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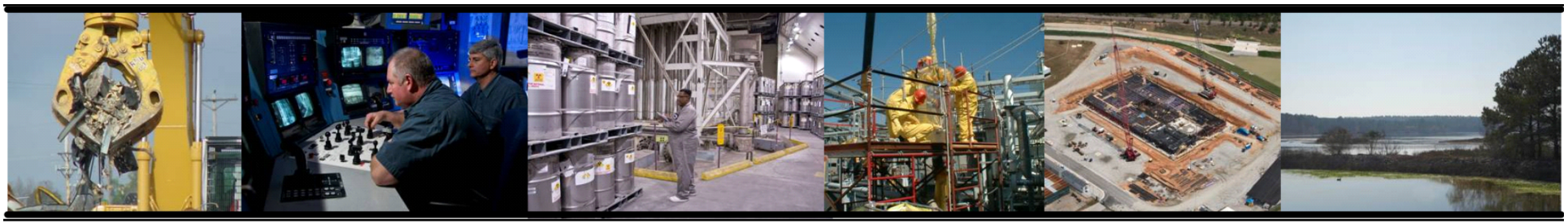

13th EM QA Corporate Board Meeting

Nevada Field Office

Environmental Management

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

EFCOG
Energy Facility Contractors Group

Introductions and Agenda

- Introductions, Roll Call, and Status from Last Meeting (Larry Perkins)
- Opening Remarks (David Huizenga)
- Current Discussion from the DNFSB (Sean Sullivan)
- Status of EM Quality Assurance Program (Matt Moury)
- Efforts on Integrating DOE/RW-0333P and NQA-1 (Christian Palay)
- Summary of Current Issues and Concerns (Site Representatives)
- Discussion of Areas for Further Development

Status from Last Meeting

Action	Owner	Status
Provide input from the sites offices for the annual DNFSB briefing.	Murray Perkins	Complete
Distribute the data from the resources survey to the Corporate Board participants	Davis Perkins	Complete
Review the resources data and evaluate what additional work in needed with this focus area	Board Members	Incomplete – will be addressed today
Review the EM QA Corporate Board by-laws, charter, mission, and presentation material and determine the best path forward for the Corporate Board	Board Members	Incomplete – will be addressed today

Status from Last Meeting

Action	Owner	Status
Provide the EM-43 office with a listing of the current QA issues being encountered by the site offices and contractors	QA Mgrs	Incomplete – will be addressed today
Provide a schedule or milestones for the current JSEP MASL integration effort.	Hassell	Complete
Review the information provided for the EFCOG/PMC Joint Working Group involving identification of quality requirements in drums. If in agreement, consider endorsing the effort. Once endorsed, any deliverables will be provided to the Corporate Board for endorsement.	Board Members	Incomplete – no action taken to date

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Quality Assurance Perspective in the Office of Environmental Management

David Huizenga
Senior Advisor
Office of Environmental Management

December 2, 2013

Outline

- Importance of Quality Assurance (QA) in EM Work
- Integration of QA with Integrated Safety Management (ISM)
- Examples and Lessons Learned Associated with QA
- EM Quality Assurance Corporate Board
  - Accomplishments
  - Concerns
  - Expectations
- Summary

Background in EM

- In 1989, DOE established EM to solve technically challenging risks posed by world's largest nuclear cleanup program.
- After years of focusing on managing the most urgent risks, EM has begun transitioning from primarily a characterization and stabilization program to an active cleanup and closure program
- Although much progress has been made, some completion dates extend past 2050.
- This work will continue to require facing management challenges, technological leaps, and billions of dollars a year for several more decades.

Importance of Safety and Quality

- The surest way to adversely impact the EM mission is to have a safety, quality or security incident.
- The goal must be to get it right the first time – no rework and no events.
- History in DOE demonstrates that failure to do this results in significant cost and schedule delays.
- Safety and Quality must be embraced as a critical-path activity and addressed in all phases of planning and executing the work, not just hands-on at the job site.
- *Our first priority is to "do work safely;" in concert with this, it is also essential to "do work correctly" or both safety and quality are jeopardized. EM-QA-001 (Revision 1)*

Safety Culture – Critical to Success

- Significant Focus on Safety Culture over past two years
  - Importance consistently reinforced by Secretary and Deputy Secretary
  - Includes multiple aspects of QA and ISM (e.g. continuous improvement)

An organization's values and behaviors, modeled by its leaders, and internalized by its members, which serve to make safe performance of work the overriding priority to protect workers, the public, and the environment. - DOE Integrated Safety Management System Guide

QA Integrates with Every Aspect of ISM

Quality Assurance

- Worker, public, and environmental safety continues to rely on QA during decommissioning
- Some hazards may be unknown requiring QA to ensure processes are adequately implemented
- QA is doing work correctly

- Incorrect work can:
  - Cause worker/public exposure
  - Release of hazardous material
  - Result in costly rework
  - Result in failure to meet regulatory requirements

Current Corporate Board Concerns

- Continued QA-related project cost-schedule setbacks
- Continued lack of effective application of QA requirements in the procurement process
- Apparent lack of adequacy of existing federal and contractor QA resources
- Continued issues associated with configuration design management, software QA, and suspect/counterfeit items
- Apparent duplication of efforts with Energy Facility Contractors Group and the DOE Office of Health, Safety and Security Quality Council

Challenge on QA Resources

- I challenge the Corporate Board to help the sites with consistency in determining QA resources.
- Understanding we need to be doing more with less, I challenge this Corporate Board to meet the stated goals of:
  - Validation that adequate levels of competent and qualified QA personnel are available
  - Providing solutions, ideas, and suggestions to meet and remove challenges or barriers

Continued Expectations of the Corporate Board

This Corporate Board should continue to:

- Support consistent QA implementation across EM
- Provide support to the sites for implementation of the QA program
- Serve as a consensus-building body to facilitate institutionalization of a QA Management System across the EM complex
- Provide assurance that competent QA personnel and other resources are available to achieve QA objectives
- Sustain a quality culture in the EM complex for continuous improvement of the overall EM cleanup performance
- Share and disseminate lessons learned and best practices

Summary

- QA is a crucial element of completing the EM mission
- Senior EM management is fully supportive of the Corporate Board effort and strongly encourages all sites to participate
- Corporate Board plays an important role in removing obstacles and needs to stay focused on supporting completion of the EM mission
- We need effective deliverables to help the sites complete our cleanup efforts
- We need to work on addressing why EM continues to face quality challenges and failures

Questions

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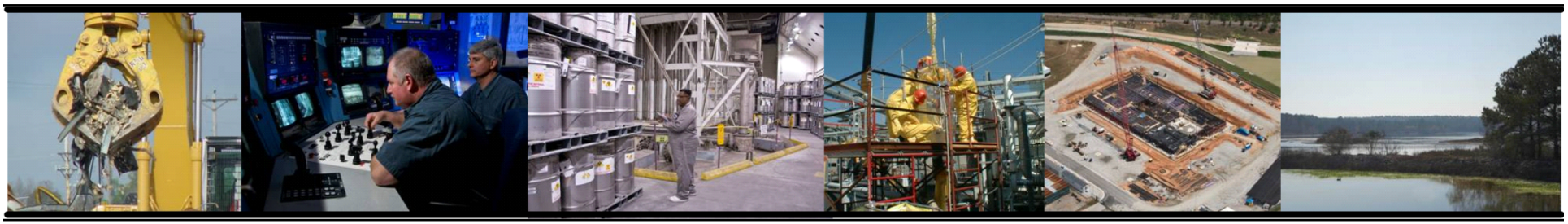

13th EM QA Corporate Board Meeting

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Mr. Sean Sullivan

Defense Nuclear Facilities Safety Board

December 02, 2013

EM Environmental Management

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Energy Facility Contractors Group

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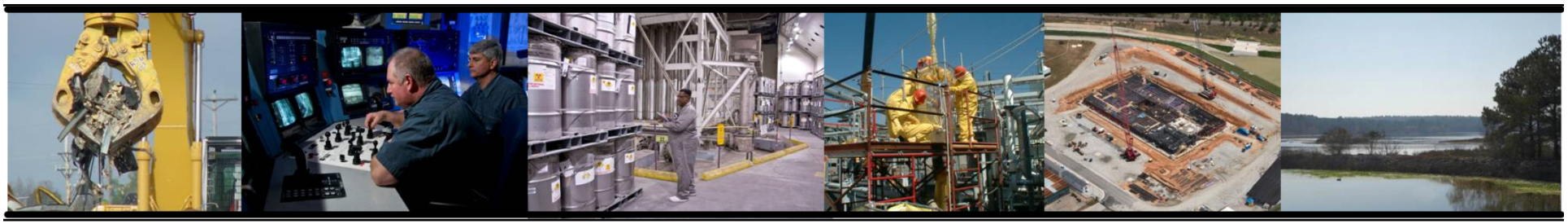

13th EM QA Corporate Board Meeting

Nevada Field Office

Status and Path Forward for EM QA Corporate Board

Matt Moury, Deputy Assistant Secretary
Safety, Security, and Quality Programs
Environmental Management

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Introduction
- Status of EM QA Corporate Board Efforts
- Status of EM QA Resources
- EM-HQ Correspondence Related to QA
- Annual QA Declarations for 2013
- Reoccurring Quality Issues
- Implementation of EM-QA-001 Revision 1

Introduction

- *Our first priority is to "do work safely" in concert with this, it is also essential to "do work correctly" or both safety and quality are jeopardized*. - EM-QA-001 (Revision 1)
- Quality is paramount to everything we do and remains a priority for all of the senior EM management
- EM QA Corporate Board has developed a number of useful guidance documents and deliverables. Can we do more?
- We need to share lessons to ensure we don't repeat past mistakes
- DOE HQ, DOE Field Elements, and our Contractors all have the same mission – we need to work together

Accomplishments/Deliverables

- Raised complex-wide awareness and understanding of QA
- Development and implementation of EM-QA-001 Revision 1
- Every site has a HQ & Field reviewed/approved QAP/QIP
- Commercial Grade Dedication Guidance (CGD)
- QA in Design Guidance
- Multiple Resources Surveys
- Evaluation of adequacy of NQA-1 suppliers report
- Training (e.g., Line Management Understanding of QA, CGD, etc.)
- Development of Standard Contract Language for QA
- Requirements Flowdown and Graded Approach to QA report

Status of EM QA Corporate Board Efforts

- Discussed the By-laws and Mission of the Corporate Board during our November 2012 Meeting
- Sites were asked to review:
  - by-laws
  - charter memo, etc. and evaluate how the Corporate Board should proceed
- Sites were also asked to evaluate:
  - what issues are currently experienced
  - How can the Corporate Board help?

Discussion Topic:

Are we focused on the right mission and how should our Corporate Board mission tie in with other organizations such as the HSS Quality Council?

Status of EM QA Resources

- Recent QA Resources Survey:
  - Contractors have more flexibility and fewer constraints on obtaining resources
  - Federal resources are marginally adequate.
  - Distributed results from the survey for consideration
- Impediments such as budget limitations, availability of qualified personnel, and attrition
- EM-43 has been providing direct support to the sites when possible

Discussion Topic:

How can the EM QA Corporate Board help ensure adequate resources are available for the sites to complete their mission?

EM-HQ Correspondence Related to QA

- EM frequently uses memos to distribute information and provide direction to the field elements
- Typically memos are never cancelled and never expire
- EM-43 has developed a database of relevant correspondence
- Database is part of Live Link at this point and may be transitioned over to another option such as EMERS or the public website
- Site QA managers have been confirmed to have an account in Live Link and other staff can be added

Discussion Topic:

The correspondence database is not a records system, but a tool for site to access the applicable correspondence documents. How can the corporate board help better formalize these requirements?

Annual QA Declarations for 2013

- There have been delays in providing feedback to the declarations from the past year
- EM-43 has worked to reduce the amount of effort and paperwork associated with the QA declaration
- An updated stoplight chart has been developed to address EM-QA-001 Revision 1 and will be used in the next declaration
- EM-43 will work to distribute feedback to the QA portion of the declaration more expeditiously next year

Discussion Topic:

How can EM-HQ improve the annual declaration process for QA and make the information useful to the sites? What type of feedback would be the most useful to the sites?

Reoccurring Quality Issues

- A number of quality issues have been identified and discussed in the last several months
- Some of the issues seem to be issues that have been identified at multiple sites across the EM complex
- We need to be using the corporate knowledge we have to ensure we don't have rework and excessive cost
- Examples of reoccurring issues include welding issues, inadequate corrective actions, and approach that quality is a QA function only

Discussion Topic:

How can the EM QA Corporate Board do a better job of sharing information and lessons learned from the sites so we prevent recurrence of quality problems?

Implementation of EM-QA-001 Revision 1

- EM-QA-001 Revision 1 was issued in 2012
- Assist visits have been completed at our federal offices with subsequent QA audits pending this coming year
- Most contractors have implemented the revised Corporate QAP, with a few extensions, variance requests, and one exemption request submitted
- Any additional variance requests will be considered based on the justifications provided

Open Discussion Topic:

What additional assistance or information exchange is needed with respect to implementation of EM-QA-001 Revision1? Does the EM QA Corporate Board have any actions that are needed to assist?

Conclusions/Questions

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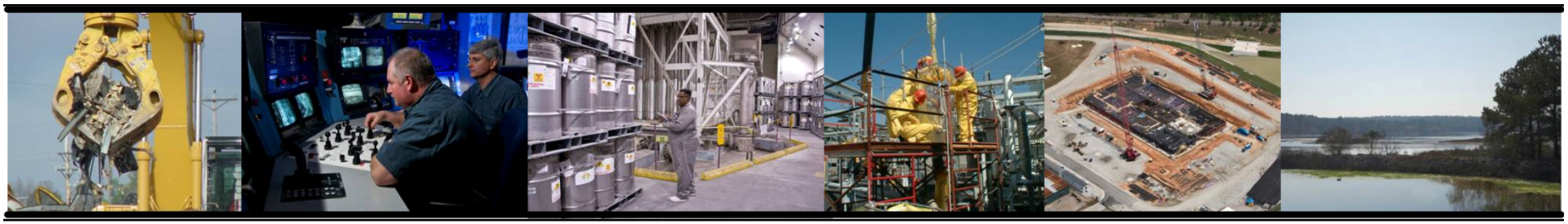

13th EM QA Corporate Board Meeting

Nevada Field Office

QA Requirements on High-Level Radioactive Waste

Christian Palay, Quality Assurance Specialist
Office of Standards and Quality Assurance

December 02, 2013

EM Environmental Management
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Life After OCRWM

- On January 24, 2011, the Principal Deputy Assistant Secretary for EM issued the "Environmental Management Interim Policy for Maintaining the Integrity of Quality Assurance Program Commitments for Used Nuclear Fuel/High Level Waste." This interim policy stated that, "except for those field elements that have been authorized to work to different revisions of the QARD, EM will continue to implement Revision 20 of the QARD."

- On February 4, 2011, the Acting Deputy Assistant Secretary for the Safety and Security Program issued the memo, "Support to the Field Sites Regarding the Environmental Management Interim Policy for Maintaining the Integrity of Quality Assurance Program Commitments for Used Nuclear Fuel/High Level Waste." This memo stated that in order to support the interim policy and the EM custodians, the Office of Standards and Quality Assurance (EM-23) will conduct independent audits of the EM Waste Custodians.

Current Conditions

- Status of High-Level Waste and Used Nuclear Fuel
  - EM Field Elements and their contractors have maintained their implementation of DOE/RW-0333P, *Quality Assurance Requirements and Description* since the shutdown of OCRWM.
  - EM Headquarters has been fulfilling the oversight role without OCRWM participation in accordance with the High-Level Waste and Used Nuclear Fuel Oversight Program established after the shutdown of OCRWM.

Organizations Implementing DOE/RW-0333P

EM Site	Field Office	EM Contractor	Project	Facility
West Valley	DOE–West Valley	CH2M HILL B&W West Valley, LLC	West Valley Demonstration Project	Hot cell in shutdown plant
Savannah River	DOE–Savannah River Operations Office	Savannah River Remediation	Liquid Waste Disposition Project	Defense Waste Processing Facility
		Savannah River Nuclear Solutions, LLC		
Idaho	DOE–Idaho	CH2M♦WG Idaho, LLC	Idaho Cleanup Project	INTEC and Fort St. Vrain ISFSI
Hanford	DOE–Richland Operations Office	CH2M HILL Plateau Remediation Company	Waste Stabilization and Disposal Project	Canister Storage Building
	DOE–Office of River Protection	Bechtel National Incorporated	Waste Treatment & Immobilization Plant Project	Waste Treatment & Immobilization Plant

Emerging Issues

- Without OCRWM's interpretational authority and maintenance, DOE/RW-0333P may become increasingly difficult for some organizations to implement.

- For instance, revision 20 of DOE/RW-0333P has typographical errors in the Waste Custodians Appendix that affects EM implementation. While revision 21 fixed these errors, OCRWM allowed EM to remain at revision 20 due to mitigation by OCRWM's QA Director interpretation letter to EM.

