

Agenda for 8<sup>th</sup> Superfund National Radiation Meeting  
San Francisco, February 27 to March 2, 2007

**Location:** Argonaut Hotel  
495 Jefferson Street at Hyde  
San Francisco, CA 94109  
Phone: 1-415-563-0800 (*Main Number*)  
1-866-415-0704 (*Reservations*)  
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**Dates:** Tuesday February 27 to Friday, March 2, 2007


**Tuesday, February 27, 2007 – Opening and Removals/Counterterrorism**

**8:00 am** **Introductory Remarks** (*Robin Anderson OSRTI*)

**8:15 am** **Revising EPA's Protective Action Guides Manual.** EPA's 1992 Protective Action Guides for Nuclear Incidents manual is being revised and several points are of interest to the Agency's radiation experts:

- We have reorganized the early and intermediate phase chapters.
- The threshold for providing potassium iodide is lowered from 25 rem adult thyroid to 5 rem child thyroid dose in light of Chernobyl data. We also offer simplified threshold and dosing for KI, per the FDA FAQ and WHO guidance.
- The new Drinking Water PAG of 0.5 rem works in concert with FDA's Food PAG of 0.5 rem to protect people from the full spectrum of radiological incident scenarios.
- FRMAC is collaborating with us to recalculate all the tables using updated dosimetry and assumptions, i.e. ICRP 60 and FGR 13 CD supplement.
- The promised Recovery (Late Phase) chapter incorporates the DHS draft RDD/IND guidance process for optimization and cleanup implementation.
- We are including a new appendix on unique response actions for an IND. It is Appendix K and we ask that you comment on its value and content.

The 1992 PAG Manual is available online at:

<http://www.epa.gov/radiation/rert/pags.htm> You can download a full copy of the document by clicking the button that looks like this on the upper right of the document page:  (*Sara DeCair, ORIA*)

- 9:00 am**      **Planning for Nuclear Explosions: Washington State Department of Health Protective Action Recommendations for Terrorist Use of Nuclear Weapons:**  
Washington State planning for terrorist Radiological Dispersal Device (RDD) events was showcased during the 2003 TOPOFF 2 exercise. The focus of that planning was on timely protective action recommendations (PARs) that would protect the public. Since then, Washington Department of Health (WDOH) has extended its planning effort to include nuclear explosions (“improvised nuclear devices” or INDs). The radiological consequences of INDs differ from those of RDDs not only in magnitude, but in important technical aspects. Fallout is a primary concern and the window of opportunity for response is significantly shortened. This presentation will present the WDOH IND PARs, and will outline the technical issues associated with IND response, the problems and considerations faced in developing effective IND PARs. (*Richard Poeton, Region 10*).
- 9:45 am**      **Break**
- 10:00 am**      **Population Monitoring and Decontamination Following a Radiological Terrorism Event.** The Centers for Disease Control sponsors a workgroup that is developing guidance for first responders on how to handle this daunting task. This presentation will discuss the recommendations made thus far. We will also talk about how EPA might be asked to assist. (*Gregg Dempsey, ORIA, with possible assistance from Ed Tupin, ORIA, and John Cardarelli, NDT*)
- 10:45 am**      **Tholian Web Table Top Exercise.** During the first half of 2006 DOD held the Tholian Web exercise to analyze their response to requests for assistance from the civilian sector IAW the National Response Plan to Planning Scenario #1, a 10kt IND detonation in Washington DC. This effort built on earlier studies addressing DOD force requirements to be used during responses to WMD events. The study objective was to determine initial and follow-on force requirements needed during recovery and remediation efforts during the first 60 days following the event. The presentation will review the available products of the exercise and discuss considerations for recovery operations based on what DOD might contribute to such an operation. (*Scott Hudson, National Decontamination Team*)
- 11:30 am**      **Lunch**
- 12:00 Noon**      **Dirty War.** The HBO film, DIRTY WAR, tells the fictional story of a radiological "dirty bomb" attack on central London. It begins with a London-based drill before moving on to the making of several dirty bombs by Islamic

fundamentalists. The action continues to alternate between any number of groups, including politicians, the press, and the general public. When the terror cell detonates a bomb in the city center, the movie tracks the emergency response. The film asks the questions: Are our emergency services fully prepared for a nuclear attack? How much does the public have a right to know? Would propose showing first 60 minutes during lunch for those interested in how the attack is formulated, then would show the 30 minutes focused on emergency response after the lunch break, followed by a 30 minute discussion period focusing on the emergency response. (*Stuart Walker, OSRTI*)

