Environmental Management Quality Assurance Summit Meeting Minutes
February 17, 2011 – Oak Ridge, TN

Introduction by Robert Brown (Deputy Site Manager for Oak Ridge)

Robert Brown welcomed everyone to the meeting and provided opening remarks.

Logistical Information by Larry Perkins (EM-23)

Larry Perkins provided the logistics for the meeting and noted that the meeting presentations materials and meeting minutes will be made available online at *http://www.em.doe.gov/Pages/QACorporateBoard.aspx*

Opening Remarks for Environmental Management by Dae Chung (EM-2)

Dae Chung provided opening remarks and noted that the tank waste costs are ~40% of the life cycle cost. In addition, Mr. Chung noted that the supply chain data base utilized by NNSA is an excellent program for EM to work together with NNSA to support as NNSA has saved ~$200-300 million using the program.

Opening Remarks for Energy Facilities Contractors Group (EFCOG) by Bob Milazzo (Tetra Tech)

Bob Milazzo provided opening remarks and noted that EFCOG has been heavily involved in planning the QA Summit. Mr. Milazzo also provided a brief overview of the function and mission of the EFCOG group.

Presentation by John Koury (Naval Reactors) – Supply Chain and Oversight

John Koury presented on the supply chain and oversight that is currently performed by Naval Reactors. The current process has been an evolutionary process (over the past 60 years). Mr. Koury noted that Naval Reactors has a session very similar to this QA Summit with their program offices. The data evaluated by Naval Reactors is both subjective and objective. The emphasis is on supplier ownership of quality to the extent of also using the contractor corrective action systems. The equipment engineers understand the process but they use a set of process experts on each individual process to ensure proper oversight. They also utilize government residents (one or more individuals) to help provide the oversight for the processes. Naval Reactors utilizes 100s of suppliers; however, there are approximately 40 suppliers that are critical for the processes. The system utilized for sharing assessment information is linked so that anyone with access to the system can view the information. A scorecard is also used to assist in evaluations and is completed by both the federal oversight staff and the contractor staff. The two evaluations are then compared and discussed among management to ensure agreement in the evaluations. Naval Reactors also utilizes a quiz/exam with the engineers to ensure they are looking at and understanding the processes as required. The QA Managers and senior managers then help target the processes and surveillances that the engineers should complete. Naval Reactors also uses a concept where each vendor is expected to maintain 3 items that are the key issues currently being addressed (called 'A' items). Each visit (called a Supplier Expectation Meeting) evaluates these 3 items and then the next follow-on visit is expected to find these three issues resolved and 3 new issues being worked. There are always 3 'A' issues identified to maintain continuous improvement. If the review team identifies 'A' findings, the inference is that the integrated oversight is not working as these issues should have already been identified. Naval Reactors also utilizes process sponsors that report status of their processes annually. Management also ensures QA representatives review all personnel and processes utilizing approximately 200 personnel (~80 are DCMA and not all of the personnel are full time on this type of review).

BT Sullivan commented on the integrated program that collects data and shares the data base (e.g., process audits). Nuclear and non-nuclear activities are mapped similarly. In addition, as an example of potential issues Mr. Sullivan noted the FAR requirements on special metals like metal in ball bearings does not authorize bearings from Japan but that is where most of them are manufactured.

John Koury agreed with the concern and noted that there can be very subtle issues that must be addressed.

JD Dowell asked how the requirement for Commercial Grade Dedication is flowed down.

John Koury answered that components are similar in different classes of submarines but there is a lot of integration on the prime contractors to the subcontractors. Extensive discussion takes place on what will be done in-house by the primes and what will be passed to subcontractors. For example, nickel plating is primarily completed by small shops. Naval Reactors tries to get ahead of the CGD issues to anticipate needs by

joining with prime contractors to meet with subcontractors on requirements. There is a lot of work directly with the prime contractors.

Brenda Hawks asked how Naval Reactors got past the legal issues with vendor audit sharing. It seems that DOD vendors want the audits made available when that is not the case within EM.