- A future revision of the DOE/RW-0333P was expected by EM after Construction Authorization for the Federal Repository. With the shutdown of OCRWM, that planned revision is no longer expected.

Path Forward

- ASME NQA-1 Waste Management Subcommittee
  - A Task Proposal Notice was recently approved by the Main Committee to develop Subpart II requirements for High-Level Waste and Spent Nuclear Fuel consistent with 10 CFR 60 and 10 CFR 63.
  - Path forward is for the Subcommittee to integrate the additional requirements from DOE/RW-0333P, *Quality Assurance Requirements and Description* into the next revision of NQA-1.

Request for New Focus Area

- Excellent Opportunity to Leverage Corporate Board Expertise and Experience.
- Operating experiences from organizations familiar with implementation of both NQA-1 and DOE/RW-0333P standards can be used to provide value-added input for strategies on adopting new NQA-1 Subpart II requirements for High-Level Waste and Spent Nuclear Fuel.

New Focus Area Goals

- Team selection should be from those organizations currently under contract to implement DOE/RW-0333P
- Potential deliverables to the Corporate Board:
  - Gap analysis between NQA-1 and DOE/RW-0333P would be a deliverable and submitted to NQA-1 Waste Management Subcommittee.
  - A strategy for transitioning contracts from DOE/RW-0333P requirements to the NQA-1 Subpart II requirements.

The Bottom Line

- A national consensus standard to use as the QA requirements for programs involved in High-Level Waste and Spent Nuclear Fuel resulting in no impact to existing project baselines at no additional cost.
- EM Organizations currently having to implement two QA standards can streamline their program by only having to implement one standard.

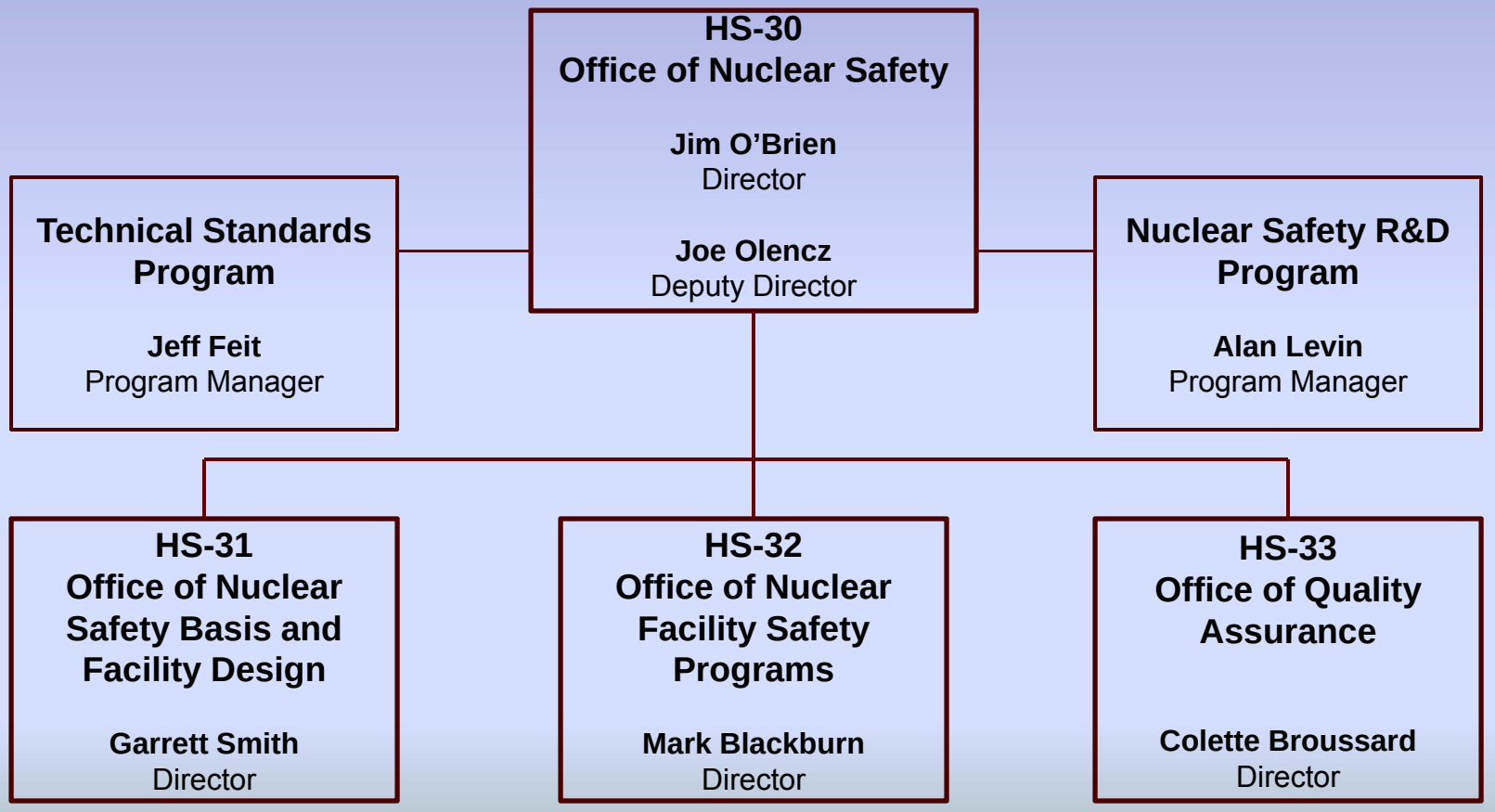
Nuclear Safety/Quality Assurance

December 2, 2013
EM QA Corporate Board Meeting

James B. O'Brien
Office of Nuclear Safety (HS-30)
U.S. Department of Energy
james.o'brien@hq.doe.gov

HSS
Office of Health, Safety and Security

Organization Chart



Mission

- Policy/Requirements/Guidance
- Assistance
- Nuclear Safety Research and Development
- Technical Standards Program

Policy/Requirements/Guidance

- DOE Policy 420.1, *Department of Energy Nuclear Safety Policy*
- DOE Order 420.1C, *Facility Safety*
- DOE G 421.1-2A, *Implementation Guide for Use in Developing Documented Safety Analyses to Meet Subpart B of 10 CFR 830*
- DOE G 423.1-1A, *Implementation Guide for Use in Developing Technical Safety Requirements*
- DOE G 424.1-1B, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*

Policy/Requirements/Guidance
(continued)

- DOE O 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*
- DOE O 422.1, *Conduct of Operations*
- DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE O 433.1B, *Maintenance Management Program for Nuclear Facilities*

<u>Standards/Handbook</u>

- *DOE Standard 3009*
- *DOE Standard 1020*
- *DOE Standard 1066*
- *DOE Handbook 3010*

Policy/Requirements/Guidance (continued)

- DOE O 414.1D, *Quality Assurance*
- DOE G 414.1-1B, *Management and Independent Assessments Guide for Use with 10 CFR Part 830, Subpart A, and DOE O 414.1C, Quality Assurance; DOE M 450.4-1, Integrated Safety Management System Manual; and DOE O 226.1A, Implementation of DOE Oversight Policy*
- DOE G 414.1-2B, *Quality Assurance Program Guide*
- DOE G 414.1-4, *Safety Software Guide for Use with 10 CFR 830, Subpart A, Quality Assurance Requirements, and DOE O 414.1C, Quality Assurance*

Assistance Activities

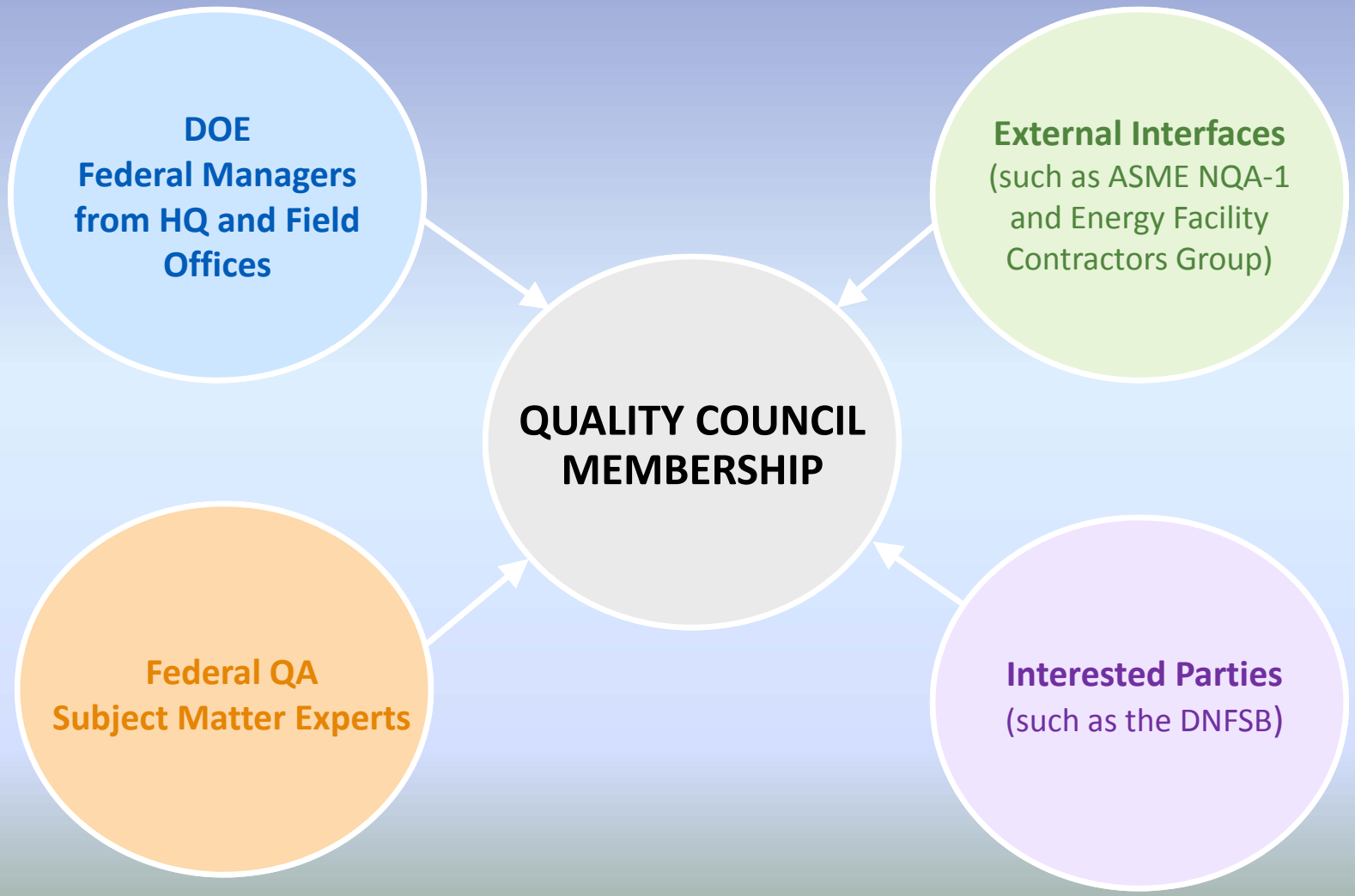
- Training on Directives and Standards
- Augmenting HQ and Field Assessment Teams (e.g., WTP QA Audit, SWPF Audit, etc)
- HEPA Inspection and Test
- Safety Software QA
- Facility Rep and Safety System Oversight Programs

DOE Federal Quality Council

Established in August 2008 with the following objectives:

- Identify crosscutting QA issues and develop recommendations for a path forward to address issues.
- Coordinate with other Federal agencies and the nuclear industry on QA requirements, issues and/or lessons-learned.
- Assist DOE Programs for clarification, and interpretation of DOE QA Rule and Directives.
- Provide recommendations on training and qualifications.

DOE Federal Quality Council
(continued)



Quality Council Activities

Approved Task Planning Documents (TPDs):

- TPD-2009.02: *DOE QA Order Requirement Training* - Training to provide a basic understanding of QA
- TPD-2012.01: *Crosswalk of DOE O 414.1D, ISO 9001, and NQA-1*
- TPD-2012.02: *Update the QA Criteria Review and Approach Document (CRAD) to include NQA-1*
- TPD-2012.03: *QA Functions and Staffing* - The goal is to gather benchmark data regarding QA staffing levels
- TPD-2012.04: *Suspect/ Counterfeit Items (S/CI) Prevention in DOE* - To identify issues and improvements for the S/CI process

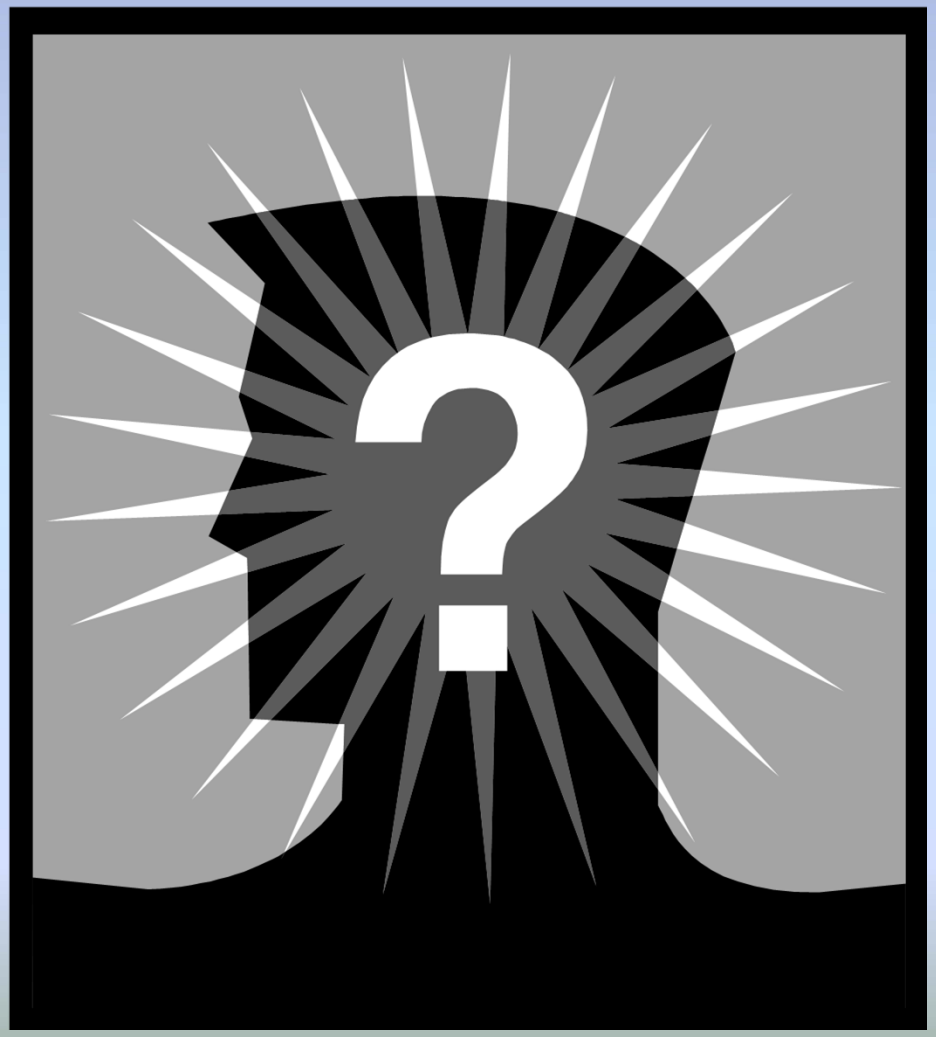
Pending Council TPD Tasks

Pending Approval:

- TPD-2013.XX: *QA Deficiency Analysis of Construction Project Activities* - Review of $100 million+ projects from 2010–2013

- TPD-2013.XX: *SQA for Critical Software* - Update the SQA definition to include systems and applications that are non-nuclear in nature, and evaluate the QA used for these systems.

Questions?



BACKGROUND

TPD-2009.02:
DOE QA Order Requirement Training

TPD Objective: Training HQ Leadership, HQ Management, HQ Support Offices, Non-nuclear/ Non-defense Programs and Field Office QA POCs to Provide a Basic Understanding of QA.

Team Lead: Colette Broussard, HS-33

Status:

- TPD approved October 26, 2010
- Training has been finalized with National Training Center, Quality Council, etc.
- Training at Savannah River scheduled for February 11, 2014
- Training at PANTEX scheduled for May 6, 2014

TPD-2009.02:
DOE QA Order Requirement Training

TPD Objective: Training HQ Leadership, HQ Management, HQ Support Offices, Non-nuclear/ Non-defense Programs and Field Office QA POCs to Provide a Basic Understanding of QA.

