



Briefing to Environmental Management Advisory Board

Update on EM Corporate Quality Assurance Issues

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Briefing Overview



- EM-20 function and corporate role
- High priority QA corporate issues
- Actions to improve project performance



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EM-20 Overview

The mission of the Office of Safety & Security Program, EM-20, is to manage DOE/EM-wide Integrated Safety Management (ISM) implementation oversight activities, the Defense Nuclear Facilities Safety Board (DNFSB) recommendations and issues, standards assurance for major project planning and execution, operational safety and awareness programs, quality assurance programs. The Office manages the safeguards and security and emergency management activities for EM.

■ EM-20 Management Team

- **Safety Management, EM-21, Dr. Chuan-Fu Wu**
 - Responsible for ensuring proper implementation and continuous improvement of ISMS in the EM complex and to serve as a focal point for EM safety standards and policy development, interpretation, and interfaces with internal/external oversight organizations, including DNFSB .
- **Safety Operations Assurance, EM-22, Dr. Robert Goldsmith**
 - Responsible for determining the effectiveness of safety and health oversight programs and management systems, such as operational awareness activities, conduct of operations, work planning and execution, and assessments; also, providing day-to-day awareness of operational safety issues, EM sites, and helps ensure timely identification and correction of deficient safety conditions.
- **Standards & Quality Assurance, EM-23, Mr. Bob Murray**
 - Responsible for ensuring that the necessary technical, and quality requirements and standards are properly identified and adequately implemented for all line-item, EM capital projects and major operating projects and facilities in a timely and technically defensible manner.
- **Safeguards & Security, EM-24, Mr. Karl Goodwin**
 - Responsible for developing and overseeing the implementation of policy and guidance with respect to safeguards, security, and emergency management.



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EM-20 Corporate Role

- Corporate resource to advance safe execution of EM mission
 - Build on and leverage partnership with the Field, Federal Project Directors, and Contractor community
 - Serve as EM-HQ advocate to address institutional and generic safety, health, quality assurance, and security issues impacting EM projects
 - Work in cooperation with Field management to address major site-specific safety, health, quality assurance and security issues

- Balanced and Risk-informed Operational Approach--- *Awareness, Assessment, Assistance*
 - Assist the Field to achieve mission success
 - Contribute to the achievement of mission outcomes and be accountable for the quality, timeliness, and efficiency of its efforts, products, and support to the Field
 - Assessment efforts and assistance provided to the Field are not intended to displace or supersede the authority, or accountability, of Field Managers for the performance of their mission





Overarching QA Objectives

- Establish an organizational culture that embraces quality in day-to-day execution of EM Mission
- Ensure early and effective integration of QA throughout project lifecycle— Procurement, Design, Engineering, Construction, Operation, and Post-operational D&D and Environmental Restoration