John Koury noted that the audits are in the information sharing system and do not typically contain proprietary information. The suppliers are not granted access to the system so they are not sharing audit reports with other suppliers.

Brenda Hawks noted part of the difference with EM may also be that a lot of EM prime contractors operate the plants.

John Koury agreed there is a difference but feels confident the process can still work within EM.

BT Sullivan noted that the PCC relationship with the Naval Reactors is a success. The company is taking ownership and making it the basic culture. It takes time to build this relationship and culture over years. The supplier base used was built by spending time in the suppliers shops.

Several attendees requested information and presentations from Naval Reactors. These requests should be coordinated with Bob Murray (EM-23) and Larry Perkins (EM-23) who will ensure the information is requested from Naval Reactors and provided when available.

Presentation by Linda Weir (Bechtel) – Waste Treatment and Immobilization Project: Supplier Quality Issues Regarding Commercial Grade Dedication

Linda Weir presented on the Commercial Grade Dedication issues at the Waste Treatment and Immobilization Project. The project had engineers performing the CGD plans versus the current approach of utilizing CGD experts to work CGD packages and issues. A lessons learned in the process has been that the supplier base has been atrophied and is not what it once was. As a result, we need to rethink oversight of the suppliers and write specifications that are easy to understand. Initial qualification audits need to use the right people to identify the issues. The prime contractors then need to provide oversight and help get the suppliers to the level that is needed by the project. Prime contractors may need to provide augmented oversight of various levels of suppliers.

JD Dowell acknowledged the atrophy of the secondary supply chain. However, was the project surprised with the atrophy of the systems within BNI and what are the root causes?

Linda Weir responded that the infrastructure didn't fully adapt to the situation was the primary cause; not really an atrophy of the Bechtel system – the system was adequate.

Rich Bradford noted that the project is a large organization with a lot of interactions. Extensive work has been completed to correct the issues but it takes constant oversight. A lesson learned is that procurement engineers originally completed the CGD packages. Now, the project is utilizing CGD experts (many of whom were hired from the commercial nuclear industry). The supply chain is still a long way off from being adequate and some vendors don't adequately understand CGD/NQA-1 leading to the decision for CGD to be completed by the project. In addition, cost goes up quickly with NQA-1 vendors.

BT Sullivan commented the key is how to approve a supplier to get on the supplier's list. In addition, the development of hold and witness points is crucial. As a supplier, the information received is not always adequate to do a Commercial Grade Dedication. For example, the raw material for the part may be specified, but the thread design for the fitting is not. As such, it takes more time and money to get the information needed. Good technical documentation is needed.

Linda Weir agreed and noted that sometimes the primes identify issues and provide this type of feedback to the project organization as a lesson learned. The project is scheduling vendor oversight activities to ensure that initial supplier surveys occur periodically starting at the beginning of procurement with teams compositions that are tailored to the status of the order. This generally results in more visits but with smaller teams.

William Murphie commented that we hope this issue has been resolved at WTP where we have a system of continuity and consistent expectations. However, smaller projects that are one of kind sometimes think we have fixed an issue but without the continuity and longevity of the oversight etc. experienced by large projects, the focus fades. WTP and Naval Reactors utilize fixes that are somewhat unique because other smaller projects have smaller budgets and shorter timeframes. These small projects won't be able to develop consistency and train people in the supply chain. Turnover with suppliers is also a large problem with shorter duration projects such as those at PPPO.

Dominic Canazaro agreed with the concern and noted we should look at procurement strategies. The UPF project is looking at completing CGD in-house in lieu of finding and/or qualifying NQA-1 suppliers.

JD Dowell agreed this is a challenge and noted we need to consider leveraging the large prime contractors within DOE such as Bechtel that are going to be in the business long-term, because we don't have the resources as noted to develop the supply chain. EFCOG will be a key in solving this issue – note the information provided by Naval Reactors focused on primary suppliers and second tier suppliers.

Linda Weir noted WTP is a large project but is still procuring one-of-a-kind equipment. The key is to identify and address weaknesses with the supply chain in order to take actions up front.