Team Lead: Colette Broussard, HS-33

Status:

- TPD approved October 26, 2010
- Training has been finalized with National Training Center, Quality Council, etc.
- Training at Savannah River scheduled for February 11, 2014
- Training at PANTEX scheduled for May 6, 2014

TPD-2012.01:
Crosswalk of DOE O 414.1D, ISO 9001, and NQA-1

TPD Objective: To prepare a crosswalk of DOE O 414.1D, ISO-9001-2008 and NQA-1-2008 with NQA-1a-2009 and NQA-1b-2011 Addenda.

Team Lead: Thanhtan Van Ober, NNSA/NA-26

Status:

- TPD approved April 19, 2012
- The Crosswalk is currently being reviewed

TPD-2012.02:
Update the QA Criteria Review and Approach Document (CRAD)

TPD Objective: Review and revise the existing CRAD to capture changes from DOE O 414.1D. Develop a CRAD for nuclear facilities/ activities to address NQA-1 requirements.

Team Lead: Colette Broussard, HS-33, HQ

Status:

- TPD approved October 31, 2012
- CRAD for non-nuclear facilities is in draft
- CRAD for nuclear facilities to reflect current version of NQA-1 and DOE O 414.1D, to be completed by February 2014

TPD-2012.03:
QA Functions and Staffing

TPD Objectives: To develop guidance to assist DOE managers to understand the functions, roles, responsibilities, and interfaces of QA professionals. To gather benchmark data regarding QA staffing levels in various types of facilities and to recommend minimum QA staffing levels.

Team Lead: John Adachi, SC-CH

Status:

- TPD approved May 17, 2012
- Benchmark data has been gathered and is being analyzed

TPD-2012.04:
Suspect/ Counterfeit Items (S/CI) Prevention in DOE

TPD Objective: To identify issues and improvements for the S/CI process in the Department of Energy.

Team Lead: Duli Agarwal, HS-33, HQ

Status:

- TPD approved April 19, 2012
- Trending and Analysis of S/CI at DOE Facilities
- Recent site visits to Hanford and Y-12 in August 2013
- Two additional site visits planned in FY 2014
- Developing S/CI checklist
- Completed white paper on available training outside DOE, September 2013

TPD-2013.XX:
QA Deficiency Analysis of Construction Project Activities

TPD Objective: To track and collate QA deficiency data identified during various reviews to identify what facets of QA, as per DOE O 414.1D, DOE 413.3B and implementation guidance in DOE G 413.3-2, have not been properly and timely implemented in the project. $100 million+ projects from 2010–2013

Team Lead: Ruben Sanchez, MA-632

Status:

- Draft TPD is currently in the works
- To be finalized by December 2013
- To be presented to QC for voting in January 2014

TPD-2013.XX:
SQA for Critical Software

TPD Objective: To expand the scope and definition of Safety-Critical Software to include systems and applications that are Non-Nuclear in nature, and evaluate the QA used for these systems.

Team Lead: Albert Gallo, IM-632

Status:

- TPD is on the conceptual stage
- Discussions on the TPD's content and desired results are ongoing

Commercial Grade Dedication (CGD) Summary

Objective: To develop an Internet accessible consolidated information source for DOE/NNSA related CGD tools and information sources.

Team Leads: Bob Blyth, ID & Duli Agarwal, HS-33

Status:

- Quality Council members are currently in the process of casting votes for this TPD

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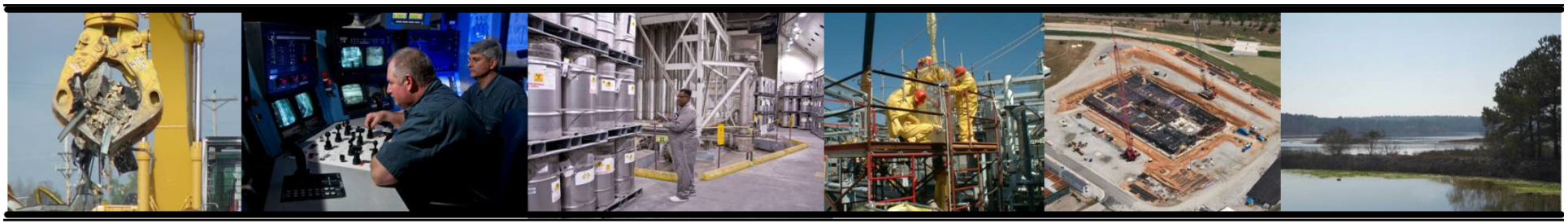

13th EM QA Corporate Board Meeting

Nevada Test Site

Chief of Nuclear Safety Activities

Debra Sparkman & Gustave Danielson
Chief of Nuclear Safety Staff

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG

Energy Facility Contractors Group

Nuclear Safety Software QA - SASSI

- SASSI Computer Code Validation Project
  - April 2011 Board letter regarding SASSI computer code on soil-structure interaction (SSI) technical and SQA concerns
  - DOE initiated 2 significant actions
    - Review organization SQA practices for SSI calculations at key DOE/NNSA projects – completed 2012
    - V&V Project to validate the "generic" SASSI computer code

Nuclear Safety Software QA – SASSI (Cont'd)

- SASSI V&V Project is very active
  - Jointly funded: CNS, UPF, CMMR
  - Lead by CNS, with DOE-SR Project Manager
  - SSI experts from industry and academia
  - 12 calculation packages/1000 test cases
  - Tasks 1 and 4 being processed for issuance
  - Tasks 5 and 9 in final review stages
  - Project completion Spring/Summer 2014
  - Work to begin on Guidance Document in 2014

Nuclear Safety Software QA – Startup

- **Adapting the Software Change Control and Release Processes for Rapid Turnaround and Large Volume Computer Program Modifications**
  - Software systems experience a large number of necessary changes during startup testing and first year of operations
  - Delays in updated software can have significant impact on startup operations
  - Processes need to be developed to address 2 categories of changes: a) needed within 24 – 48 hours and b) needed immediately
  - Processes should established controlled actions to modify software outside of normal SQA procedures
  - All SQA activities would be completed in a modified sequence of actions
  - Discussed with SWPF
  - Future HSS Newsletter Article

Nuclear Safety Software QA - Firmware

- Applying SQA to Firmware
  - CNS staff asked for technical analysis at Hanford Tank Farms
  - DOE O 414.1x applies
    - Moore safety trip amplifier (STA) has read-only embedded computer program
    - Acquired safety system software
    - Include on safety software inventory list
  - ASME NQA-1 guidance for embedded computer programs
    - Part III SP 3.2-2.7 or Part IV SP 4.1 depending upon edition
    - Apply QA requirements for firmware (read-only) and hardware as a unit if all software functions can be tested with unit – STA case
    - All other cases, apply SQA requirements from SP 2.7

ASME Committee on Nuclear QA & NQA-1

- Recent Activities - 2012 Edition Published, 2014 Projects, Future
- Officer Transitions June 2014
- Membership – Fed & contractor
- Management Support Essential
- GC Waiver from Conference Management Reporting System?
- NQA-1 adoption status across EM nuclear facilities?
- ASME 3rd Party Certification for NQA-1 QA Programs
- ASME 3rd Party Certification for NQA-1 Auditors
- Merge all software requirements into Part II SP 2.7
- Inquiry response on Part I and Part II

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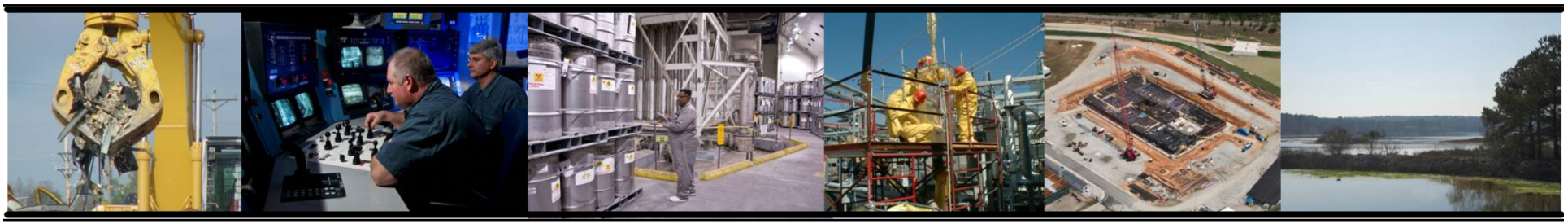

13th EM QA Corporate Board Meeting

SAVANNAH RIVER SITE

Charles Harris, Director
Performance Assurance Division

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Current Major QA Efforts at the Site
- Status of QA Program Implementation
- QA Resources Evaluation
- Top Issues in QA Affecting the Site
- Top Lessons Learned in Quality from the Site
- What does the site expect/need from the Corporate Board?
- Conclusions/Questions

Current Major QA Efforts at the Site

- **NQA-1 2008/09a Implementation**
  - **M&O Contractor**
    - **Completed Implementation on 2-1-2012**
    - **Verified by Independent Assessment in August 2013**

Current Major Efforts at the Site

- **Liquid Waste Operations (LWO) Contractor**
  - Transitioning from NQA-1 2000 to NQA-1 2008/2009 including implementation of EM-QA-001 Rev.1
  - SRR and SRNS supporting Aiken Technical College in implementing Nuclear Quality Systems Associate Degree program
  - Salt Disposal Unit 6 project starting CD3 (under DOE Order 413.3B).
  - Grouting Waste Tanks 5 and 6 for Tank Closure (6 of 51 tanks fully grouted when complete in next few months)
- **Salt Waste Processing Facility**
  - Over $1 Billion project under construction at SRS
  - Major EM-43 Assessment planned for January 2014

Status of QA Program Implementation

- **M&O Contractor**
  - **NQA-1-2008/09a and EM-QA-001 Rev. 1**
    - Implementation confirmed by contractor audit, independently verified by DOE-SR
  - **RW-0333P**
    - Confirmed via EM-43 audit
  - **SRNL QA program**
    - Evaluated by Hanford WTP in Supplier Qualification Audit. Audit resulted in SRNL qualification for National Laboratory R&D, including testing services considered important to safety (e.g., Full-Scale Vessel Testing services).
  - **Analytical Services for MOX/AFS-2**
    - SRNS added to their Qualified Suppliers List following evaluation of the SRNS QA Program by MOX/AFS-2 QA.

Status of QA Program Implementation

- **LWO Contractor**
  - Transitioning from NQA-1 2000 to NQA-1 2008/2009a including implementation of EM-QA-001 Rev.1
    - In progress. Final implementation delayed from December 2013 to later in FY14 due to FY14 budget reductions and impact from lack of appropriations. Extension request pending.
    - Successfully negotiated with DOE-SR on strategy to implement within FAR contract funding allowances (no additional cost).
  - Effective RW0333P implementation noted via SRR and DOE-HQ surveillances/audits. Next DOE HQ surveillances/audits early CY 2014.

Status of QA Program Implementation

- DOE-SR
  - EM-QA-001 rev.1 Implemented
  - NQA-1-2008/9 Implemented
  - Implementation verified by recent EM-HQ Assessment
  - Implementation of NQA-1-2008/9 and EM QAP at SWPF Project Office in progress
  - QA Manager position added to Federal Project Office
  - SWPF contractor will stay at NQA-1-2004

QA Resources Evaluation

- **M&O Contractor** (excluding Defense Programs QA organization)
  - Personnel = 54 FTEs (37 QEs, 11 QCs, 6 Managers)
    - Total includes 3 subcontractors (2 QEs, 1 QC)
    - QA is 1.9% of workforce
  - Funding for QA provided by EM and NNSA; some QA funding comes via SRS facility budgets
- **SRNL**
  - Personnel = 15 FTEs (8 QEs, 3 Techs, 2 Clerical, 2 Managers)
    - Total includes Standards Lab organization (4 QEs, 4 Metrology Lab Techs, 1 Clerical, 1 Manager)
  - Funded by numerous sources

QA Resources Evaluation

- LWO Contractor
  - 20 Quality Engineers,17 Quality Control, and 5 Managers (includes 10 subcontractors)
    - M&O performs bulk of receiving inspections, Qualified Supplier List auditing/maintenance, and vendor source surveillance by company level interface agreements
  - QA is approximately 2.3 % of company total staffing
  - Staffing levels marginally adequate to address FY14 scope. Scope increases would require additional staffing/subcontracting.

QA Resources Evaluation

- DOE-SR
  - 3.25 FTEs performing QA oversight (1.2% of workforce)
  - Current need is 6 FTEs
  - Needs based on Federal Technical Capabilities Program
  - QA Manager recently detailed to SWPF Project Office
  - Recruitment in progress for permanent SWPF Project Office QA Manager
  - Five FTEs performing QA oversight at SWPF Project Office (20% of Project Office staff)

Top Issues in QA Affecting the Site

- **Impacts from lack of Staffing and Funding**
  - **Challenge to perform on-going routine functions and in-depth assessments and other initiatives without consuming overtime budget**
    - Availability of Inspectors can impact facility schedules
    - One-deep in many functions
    - Aging workforce
- **"Quality Assurance Program at SWPF Project Office not being implemented in accordance with EM QAP" – finding from EM-HQ assessment**
- **Sustaining effective performance in newly revised QA program elements (CGD, Fluid System Cleaning, Housekeeping)**
- **Limited number of suppliers meeting NQA-1-2008/9a requirements**

Top Lessons Learned in Quality from the Site

- Good Practice: Supplier Performance Database
  - Utilizes data from Receipt Inspection to provide real-time data on supplier quality performance to QA and Supply Chain Management
- Contractors and Feds can negotiate cost-effective rollout strategies for new continuous improvement requirements (e.g., NQA-1-2008/9 and EM QAP).
- Documented Project Quality Assurance strategies essential (particularly DOE O 413 projects)
  - Supply chain oversight planning
  - Project QA internal audit/surveillance plans to assure performance (early reviews to validate effectiveness)
  - Consider project specific corrective action review boards
  - Project Management endorsement on QA strategies

Corporate Board Support

- Help address Aiken Technology Nuclear Quality System questions on the NQS Quality Engineer path
  - Confirm DOE complex expected demand for Nuclear Quality Engineer associate degree candidates
  - Consider updating DOE Order 426.2 to better recognize QA specific associate degrees in meeting education requirements.

Conclusions/Questions

- Questions

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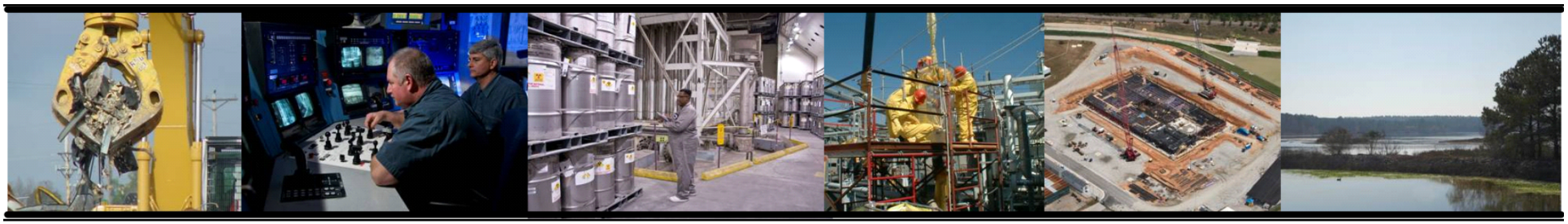

13th EM QA Corporate Board Meeting

Nevada National Security Site

Office of River Protection Quality Assurance

Brian Harkins, Deputy Assistant Manager,
Technical and Regulatory Support, Office of River Protection

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Current major QA efforts at the site
- Status of QA program implementation
- QA resources evaluation (FTEs)
- Top Issues in QA affecting the site
- Top lessons learned in quality from the site
- What does the site expect/need from the Corporate Board?
- Conclusions/Questions

Current Major Efforts at the Site

- Major QA projects
  - Providing oversight of WTP corrective action implementation on Level 1 findings
  - Provide oversight/quality engineering support of Tank Farms (TF) software QA program corrective actions
  - Providing oversight/quality engineering support of the WTP Contractor Emergency Turbine Generator Commercial Grade Dedication processes
  - Provide oversight/quality engineering support of WTP revamping of software grading processes
- Current Status
  - All are in process and on schedule

Status of QA Program Implementation

- Federal Office
  - EM-QA-001 Revision 1 Implementation
    - The ORP Quality Assurance Program Description was revised and approved on June 29, 2013
    - Implementing procedures are being revised where required
    - Training on QAPD ongoing and conducted in parallel with revision of ORP implementing procedures
  - Variance or extension requests
    - None

Status of QA Program Implementation (cont.)