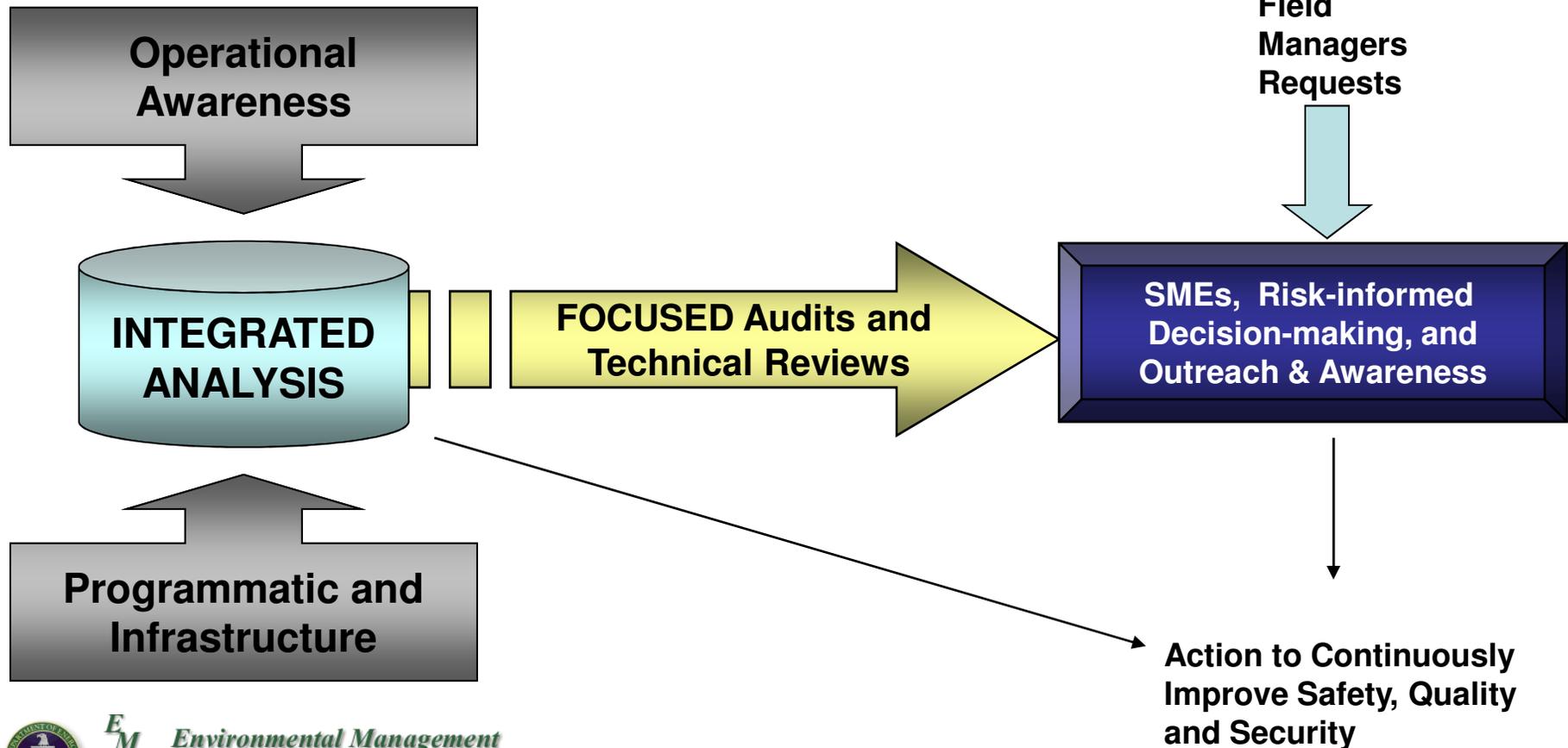


Implementation Strategy

Awareness

Assessment

Assistance





High Priority Corporate QA Issues

- American Recovery and Reinvestment Act (ARRA) projects
- Construction/Capital Projects
- Generic Quality Assurance Issues Impacting EM Projects
 - Commercial grade dedication (CGD)
 - Application of graded approach
 - Procurement/Flow down
 - Monitoring of vendors and subcontractors performance
 - Capacity and adequacy of available QA expertise and NQA-1 qualified vendors
- Work Planning and Control





ARRA Projects

- Unprecedented opportunity to accelerate cleanup activities
 - Reduce EM sites footprint, risk and future costs
 - Generate meaningful jobs for over 12,000 workers
- EM senior management expectation to ensure ARRA work surge is planned and conducted to meet the high safety standards and performance expected within EM.
 - Safety/Security must be integral and robust from the beginning of this effort.
- EM-20 developed and implemented Project Safety Oversight Plan and Recovery Act Readiness Evaluation (RARE) process.
 - Site-wide programs and processes in place, however, not sufficient to guarantee safe implementation of work .
 - Requires increased Field oversight and focus on direct observation of work.
- EM-20 QA assessment of ARRA funded projects is an integral part of its corporate QA oversight program
 - Key priority factor in developing annual QA assessment schedule





