



Integrated Safety Management (ISM) Working Group
Energy Facility Contractors Group (EFCOG)
Radiation Protection Task Group

EFCOG Occupational Safety & Health Subgroup Meeting

Minutes of the November 17th and 18th, 2004 Meeting, Albuquerque, NM

Attendance

Greg Perkins, Fluor Hanford, RPTG Chairman
Tom Laiche, Sandia National Lab
Ross Miller, Sandia National Lab
Martin Brennan, Sandia National Lab
Brian Hunt, Sandia National Lab
Shay Cawthon, Sandia National Lab
Ed Adams, CH2M Hill
Joe DeMers, Bechtel Hanford
John Edelmayer, INEEL/BBWI
Paul Hoover, LANL
Jerry Hunt, ORNL/UT Battelle
Mike Knight, BWXT Pantex
Mark McMahon, NTS/Bechtel
Doug Minnema, DOE/NNSA HQ
Kathy Shingleton, LLNL
Jim Stafford, SRS/WSRC
Joe Yanek, ISMWG Chairman
John Longenecker, Managing Director, EFCOG
Dan Burnfield, DNFSB

The RP Task Group (RPTG) discussed a number of subjects as follows:

1. Skin Contamination Reporting Diversity – Greg Perkins

This topic is intended to discuss the differences in the various databases that may be used to track the number of skin contamination occurrences at our sites. The topic may have more relevance to the DOE-EM sites than to the NNSA sites because of the added level of reportability referred to as “Golan Reports.” The Golan Report is performed weekly by some EM sites and only if a contamination/uptake occurs at other EM sites. In addition to the Golan Report, EM sites typically have additional personnel contamination reporting levels to the DOE Field Offices, personnel contamination levels often tied to contractual performance, and contamination levels that trigger ORPS. The NNSA sites in attendance were surprised at the amount of personnel contamination reporting that is required at EM sites.

The diversity of reporting could be improved if DOE had an established central technical authority with the responsibility to establish reporting expectations rather than require each DOE Program Office to establish independent reporting for technical information. This issue is addressed, in part, in a DNFSB letter identified as DNFSB Recommendation 2004-1.

This subject was also discussed with the ISMWG Chairman and the EFCOG Managing Director. EFCOG has already aligned with DOE in support of a response to the DNFSB.



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Recommendation 2004-1 addresses a set of issues that goes considerably beyond personnel contamination reportability; however, the establishment of a DOE central technical authority may bring consistency into overall Complex reportability issues. To that end, the RPTG will look for an opportunity to support EFCOG and the DOE if a commitment is made to establish such an authority.

2. Respiratory Equipment vs. NFPA 70E Requirements – Jim Stafford

The Savannah River Site (SRS) experienced a complicated question in how to meet the fire protection requirements established within NFPA 70E for PPE such as respirators and plastic hoods. DOE/SR prioritized resolution by challenging SRS to develop a method to become compliant with NFPA 70E by the end of FY04. The effort that ensued required a significant effort where RadCon worked with the Savannah River Electrical Review Board to first identify all electrical devices on the site and to then identify job tasks that required performance on or near those devices. There was then a need to conduct a hazard assessment for each job task with the associated devices so that appropriate flash resistant clothing and PPE could be properly established.

SRS designed a program with the fundamental requirement of achieving compliance with NFPA 70E while maintaining compliance with the Radiation Protection 10 CFR 835 regulatory requirements. After the program was developed, a schedule was required to educate and train workers. The program considered both severity categories and probability levels and ultimately, resulted in the establishment of a hazard risk assessment matrix.

The SRS program recognized that respirators and air-supplied plastic suits may melt if subjected to high energy electrical flashes. However, it also determined that a hazard of greater likelihood to cause harm could be an actual radiological airborne area. So when engineering controls and work practices could not otherwise resolve the potential of an electrical hazard in an airborne area, the airborne radioactivity would be given the higher priority and appropriate respiratory protection would be worn.

Jim Stafford was asked to present this information to the Industrial Hygiene/Industrial Safety Task Group as well as the Radiation Protection Task Group, so there may be additional information contained in the November 2004 minutes of IH/ISTG.

3. RPP Utilization for Subcontracted Work – Greg Perkins

When a subcontractor is hired and required to provide their own radiological control program, do they operate under their own 10 CFR 835 RPP or are they covered by the Prime's RPP? Are the Prime's RadCon procedures shared with the sub-contractor?

These questions were discussed by the attending RPTG members. There was no case discussed where a subcontractor provided their own RPP. In each sited case, the Prime's RPP covered any DOE radiological work that was conducted.

Several sites have or are using subcontractors that are performing radiological activities. Those sites either have the subcontractors working in a staff augmentation role using the site procedures or they provide direct oversight for the subcontracted work.