- Prime Contractors
  - EM-QA-001 Revision 1 Implementation
    - Exemption requests for WTP, TF and Lab being reviewed by EM-40
    - BNI (WTP) is in the process of performing a gap analysis and developing a ROM – Estimated to be completed by November 2013 for all areas except software which is estimated to be completed by March 15, 2014
    - WRPS (TF) has prepared gap analysis and developed a ROM which has been submitted to EM-40
    - ATL (Lab) has prepared gap analysis and developed a ROM which has been submitted to EM-40
  - Variance or extension requests - None

QA Resources Evaluation

- Federal Office
  - Numbers of Quality Assurance (QA), Quality Engineers (QE) and Quality Control (QC) staff (separately)
    - Quality Assurance Team (QAT)
      - QA/QE – Six including supervisor
      - Approved to hire three additional Federal Staff – in process
      - GSSC support - one
      - Total authorized – ten (seven on board now)
    - Other Quality Oversight
      - Construction/Design Oversight – ~ five FTE
      - Construction Site Inspectors (GSSC Support) – four
      - Total – nine

QA Resources Evaluation

- The scope of ORP QAT expected need includes:
  - Maintaining the ORP QA program (QAPD, Enforcement , Procedures, S/CI) - 2 FTE
  - Performing independent oversight of the prime contractors and ORP - 5 FTE
  - Project QA support - 5 FTE
  - Support of ORP procurements (Inter-Entity Work Order, contracts, qualification of acquired software, qualification of ORP suppliers, and maintaining Evaluated Supplier List) – 1.5 FTE
  - Contractor supplier evaluation audits – 1.5 FTE
  - Total – 15 FTE

QA Resources Evaluation

- Federal Office
  - How need for QAT numbers are determined:
  - Note: Local nuclear power plant was contacted to benchmark their QA staff at an operating nuclear power plant. The results of this benchmark was that Energy Northwest has a QA staff of17 excluding QC and Admin. Typically within the nuclear industry, construction will have more QA staff than operations.
  - For an organization that has direct independent QA oversight of the three prime contractors and ORP itself, the industry norm is approximately 4% to 6% ratio of oversight organization staff to the staffing of the organizations required to have oversight performed on their quality affecting activities. DOE G413.3-19 "Staffing Guide for Project Management" states in Table 2.4-10, "Construction Project Functional Area Percentages" that for CD-3 construction QA staffing should be 5%. The optimal range per the guide is between 11 and 15 FTEs. ORP has approximately 158 staff and 104 contractor QA staff equaling 262 total personnel at the QA organization is overseeing.
  - A total of 13 (5%) to 15 (6%) ORP QA staff would be required; projected ORP need is 15 (6%); 5 additional staff beyond current authorized number.

QA Resources Evaluation

- Prime Contractors
  - Numbers of QA, QE and QC staff (separately)
    - WTP – 35 (QA Department); 30 (supplier Quality & Receipt Inspection); 10 (Performance Assurance): Total of 75 staff (excluding 19 QC inspectors)
    - TF – 3 (222-S Lab); 18 (QA staff, including independent assessments); 4 managers: Total of 25 (excluding 7 QC inspectors)
    - Lab – 4 QA staff total
    - Total for all 3 contractors was 104 QA staff (excluding QC inspectors)
  - Current Needs in FTEs.
    - Estimated that both contractors would require additional FTEs to adequately maintain an effective QA program

Top Issues in QA Affecting the Site

- Issue #1
  - Current WTP QA Program is not fully implemented and is not fully effective in meeting requirements stipulated in the contract regarding implementation of a nuclear QA program.
  - Contractor's QA program management and oversight needs to change its focus. Current QA oversight is mostly after-the-fact via assessments and surveillances. Oversight activities are not factored into existing work product review activities to provide more in-process checks of quality affecting work.
- How can the EM QA Corporate Board help with this issue?

  N/A

Top Issues in QA Affecting the Site (cont.)

- Issue #2
  - TF prime contractor's software QA program needs to successfully implement corrective actions addressing program deficiencies, effectively implement new processes, and all active Level A through D software must meet QAPD requirements at the end of this effort.
- How can the EM QA Corporate Board help with this issue?
  - Provide consistent, requirements based criteria

Top Lessons Learned in Quality from the Site

- Lessons Learned #1
  - Quality assurance programs need to be rigorously implemented and self-critical from the beginning of a project or contract.
- How the Corporate Board Members can benefit from the experience
  - N/A

What does the site expect/need from the Corporate Board?

- Need #1
  - Elimination of duplicative or redundant oversight activities – e.g., Refocus QARD reviews on only those repository specific activities that are not already imposed by NQA-1.
  - Review annual ISM/QA declaration process for same purpose.

Conclusions/Questions

- Any specifics you would like to emphasize
  - Current staffing allows for program compliance/performance based audits to meet requirements, to maintain the ORP QA program and procedures, and provide some QA engineering support.
  - New hires will help ORP expand performance based audits and QA engineering roles.
  - Additional resources beyond QAT will be used to conduct additional performance based audits, perform real time targeted audits of key activities, provide QA engineering support to ORP and contractors, perform oversight of ORP QC oversight activities, and to investigate and correct emerging problems when needed.
  - Elimination of duplicative or redundant oversight activities is needed – e.g., Refocus QARD reviews on only those repository specific activities that are not already imposed by NQA-1 would allow QAT to more effectively use available resources.

Conclusions/Questions

- Any specifics you would like to emphasize
  - ORP has all new management (DOE & Contractor) focused on
    - Solving technical issues
    - Resumption of construction activities
    - Implementation of Quality Assurance
  - ORP has taken actions to improve QA
    - Issued level 1 findings on QA Program and CAM
    - Directions to improve contractors CAM process
    - Directed development of a Managed Improvement Plan (MIP)
    - CAM moved to new manager

Conclusions/Questions

- Any specifics you would like to emphasize
  - ORP has manage risk
    - Quality of previously installed equipment
    - Reliance on vendors w/o NQA-1 programs (huge risk)
    - QA program changes (414.1C $\longrightarrow$ 414.1D) – Need run time instead of constant change
    - Lack of specific Federal expertise (e.g. weld inspector)
    - Need to use all staff expertise to support QA implementation
  - Recommendation
    - Hold QA changes to let us get program implemented – stability is important
    - We need a staffing tool similar to the tool used by Facility Representatives to help determine QA staffing levels
    - We need a listing of NQA-1 vendors that is kept up to date

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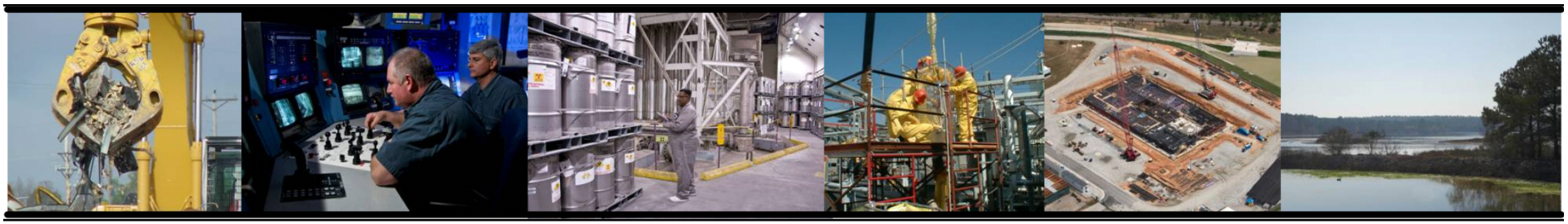

13th EM QA Corporate Board Meeting

Nevada Field Office

Richland Operations Office QA Program Status

Stacy Charboneau, Assistant Manager Safety and Environment
Richland Operations Office

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Major Efforts at the Site
- Status of QA Program Implementation
- QA Resources Evaluation
- Top Issues in QA Affecting the Site
- Top Lessons Learned in Quality from the Site
- What does the site expect/need from the Corporate Board?
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Major Efforts at the Site

Construction of the Sludge Treatment Project Annex - Cat 2 Nuclear Facility

Demolition of the Plutonium Finishing Plant
Removing source term by decontamination and removal of processing line glove boxes

618-10 Burial Site Remediation

309 Building and 340 Vault Heavy Lifts

Status of QA Program Implementation

Richland Operations Office

EM-QA-001 Revision 1 implemented

Annual review of RL Quality Assurance Implementation Plan (QIP) completed

QIP implemented through the RL Integrated Management System (RIMS)

Status of QA Program Implementation (cont.)

Prime Contractors

EM-QA-001 Revision 1 implemented by CH2M Hill Plateau Remediation Contractor, Mission Support Alliance and Washington Closure Hanford

Occupational Medicine

HPM Corporation, the Hanford Occupational Health Services provider, meets accreditation requirements of the Accreditation Association for Ambulatory Health Care (AAAHC) and the applicable requirements of DOE Order 414.1D

QA Resources Evaluation

Richland Operations Office

Current dedicated QA resources consist of 3 QAEs and 1 GSSC.

RL QA oversight includes contractor QA program reviews and approvals, and oversight of contractor's management and independent assessment activities.

Additional contractor oversight routinely performed by 16 Facility Representatives, 4 Safety System Oversight personnel, and 22 Subject Matter Experts in the following areas:

- Nuclear Safety
- Rad Con
- Engineering
- Transportation
- Environmental Compliance
- Industrial Safety/Hygiene
- Hoisting and Rigging

QA Resources Evaluation

Prime Contractor QA Staff

CHPRC

- 13 QAEs, 1 Program Manager, and 1 Director
  - 11 QAEs have QC Inspection Certification

WCH

- 7 QAEs and 4 QC Inspectors

MSA

- 18 QAEs and 1 Director
  - 11 QAEs have QC Inspection Certification

QA Resources Evaluation

Prime Contractor QA Staff (cont'd)

QA resources for the projects determined using key factors such as:

- Project Life Cycle
- Hazard Categorization
- Complexity of Project
- Project Schedule
- Potential to Share Staff
- Special Knowledge and Skill Requirements

Future Considerations/Concerns:

- Finding highly qualified personnel to replace key retiring staff (aging workforce)
- Maintaining a critical mass of Level III QC Inspection competence to cover all necessary disciplines

Top Issues in QA Affecting the Site

Issue #1

Commercial Grade Dedication in a Construction Environment

How can the EM QA Corporate Board help with this issue?

Current training focuses on performing CGD in an operational environment. Take an initiative to develop a CGD guidance document for the construction environment.

Top Issues in QA Affecting the Site (cont.)

Issue #2

Maintaining and enhancing the technical competence of QA/QC personnel in the following areas:

- Metrology/Calibration Sampling Plans
- Software & Model Assurance
- CGD, both Operations and Construction
- Use of National Consensus Standards in Design and Procurement
- Environmental Qualification of Components
- Specific S/CI topics

How can the EM QA Corporate Board help with this issue?

Locate/develop training modules for critical QA topics

Top Issues in QA Affecting the Site (cont.)

Issue #3

Retirement and impending retirement of key personnel is leading to resource and skills mix issues:

- Blurring of lines between QA and QC functions
- Merging of engineering disciplines (ex: mechanical professional performing other function such as civil, electrical, etc.)

How can the EM QA Corporate Board help with this issue?

- Fund training modules distinguishing QA versus QC functions
- Mentoring of young professionals

Top Lessons Learned in Quality from the Site

Lessons Learned #1

Single onsite contractor QC Inspector Certification Program maintained by site infrastructure contractor (MSA) for all site contractors.

How the Corporate Board Members can benefit from the experience

Sharing expertise ensures access to the most competent Level III inspectors available at a respective site.

With inspector certifications recognized across contractors, it makes it possible to share resources when the need arises.

Minimizes overhead costs

What does the site expect/need from the Corporate Board?

Need #1

Give serious consideration to elimination of the Office of Civilian Radioactive Waste Management QARD requirements. Since the implementation of NQA-1 and the growth and maturity of the QA program within EM, the QARD is redundant.

Need #2

Consider conducting annual consolidated NQA-1 audits across EM similar to DOECAP audits of analytical services/laboratories. The experience gained by assisting in these audits would help site NQA-1 auditors in retaining the necessary qualifications.

Conclusions/Questions

- The biggest issue facing RL is replacing the experienced and qualified QA/QC personnel leaving the site.
- Questions?

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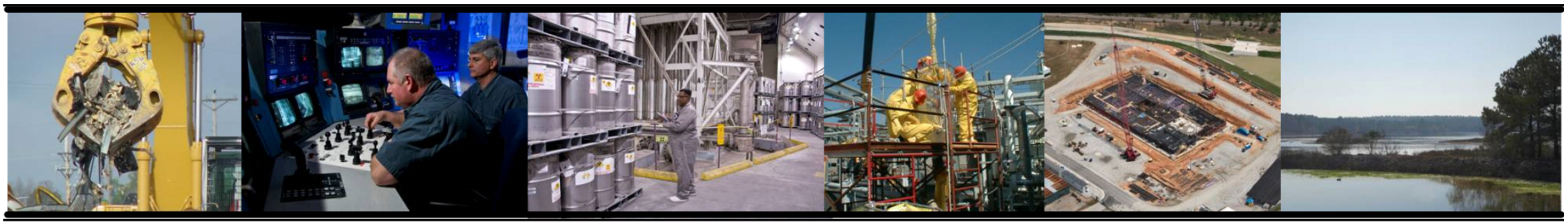

13th EM QA Corporate Board Meeting

Nevada Test Site

Oak Ridge Office of Environmental Management

Jay Mullis, ES&Q Director
OREM

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Current Major QA Efforts at the Site
- Status of QA Program Implementation
- QA Resources Evaluation (Full Time Employee [FTE]s and dollars)
- Top Issues in QA Affecting the Site
- Top Lessons Learned in Quality from the Site
- What does the site expect/need from the Corporate Board?
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Current Major Efforts at the Site

Oak Ridge Office of Environmental Management (OREM) Major QA projects include:

- OREM
  - Development of OREM Quality Implementation Plan and supporting procedures – **In Process**
  - Support the development of OREM Management System Description (MSD), Function, Roles, and Responsibilities (FRA), and supporting procedures – **In Process**
- URS|CH2M Hill Oak Ridge, LLC (UCOR)
  - Approved Supplier List (ASL) Enhancements – **Complete**
  - Implementation of new Corrective Action Management System (CAMS) – **Basic system implemented in October 2013**
    - De-bugging is ongoing
    - Additional enhancements are planned

Current Major Efforts at the Site (cont.)

- Wastren Advantage, Inc. (WAI)
  - Implementing a new Deficiency Reporting Process to improve WAI Corrective Action program performance. – **In Process**
  - Establishing a Management Review Board to oversee the Deficiency Reporting process, the Occurrence Reporting process, the NTS Reporting process, and the Corrective Action process. – **In Process**
- Isotek Systems, LLC (Isotek)
  - Develop and implement Management Assessment Enhancement Implementation Plan with management assessment training module – **Complete**
  - Searchable Lessons Learned SharePoint site – **Complete**
  - Multiple training module revisions (i.e SQA, QA Program orientation, Project QA for managers and supervisors) – **Complete**

Status of QA Program Implementation

- Federal Office
  - OREM adopted EM-QA-001 Revision 1 as the OREM Quality Assurance Program (QAP)
  - Due to OREM's separation from Oak Ridge Office of Science (ORO) and the resulting OREM reorganization, OREM requested an extension to complete implementation of EM-QA-001 Rev 1 by December 2014.
  - The extension request was granted by the DOE EM on July 19, 2013
  - OREM is in process of finalizing its QIP and supporting procedures

Status of QA Program Implementation (cont.)

Prime Contractors

- UCOR
  - EM-QA-001 Revision 1 implementation - **Complete**
  - No variance or extension requested
- WAI
  - EM-QA-001 Revision 1 Implementation – **Complete**
  - No variances or extension requested
- Isotek
  - EM-QA-001 Revision 1 Implementation
    - One management expectation is being addressed in the next revision of the Isotek Project Quality Assurance Program (PQAP) currently undergoing revision. Isotek made a commitment to modify Section 6.15.4 of the Project QAP during its next revision to address Requirement 15, in Section 405 of the 2007 Addenda.
    - Isotek is contractually obligated to implement NQA-1 2004. Because Isotek is beyond the CD-1 stage, OREM requested a variance on March 15, 2013 for Isotek to implement EM-QA-001 Rev 1 only as it is supported by NQA-1 2004. The DOE EM approved the variance April 26. 2013

QA Resources Evaluation

- Federal Office
  - Number of Quality Assurance staff
    - Quality Assurance 3 FTEs
    - Quality Engineer 2 FTEs
    - Quality Control 0 FTEs
  - Level of support dollars provided to the QA organization
    - FY-13 Actual $180,538.25
    - FY-14 Estimated $238,681.66
  - Current Needs both in FTEs and support dollars
    - 5 FTEs and approximately $240k
  - How needed numbers are determined
    - FTEs are determined utilizing Federal Technical Capabilities Panel (FTCP) analysis
    - Support contractor needs are determined by needs analysis by category

QA Resources Evaluation

Prime Contractors

- UCOR
  - Current QA FTEs - 11.5 QA FTEs (includes issues management and assessment programs) and 1 QC
  - How did you determine need - the projects determine the level of field QA support needed and the ESH&QA Manager and QA Manager jointly determine the level of non-deployed support.
- WAI
  - 4.6 Quality Engineers, 1 Quality Manager, 1 interim contracted Quality Engineer, Current Total: 6.6 FTE
- Isotek
  - 1 QA Specialist, 1 QA Engineer, 1 QA Manager, Current QA FTE Total: 3 FTEs
  - How did you determine need - the QA manager determines staffing needs based on actual (historical) and forecasted workloads.