- 1:00 pm** Portion of DIRTY WAR film that focuses on emergency response after “dirty bomb” attack on central London.
- 1:30 pm** Discussion period on emergency response after “dirty bomb” attack in DIRTY WAR film.
- 2.00 pm** **IMAAC Update (15 mins.):** In preparation for Friday's field trip to the NARAC/IMAAC facility at the DOE's Lawrence Livermore National Laboratory, this presentation will provide an update on EPA's Agency-level coordination with the DHS IMAAC (Inter-Agency Modeling and Atmospheric Assessment Center). Updates will include proposed changes to the IMAAC SOP based on changes made to the DHS National Response Plan, EPA SCRIBE and AIRNOW data sharing progress with IMAAC, and EPA regional IMAAC training. In addition, future plans for training, data sharing, and outreach will be discussed. (*Ed Tupin, ORIA*)
- 2:15 p.m.** **Southern Crossing 2006 (SC-06):** was a full-scale DOE-sponsored field exercise, based on a radiological dispersal device (RDD) scenario. The exercise was conducted in Dothan, AL, September 14-19, 2006. The exercise involved the deployment and integration of local, multi-State, and Federal resources and focused on command and control, data flow, and coordination issues. Field play incorporated 24-hour operations, testing the ability of EPA Region 4 On-Scene Coordinators (OSCs) and support personnel and the ORIA Radiological Emergency Response Team (RERT) to operate effectively in coordination with the Federal Radiological Monitoring Assessment Center (FRMAC) and state and local responders. EPA participated on many levels: in incident command, in monitoring and assessment in the FRMAC, as a recommending agency for protective action guidance for the public, and as a key player involved in radiological cleanup. The presentation will focus on EPA's early actions in the scenario, how the PAG process was implemented, lessons learned with respect to incorporating the FRMAC into an ICS, and key issues involved in cleanup and

remediation that could affect EPA should a similar scenario actually occur (*Gregg Dempsey, ORIA, Jon Richards and David Dorian, Region 4*).

**3:00 p.m.**     **Break** [*Note: After Break, DOE Presenter arrives*]

**3:15 pm**     **Combined Sanitary and Storm Wastewater Treatment Plants and Radiological Attack: Issues and Recommendations.** A radiological risk analysis, a radiological instrumentation analysis, and a radiological emergency response plan were recently completed for a major metropolitan combined storm and sanitary sewage treatment plant. While politicians, press, and public seem to focus on a radiological “dirty bomb,” non-explosive means of dispersing biological, chemical, or radioactive materials exist and may occur without any public announcement or signal events such as an explosion. In any dispersal of radioactive material, areas served by combined sanitary and storm sewers could have radioactive material on its way to the wastewater treatment plant in a short period of time. In the case of an unannounced dispersal, detectors upstream from or at a wastewater treatment plant may be the first to signal the event. Given the variety of radioactive materials that may be dispersed in such an attack, it is not clear whether the public and the environment are better served by treating wastewater or by bypassing the plant. If the water is treated, radiation protection issues arise for wastewater workers. Radioactive waste streams from treatment of radioactive wastewater include screenings, grit, biosolids, settled materials, and treated water. Radioactive waste management becomes critical and must be arranged in advance of an attack. Many outstanding issues remain to be resolved. Research is needed for both water and wastewater systems in the context of preparing for and responding to a radiological attack. Such research would support four areas: risk analysis; risk management; water and wastewater treatment; and detection, measurement, and communication of measurement results. (*Daniel J. Strom, DOE-PNL*)