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One site has a unique relationship with an NRC-licensed operation that assisted that site with the retrieval of sources that were stored underwater. That contractor used his license to recover and then take possession of the sources.

4. RP Definition and Controls for “Open Wounds” – Tom Laiche

How does your program define an open wound as it applies to entry to radiological areas? Is any radiological work permitted for employees that actually have open wounds?

A number of the represented sites utilize their medical provider to assist with radiological access for workers that may have “open wounds,” although no one expressed a clear definition for an open wound. Generally, RadCon is involved when making the determination as to whether or not access to radiological areas would be permitted. A typical consideration used for this determination is whether a potential need to perform decontamination might be compromised. If it might, entrance is restricted.

5. DTPA Cream Use as a “Topical Application” for Pu Contaminated Acid Burns – Jim Stafford

One site has experience where a DTPA cream was used in this manner for Nitric/Hydrofluoric and Pu-238 mixture contamination event. The decontamination efforts were very difficult and total decontamination appeared to be unlikely. The medical provider responded to the event and after several skin creams failed to improve the efforts, they tried DTPA as a salve. Eventually, they were able to remove most of the detectable radioactive materials with the salve.

One other site has used DTPA in the past as a liquid to rinse wounds. They said that it was effective in supporting their decontamination efforts.

This topic was also to be discussed at the Medical Task Group meeting that was held concurrently with the RPTG, so there may be additional information in their minutes.

6. RP Benchmarking Questionnaire Group Discussion – Greg Perkins

This topic began last meeting with a questionnaire that was completed by several attendees. The RPTG Chairman took the input from those that participated and entered them into a spreadsheet to enhance program comparisons. A portion of the spreadsheet was discussed with this meeting’s attendees to determine if the type of information was of value and whether we wanted to continue something similar over time.

The consensus opinion was that some of the information may be relevant, but it would be very difficult and time-consuming to try to maintain it accurate. As a task group, we have established telephone and email linkage, and routinely bounce questions off each other. It was decided that we will not try to maintain a benchmarking program but rather, will rely on our internal contact mechanisms.



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7. Internal Dose Assignment Practices for Personal Air Sampling – Greg Perkins

This topic discussed what practices the sites use for documenting internal dose from airborne sampling/monitoring. Most sites are using DAC-hours to trigger bioassay, not to assign dose. Several programs have the procedural guidance to assign dose based on air sample results but have rarely or never used them.

One site in attendance uses a 10 mrem cutoff when calculating a personnel exposure from bioassay results.

8. RP Data Normalization – Greg Perkins

We all have several metrics that are reported through our DOE field offices to DOE Headquarters. However, the size of our work forces may dramatically vary as do our exposures to radiation levels and open contamination sources, so direct program comparisons may not be appropriate. This topic discussed various efforts sites have or may be using to normalize the raw field data.

One site used RWP-hours last year as a denominator but has since discontinued. Another site tried a similar approach but did not find the resulting data to have much relevance. One site had a 3-year project that developed an approach for tracking plant hours but eventually abandoned that approach because they found the data of little value.

Another group uses some time information gathered from their access control system for some internal Radiation Protection studies, but they do not use the information for general publication. One site is actively evaluating their access control data, gathered from a new system, and anticipates data normalization similar to the Safety Statistics program. They are considering using a 200,000 man-hour calculation in conjunction with job specific radiation work permits.

9. 10 CFR 835 Amendment – Greg Perkins

The best information we have regarding the status of the pending 10 CFR 835 amendment is that it remains in the DOE General Council offices and is unlikely to appear in the federal register for another year. Some believe that there is an unresolved point related to transportation issues.

The DNFSB representative commented that they will be taking exception to one of the draft changes that may authorize a building that has been released under the MARRISM process to be reoccupied and then not posted for contamination in areas that exceed 10 CFR 835 requirements for posting.



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Open FORUM Discussions – All Attendees

Beyond the agenda items communicated at this meeting, a number of other topics were discussed. A partial listing of those included the following:

- A question was presented as to the various types of bioassay that are currently employed, particularly at alpha facilities. Some are using lung counts for all routines. Some are using fecal bioassays, but only in followup to incidents. One site is seeing a number of low-level indications of uptakes by using thermal ionization mass spectrometry, “TIMS” urinalysis, noting that this costly technique is only used for Pu-239/240.
- The NNSA representative commented that there have been questions on how to apply ICRP 60 results, specifically whether there was an expectation to go back and calculate older exposures. He said that DOE/EH has developed a Technical Position Paper addressing this question and that it is on the EH website.
- A question was raised about which sites perform blood smear surveys when an open wound occurs in a contaminated area. Only two of the sites represented at the meeting do so. The others commented that they only survey the skin and areas surrounding the wound. One of the two sites currently using blood smear techniques is considering dropping that practice.
- One site said that they are currently monitoring and posting areas for plutonium 241. As the complex moves further out in time, there appears to be a growing need for DOE to establish a technical position on the “hard to detect” radionuclides.
- A discussion was held regarding how the attending site representatives posted glove boxes. Are they posted “Caution, Radioactive Material?” or “Caution/Danger High Contamination Area?” And how are the surrounding areas posted presuming the RMA is not (in fact) a Contamination Area? The issue involves the ORPS reportability for even minor spills if a hood or box is posted as an RMA in an otherwise clean area. Conversely, if the RMA is posted as a Buffer Area, Contamination Area, or Airborne Area, spill reportability is not required.
- Some sites have a continuing problem with site workers taking their dosimetry on trips and placing the dosimeters in their checked baggage. This is resulting in doses of 300-400 mrem that must then be dispositioned in some manner.
- The DNFSB representative mentioned that DOE/EH is interested in seeing the complex establish training based on the INPO Human Performance Fundamentals program. The theme of this training is that errors can be predicted. For any that may be interested, Earl Carnes at DOE/EH is the sponsor and can be contacted at earl.carnes@eh.doe.gov.
- A question was raised about how sites may be handling radioactive source certifications that may have expired certificate dates. The general consensus seemed to be that as long as the source was not leaking, the expiration date was of no real value and could be ignored.
- DOT recently revised regulations for shipping material that may be radioactive. HM-230 was issued 01/26/2004 and became effective 10/01/2004. Definition of concentration and consignment values that make a material radioactive for the purposes of shipping were made dose-based, which means each radionuclide has different values, generally relaxed somewhat from prior values. DOT did not revise the numeric requirements for surface contaminated objects. However, they did redefine contamination, and did so in such a manner that it appears that the old values now apply to the **total** surface contamination, not just the removable. Federal



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agencies are aware of this issue and some discussions are said to have occurred. However, without specific national or complex guidance, at least one site is developing an interim technical position paper to establish their approach to compliance.

- One program has developed a test plan for the new “Bladewerx personal air sampler, reported to establish a creditable approach to radon rejection. The results of this testing are expected to be available for discussion at the next RPTG meeting.
- An announcement was presented by the Savannah River Site for the SRS ALARA Workshop to be held in Augusta, GA May 2-4, 2005. This meeting will be the continuation of a series of ALARA Workshops that began several years ago at Hanford. The idea is that SRS and Hanford will host an ALARA Workshop on alternating years to make travel more practical for a larger audience. These meetings have proved to be very worthwhile and have drawn attendance from the complex, the commercial world, and occasional international visitors. This is a great time to consider your program’s involvement. Savannah River contacts for more information or to offer up a presentation for this meeting include Athena Freeman (general information) at 803-208-3603 or Athena.freeman@srs.gov, and Lee Smith (presentations) at 803-208-3602 or lee.smith@srs.gov.

Future RPTG Agenda Item Suggestions – All Attendees

The attendees at this meeting proactively worked to develop possible future RPTG agenda items. The suggestions included:

- Radiation Protection Risk Severity Categories – How do different programs approach and define RP risk categories?
- The Challenge of Dealing with “Hard to Detects” – How is the complex addressing their approach with hard to detect radionuclides? As we get further out in time, our common markers used in a ratio with other materials may be decaying down to levels where low energy nuclides are becoming predominant, or at least significant.
- Training: RWI, RWII, RCT – How are the various sites’ training programs maintaining compliance with the federal guidance?
- Bladewerx Personal Air Sampler Field Report
- DOE O 414.1A, Quality Assurance – This Order addresses software quality assurance which has been an issue in a number of complex programs. How does this Order affect your RP program and how are you dealing with it?



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Discussion/Resolution of Previous Radiation Protection Task Group Action Items
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Action Items Summary: 1 in progress

Task

1. The RPTG membership is interested in the association of INPO with the DOE complex. As it is understood by this group, INPO has an assist contract of some sort with DOE and a specific assist contract with SRS. The RPTG would be interested in further exploring this association with INPO and will contact them for additional information and possible attendance at the next scheduled meeting (November 2004 in Albuquerque). Perkins/Stafford – due 11/04.

Status: In Progress

Update – Contact was made with an INPO RP representative and he was offered the opportunity to attend the November 2004 EFCOG meetings in Albuquerque. However, he was not able to attend. Information was shared with the November attendees as to how DOE complex programs can gain access to INPO documentation. The RPTG Chairman will continue to communicate with the INPO RP representative and see if he could attend a future meeting with the RPTG.