Top Issues in QA Affecting the Site

UCOR

- **Issue #1** -*There is confusion about which QA Program, 10CFR830; Subpart A or NQA-1 is required for manufacture/suppliers of IP-1, IP-2, DOT Type A, 7A or 7AF (Fissile) Waste shipping containers.*
  - How can QA Corporate Board help - Obtain and communicate clarification regarding the appropriate QA Program required of Manufacturer/Suppliers of the above listed waste shipping containers.

- **Issue** *#2 - Insufficient information contained in S/CI-related ORPS reports make it difficult to do an investigation*
  - How can QA Corporate Board help - Due to lack of information in many of the Suspect/Counterfeit Items Occurrence Reports there is insufficient information to know where to start an investigation. A more in depth review of the Occurrence Reports, prior to placing them in the OE/LL Listserver to make sure that there is sufficient information that other DOE Facilities can initiate an effective investigation of the identified issue(s) would improve the effectiveness/benefit of the program.

Top Issues in QA Affecting the Site (cont.)

WAI

- **Issue #1** – *More effective implementation and flow down of Commercial Grade Dedication (CGD) program and processes.*
  - How can QA Corporate Board help – Provide successful model of a DOE CGD Program and DOE CGD best practices

- **Issue #2** – *Management Assessment effectiveness is a concern, and is largely related to Issue #1 above (Improving our Corrective Action program performance).*
  - How can QA Corporate Board help – None noted

Isotek

- **Issue #2** – *Isotek PQAP does not adequately address the following areas:*
  1. does not specifically address DOE G 414.1-2B or IAEA-TECDOC-1169 but it does address DOE G 414.1-3
  2. software validation activities with regards to planning, documentation and performance
  3. validation test plans, test cases, and test results
  - How can QA corporate board help – None Noted

Top Lessons Learned in Quality from the Site

UCOR

- **LL #1** - *Lessons Learned A-2013-OR-UCORESHQ-1001, Schneider Electric Recalls APC Surge Protectors Due to Fire Hazard*

  UCOR QA, through the UCOR OE/LL Coordinator, initiated an all-out notification of the US Consumer Product Safety Commission, Release # 14-001, identifying the Schneider Electric Safety Recall of APC Surge Protectors, Series 7 & 8 due to fire hazard. This recall involved both UCOR managed DOE facilities and potential personal home use of these types surge protectors. QA and the UCOR Electrical SME utilized the UCOR Newsline publication, Safety Advocate publication and the UCOR Information Monitors as well as the e-mail to communicate this critical information. 59 of the Series 7 surge protectors have already been identified and removed from service. IT is providing the focal point for providing replacements units and QA is physically controlling the recalled units through the Nonconformance Reporting (NCR) program.

  – How can QA corporate board members benefit from experience - Communicate importance of cross functional coordination and multiple communication avenues for prompt and effective implementation of product recalls.

Top Lessons Learned in Quality from the Site (cont.)

Isotek

- **LL #1** - *A true learning organization benefits from their previous mistakes and those made by others. Recent work performance in Building 3019 shows significant refinement of work controls.*

  Building 3019 work crews performed extensive troubleshooting on a roof-mounted Trane 110 ton air conditioning unit during the week of May 24, 2010. The work control for this effort was exemplary and deserves a careful review.

  1. The fact that the building's internal work environment was uncomfortable due to prevailing high heat and humidity conditions did not become a driver to take short cuts to just get the unit operational.

  2. The pre-job briefing included a walk-down of the work area, instead of the typical table top discussion. The walk-down resulted in discovery of elevation differences that would require use of ladders, which resulted in a revision to the work package and the JHA.

  3. During the troubleshooting effort, the crew discovered additional scope that required investigation, stopped work, and regrouped to change the work package. This behavior is noteworthy in light of the lessons learned from troubleshooting work when a crew follows their instincts instead of the work package, getting far out of scope and into areas of unanalyzed risk.

  – How can QA corporate board members benefit from experience - Communicate importance of: walking down a work area prior to start work; recognition of changed work conditions; the JHA/work package change control process.

Top Lessons Learned in Quality from the Site (cont.)

Isotek

- **LL #2** - *Contractors operating DOE Hazard Category 2 (HC2) Nuclear Facilities must use accepted design and procurement methods, including design review by all affected disciplines, and meet all quality assurance constraints when modifying those facilities.*

  The failure to document the design basis was the trigger for several consequences (3 fabrication runs and eventual suspension of fabrication due to questionable validity since the design basis was not documented).

  – How can QA corporate board members benefit from experience - Communicate importance of failure to adhere to a sound engineering design process resulted in rework of safety significant components.

Top Lessons Learned in Quality from the Site (cont.)

Isotek

- **LL #3** - *Isotek was advised that counterfeit PETZL equipment is in circulation. This equipment looks genuine with PETZL logos etc. Consequently, Isotek generated this lesson learned.*
  - These counterfeit products show serious defects, which affect their performance and strength. There is a significant risk that these counterfeit products could open or otherwise fall at low loads and under normal use. These counterfeit products do not meet UIAA or CE safety standards. These counterfeit products do not meet PETZL safety and quality requirements. Their outward appearance has been expertly reproduced which makes them very difficult to identify. The following features have been reproduced identically:
    - PETZL logo
    - Design
    - Color
    - Product markings
    - Batch number
    - Instructions for use (down to the most minor details)
    - Packaging
  - How can QA corporate board members benefit from experience – Continue to notify personnel throughout the complex of Suspect/Counterfeit Items

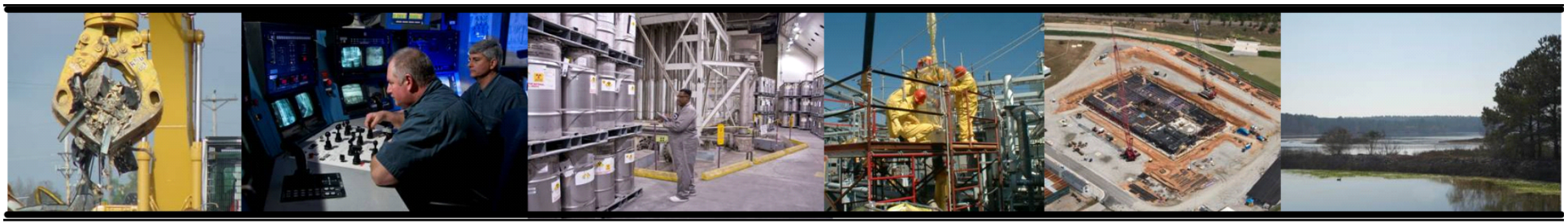
What does the site expect/need from the Corporate Board?

- Need/Expectation #1 – Additional guidance on CGD best practices implementation
- Need/Expectation #2 - Feedback from annual EM Corporate QA Performance metrics
- Need/Expectation #3 – Standard QA Metrics for federal office and contractors

Conclusions/Questions

Questions?

U.S. DEPARTMENT OF ENERGY



13th EM QA Corporate Board Meeting

Portsmouth/Paducah Project Office

Russell McCallister
Quality Assurance Lead

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

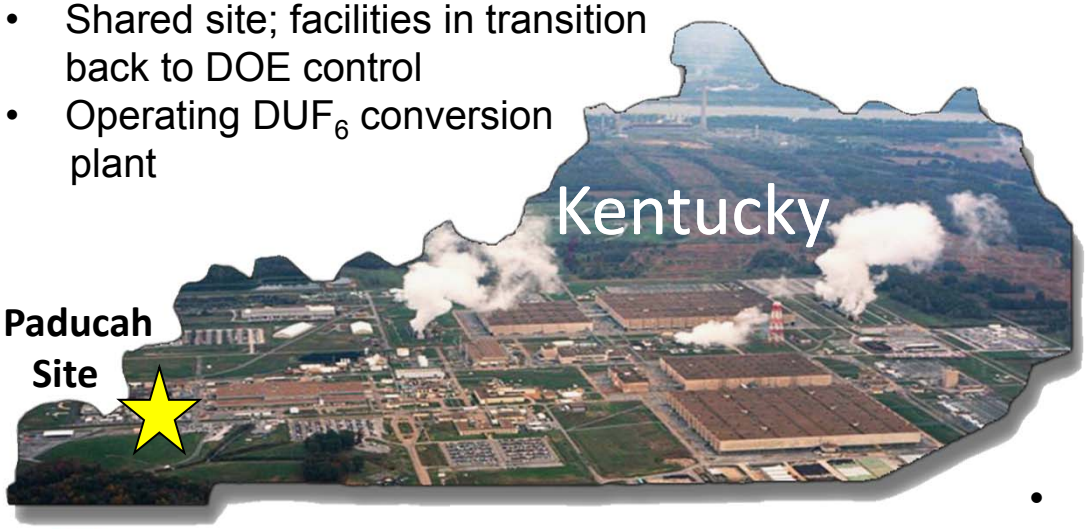
FCOG *Energy Facility Contractors Group*

Portsmouth and Paducah Sites

Portsmouth/Paducah Project Office Vision:

"Safely accelerate cleanup, ensuring protection of the public and environment, provide jobs for southern Ohio and western Kentucky, and work with the local communities to provide opportunities for economic growth."

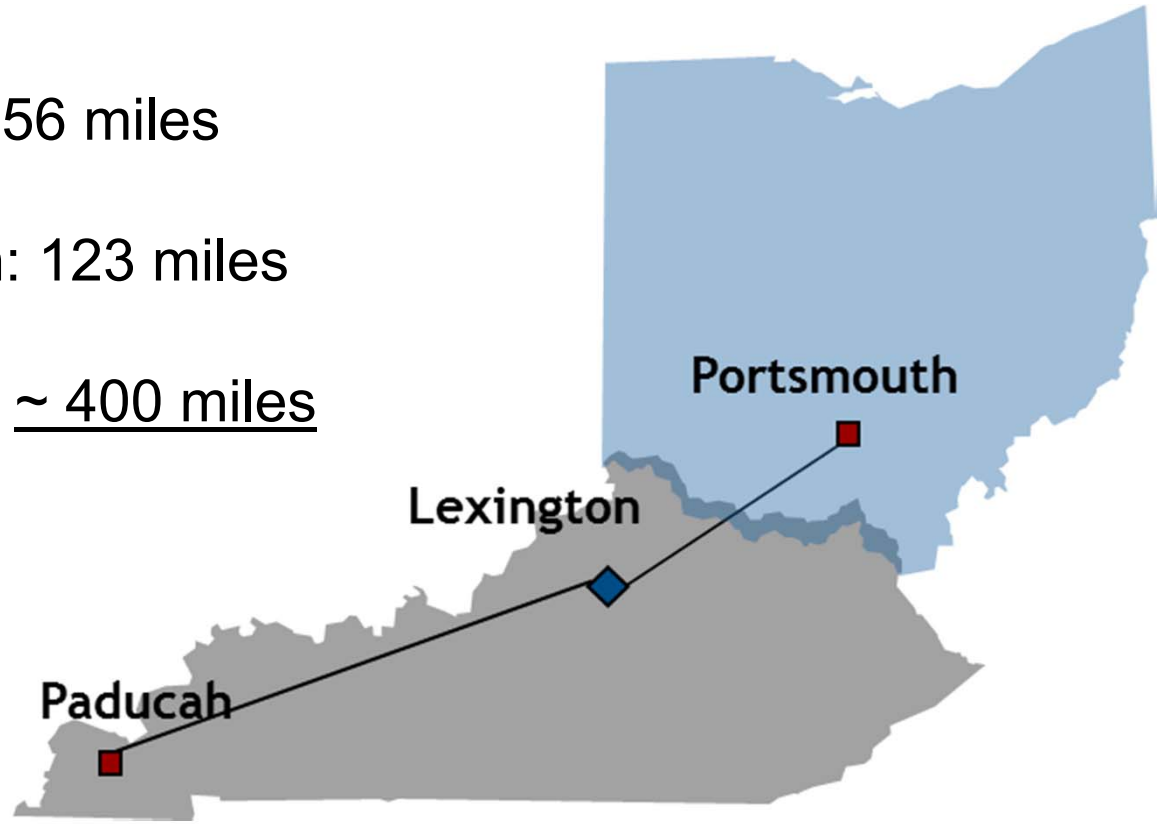
- Shared site; facilities in transition back to DOE control
- Operating DUF_6 conversion plant



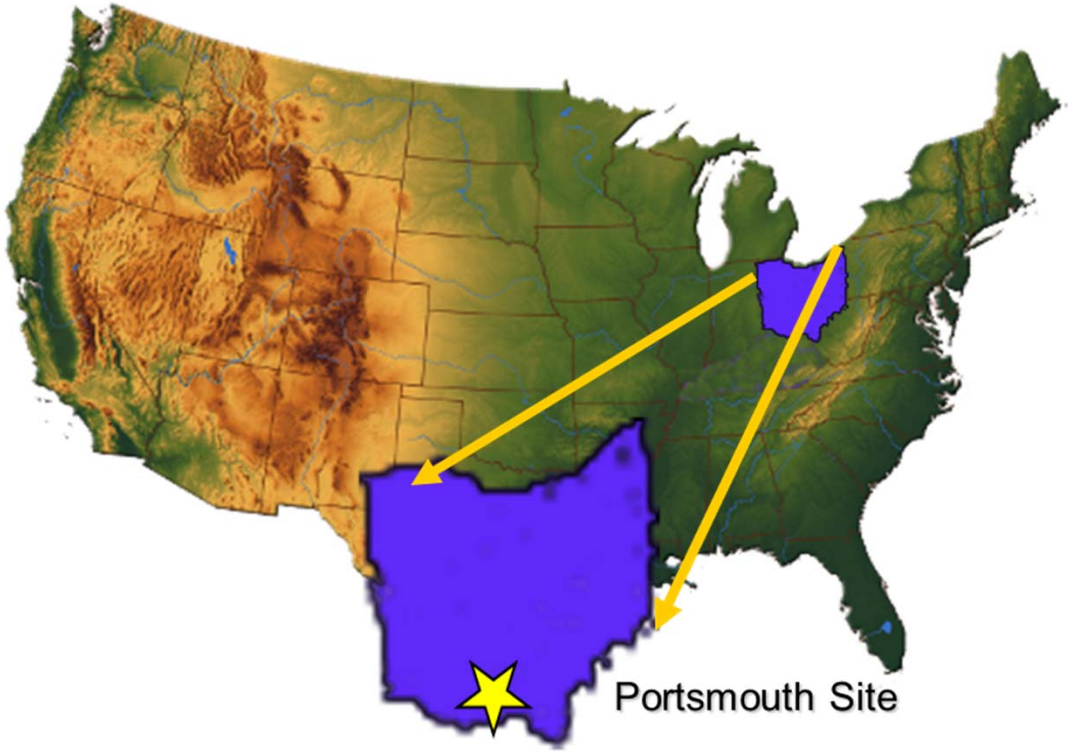
- Shared site with American Centrifuge Plant and operating DUF_6 conversion facility

Portsmouth and Paducah Sites

- Lexington to Paducah: 256 miles
- Lexington to Portsmouth: 123 miles
- Portsmouth to Paducah: ~ 400 miles



Portsmouth Gaseous Diffusion Plant



Portsmouth Quick Facts

- 3,700+ acre federal site
- ~12 million square feet under roof
- ~2,500 cleanup jobs for GDP D&D

- 5 Groundwater Plumes: ~173 acres
- 12 closure units: ~114 acres
- 20 remediation areas
  - *(Including streams, ponds, ditches, soil, groundwater, infrastructure, etc.)*

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

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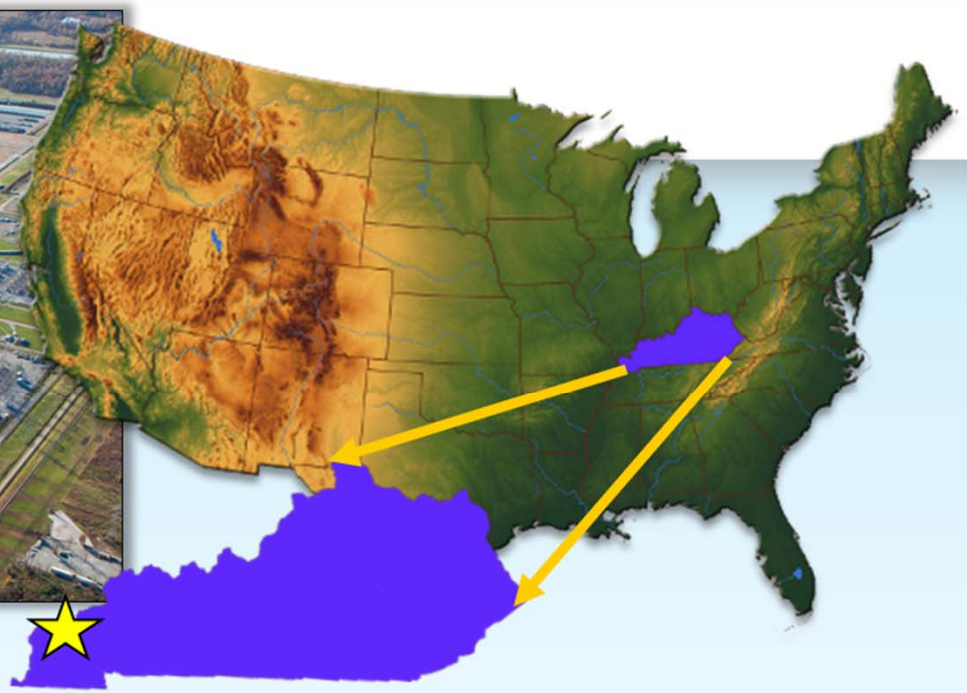
Portsmouth Prime Contractors

- Four prime contractors support DOE programs.
- USEC provided cold shutdown and deactivation activity through Sept. 2011.