**4:00 p.m**     **Approaches to Risk Management in Remediation of Radioactively Contaminated Sites.** Dual or multiple regulation by the Nuclear Regulatory Commission (NRC), by the Environmental Protection Agency (EPA), and by state agencies of NRC-licensed facilities undergoing decommissioning has been a subject of considerable debate and controversy. Among other laws and regulations, NRC operates under the Atomic Energy Act and the License Termination Rule (10 CFR Part 20 Subpart E), and EPA operates under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund regulations. The National Council on Radiation Protection and Measurements (NCRP) Report No. 146 reviews and analyzes the laws, regulations, guidance, models, and practices of NRC and EPA in this arena as a step toward developing consistent approaches to decision-making by NRC

and EPA on the cleanup of radiologically contaminated sites. Report 146 summarizes the legal and regulatory drivers and practices for their historical basis, their commonalities and significant differences, and their current and future implications as they relate to public perception, uncertainty, measurability, and radiation dose and risk estimates. The NCRP has analyzed case studies of decision-making and extracted recurrent themes. The report reaches seven conclusions: 1) criteria differ for acceptable levels of residual soil contamination; 2) concurrent regulation is the rule, not the exception; 3) meaningful stakeholder involvement is required; 4) either EPA's or NRC's approach can protect public health with site-specific cleanup levels; 5) there are many drivers for practical decision-making; 6) state involvement is vital; and 7) EPA involvement should not impede NRC license termination. (*Daniel J. Strom, DOE-PNL*)

**4:45p.m.**      **Summary of Action Items/Issues**

**5:00 p.m.**      **Adjourn**

*[Note: ITRC Presenters arrive]*

- 8:00 a.m.**     **Decontamination and Decommissioning of Radioactively-Contaminated Facilities.** The Interstate Technology & Regulatory Council's (ITRC) Radionuclides Team is currently developing a guidance document on the decontamination and decommissioning (D&D) process for radioactively-contaminated facilities. For radioactively contaminated facilities the decommissioning process incorporates some or all of the following activities: the safe management of radioactive and other wastes, facility dismantling, demolition and site remediation. Following the decommissioning process, the regulatory controls covering the facility may be terminated and the site safely released for appropriate alternative use. The document provides information on: the CERCLA and AEA regulatory framework and associated guidance documents and tools to use during D&D, cost considerations that site managers should evaluate when planning D&D projects, a range of technologies that can be used throughout the D&D process, and describes health and safety measures that need to be considered. These technologies cover various contamination imaging/mapping systems, sizing techniques, solids and liquids removal, robotics, large structure demolition, packaging, etc. The document also provides case studies of D&D actions taken at private and government-owned facilities. (*Robert Storms, Tennessee Department of Environment and Conservation or Carl Spreng, Colorado Department of Public Health and Environment*)
- 8:45 a.m.**     **Berkeley Nucleonics SAM-935 Overview and Capabilities** - Many regions have this portable gamma spectroscopy detector and are unfamiliar with its use and capabilities. An ORIA expert on this device will guide users through operation and capabilities and explain gamma spectroscopy in an understandable fashion. (*Brian Moore, ORIA-LV*)
- 9:30 a.m.**     **Break** *[Note: EPA Only, ITRC Presenters Leave]*
- 9:45 a.m.**     **RDD/IND Late-Phase Tabletop Exercise** . The Office of Superfund Remediation and Technology Innovation (OSRTI), the National Decontamination Team (NDT), and EPA Region 5, with the assistance of the Department of Energy, are developing a tabletop training exercise on response actions to achieve final cleanup levels after an Radiological Dispersal Device (RDD or "dirty bomb") and an Improvised Nuclear Device (IND). A one day tabletop exercise is planned for Monday, February 26 in San Francisco that would involve EPA regional staff. This tabletop exercise would provide the groundwork and process

for subsequent tabletop exercises that would involve other EPA regions along with state/local officials and stakeholders. Key objectives include testing the application of technical guidance that are currently available or in development, conduct optimization discussions using a CERCLA type approach as a benchmark (e.g.,  $10^{-4}$  to  $10^{-6}$  cancer risk and ARARs) with examination of cleanups with residual risks greater than  $10^{-4}$  (e.g.,  $10^{-3}$ ,  $10^{-2}$ ,  $10^{-1}$ ). The exercise will be conducted during the late-phase timeframe. (*Stuart Walker, OSRTI, Scott Hudson and John Cardarelli, National Decontamination Team, Jim Mitchell and Gene Jablonowski, Region 5*)