Capital/Construction Projects

- Focus on EM capital projects:
 - DUF₆, SRS Pit Disassembly and Conversion Facility and the Plutonium Preparation Project, WTP, SWPF, OR U-233 Disposition (Building 3019), K-Basin, IWTU
- Continued QA issues associated with:
 - Commercial grade dedication (CGD), vendors
 - Adequacy of QA expertise and staffing
 - Integrated Project Teams (IPTs)
 - Activity level: work planning, procedures, and execution
 - Integration of QA in design and construction activities





Capital/Construction Projects (Cont'd)

- EM-20 supports QA portion of EM-10 led construction project reviews (CPRs) to validate project readiness to proceed to the next project phase
 - Review of project development and execution at each Critical Decision (CD) phase
 - Verify that project progress and performance is consistent with agreed upon contract terms and conditions, project specifications, ESH&Q requirements, budget and schedule

- EM-20 supports the field in QA assessment of vendors and subcontractors involved in major construction projects
 - Review of commercial grade dedication (CGD) practices
 - Management of suspect/counterfeit items (S/CI) issues
 - Flow down of requirements





Commercial Grade Dedication

- Commercial Grade Dedication (CGD) is performed to establish the acceptability of an item to perform its safety function.
- Due to current nuclear market realities, there is greater reliance for EM capital projects (construction and operation) on the procurement of components either through alternative suppliers or by purchasing commercial grade items and dedicating them for safety-related use.
- Critical for all EM projects within EM to assess their own vendors and suppliers for how CGD is currently being defined and implemented.
- EM-2 memorandum dated October 6, 2009
 - An evaluation of CGD practices and actions should be conducted across the entire scope of construction and operational projects at EM sites, from prime contractors to vendors, to suppliers and their sub-tier suppliers, with first a focus on construction projects that are procuring items and materials for nuclear grade applications
 - EM-wide extent of the issue is currently being fully characterized
 - EM-wide site-specific self-assessments are ongoing





Cross Cutting QA Issues

- Extent of cross-cutting QA issues such as
 - Suspect/counterfeit items (S/CI),
 - Consistent procurement requirements,
 - Flow down of requirements,
 - Monitoring of Subcontractor/vendors
 - Varies from site-to-site
 - Continues to be observed as part of QA assessments and assist visits
 - Attributed to, in most instances, weak procedures and implementation practices

- The crosscutting QA issues continue to be a major focus of EM-20 special emphasis program
 - QA reviews and assessments
 - Specialized training and assist visits





Site-Specific QAP/QIP

- Implementation of site-specific QAPs/QIPs-
 - All sites have developed and submitted to HQ for review and approval
 - Phase 1 review completed by EM-23
 - Phase 2 Verification & Validation will be completed in FY 2010
 - Consistent review protocol developed by EM-20
 - Self-Assessment led by Field with assistance from EM-20





Status of Corrective Action Plan Commitments

- Follow thru on agreed upon QA corrective action commitments
 - Lack of real-time status data
 - Weak root cause analysis in formulation of CAPs
 - Poor history of effectiveness review
- EM-20 action to leverage web-based tools and information management systems to enhance operational awareness





QA Corporate Board Update

- 6th QA Corporate Board meeting took place in February
- Close out of FY 2009 Focus Areas:
 - Focus Area 1 (*Requirements Flow Down*) – Board voted to close the focus area (unanimous)
 - Focus Area 2 (*Adequate NQA-1 Suppliers*) – Board voted to close the focus area (unanimous)
 - Focus Area 3 (*CGI and Services Dedication*) – Board voted to close the focus area (unanimous)
 - Focus Area 4 (*Graded Approach to QA*) – Board voted to close the focus area with respect to procurement (unanimous)
 - Focus Area 5 (*Line Mgt. Understanding of QA and Oversight*) – Board voted to close the focus area (unanimous)

Focus area 4 and 5 will be carried forward to FY 2010



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QA Corporate Board (Cont'd)