William Murphie agreed completely with Mr. Canazaro's comment. The recent OECM presentation, GAO high risk list, etc., are key considerations. We are focusing on technology status and cost, but not asking if we can actually build it and does the equipment contain any suspect/counterfeit items. We need to look at more than just technology. The question is: what is the procurement path and what is the critical path before we start the construction? If we are going to validate our projects then we don't want to miss the real issues and concerns.

Dae Chung commented that there was a session with the chief engineers a couple years ago that discussed how to know you can build equipment properly. We were sloppy a few years ago but have improved. At Tank 48, we had two technology options and selected the one that was proven. The technology that was not selected involved high temperatures, etc., and had questions related with where to fabricate the equipment and where the system had been used to prove reliability. We need to pursue proven technologies. DOE can't always develop a global solution. We need to help pick suppliers up and go with them back to the shops to help implement the solutions. We need to keep in mind that we have established time frames and limited budgets for our projects.

Leo Sain agreed with Dae Chung and noted his company has been focused on establishing and maintaining suppliers.

Dae Chung noted that at Savannah River 1-2 years ago, there was an effort to share supplier lists and reports.

Tony Polk added that Dae Chung was correct in the information sharing at Savannah River. They currently use open forums and discussion as well as lessons learned. As we will discuss in the SWPF presentation, the keys are early discussions with the vendors and bringing small businesses into the discussions. We get caught up in the low cost/technically acceptable approach versus the best value to the government. This approach makes issues worse on our projects.

Greg Hayward noted that the same issues have been experienced at Sodium Bearing Waste. CGD is typically considered the last resort. We should consider pushing things to the design authority and using the concept that procurement needs are evaluated and performed early to allow the proper use of CGD. Also, we have been in the design/build mode for some time on our projects, but we need to get back to keeping the design engineers involved and engaged. The idea of getting the design aligned with availability from procurement is the key. Some vendors don't' want to sell and force the use of CGD.

Dae Chung commented that Linda Weir worked in the commercial nuclear utilities and asked how they compare to DOE on CGD.

Linda Weir responded that they did CGD mainly when suppliers went out of business and didn't do CGD on new equipment very often. DOE has a bigger CGD need because we are procuring things that haven't been fabricated before.

Bud Danielson noted that we know we need to do CGD so do we need better cost impact analysis and how it affects schedule.

Linda Weir noted that CGD is sometimes cheaper.

Dale Christiansen noted that they have issues with CGD as well on his project (UPF). Roles and responsibilities are an issue, so they have developed the use of a CGD owner. Who is the owner and how is that person identified on these projects?

Linda Weir answered that the CGD owner is the procurement engineering group, but procurement engineering receives input from other groups within the project organization. Audit teams are typically comprised of QA, procurement engineering, and the responsible engineer to evaluate and reach conclusions regarding CGD.

Tim McEvoy noted there are two lessons learned. One is sometimes CGD is cheaper than an NQA-1 supplier. Two is the process to identify critical characteristics helps with the graded approach.

Ken Picha noted the sub-tier supplier audits were the majority of the hits on the slide showing the extent of condition from the 2009 vendor CGD root cause. What is this?

Linda Weir responded that the extent of condition reviews identified multiple instances where the suppliers weren't providing adequate oversight of their sub-tiers.

Ken Picha continued that suppliers need to own the program and small groups without large businesses and do not always have a solid QA Program. How can we get ownership to these vendors?

Linda Weir answered that the WTP project has provided multiple forums, such as workshops, where expectations and lessons learned are shared with suppliers. Also, if they identify a supplier that can not adequately execute, the project may decide to dedicate in-house. This approach probably won't grow the supplier in the end but the project's goal is to get the equipment needed, when it is needed, in the most cost effective manner.

Leo Sain commented that sometimes they don't have the infrastructure. Prime contractors need to check with suppliers and sub-tiers in this area.

Linda Weir agreed.

BT Sullivan noted that his company developed a material organization to do dedication. They dedicate/supply material and the supplier does the dedication for the service (example provided in the discussion).