- 10:30 a.m. Evapotranspiration or Extraterrestrials - Which one will win out at Monticello.** The U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) collaborated on the design, construction, and monitoring of an alternative cover for a uranium mill tailings disposal cell at Monticello, Utah. The disposal cell was designed to satisfy minimum technology guidance specified in Subtitle C of the Resource Conservation and Recovery Act of 1976, and the radon attenuation and 1000-yr longevity requirements in the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978. Relatively low precipitation, high potential evapo-transpiration, and thick unsaturated soils favor long-term hydrologic isolation at semiarid sites such as Monticello. The cover was designed to mimic this natural soil-water balance. The cover relies on the water storage capacity of a thick, fine-textured soil layer overlying a sand-and-gravel capillary barrier to store precipitation while plants are dormant, and on evapo-transpiration (ET) to remove stored water during the growing season. Constructed in 1999 and 2000 there are now six years of data and study on the performance of the cover and the establishment of vegetation. Recently, an invasion of voles has further jeopardized cover performance by putting significant stress on shrub species necessary for removing water from the soil storage area. The presentation will focus on the cover successes, the lingering problems, and the lessons learned. *Paul S. Mushovic ( time approximately 40 minutes)*
- 11:15 a.m. Late Breaking Developments.** Update on Rapid Assessment tool. Overview of IAG with U.S. Customs and NIOSH. Update on Radiation Task Force Leaders. Los Alamos plume modeling project. (*Jim Mitchell, Region 5*)
- 11:30 a.m. Lunch**
- 1:00 p.m. Use of Radon as a Tracer to Evaluate the Entry Rate of Soil Gas Contaminants Known as Vapor Intrusion.** Vapor intrusion (VI) refers to the situation in which harmful chemicals [such as halogenated or chlorinated volatile organic compounds (VOC) or petroleum products] in the groundwater or soil

volatilize into the pore gas of the vadose zone and migrate into the indoor environment. These chemicals typically arise from landfills, superfund sites, RCRA sites, CERCLA sites, Brownfields, or leaking underground storage tanks. Hundreds of thousands of these sites across the nation are surrounded by residential and commercial communities that may be at risk from VI problems. Before applying reduction methods to reduce indoor exposure to these toxic chemicals, one needs to identify the buildings in which vapor intrusion problems exist. Current methods of performing large numbers of VOC measurements to analyze the problem are quite expensive, time consuming, and often do not lead to satisfactory conclusions about the magnitude of the problem or the origin of the contaminants. Confusion often arises because the same chemicals may come from the soil gas, the ambient air, or from indoor sources. Consequently, better methods for identifying the sources of these indoor contaminants are needed. This discussion will describe the use of naturally occurring radon in the soil to measure the entry rate of soil gas and consequently numerous other soil gas contaminants into the indoor environment. These radon measurements are less costly to perform than traditional VOC analyses and result in less ambiguous interpretations of apparent relationships between measured indoor and sub slab toxic chemicals. Most soils in the US contain sufficient quantities of radon to accommodate this diagnostic method. This discussion will also address some other potential diagnostic methods to distinguish among the different sources of indoor contaminants (soil gas, ambient air, and indoor sources). (*Ronald B. Mosley, RTP/ORD*)

**1:45 p.m**      **Evolving Adjustments to External (Gamma) Slope Factors:** EPA's external slope factors for estimating cancer risks from exposure to gamma radiation have traditionally assumed that the contamination existed on a plane of infinite surface area and infinite depth. Beginning with the Soil Screening Guidance for Radionuclides, EPA began to employ methods to initially adjust for site size. Now with the BPRG calculator for inside buildings, and the SPRG calculator for outside hard surfaces, EPA has begun to adjust for site and room size, and building heights on a radionuclide specific basis. Also, these calculators adjust for different depths of contamination (e.g., ground plane, 1 cm, 5 cm, 10 cm, and infinite depth). This talk would discuss these developments and implications for site-specific risk assessments, such as how the highest gamma risk in small rooms is in the corners and in large rooms it is at the center, assuming the same ceiling height. (*Stuart Walker, OSRTI*)