QA Board will consider and vote on following candidate FY 2010 Focus areas:

- NQA-1 Suppliers
- Commercial Grade Dedication
- Design Quality
- Graded corrective action to DOE
- Grading QA programs for D&D
- EM path forward for HLW/UNF



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Corporate Actions to Improve Performance of Capital/Construction Projects

EM Standard Review Plan (SRP) – *A collaborative effort between EM and the Chief of Nuclear Safety (CNS), Office of the Under Secretary*

- Provides a framework for comprehensive, integrated, and standardized project reviews that support day-to-day efforts as well as project applicable Critical Decision (CD) points, for both federal and contractor personnel
- Ensures that DOE project performance expectations are clearly reflected through project life-cycle activities as defined in DOE O 413.3A, DOE-STD-1189, and other EM-specific corporate requirements (e.g. TRA)
 - 2nd Edition was published in March 2010—posted on EM portal at: <http://www.em.doe.gov/Pages/Safety.aspx>
 - Individual SRP review modules were used/tested/enhanced by Federal Project Directors (FPDs), IPTs, and CPRs



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Standard Review Plan (SRP)

March 2010



DOE - EM - SRP - 2010
2nd Edition

Environmental Management
Safety • Performance • Cleanup • Closure

STANDARD REVIEW PLAN (SRP)

VOLUME I & II



CORPORATE CRITICAL DECISION (CD) REVIEW AND
APPROVAL FRAMEWORK ASSOCIATED WITH NUCLEAR FACILITY CAPITAL AND
MAJOR CONSTRUCTION PROJECTS

MARCH 2010

OFFICE OF ENVIRONMENTAL MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON D. C. 20585

<http://www.em.doe.gov/Pages/Safety.aspx>



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Corporate Actions to Enhance Regulatory Stability and Technical Basis

- EM Corporate Quality Assurance Program, dated November 2008, EM-QA-001
 - Provides clarity and consistency of EM QA requirements and expectations
 - DOE O 414.1C
 - 10 CFR 830
 - ASME NQA-1-2004
 - Supplements regulatory requirements with *EM Management Expectations*— Strengthens project management
- EM-HQ Review Protocol/Field Self Assessment of Site-Specific QAP/QIP
 - Reflects EM-QA-001, dated November 2008



Corporate Steps to Enhance Mission Efficiencies **QAP/QIP Expectations**



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Protocol for EM Review/Field Self-Assessment of Site-Specific Quality Assurance Programs (QAPs)/ Quality Implementation Plans (QIPs)



February 2010

Office of Standards and Quality Assurance (EM-23)
Office of Environmental Management
U.S. Department of Energy
Washington D.C. 20585



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Corporate Actions/Process to Strengthen QA Capabilities



Needs identified based on:

- Audit/Assist visits
- Feedback from Field
- Operational awareness
- Project experience
- Self assessments
- Others

Source material include:

- DOE/EM requirements expectations
- Nuclear industry codes/standards
- Lessons learned
- Best practices
- Others

- Offered at multiple sites
- Diverse cross section of Feds and contractors
- Interactive/comments
- Modification and update of content:
 - Participants Guide
 - Instructors Guide

- Expand training capacity
- Serve as In-house resource to Feds and contractors
- Basis for Feds/Contractors to offer additional sessions
- EM-23 follow-up as part of audits and assessments

- e.g.,
- CGD
 - CGD Train-the-Trainer
 - NQA-1 Lead Auditor
 - Nuclear Supplier QA Programs
 - FPD QA Awareness



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Key Takeaways

- EM-20 operational approach is based on a balanced and risk-informed approach to ensure EM corporate priorities, expectation, and requirements are effectively and efficiently met
- EM-20's function is to serve as a corporate advocate to ensure consistency, stability, and technical transparency in corporate decision making
 - Promotes accountability, cost-effectiveness, and efficient execution of EM mission
- Our collective success depends on active Federal and contractor community participation, input, and engagement



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