worth reading on the decontamination products that are being developed to clean up after a dirty bomb can be found at http://www.sciencenews.org/articles/20051029/bob9.asp. These products may have some application during future D&D activities. Received brochures and Compact Discs from Novatek Corporation who sell shrouded tools, floor machines and HEPA vacuum cleaners. Read about these tools at www.NovatekCorporation.com

3. Talked to INEEL ALARA Coordinator and they are experimenting with a radiator hose cutter to sever pass-out sleeves. See http://www.skywaytools.com/radiatorhosecutter.html Another new fixative is Nansulate, which is a liquid applied insulation and rust inhibitor. Read about this at http://www.industrial-nanotech.com/nansulate.htm

4. Talked to the author of the DOE Annual Report on Occupational Radiation Exposure. The 2004 report is awaiting final signature and should appear on the DOE Website within the next two weeks. See "What's New" at http://www.eh.doe.gov/rems/ Section 4 is normally dedicated to ALARA and should contain articles on success stories that occurred at DOE Sites during the last year.

5. An article on Power Tool Cleaning is attached for your information. It was written by personnel of Desco tools and discusses the different types of tools used to prepare surfaces. This article appeared in the latest Journal of Protective Coatings and Linings. Desco shrouded tools have a connection for a vacuum cleaner to reduce contamination spread during use. Debris, contamination and surface coatings are collected in the vacuum cleaner while the tool operates. Whether you use Desco, Pentek, Novatek, or any other manufacturer of shrouded tooling, this article is good one for workers to read. If you're interested in shrouded tools, stop by the ALARA Center and test drive one of our Desco tools or check out these websites: www.descomfg.com, www.pentekusa.com, or www.NovatekCorporation.com.

6. Attended a Kick-Off meeting on Knowledge Management Online. Our parent company, Fluor, is a global company doing work around the world and they have established a database with the goal of sharing information and success stories throughout the company. Multiple "Communities" have been set up and Fluor employees will be asked to join those communities that may interest them. Communities have titles like "Lessons Learned", "Quality Control", and "Mechanical Engineering". ALARA Center personnel will likely join communities related to ALARA or Radiation Protection. Anyone in the community can send out a question and it will go to all other members of the community. Employees can be members of more than one community. Subject Matter Experts will be identified in each community. So if a Fluor employee working at Hanford has a question, he/she can send it to his community and may receive several replies from other Fluor personnel located throughout the world who may have the solution to the problem. More on this later.