**2:30 p.m.**      **Break**

**2:45 p.m.**      **Human Exposure not under Control at Paducah and other sites.** Under the RCRA and CERCLA Environmental Indicators (EIs), the DOE Paducah Gaseous

Diffusion Plant (PGDP) has both a Groundwater Not Under Control and Human Exposure Not Under Control. The PGDP is an NPL site and under a RCRA CA Permit with KY. Under a Federal Facilities Agreement signed by EPA, DOE and KY, all parties agree to coordinate DOE's CERCLA response obligation with the corrective measures required by its current RCRA Permits and KY hazardous waste statutes and regulations. The responsibility for the RCRA EIs has been delegated to KY. In correspondence from Susan Bodine to James Rispolli, Bodine makes the point that under an FFA such as PGDP, that the RCRA EI and CERCLA EI should be consistent.

This presentation will look at the determination of HENUC by KY and discuss the difficulties involved in reaching resolution to bring the determination to a HEUC. The main pathway for Human Exposures at the PGDP has been surface water. Historically, since PGDP started enriching uranium in 1952, both Bayou Creek and Little Bayou Creek have captured the wastewater discharges from the operations of the PGDP and discharged them to the Ohio River. Currently discharges to both creeks are monitored under KYPDES permits. KY made the HENUC determination because of elevated metals, in particular Uranium in sediments in both creeks. TCE and Tc99 also discharge in artesian springs in Little Bayou Creek, although the levels have been found to be under a  $10^{-6}$  risk. The 3 mile length of the streams to the Ohio River run adjacent to and through DOE property, private property, Tennessee Valley Authority property and primarily the Western KY Wildlife Management District. A temporary solution to bring a HEUC has been through the Institutional Control of additional signage along the creeks and at key access points. Disputes between KY and DOE over the wording and placement of signs has been an ongoing issue since the early 1990's and currently are a barrier to obtaining a HEUC. Additionally, lack of precise guidance on the DQO of samples used to determine EIs has DOE arguing that the samples used by KY to make the EI determination are discrete and that a true risk based analysis would use probabilistic assessment.

A panel of RPMs with other sites without human exposure under control (US Radium, Welsbach, and Ottawa) will briefly describe corresponding issues at their sites. (*David Williams Region 4, Stephanie Vaughn and Rick Robinson Region 2, and Denise Boone Region 5*)

**3:45 p.m. Addressing Radiation Risks from TENORM to Residents: A Case Study.** Region 4 began an initiative several years ago in an effort to characterize the extent of impacts and potential risks to residents to elevated levels of radiation from Technically Enhanced Naturally Occurring Radioactive Materials (TENORM). Located in West-Central Florida is a deposit of phosphate ore that spans an area approximately 2100 square miles in size. This deposit has

supported a thriving industry since the late-1800's that includes the mining of the ore and the production of phosphoric acid for consumer products. A result of this process has been the contamination of extensive areas with Radium. Thousands of acres of this contaminated land has been developed, and is expected to continue to be developed in the future, for residential. The goal of this initiative has been to determine the extent of radiological impacts and implement measures to address human health risks posed by these impacts. The initial phase of site-characterization is planned but not yet scheduled. During the planning of this phase, the project has been met with numerous challenges and still faces significant hurdles to overcome in the future. This case study will provide an overview of the project; significant challenges that arose and how they were addressed; and future challenges that are yet to be addressed. (*Brad Jackson, Region 4*)

**4:30 pm**      **General Discussion on Contaminated Building Cleanup Issues**

**4:45 p.m.**      **Summary of Action Items/Issues**

**5:00 p.m.**      **Adjourn**

**8:00 a.m.**     **Inventory of Radiological Methodologies For Sited Contaminated With Radioactive Materials.** This recently published, (October, 2006) document is part of a continuing effort by the Office of Radiation and Indoor Air and the Office of Superfund Remediation and Technology Innovation to provide guidance to EPA site managers and their contractors responsible for managing the clean up of sites contaminated with radioactive materials. The document is an overview of radioanalytical methodologies that can be used for the identification and quantification of radionuclides likely to be found in soil and water at cleanup sites contaminated with radioactive materials. The radioanalytical methodologies covered in the document include both screening methodologies and radionuclide – specific methodologies . While focusing on soil and water , it’s general principles apply also to other media that require analysis to support cleanup activities. It is not a catalog of analytical methods , but rather is intended to assist project managers in understanding the concepts, requirements, practices, and limitations of radioanalytical laboratory analyses of environmental samples. *(John Griggs , ORIA /NAREL / Ron Wilhelm , ORIA /RPD)*