Dae Chung noted he was hearing a lot of conservatisms. When we talk about safety equipment and critical characteristics, the equipment selection is based on crude accident analysis models. As a result, we have latitude in defining critical characteristics, as long as we build the case for still meeting the safety function. Is there a mechanism at WTP to prevent too much conservatism? We may be able to help out with this as we proceed with the project.

Rich Bradford answered yes there is a process and noted that it is easy to say an assembly is safety related but only a piece of the assembly is really safety related. Now we are reviewing the equipment, but it is challenging to ensure we understand the safety function as related to the safety equipment.

Kerry Grooms noted that UPF has had 20 procurements that were safety related. When challenged on these procurements, it turned out that only 4 were actually safety related and some of those four required critical characteristics that are so simple; there is no need for an NQA-1 supplier.

Presentation by William Murphie (DOE-PPPO) and Larry Smith (UDS) – DUF6 Project: Issues Identified During Commissioning

William Murphie and Larry Smith presented on the issues encountered on the DUF6 commissioning efforts and noted that some lessons learned have been sent to HSS for distribution and will be available soon. One key

issue was they underestimated the documentation needed for an ORR. This is also pressure on the staff from their contractor management to move forward. This pressure was somewhat alleviated when DOE personnel were sitting in the meetings to here the concerns of the contractor staff.

Greg Hayward asked if the two plants are identical.

William Murphie answered yes except for the number of lines.

BT Sullivan asked if RCA or root cause has been used to find the true issues with the HF piping leaks.

Larry Smith responded that a formal root cause has not been performed but corrective actions and evaluations have been performed.

William Murphie added that if they had found a major defect in the analysis, a formal root cause analysis would have been performed.

Bud Danielson asked if they were using NQA-1 and what was the safety function of the piping?

Larry Smith answered that the project uses NQA-1-2000 and the piping was serving a containment function as a safety significant component.

Dae Chung noted that prior to the contractor MSA and COR, DOE pushed hard and ended up getting all documentation on construction related issues completed. This is a critical component of the readiness reviews. Everything must be documented to complete the MSA. The contractor took the lead to get a record management expert to assist with the documentation. This approach may be useful at the Sodium Bearing Waste Treatment project.

William Murphie noted that familiarity can breed contempt. The knowledge needs to be put on paper for audit trail. The project had to bring experts in to help teach the engineers what was needed in the form of documentation.

Norm Barker noted you don't want an ORR with design and construction packages and records maintained at another location either.

Greg Hayward asked if there was any detail on the type of document issues encountered.

Norm Barker answered that the issues went all the way back to the codes used, up to the inspections and design/procurement. The result was a full review of the documents needed for the ORR.

William Murphie noted that this documentation needs to be accounted for in the project budget and schedule.

Dave Tuttel asked how long the process took and what was the schedule impact.

William Murphie indicated it was hard to say specifically but it was several months (~6 months). In addition, a lesson learned is to ensure you give the format and content for the documentation to the contractor to ensure you get what you need.

Dae Chung noted that for the Sodium Bearing Waste Treatment project, we are on a tight schedule. The system turnover is pretty tight but we are leaving out some components to be checked later. EM-2 is pushing for what should be looked at up front by the federal and contractor staffs for this project. The issues materialize at interfaces and getting agreement on documentation.

Greg Hayward agreed and noted this is an issue the Sodium Bearing Waste Treatment project has been working to resolve. The place where they have struggled is work packages or inspection reports and getting the documentation completed. The project is having outside experts assist with the resolution and is in the process of increasing oversight to ensure the issues are identified.

Brenda Hawks noted that recent readiness and ISM workshops have documented similar lessons learned and have offered to share them with the complex.

A comment was made that there is an opportunity to learn from DUF6 and the project is willing to share any of the information, but the key is to make sure you have the right people.

Dae Chung noted that although the DUF6 project is not 'green', the team has done an excellent job to close actions and fix issues. The plant is very complex and hazardous and EM has requested an independent cost estimate to see how good the project did on completing on budget/schedule, emphasizing the project was not a failure on this front.

