

WASTE MANAGEMENT WORKING GROUP

2009 ANNUAL REPORT

Chair: William (Billy) Morrison, Energy Solutions

Vice-Chair: Welford (Sonny) Goldston, Savannah River Nuclear Solutions

INTRODUCTION

Vision - The EFCOG Waste Management Working Group (WMWG) is chartered to leverage the expertise and experience of contractors to the Department of Energy (DOE) to focus on complex-wide integration and technology transfer while supporting cost-effective and efficient waste management options.

Purpose - The purpose of the WMWG is two-fold:

- to seek out and promote the best management and operating practices, cost effective technologies and disposal options for all waste streams generated at DOE and National Nuclear Security Administration (NNSA) facilities whether destined for DOE or commercial facilities, and
- to enhance complex-wide communication and maintain a priority on safety, environmental stewardship and security

Objectives – The WMWG is committed to the following objectives:

- Work with the EFCOG Board of Directors and DOE sponsors to identify and address issues that have broad impact on waste generators, storage, treatment and disposal facilities throughout the DOE complex
- Promote, coordinate and facilitate the active transfer of best practices, procedures, lessons learned and other salient information that can benefit all contractors in the DOE complex
- Through focused subgroups, provide for technology exchange and development which will be used to provide “technology based” solutions for cross-cutting waste issues (e.g. waste with no paths to disposal)
- Pursue optimized pricing for waste management supplies (e.g., containers) and services (e.g., treatment and transportation) commonly used by DOE waste generators

Scope – The WMWG scope is defined as follows:

- Focus areas will be determined using a systematic approach to identify where gaps or optimization opportunities exist in the current DOE waste management strategies. In consultation with the EFCOG Board of Directors and DOE sponsors, these focus areas will be developed into WMWG actionable items.
- The WMWG will document the results of various member-sponsored efforts in reports and position papers, including the EFCOG website.
- The WMWG will communicate with other EFCOG Working Groups and DOE groups (e.g. Transuranic Waste, Low-Level Waste, and High-Level Waste Corporate Boards in the DOE Office of Environmental Management (EM)) to avoid duplication of effort.

- The WMWG will facilitate dialogue between DOE and member organizations for the purpose of understanding issues and initiatives of mutual interest, but will not engage in lobbying efforts with DOE.

MEMBERSHIP AND ORGANIZATION

MEMBERSHIP

The WMWG has 35 active members, representing 24 EFCOG member companies, and has several active DOE participants.

ORGANIZATION

Leadership in the WMWG is comprised of:

Chair: William (Billy) Morrison, EnergySolutions

Vice-Chair: Welford (Sonny) Goldston, Savannah River Nuclear Solutions

Secretary: Ginger Humphries, Savannah River Nuclear Solutions

The WMWG has no subgroups or task groups at this time.

EFCOG Sponsoring Director: Susan Stiger, Bechtel National Inc.

DOE and NNSA Sponsors: Frank Marcinowski, EM; Dave Michlewicz, Office of Science; and, John Lehr, NNSA

Regarding succession planning, all WMWG officers are scheduled to remain in place through FY 2010.

ACHIEVEMENTS

The WMWG had a busy inaugural year which was initiated by the first Working Group meeting to determine the focus areas for 2009. Four primary focus areas were identified:

1. Identify and produce clarification white papers which will provide consistent guidance on complex wide waste issues
2. Assist the DOE in the update to DOE Order 435.1, "Radioactive Waste Management", allowing waste management experts to apply their knowledge and experience to the update effort
3. Use the collective experience of the WMWG to provide peer reviews as requested from selected DOE facilities (this was executed in any number of ways including small team assessment reviews; peer reviews of assessments performed; answering waste inquiries posted on message forums, etc.)
4. Develop a method to have in place low-level waste (LLW) profiles for disposal that are available for use by all contractors (primary focus of this effort is to evaluate if the Nevada Test Site waste profiles can be broadened to reduce time and cost)

These focus areas were communicated to and accepted by the three DOE and NNSA sponsors;

however, in March 2009, EM asked that the WMWG conduct a facilitated discussion using the expertise of the WMWG, which added another focus area:

5. Identify all the treatment and disposal needs to support American Recovery and Reinvestment Act (ARRA) activities. The ideal deliverable would be a document which maps the available Federal/commercial capabilities (treatment and disposal) to the needs of each of the ARRA sites or projects.

EM then asked that the WMWG include all baseline waste volumes so that the DOE would have a comprehensive list of the total waste volume which would need treatment and disposal through year 2015. This was a considerable effort with many WMWG members spending a significant amount of time and energy to develop waste spreadsheets to capture the requisite information. As such the group deferred work on focus area 4 (LLW disposal profiles) listed above.

The following summarizes the results of the WMWG efforts in 2009 for focus areas 1, 2, 3, and 5:

- The WMWG developed a white paper which was designed to allow generators to use the legacy contaminated waste containers as a part of the waste form. The weight of the entire waste stream including the container would then be used to calculate radionuclide concentrations. Including the container weight will in some cases help classify a waste stream as LLW versus transuranic (TRU) waste, which will benefit the generator through cost savings. This draft white paper was submitted for review to DOE-Headquarters.
- The WMWG worked to support the efforts of the complex-wide review of the DOE Order 435.1. A substantial number of WMWG members participated in the planning and execution of this review. This includes, but is not limited to: accepting the role as the “point of contact” for their respective sites; helping the development of the lines of inquiry for the large and small site pilot reviews; helping in the development of the assessment schedules; performing the assessments; and, reviewing and interpreting the findings and issues.
- The WMWG has been able to use the considerable experience of the group to provide peer reviews and advice on several waste issues. First, there have been several inquiries posted by members on the WMWG website, which have yielded many responses, usually in the vein of providing input to how a similar waste issue is handled at their respective sites. The Working Group has also provided a peer review of a lessons learned that was conducted at the Nevada Test Site. This focus area has provided very beneficial returns in knowledge to the WMWG members and will be an enduring focus area for the Working Group.
- A substantial effort was put forth to deliver on a request by EM to support their ARRA planning effort. The WMWG conducted a forum where generators and contractors with treatment and disposal capabilities got together and populated spreadsheets with waste volumes, types, expected treatment and disposal dates needed, container types, and special waste issues. Due to the evolving ARRA scopes, the WMWG continues to validate some of the waste volumes and is awaiting additional guidance from DOE.