**8:45 a.m.**     **How Do You Clean Up and Close a Nuclear Reactor under CERCLA? Savannah River Site.** This presentation will describe the decisions being made at Savannah River Site (SRS) regarding the cleanup of major production facilities. For over a decade the Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) have operated under a Federal Facilities Agreement (FFA) to clean up the SRS from the remnants of the Cold War plutonium production at SRS. Much progress has been made over the years in cleaning up the SRS. Recently, DOE has decided to move forward with the Decommissioning of excess facilities at the SRS. These facilities include many buildings involved in the various missions of radioactive isotope production at the SRS, including the reactors and the plutonium processing facilities. The discussions between the 3 Agencies on how to best accomplish this work have always included discussions about how to best involve and receive input from all stakeholders. The decisions made will impact the surrounding community and the country for years. Multiple meetings with the stakeholders will be required and it will be incumbent on the 3 Agencies to reach out to and involve all interested parties. The first reactor to be addressed at SRS contains approximately 4 million gallons of water contaminated with approximately 4000 curies of tritium and other process related radioactive isotopes. In addition to deciding how to decommission the reactor and associated buildings, the 3 Agencies must decide on how best to disposition the nuclear waste.

The presentation will also discuss the public involvement aspects of such major decisions. To be successful, education efforts will need to be made to the general public. All aspects of the decisions must be properly communicated. The Agencies must make cleanup decisions that are protective of human health and the environment, compliant with all other pertinent laws and restrictions, keep risk to workers at a minimum and are cost effective. However, decisions that are acceptable to all stakeholders are needed in order to succeed. The details of the goals of the effort will be presented. (*Robert H. Pope, Turpin Ballard, Jim Barksdale, and Dawn Taylor, Region 4*)

**9:30 a.m.      Break**

**9:45 a.m.      Evaluation of Uranium in Ground Water at US Radium.** A small area of site-related uranium contamination was located in ground water at the former US Radium Corporation facility in Orange, New Jersey. This area was limited in both areal and vertical extent, and had not moved significantly since the site was originally contaminated approximately 90 years ago. No other site-related ground water contamination was found at the site. Further investigation revealed a source of the uranium in the soil which had previously been overlooked during the soil portion of the cleanup due to the screening procedures that were utilized (alpha versus gamma radiation screening). Geochemical modeling, combined with an analysis of the site history, was used to show how the contamination got where it did and why it had not moved significantly. The bulk of the source of contamination remaining in the soil was subsequently removed. Ultimately, a no-action ROD, with monitoring, was signed under the premise that the source removal, combined with the geochemical processes occurring, would effectively reduce the concentration of uranium in the ground water to below drinking water standards. (*Stephanie Vaughn and Nidal Azzam, Region 2*)

**10:45 p.m.      Groundwater Modeling at Hanford (or NOT!).** Groundwater modeling at the Hanford Site is in a state of flux since the Department of Energy (DOE) has issued an edict to stop the use of the current modeling tool, CFEST (Coupled Flow, Energy, and Solute Transport). DOE is in the process of converting the site modeling to MODFLOW (Modular 3-Dimensional Finite-Difference Groundwater Flow Model), but this will take several years. This presentation will focus on how project managers are adapting their groundwater cleanup evolutions in the absence of models. (*Dennis Faulk, Region 10*)