Fluor-B&W | Portsmouth	▶ FBP awarded Portsmouth D&D contract in August 2010; Began D&D activities in March 2011. *- Contract expires March 28, 2016 (w/5-yr option)*
WEMS Wastren-EnergX Mission Support, LLC	▶ WEMS is responsible for infrastructure maintenance, training, security and other services. *- Contract expires July 25, 2015*
B&W conversion services, llc	▶ BWCS Operates DUF_6 conversion plant, which converts depleted uranium hexafluoride into oxide for reuse or disposal and HF for use in commerce - *Contract expires Jan. 1, 2016*
RSI Restoration Services, Inc.	▶ RSI Assists DOE with strategic planning, oversight, regulatory & technical support. *- Contract expires July 12, 2016*

Paducah Gaseous Diffusion Plant



Paducah Quick Facts

- 3,500+ acre federal site
- Shared site; facilities in transition back to DOE control
- ~8.3 million sq. feet under roof
- ~1,600 employees; ~670 FTE for cleanup and support of EM mission

- Groundwater Remediation: 2,100 acres
- Burial Grounds: 10 areas/~66 acres
- Soils: ~115 acres
- Surface Water: ~6 six miles of creeks and ditches draining to the Ohio River
- Inactive Facilities: 24 structures completed; 1 facility remaining (Not including USEC leased Facilities)

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Paducah Prime Contractors

LATA Environmental Services of Kentucky, LLC

- LATA KY performs environmental remediation, compliance reporting and monitoring, and legacy waste disposition.
  - Contract expires July 2015

Swift & Staley

- Swift & Staley performs infrastructure maintenance, training, security and other services. *- Contract expires March 2015*

B&W conversion services, llc

- BWCS operates the DUF_6 conversion plant, which converts depleted uranium hexafluoride into oxide for reuse or disposal and HF for use in commerce. *- Contract expires January 2016*

Pro2Serve®
Professional Project Services, Inc.

- Pro2Serve assists DOE with strategic planning, facility transition support, deactivation and decommissioning planning, contractor oversight, and regulatory and technical support.
  - Contract expires January 2016

DUF_6 Contractor

B&W conversion services, llc

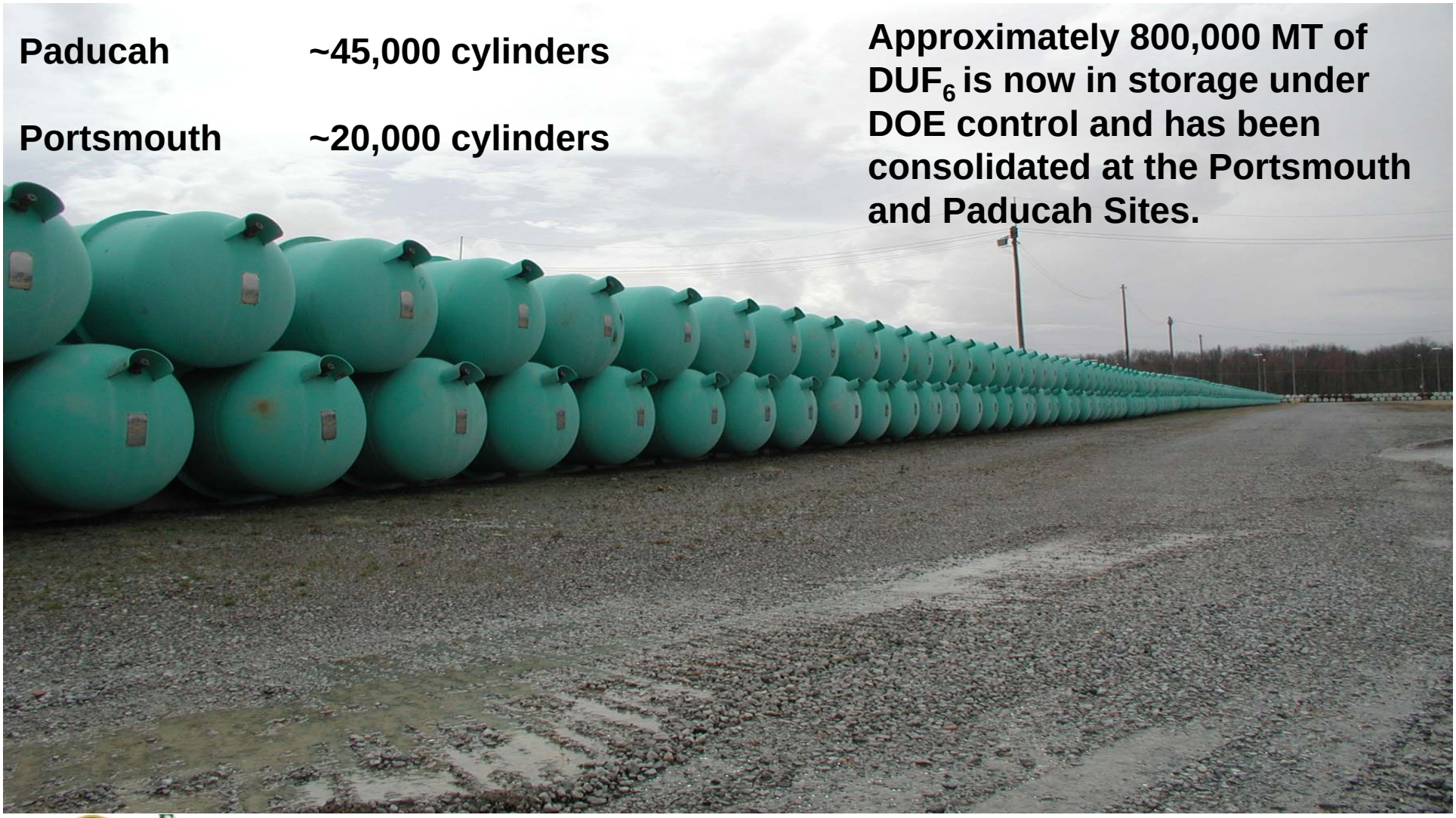
- BWCS operates the DUF_6 conversion plant, which converts depleted uranium hexafluoride into oxide for reuse or disposal and hydrofluoric acid for reuse in commerce.

Contract expires: Jan. 1, 2016

EM Environmental Management

Group

Depleted Uranium Hexafluoride – DUF_6



Paducah	**~45,000 cylinders**
Portsmouth	**~20,000 cylinders**

Approximately 800,000 MT of DUF_6 is now in storage under DOE control and has been consolidated at the Portsmouth and Paducah Sites.

DUF_6 Project Challenges

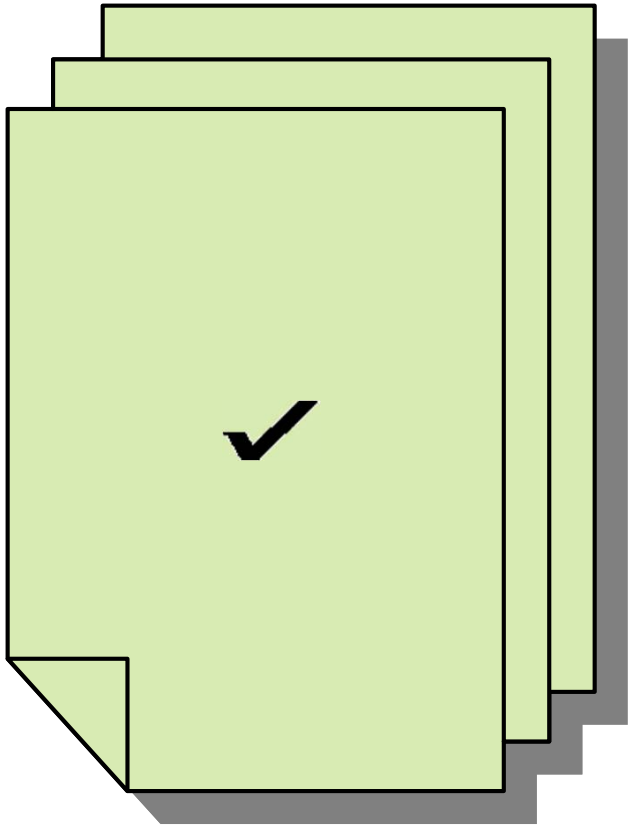
- Oxide material transfer
- Cylinder movement and storage logistics
- Determining reliability of parts and equipment for long term operations:
  - Blowers
  - Hydrogen Generation Modules
  - Oxide transfer components

Status of QA Program Implementation

- PPPO Field Office
  - QAP Revised 10/3/2013
  - EM-43 Audit Completed 11/08/2013
  - Procedure update in progress

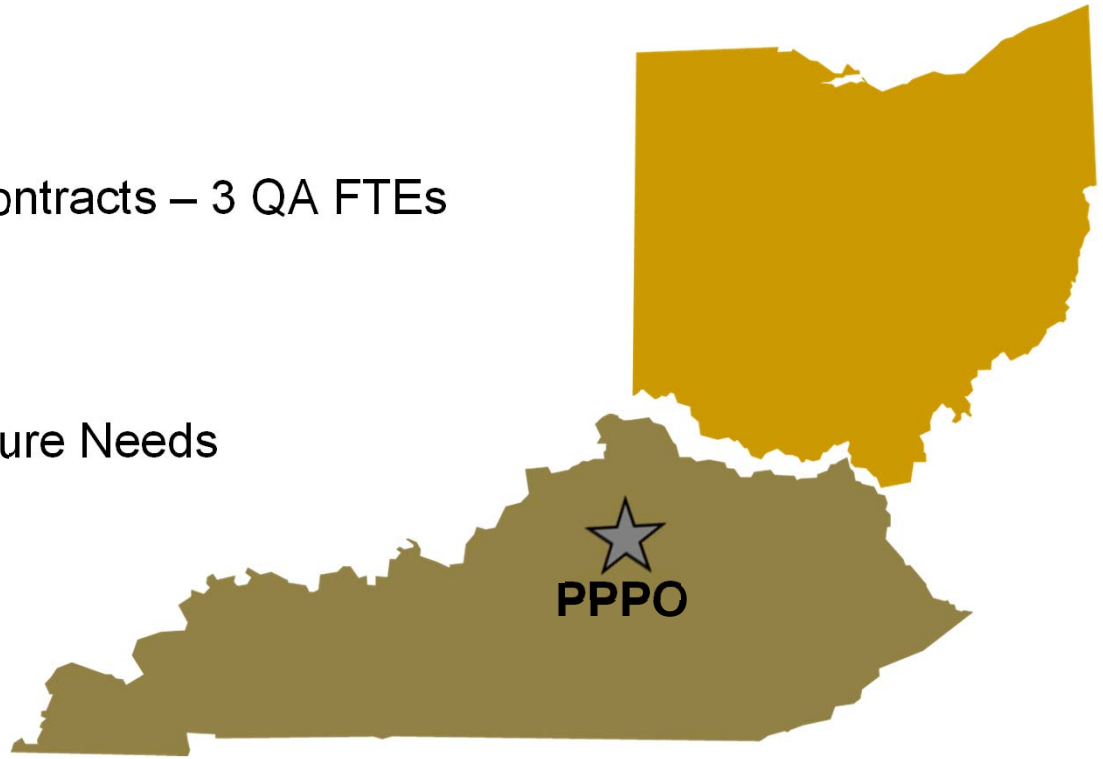
Status of QA Program Implementation (cont.)

- Prime Contractors
  - All QAPs updated and approved
  - Verification Audits Completed
    - PORTS June 3-6, 2013
    - PAD June 24-28, 2013
    - DUF6 August 26-30, 2013



QA Resources Evaluation

- PPPO Field Office
  - .7 QA FTE
  - Support Service Contracts – 3 QA FTEs
  - Current Needs
    - 2 QA FTEs Future Needs



QA Resources Evaluation

- Prime Contractors
  - PORTS
    - FBP
      - QA 5 FTEs
      - Performance Assurance 6 FTEs
      - QA/QC Field 17 FTEs
    - WEMS
      - QA 4 FTEs

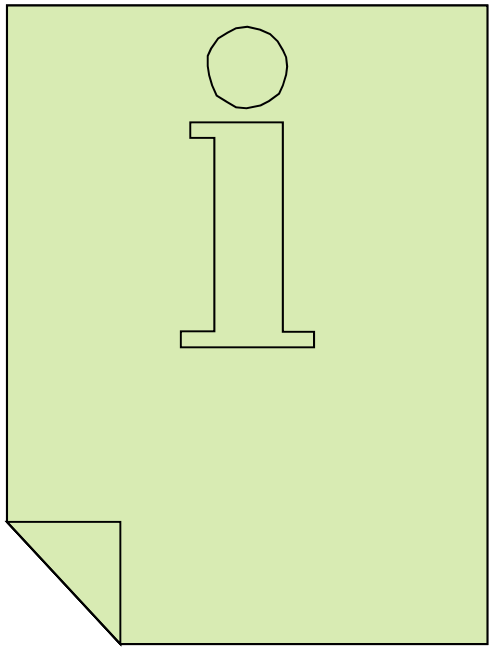
QA Resources Evaluation

- Prime Contractors
  - PAD
    - LATA KY
      - QA 5 FTEs
    - SST
      - QA 3 FTEs

QA Resources Evaluation

- Prime Contractors
  - DUF6
    - QA 11 FTEs
    - QA/QC 4 FTEs

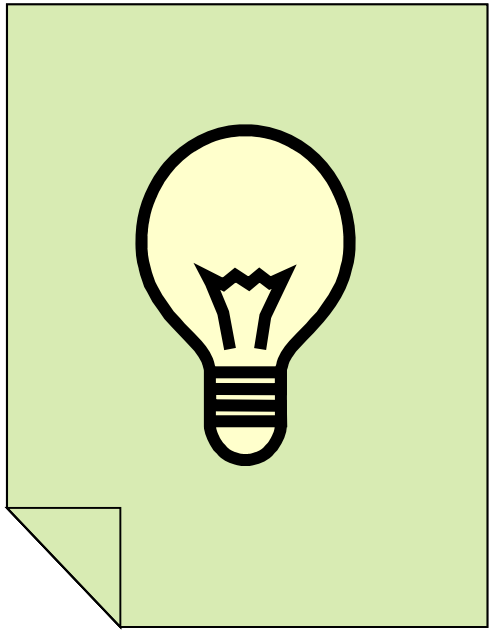
Top Issues in QA Affecting the Site



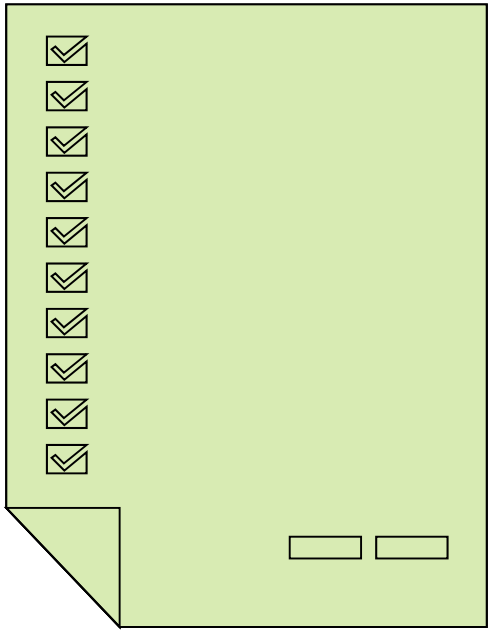
- Issue #1
  - Clearer direction of expectation of QA program for Category 3 facilities
- How can the EM QA Corporate Board help with this issue?
  - Guidance on above

Top Lessons Learned in Quality from the Site

- Lessons Learned #1
  - Sharing of information between sites is benefitting PPPO.
- How the Corporate Board Members can benefit from the experience
  - Examples of benchmark programs or elements would be helpful

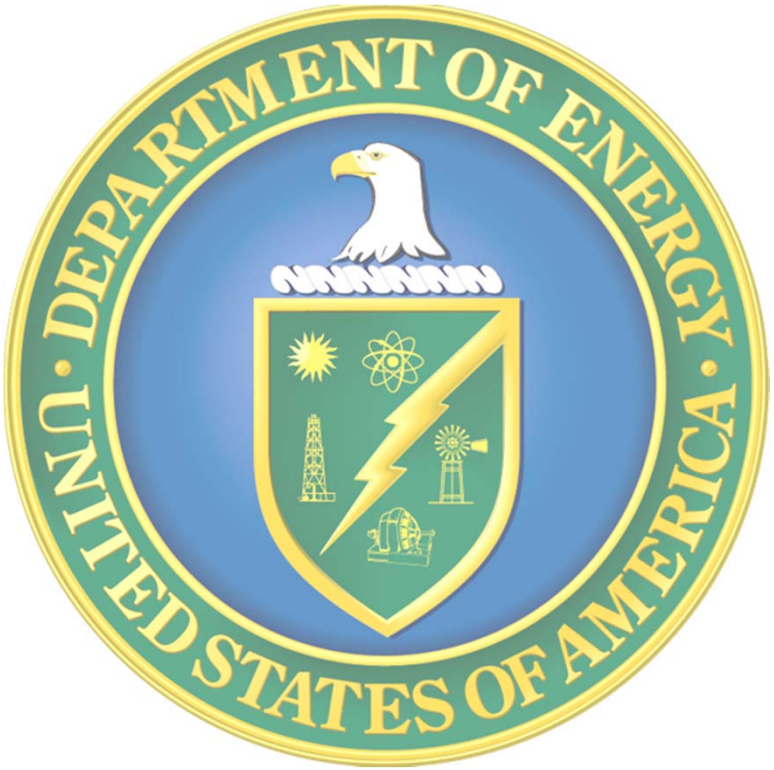


What does the site expect/need from the Corporate Board?