Presentation by Greg Hayward (DOE-ID) and Robert Thompson (CWI) – Sodium Bearing Waste Treatment Project: Insufficient QA/QC Staffing

Greg Hayward and Robert Thompson presented on QA/QC staffing issues at the Sodium Bearing Waste Treatment Project. The project was able to find NDE staff with certifications but not with nuclear experience on documentation. As a result, general work control and work packages were not kept up/documented. The project suspended testing until traveler reviews are completed. In addition, in a lot of cases the design was over-specified and resulted in a re-evaluation/re-classification of equipment later in the project. The prime contractor allowed subcontractor corrective action programs to get weak and had to be addressed. A lesson learned was that onsite inspections of vendors would be useful to help prevent issues. In addition, planning for contingency was a key need with respect to the schedule. For example, some actions could fail due to a lack of follow up on corrective actions more than once. Another example of issues with vendors was a counterfeit ISO certificate that was identified in the procurement process. There has also been a number of QA/QC programs at community colleges that have gone away due to a lack of jobs/hiring of graduates of the program. The bottom line is that better planning and additional nuclear experience was needed.

BT Sullivan noted that Naval Reactors qualified welders through a specific process.

Greg Hayward noted that they have a unique situation. They had travelers and local craft from the union. The issue encountered was travelers with more experience and better expertise could not be kept on the project in lieu of local craft with less experience and expertise.

Jim Tisuranni commented that QA doesn't belong to someone else, it is the leadership's responsibility to set the tone for QA.

Greg Hayward noted that they found the same issues over again and had to continue to fix the issue.

Ken Picha noted that from the Corporate Board meeting, we addressed some issues like training and what the need is for federal and contractor staffs. Will the actions we discussed yesterday help?

Greg Hayward responded that it could be helpful but probably not immediately. He is not convinced that the training alone will fix the issue. For example, at INL a training class involved an internship onsite that helped but we may not be set up for that level of course right now. Programs that are ~2 years with people going to work immediately after graduation have had the biggest impact to date. The bottom line is that if we design it correctly and implement it properly a training program will help.

Robert Thompson added that the onsite portion of the training is crucial to help workers know the level of discipline and documentation required for DOE.

Bud Danielson asked how the ITAC program worked and asked if it has helped with the work package issues.

Greg Hayward responded that CWI got into ITAC and drove it. Overall the process has been good and at this point is very robust. With respect to the work packages, that is really a separate entity.

Robert Thompson added that there is a need to be careful with ITAC. There is no requirement to drive ITAC but you need engineering involvement to get what you need technically, but not too extensive involvement.

Greg Hayward noted that one lesson learned with ITAC is to make it less bulky without losing the rigor.

John Koury commented to the extent you rely on NDE, you almost have to double or triple your efforts as this is a real area of concern. If undetected, this type of issue can become worse than any other quality issues we have discussed.

Greg Hayward noted that radiographs can be a problem as well. You need NDE and also the engineers to understand it.

John Koury noted that Naval Reactors has their own NDE school so all personnel are trained the same way. The program is administered by contractors.

Presentation by Dave Tuttel (Parsons) – Salt Waste Processing Facility: Supplier Evaluation & Oversight Lessons Learned

Tony Polk provided an introduction and noted that vendors rely on everyone to perform quality from senior management down to the janitor. It is easy to read paper but the actual performance in an NQA-1 environment is a key and should be a focus in pre-audit qualifications.

Dave Tuttel presented on supplier evaluations and oversight at the Salt Waste Processing Facility. The SWPF currently has 9-10% of the project staff dedicated to QA/QC. Several of the problems experienced by the project were related to subcontractor management and not specifically QA.

Ken Picha asked if the actions discussed in the presentation were in place originally or if they were put in place as lessons learned.

Dave Tuttel responded that they were in response to lessons learned.

Greg Hayward asked what happens if interpretation of things such as radiography films is different from the subcontractor's interpretation.