**11:30 a.m.      Lunch**

- 1:00 p.m.**     **Savannah River / Floodplain Swamp Integrator Operable Unit (IOU).** DOE allows hunting of white-tailed deer to on Savannah River Site to lower the likelihood of automobile accidents, control the population, and reduce pressure on the flora. DOE also allows hunting of feral hog populations for similar reasons. The hunts have been ongoing since the 1960s. The deer and hog are impacted by Cesium-137 uptake due to the presence of the radionuclide in the soils and vegetation at SRS. DOE has used 99 mrem as a release number for impacted game animals. EPA and SCDHEC have not approved the use of 99 mrem and have been working with DOE to develop an appropriate reference number for a number of years, but have not yet come to an agreement. Game data are evaluated in the IOU program. Beginning in Fall 2006, DOE proposed and is using a dose limit of 30 mrem per year from ingestion of game animals based on a new draft DOE Guidance (a change from the dose limit used in previous years). EPA has not yet seen or reviewed the guidance. A data need exists to determine how the IOU program will screen game data (deer and hog). This will be done in the next Periodic Report for the Savannah River/Floodplain Swamp IOU. A background or reference level is being developed upon which all three Agencies can agree. *(Rob Pope and Jon Richards, R4)*
- 2:00 p.m.**     **Ecological Risk Assessment Calculator.** Presentation and discussion of draft Internet based draft Radionuclide Ecological Benchmark (REB) electronic calculator for establishing ecological benchmarks for animals and plants at radioactively contaminated sites. The calculator should be finalized by the end of 2006 or early 2007. *(Stuart Walker, OSRTI)*
- 2:45 p.m.**     **Break**
- 3:00 p.m.**     **Southeast Idaho Slag.** Slag from elemental phosphorus manufacturing has historically been used as aggregate and construction material in southeast Idaho. The physical nature of this material makes it attractive for such purposes, but the slag contains uranium decay series radionuclides in concentrations above ordinary background levels. Some homes built using this material have measurable radiation dose rates significantly above background. It has also been used in road construction and other applications. This presentation would review the history of this issues, Region 10 approaches to addressing impacts to the public, results of voluntary exposure studies, and highlight some of the difficulties in addressing this type of NORM waste. *(Bill Adams and Rick Poeton, Region 10).*
- 3:30 pm.**     **Three Nuclear Regulatory Commission Proposed Rulemakings — Implications and Impacts for EPA Programs.** During 2006, the Nuclear Regulatory Commission (NRC) required its staff to begin preparation of three

separate draft proposed rulemakings. These efforts, if approved in final, would impact EPA radiation protection, waste management, and water programs. (1) Under the Energy Policy Act of 2005, the NRC was given authority to develop regulations which would classify discrete sources of radium-226, and nuclear accelerator produced materials, as Atomic Energy Act byproduct materials. Among its provisions, the draft rule would give NRC responsibility for cleanup of sites contaminated with legacy radium wastes, and have other implications as well for EPA radiation protection, waste management, and Superfund programs. (2) Prompted by EPA's establishment of a maximum contaminant level (MCL) for uranium in drinking water, the NRC began development of a proposed rulemaking to provide general and specific license requirements for drinking water plants which accumulated uranium through their filtration processes. Approval of the final version of the rule could have important waste management, financial, and regulatory impacts on the drinking water plants, and EPA's radiation protection, drinking water, and waste management programs. (3) Agreeing with a proposal by the National Mining Association, the NRC began development of a proposed rulemaking to relinquish active regulation of groundwater protection at underground in situ uranium leaching operations to EPA and its UIC Primacy states, and to change the required groundwater protection requirements for the uranium licensees from those issued under EPA Uranium Mill Tailings Radiation Control Act regulations to those under the EPA Underground Injection Control regulations. This proposed regulation would impact EPA's groundwater and radiation protection programs. (*Loren Setlow, ORIA*)

**4:15 p.m.      Meeting Evaluation**

**What worked?**

**What needs to be changed?**

**Location for the next meeting?**

**5:00 p.m.      Adjourn**

**Friday, March 2, 2007 Field Trip (you *MUST* have Preregistered)**

Location: Lawrence Livermore remediation site and NARAC modeling center

Time: 7:30 a.m. – ? :00 p.m.

Meet: Hotel Lobby

**7:30am**      **Bus departs Hotel for Lawrence Livermore**

*(We have not yet finalized agenda for tour DOE's Lawrence Livermore site remediation work and the NARAC air plume modeling center tour)*