- Need #1
  - Understand DOE relationships with other QA orgs (e.g., ASQ, NARA, etc.)
- Need #2
  - Flexibility based on graded approach and understanding resources are limited and one size does not fit all.

Conclusions/Questions



Questions

FCOG

Energy Facility Contractors Group

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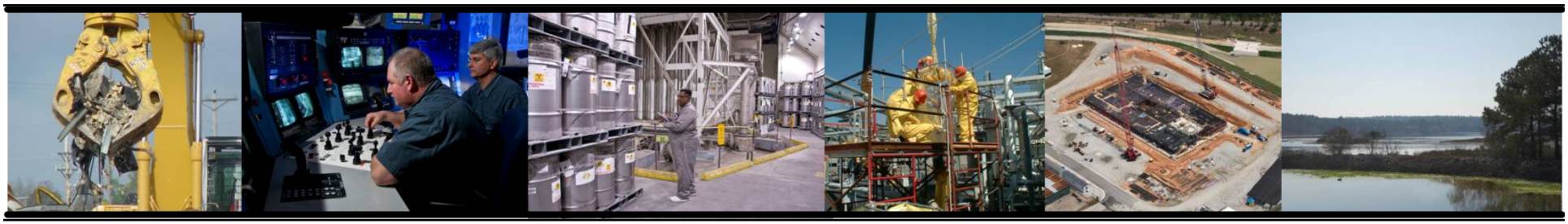

13th EM QA Corporate Board Meeting

Nevada Test Site

Idaho Cleanup Project

Greg Hayward, Ph.D., Quality Assurance Specialist
DOE-ID

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG
Energy Facility Contractors Group

Outline

- Current Major QA Efforts at the Site
- Status of QA Program Implementation
- QA Resources Evaluation (FTEs and dollars)
- Top Issues in QA Affecting the Site
- Top Lessons Learned in Quality from the Site
- What does the site expect/need from the Corporate Board?
- Conclusions/Questions

Current Major Efforts at the Site

- Advanced Mixed Waste Treatment Project
- Current Status
  - On going treatment and packaging of mixed waste for shipment to Carlsbad and Nevada.

Current Major Efforts at the Site

- Idaho Cleanup Project
  - Current Status
    - RWMC
    - IWTU
    - Sodium Distillation
    - D&D

Status of QA Program Implementation

- Federal Office
  - EM-QA-001 Revision 1 Implementation
    - DOE ID has implemented EM-QA-001
  - Variance or extension requests
    - None

Status of QA Program Implementation (cont.)

- Prime Contractors
  - EM-QA-001 Revision 1 Implementation
    - CWI implemented
    - ITG implemented with last revision

QA Resources Evaluation

- DOE-ID
  - Numbers of QA Specialists: 3
  - Level of support dollars provided to the QA organization in FY-13 and FY-14.
  - Current Needs both in FTEs and support dollars
    - 2 QA Specialists
  - How needed numbers are determined
    - Installing and Startup of Sodium Distillation
    - ARP
    - Spent Nuclear Fuel
    - IWTU (Sodium Bearing Waste)
    - D&D
    - Additional Oversight of AMWTP
    - Advanced Test Reactor
    - INL Labs

QA Resources Evaluation

- ITG
  - **Current staff:**

    6 QA Engineers, 2 QA Technical Specialists, 2.5 CAS Specialists
  - **Staff as of January 2014:**

    7 QA Engineers, 3 QA Technical Specialists, 2.5 CAS Specialists
  - How numbers are determined
  - Current Needs
    - Staffing levels will be current will be full as of January 2014

QA Resources Evaluation

- CWI
  - Current Staff
    - 2 Managers
    - 8 QEs
    - 5 QIs
  - How numbers are determined
    - CWI looks at the planned work for the fiscal year and determines the resources needed. The project managers and the support organizations, including QA provide input to the budget based on the planned work.
    - QA has overhead costs that are managed by the QA organization. Those costs include qualification and re-qualifications of inspectors, Level III support for those qualifications, qualifications of the Level III support subcontractor, and maintenance of the QA program manual and associated procedures.
  - Current Needs
    - Fully staffed

QA Resources Evaluation

- ITG
  - Current Staff
    - 1 Manager
    - 6 QA Engineers
    - 2 QA Technical Specialists
    - 2.5 CAS Specialists
  - How numbers are determined
    - Staff numbers are determined based on FY schedule of work
  - Current Needs
    - 1 QA Engineer to start in January
    - 1. QA Technical Specialist to start mid/end of December

Top Issues in QA Affecting the Site

- Issue #1 ICP
  - IWTU Start up and Commissioning
- How can the EM QA Corporate Board help with this issue?
  - No help needed at this point but during heat up and surrogate testing (TI-102) maybe. Need to see how testing goes in the interim. (Fed request)

Top Issues in QA Affecting the Site (cont.)

- Issue #2
  - Software Testing of DCS and RSS system

- How can the EM QA Corporate Board help with this issue?
  - None at this point

Top Issues in QA Affecting the Site

- Issue #1 AMWTP
  - 1. More routine surveillances of operations
- How can the EM QA Corporate Board help with this issue?
  - EM-23 has assisted twice this year on Federal oversight. Additional contractor staffing will help.

Top Issues in QA Affecting the Site

Issue #1 AMWTP

1. Interface Agreements

How can the EM QA Corporate Board help with this issue?

No assistance needed at this time.

Top Lessons Learned in Quality from the Site

- Lessons Learned #1
  - Vendor qualification and surveillances
- Lessons Learned #2
  - Corrective action management
- How the Corporate Board Members can benefit from the experience
  - Keep E FCOG active and sharing

What does the site expect/need from the Corporate Board?

- Need #1
  - Keep up the helpful assist visits
- Need #2
  - Mentoring and coaching through assist visits and coaching

Conclusions/Questions

- Any specifics you would like to emphasize
  - None at this point
- Discussion points
  - Corporate Board as both mentors and coaches for both contractor and Fed QA staffs
- Questions

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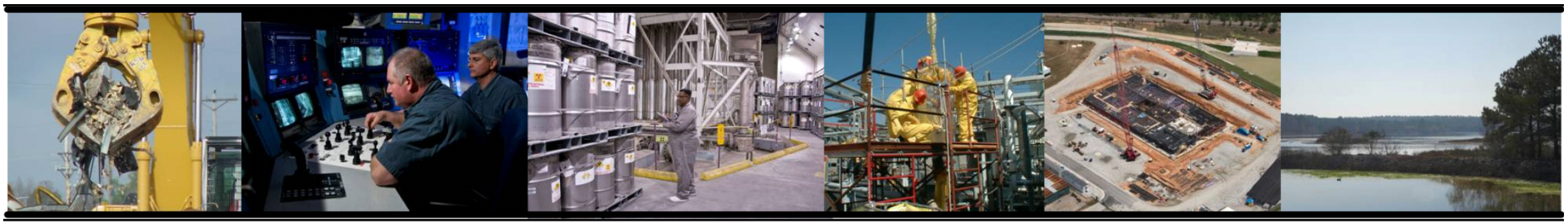

13th EM QA Corporate Board Meeting

Nevada Field Office

Carlsbad Field Office

Jose Franco, Manager
Carlsbad Field Office

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG
Energy Facility Contractors Group

Outline

- Current Major QA Efforts at the Site
- Status of QA Program Implementation
- QA Resources Evaluation (FTEs and dollars)
- Top Issues in QA Affecting the Site
- Top Lessons Learned in Quality from the Site
- What does the site expect/need from the Corporate Board?
- Conclusions/Questions

Current Major Efforts at the Site

- Maintaining QA program to allow continued shipment of TRU waste to WIPP; highly monitored program by US and State regulatory agencies.
  - Enhancing CBFO QA Resources – Implementing Technical Qualification Program and replacing Director of the Office of QA
  - Updating and streamlining internal document control, oversight/assessment, and issues management processes
  - Implementation of Lean Six Sigma Green Belt (LSSGB) Program to improve efficiencies and reduce costs
  - M&O QA staff is an integral piece of the Central Procurement Process for providing equipment (e.g., Standard Waste Boxes, Pipe Overpacks, Ten Drum Overpacks, Standard Large Box II) to the generator sites
- Current Status – Program fully implemented with improvements underway. First LSSGB class with projects completed this fall.

Status of QA Program Implementation

- Federal Office
  - EM-QA-001 Revision 1 Implementation – Not Applicable to WIPP
    - In October of 2012 CBFO received an exemption from implementation of EM NQA-1 2004/2007 Quality Assurance Program. The exemption was based on review of the CBFO Quality Assurance Program Document. Additionally it was noted in the exemption that the WIPP QA Program is under the primary regulatory purview of the Environmental Protection Agency as specified by Title 40 Code of Federal Regulations Part 91, *Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*, and Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with 40 CFR Part 191 Disposal Regulations*.
    - In revision 1 of EM-QA-001 Section 3.0 *Applicability* states: "EM has completed the required review and concluded that the differences in the standard do not result in any additional risks to the quality of EM work, products or services..
    - The July 27, 2012 EM-QA-001 Rev. 1 implementation memo from Tracy P. Mustin states: "…previously approved variances …..remains acceptable"

Status of QA Program Implementation (cont.)

- Prime Contractors
  - EM-QA-001 Revision 1 Implementation
    - EM-QA-001 Revision 1 states, "…any projects that have an existing approved variance may continue to operated under that variance approval and no additional submittal is required."
    - NWP has completed a QA Implementation Plan to verify a cross-walk of requirements between EM-QA-001, Revision 1 and the M&O's QAPD

QA Resources Evaluation

- Federal Office
  - Director GS-1910-15
  - Two Sr QA Specialists GS-1910-14
  - One QA Specialist GS-1910-9 (Vacant)
  - Carlsbad Technical Assistance Contractor (CTAC) is provided approximately $4m annually to provide QA and technical support including audits of generator sites
  - Contract support is sufficient however additional Federal Staff (2) is needed
  - Requirements were determined based on experience and site requirements

QA Resources Evaluation

- Prime Contractors (NWP Only)
  - General discussion of how needed quality numbers are determined
    - Critical activities are identified within the NWP QA Program areas (assessments (internal and external), plant inspections, procurements, source inspections, data package reviews, etc.)
    - Estimates for resource needs based on history and strategic planning are discussed and approved by CBFO QA staff
    - M&O Contractor has an internal QA staff of 28 plus 2 additional staff supported by the generator sites
    - Peak activities may be covered through the use of subcontract support (auditors or inspectors)
  - Current Needs
    - Contractor has an aging QA workforce and seasoned applicants for new positions are scarce (NQA-1 or 10 CFR Part 71)
    - Software QA experience is especially hard to find
    - Hard to get qualified applicants that may be found to come to a remote location like Carlsbad

Top Issues in QA Affecting the Site

- Issue:
  - Identify a pool of qualified applicants to staff available/potential position vacancies
- How can the EM QA Corporate Board help with this issue?
  - Sponsor/support a training program to provide a pool of QA generalists that could be recruited at various sites
    - Site specific QA knowledge/training would be provided by each individual site

Top Lessons Learned in Quality from the Site

- Lessons Learned
  - Initiate an Issues Management Process that covers a full range of issues, from minor process improvements to significant conditions adverse to quality
    - Since the WIPP Form process was initiated at the WIPP Site, issues identified/documented have more than tripled, indicating a positive trend in reporting
    - DOE utilizes a separate system, Issue Collection and Evaluation System (ICE) to track and manage issues (presently being implemented)
- How the Corporate Board Members can benefit from the experience
  - When all employees feel empowered to document their issues, they become part of the process: Identifying/documenting smaller issues helps to prevent larger, more significant issues
  - WIPP is willing to share software and procedures as requested

What does the site expect/need from the Corporate Board?

- Need #1
  - Benchmark for staff resources (Federal and Contractor)
- Need #2
  - Clearinghouse for QA representatives across the complex

Conclusions/Questions

- CBFO QA program mandated by State and Federal requirements – high visibility
- Hope to become major training facility for QA staff
- Questions

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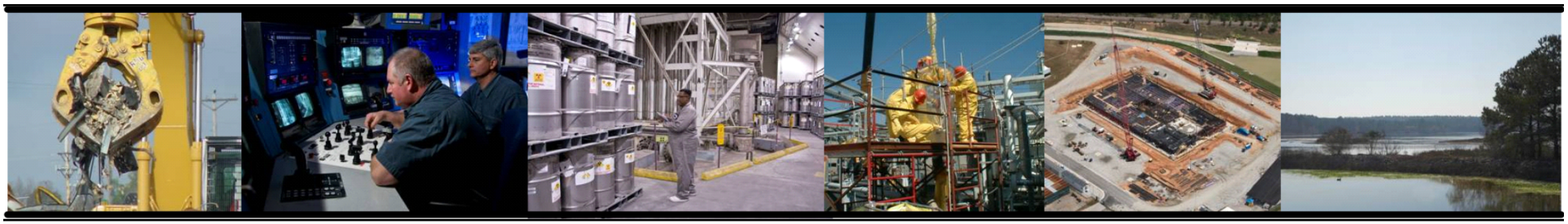


13th EM QA Corporate Board Meeting

Nevada Test Site

EMCBC and EM Small Sites

Ken Armstrong,
ESH&Q Team Lead
EMCBC

December 02, 2013

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

FCOG *Energy Facility Contractors Group*

Outline

- Current Major QA Efforts at the Sites
- Status of QA Program Implementation
- QA Resources Evaluation (FTEs and dollars)
- Top Issues in QA Affecting the Sites
- Top Lessons Learned in Quality from the Sites
- What do the sites expect/need from the Corporate Board?
- Conclusions/Questions

Current Major Efforts at the Sites

- Major QA projects
- Current Status
  - **EMCBC** is upgrading DOE procedures and processes for EM-QA-001, Revision 1, implementation for all projects.
  - **ETEC Project** currently has no major QA efforts ongoing.
  - **Moab UMTRA** Project currently has no major QA efforts ongoing.
  - **SPRU Project** currently has no major QA efforts ongoing.
  - **WVDP** – HLW Storage Pad Construction, Multi-purpose Canister Construction, and Vertical Storage Cask Construction.

Status of QA Program Implementation

- EMCBC SMALL SITES – DOE OFFICES

Site/DOE	DOE O 414.1D and EM-QA-001 Revision 1 Implementation	Variance or extension requests
EMCBC	Conditional	None
ETEC	Conditional	None
Moab	Approved	None
SPRU	Conditional	None
WVDP	Approved	None

Status of QA Program Implementation

- EMCBC SMALL SITES – CONTRACTORS

Site/Contractor	DOE O 414.1D and EM-QA-001 Revision 1 Implementation	Variance or extension requests
ETEC/Boeing	Approved	Variance
ETEC/CDM	Conditional	None
Moab/RAC	Approved	None
Moab/TAC	Approved	None
SPRU/URS	Rejected Under Revision	None
WVDP/CHBWV	Approved	None

QA Resources Evaluation

- EMCBC SMALL SITES – DOE OFFICES

Site	QA	QE	QC	Support $	Needed FTE
EMCBC	1	1.25	0	$0	0
ETEC	0[1]	0	0	$0	0
Moab	1	0	0	$0	0
SPRU	0[1]	0	0	$0	0
WVDP	1[2]	0	0	$170K	0

  - Numbers were determined by actual FTE's

1 Support provided by EMCBC QA personnel

2 Support provided by support contractor

QA Resources Evaluation

- Prime Contractors
  - General discussion of how needed quality numbers are determined

Site/Contractor	QA	QE	QC	Needed FTE
ETEC/Boeing	0.25	0	0	0
ETEC/CDM	0.25	0	0.5	0
Moab/RAC	1	0	3	0
Moab/TAC	1.5	0	0	0
SPRU/URS	2	0	0.5	0
WVDP/CHBWV	2	2	2	0

Top Issues in QA Affecting the Sites

- Issue #1
  - Uncertainty with respect to management of HLW due to lack of repository (WVDP).
- How can the EM QA Corporate Board help with this issue?
  - Ensure repository activities follow a structured approach consistent with applicable QA protocols.