Dave Tuttel responded that if it is a technical interpretation then Parson's will win as the prime contractor.

San Horton asked how many total subcontractors Parsons uses on their QSL, how many personnel are in QA/QC now, how many total staff are on the project, and what are the federal oversight staffing levels for the project.

Dave Tuttel responded that there are 23 subcontractors on the QSL right now with 65 QA/QC staff and 700 total project staff (~9-10%). The federal oversight typically has someone beside the Parson's QA/QC staff in the field.

Tony Polk responded that the federal oversight includes 5 staff members.

Presentation by Dominic Canazaro (UPF/Y12) – Uranium Processing Facility: Supply Side Lessons Learned - Strategies/Counter Measures

Dominic Canazaro presented on the supply side lessons learned for the Uranium Processing Facility at Y-12. One issue noted there was some experience with past companies that at one time were Nuclear suppliers but that was years ago and that those same companies no longer had the personnel or programs in place when they were mature nuclear suppliers 20 and 30 years ago. The first two risk significant orders on the UPF project struggled, because of additional quality requirements in the RFPs to get bidders for the product. (Risk significant is beyond just commercial but is not at a full safety significant/safety class level). One procurement received limited bidders (i.e., 1-2) and the other is struggling to get any bidders. You need to go to the suppliers and sit down in their facility to ensure you get the people (Engineering Manager, Manufacturing Manager QA/QC Managers etc.) you want/need in reviewing your expectations and procurement specifications. There is a need to have these meetings at pre-award and award kick-off. Oversight of suppliers must occur prior to design and procurement not just prior to fabrication. The intent for the project is to include selected major sub-tier contractors in the oversight audits.

BT Sullivan commented that some of the government uses qualified products list so you can procure from someone on that list for the product.

Dave Massey commented that his company's business is ~50% DOE and 50% commercial nuclear but the problem is that NQA programs use different versions and make it very difficult to prepare bids that meet the requirements of the different customers.

Dominic Canazaro noted this was probably true across DOE projects and complexes but also noted there is real advantage to moving to NQA-1 2008 1a 2009 addenda particularly in adjusted requirements and language for help with Commercial Grade Dedication.

Chris Marden noted that the NRC required the 2009 addendum in order to approve the NQA-1-2008 version.

Rich Warriner noted that the version of NQA-1 used is typically dictated by contracts and licenses.

Jerry Harris noted that much of the equipment requires calibrations, etc. Is the project going to require state of the art laboratory calibrations as the labs may not currently have the required equipment for this state of the art calibration?

Dominic Canazaro responded the quality budget accounts for these calibrations but he is not sure of the specific answer.

Bob Toro talked about extensive use of CGD and oversight and asked if that increased oversight and the number of CGD packages will be able to get the desired end point for the project.

Dominic Canazaro answered yes to both and noted the UPF project may be using more CGD than typical projects. When you attempt to broaden the NQA supplier base you can end up diluting the talent (quality and procurement engineers). As a result, the project feels it is better to gather the talent base and keep it on the project to complete CGD packages and assist supplier in those cases when they or their sub-tiers do Commercial Grade Dedication. Oversight is not just more reviews but focuses on critical characteristics and may actually reduce the number of reviews.

Bud Danielson noted we have been talking about multiple editions of NQA-1. The committee for NQA-1 is working with ASME, DOE, and NRC to try and move everyone to NQA-1-2008 with 2009 addenda. EM has provided a memo indicating that it is okay to use the 2008 version with the 2009 addenda regardless of the contract. NNSA and NE are looking to use the same type of approach.

Bob Murray clarified the EM approach/memos. EM operates to the EM corporate QAP which institutes NQA-1-2004 with addenda through 2007. The QAP allows for an exemption to deviate from the requirements in the QAP. The memos provided the results of the EM evaluation which concluded NQA-1-2008 and 2009 addenda can be used to meet the QAP requirements without requesting an exemption.