In addition to the specific tasks above, in April 2009, the WMWG provided a recommendation to EM concerning supplemental guidance on methodologies to use to classify waste forms to determine if the waste form meets the definition of TRU waste to LLW. The recommended guidance provides specific examples and methods to allow DOE and its contractors to properly classify waste forms

while reducing the generation of TRU wastes. TRU wastes are much more expensive to characterize at the generator's facilities, ship, and then dispose at the Waste Isolation Pilot Plant versus disposal as LLW. Therefore, it is important to perform the characterization properly, but in a manner that minimizes the generation of TRU wastes if at all possible. In fact, considering the generation of additional volumes of radioactive wastes under the ARRA projects, this recommendation should improve the cost-effective implementation of DOE requirements while properly protecting human health and the environment. The WMWG understands that EM is considering adoption of this recommended guidance in the updated DOE Order 435.1.

Also during FY 2009, the following workshops, meetings and monthly teleconferences were conducted:

- January 13-14, 2009 Working Group meeting at Lawrence Berkeley National Laboratory, where EM provided input on waste issues across the DOE complex, and the WMWG discussed focus areas and assigned responsibilities
- March 5, 2009 Working Group meeting at the Waste Management Symposium in Phoenix, Arizona. Several topics were covered, including WMWG progress against identified focus areas, planned support to EM by the WMWG in the update of DOE Order 435.1, several EM waste issues (ARRA waste priorities, expected increase in solid waste treatment and disposition, disposal facility outlook, and the complex-wide mixed LLW treatment contract), NNSA objectives (communication of lessons learned, benchmarking across sites, and orphan waste disposition solutions), and a detailed discussion on the white paper to be submitted on including waste packaging as a part of the waste form in characterization efforts.
- September 8-9, 2009 Working Group meeting in Las Vegas, Nevada, in conjunction with EM's ARRA Waste Summit. At this meeting, the WMWG discussed the update on the revision to DOE Order 435.1, and worked with EM on the ARRA waste stream planning effort. As part of the Waste Summit, an overview of the ARRA waste data collected and the data needed from the vendors was discussed, and waste generators provided a summary of their waste and noted problem wastes. Contractors provided feedback on their concerns with the forecasts. WMWG developed and populated spreadsheets to match the planned waste for treatment and disposal with the complex and contractor capabilities to disposition.

The following best practices were identified by the WMWG during FY 2009:

- Recognition of when a waste matrix is classified as LLW or TRU each time a waste matrix is transferred to another processing step or facility
- Utilization of the radioactive waste management basis for proper DOE classification of a problem waste form
- Use of non-destructive assay technology at the Nevada Test Site to determine "hot spots" in a large box container managed as TRU waste to determine if an item can be removed that is TRU and, thus, reclassify the entire container as LLW for disposal after the "hot spot" item is removed. Transfer of this technology and strategy was accomplished from the Nevada Test Site to the Savannah River Site, and should be considered as a best practice for the DOE complex.

PLANNING FOR THE YEAR AHEAD

The following summarizes the activities and objectives that the WMWG has identified for FY 2010:

- The WMWG will continue to support the complex-wide review of DOE Order 435.1.
- Efforts will be completed to identify all the treatment and disposal needs to support ARRA and base EM program treatment and disposal activities. The product will be a document which maps the available Federal/commercial capabilities (treatment and disposal) to the needs of each of the ARRA sites or projects.
- The WMWG will complete documentation of at least two best practices and get them posted on the EFCOG best practices website.
- The WMWG will continue to take advantage of the considerable knowledge and experience of the WMWG by sharing lessons learned and best practices.
- Other focus areas will be defined at the first FY 2010 WMWG meeting.
- Working Group meetings will be held quarterly, with monthly teleconference calls.

LESSONS LEARNED

No lessons learned have been identified.

EFFECTIVENESS EVALUATION

By using the collective knowledge and experience of the WMWG, the Working Group was able to provide a significant contribution to the planning and implementation of the complex-wide review for the DOE Order 435.1 project. The value of the WMWG's contribution has been acknowledged by the DOE Order 435.1 update project manager in EM. Additionally, EM found the WMWG to be the right group to lead the waste management treatment and disposal mapping effort in support of the ARRA program. In both cases, the WMWG was able to provide direct programmatic support to the DOE sponsor in a way that will be mutually beneficial for DOE and the contractors.

Probably even more impactful was that the WMWG created a forum by which members can draw on each other for help and support on similar waste issues (accomplished through the WMWG website's Discussion Forum, with the capability to post questions and receive answer from their waste colleagues).

Although there are no cost savings to report at this time, it is expected that cost savings will be realized across the DOE complex through the efforts of the WMWG, particularly once the white paper on waste classification is approved and adopted for implementation at the various DOE and NNSA facilities.

RECOMMENDATIONS

It is recommended that the WMWG continue in 2010 and beyond. Formation of subgroups is also being considered by the WMWG to enable focused support for FY 2010 Working Group actions.