Top Issues in QA Affecting the Sites (cont.)

- Issue #2
  - Future QA initiatives (WVDP).
- How can the EM QA Corporate Board help with this issue?
  - EM QA Corporate Board should serve as a small sites advocate for QA initiatives.

Top Lessons Learned in Quality from the Sites

- Lessons Learned #1 - LBNL Old Town Project Radiological Instrumentation Calibrations
  - Radiological instrumentation calibrations performed by instrument manufacturers and calibration laboratories may not meet current ANSI specifications and therefore may not be suitable for use in MARSSIM-based final status surveys (FSS). Contractors should verify that the calibration of instruments used in FSS conforms to ANSI N323A-1997, which specifies that calibration standards shall be maintained through an ongoing measurement QA program. One of three laboratories was found to maintain its standards as secondary standards under a QA program. This program requires recertification of its standards every three years, exceeding the minimum requirements of ANSI N323A-1997.
  - How the Corporate Board Members can benefit from the experience
  - Awareness of the issue and potential disseminate to remediation sites

Top Lessons Learned in Quality from the Sites

- Lessons Learned #2 – Moab Cell Construction Documentation
  - A Completion Report documenting construction of the disposal cell at Crescent Junction must be approved by the U.S. Nuclear Regulatory Commission (NRC) before NRC will include the cell under its general license. Because of the long period of construction by multiple remediation contractors, DOE-GJ prepared Interim Completion Reports covering 1- to 3-year periods to ensure complete and proper documentation, therefore reducing the risk of potential quality issues through early detection. Previous UMTRA disposal cells were constructed in less than 5 years, so documentation was less cumbersome than the anticipated 15-plus years to complete the Crescent Junction cell.
- How the Corporate Board Members can benefit from the experience
  - Awareness of the issue and potential disseminate to remediation and UMTRA sites

Top Lessons Learned in Quality from the Sites

- Lessons Learned #3 – Moab Open Container Tailgate
  - During a morning train inspection at the Moab site, a tailgate on an empty shipping container was found open. The container had traveled from Crescent Junction to Moab the day prior. A small amount of material found on the railcar cross member was determined to be less than release limits. The container tailgate was found to be functioning properly; however, it was determined that the tailgate could have appeared locked, if the inspector were to look at only the fingers and the J-Hooks, even if the locking mechanism (cam) was not fully engaged.
- How the Corporate Board Members can benefit from the experience
  - Personnel should be trained on inspection processes that specifically includes visual inspection all lock mechanism. Inspection processes need to emphasize questioning attitude. This same issue applies to other lessons learned such as scaffolding incidents.

Top Lessons Learned in Quality from the Sites

- Lessons Learned #5 – SPRU Review of Structural Calculations
  - A review of structural calculations by an independent support contractor revealed errors in the prime contractor's calculations. A subsequent internal investigation showed that the prime contractor's QA program for engineering, which included independent review of those calculations, was not functioning and additional errors were found.
- How the Corporate Board Members can benefit from the experience
  - Highly specialized expertise is required to uncover program weaknesses that compromise quality and safety.

What do the sites expect/need from the Corporate Board?

- Need #1
  - Need Subject Matter Expert (SME) support for site-specific “task level” efforts (WVDP and SPRU). Corporate Board may be able to assist in identification of SMEs.
- Need #2
  - WVDP is waiting on the policy decision to rescind WAPS Revision 3 which may impact container compliance. Assistance from the QA Corporate Board in this decision would be appreciated. (WVDP)
- Need #3
  - Consistent Suspect/Counterfeit Items (S/CI) Training and Identification Program (EMCBC).

Conclusions/Questions

- Questions?

Wrap-Up/Action Items

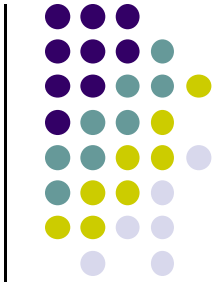
Joint EFCOG - PMC / QA Working Group

DOT Type A (and below) Rad Packaging QA Requirements

Vince Grosso, Chair, WRPS, Hanford
Ashok Kapoor, DOE Sponsor
Mark Bowers, Co Chair, SRNS
Ron Natali, Co Chair, PMC

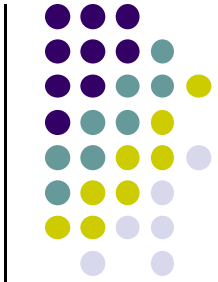
December 2, 2013
EM QA Corporate Board 2013 – NNSS, Nevada

ASME NQA-1 Requirements – Basic 100 to Full Part 1



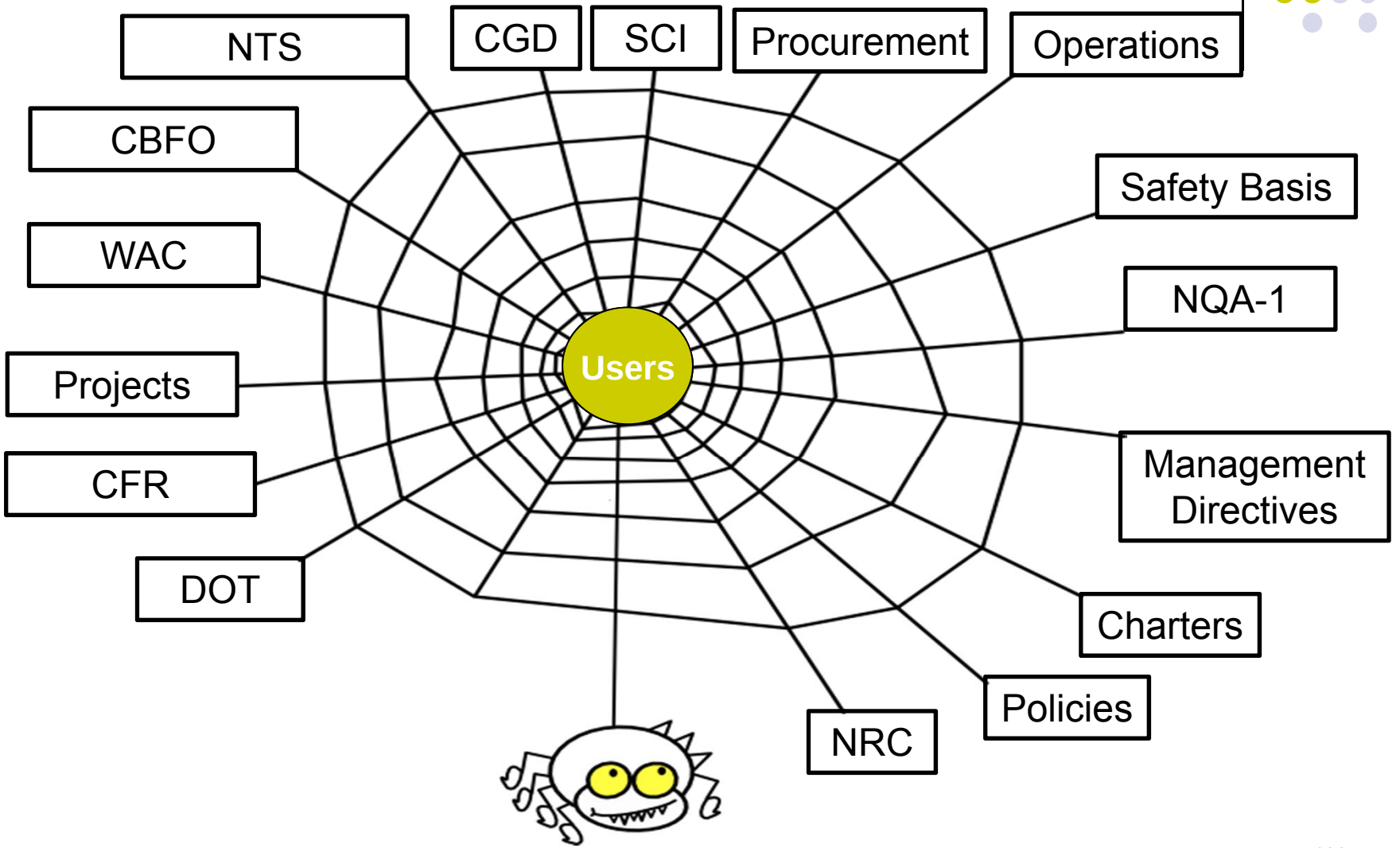
- Previous paradigm for DOE Contractor to Supplier flow-down of QA Program requirements was ASME NQA-1 Part 1 Section 100, "Basic"
  - *Basic 100* paragraphs a summary or "what to do"
  - Use of supplemental Part 1 "how to" paragraphs was not mandated
  - Suppliers used varying [NQA-1] QA program strategies and alternate standards (e.g., ISO based) for program and associated controls and still aligned with the Basic 100 requirements
- 2011 – 2012 DOE Contractors began a transition to flow-down all of NQA-1, Part 1 requirements (basic and supplemental)
  - DOE sites impacted by ASME Committee/DNFSB Letter of Interpretation (March, 2012)
  - Suppliers with the NQA-1 basic QA program were no longer aligned with the additional requirements. They either had to modify there QA program or they were no longer "NQA-1 qualified"

Challenges with NQA-1 as a basis for Packaging Supplier QA

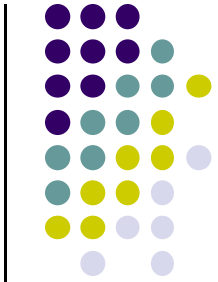


- NQA-1 developed for nuclear facilities and facility SSCs; not always a good fit for transportation packaging manufacture
- Transportation activities (includes packaging) are excluded from 10CFR Part 830 (per 830.2(c)) for work on nuclear facilities
- DOE Order 414.1D allows QA program standards other than NQA-1 for 7A Type A (and below) packaging; Contractor QA programs may or may not permit this flexibility
- For commercial grade packaging, NQA-1 Commercial Grade Item definitions are not an exact fit
- Many suppliers are small businesses with limited products, processes and resources; full NQA-1 Part 1 often proves difficult and cost prohibitive to implement and maintain

Why the Confusion?

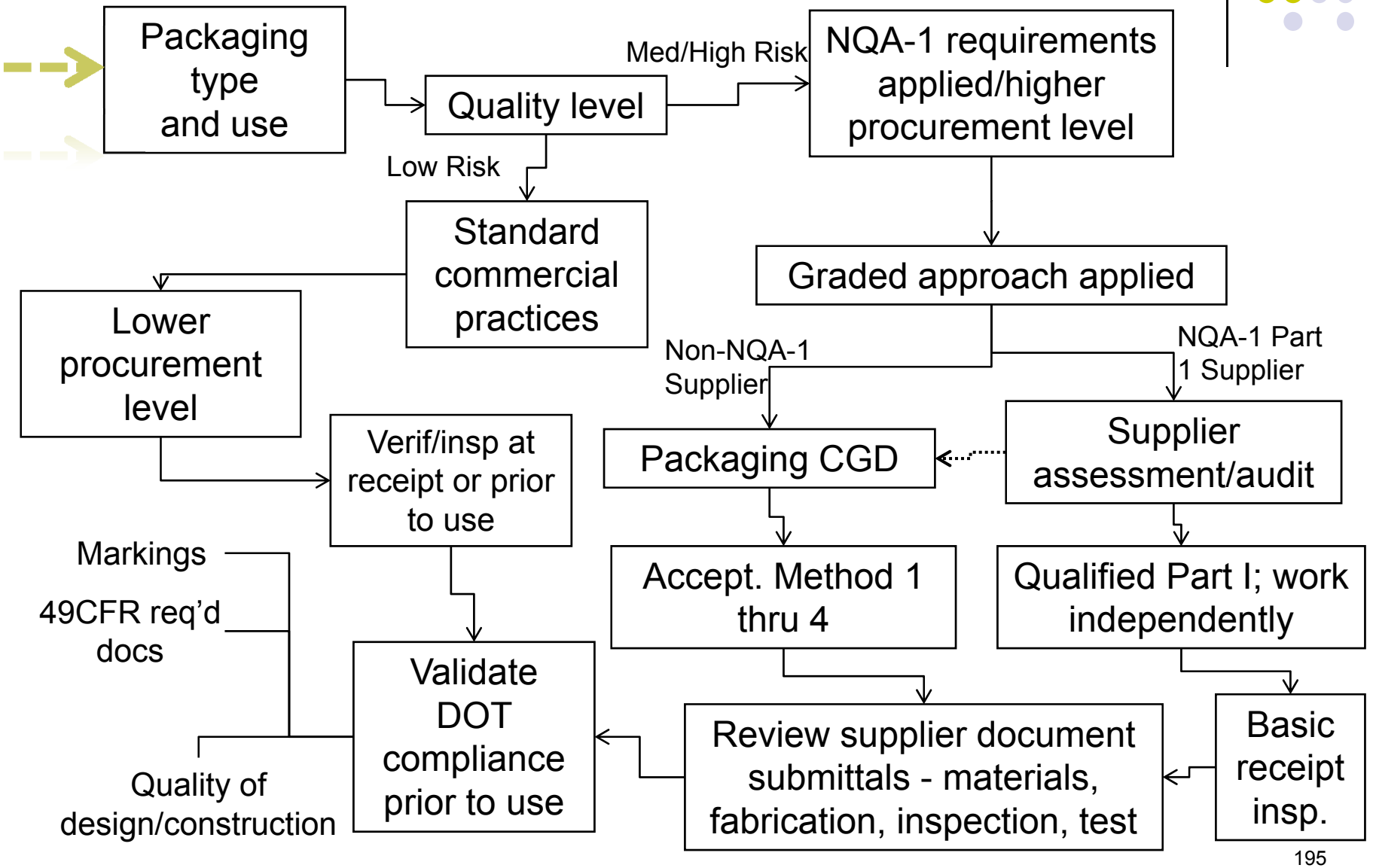


Joint EFCOG - PMC / QA Working Group Origin, Membership & Meetings

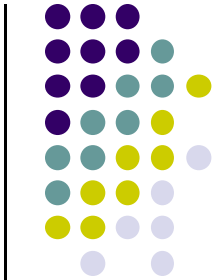


- Group formed October, 2012 as part of the EFCOG Supply Chain Quality group
- Approximately 40 members consisting of:
  - Contractors – Prime & Subs
    - Packaging & Transportation, QA, Nuclear Safety, Procurement
  - Federal – HQ, HSS, EM, Science, and NNSA
  - Continue to add members & users
- Use webex, conference calls, & Video Conferences
  - Development sessions in P&T, QA, & Nuclear Safety
  - Formed two Technical working sub groups
    - Commercial Grade Dedication – Mark Bowers, Lead
    - Graded Approach – Ron Natali, Lead

Packaging Procurement Chart of Applying QA Controls

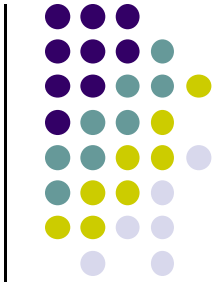


EFCOG/PMC Working Group Progress



- Commercial item procurement of 7A Type A Drums document set (*strawman for complex*) was distributed for review/comment October, 2012
- Multiple video-conferences, informal training and webinars conducted to enlighten working group team members on subject matter and foster dialog over challenges and solutions
- Task description and guidance document in draft form
- Subgroup teams formed for two complimentary tasks and subsequent deliverables
  1. Strategy and good practices for a graded approach to the supplier flow-down of NQA-1 Part 1 requirements (*Ron Natali, Team Lead*)
  2. Strategy and good practices for use of NQA-1 Commercial Item procurement tools including methods aligned with Commercial Grade Dedication from NQA-1 Part II, Subpart 2.14 (*Mark Bowers, Team Lead*)

Practical Use of EFCOG/PMC Working Group Deliverables



- Development of a DOE Complex-wide guidance document
- Make available to DOE sites and Contractors for use
- Incorporate into the DOE-EM 33 Office of Packaging and Transportation, DOE Complex 55 Gallon Drum Specification and two (2) Low-level Waste Box Specifications
  - Drum specification developed/issued circa 2000
  - Box specifications developed/issued circa 2005
  - All specifications currently under revision; on hold pending the graded approach and commercial grade item guidance document deliverables
- Enhancement/further development of training for Commercial Grade Item Procurement/Commercial Grade Packaging Dedication (all Packaging Types)
  - Reference: Commercial Grade Training Course (for Type B Packaging) conducted at DOE HQ, Germantown Sept., 2013

Questions/Comments