Closing Remarks

Ken Picha thanked everyone for attending and participating in the discussion. Bob Murray and his staff will capture the minutes of the meeting and provide them for information. In addition, the EM-23 staff will gather the lessons learned from the meeting and screen them to determine what should be provided to HSS for a formal lessons learned and what should be discussed with the EM Corporate QA Board. All of the material will be available on the website *http://www.em.doe.gov/Pages/QACorporateBoard.aspx*. Additional QA Summit meetings will be held as needed based on polling the EM Corporate QA Board to identify the need.

Meeting Adjourned

ATTENDANCE			
#	First Name	Last Name	Organization
1.	Larry	Adkinson	DOE SRO
2.	John	Almon	CH2M Hill
3.	Clyde	Armstrong	TWPC
4.	Robert	Brown	DOE-ORO
5.	Rick	Bradford	Bechtel
6.	Dominic	Calazaro	UPF
7.	Steve	Calvert	Navarro
8.	Dale	Christenson	DOE
9.	Dae	Chung	DOE
10.	Larry	Clark	Link
11.	Gustave	Danielson	DOE CNS
12.	Jonathan	Dowell	ORP
13.	Stacey	Evans	Navarro
14.	Thomas	Fallon	Bechtel-BWXT
15.	Ana	Gonzalez	DOE-EM
16.	Daryl	Green	DOE-ORO
17.	Kerry	Grooms	Y-12 QA
18.	Tim	Hansen	CBI Services
19.	Jerry	Harness	DOE/ORO/EM
20.	Jerry	Harris	LSRS
21.	Mike	Hassell	WCH
22.	Al	Hawkins	DOE-RL
23.	Brenda	Hawks	DOR ORO
24.	Greg	Hayward	DOE-ID
25.	Bill	Hein	Wright Industries
26.	Rich	Higgins	WRPS
27.	Walter	Horton	DNFSB
28.	William	Huxford	EM-23
29.	Eva	Irwin	B&W
30.	TJ	Jackson	DOE
31.	John Michael	Japp	DOE-Oak Ridge
32.	Dave	Kimbro	Navarro
33.	Susan	Kimmerly	Bechtel Jacobs
34.	Douglas	King	Wright Industries
35.	John	Koury	Naval Reactors
36.	Prakash	Kunjeer	EM-45
37.	Wayne	Ledford	Navarro
38.	Jerry	Lipsky	DOE
39.	Chris	Marden	ES

ATTENDANCE			
#	First Name	Last Name	Organization
40.	Mike	Mason	Bechtel/INL
41.	Dave	Massey	Northern International
42.	Russell	McCallister	DOE/PPPO
43.	Robert	Milazzo	TetraTech
44.	Billy	Morrison	Energy Solutions
45.	William	Murphie	EM
46.	Mike	Nicol	ES
47.	Christian	Palay	DOE-EM-23
48.	Alan	Parker	Energy Solutions
49.	Larry	Perkins	EM-23
50.	Ken	Picha	DOE-EM
51.	Tony	Polk	DOE
52.	Kelli	Presley	Navarro for DOE-ORO-EM
53.	Steve	Riddell	Owen industries
54.	Bill	Rowland	DOE-SR
55.	Leo	Sain	URS
56.	Richard	Salizzoni	SRR
57.	Lawrence	Smith	UDS, LLC
58.	Randy	Smyth	EM-ORO
59.	James	Sowers	Bechtel
60.	Debra	Sparkman	CNS
61.	Darrell	Srdoc	SEC
62.	Billy	Sullivan	Newport News Industrial
63.	Ali	Tabatabai	Link
64.	Robert	Thompson	CWI
65.	Jim	Tisarunni	URS
66.	Robert	Toro	EM-23
67.	Dave	Tuttel	DOE-EM
68.	Rick	Warriner	Hanford-RL/CH2M Hill
69.	Robert	Warther	B&W
70.	Linda	Weir	BNI-WTP
71.	Cynthia	Williams	SRS
72.	Peggy	Wilson	DOE-EM-ORO
73.	Ray	Wood	Trinity Energy
74.	Jeff	Woody	Link