DOE’s Process for Qualification of its Federal Workforce

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The DOE Experience

• The experiences at the Department of Energy (DOE), its National Training Center (NTC) and its Carlsbad Field Office (CBFO) can provide a framework used to develop a program for training and qualification for federal workers overseeing work of contractors in a nuclear facility where operations impact the safety of the workforce, public and environment.
History of the DOE’s Technical Qualification Program (TQP)

• 1993
  – Defense Nuclear Facilities Safety board (DNFSB) identifies need to improve the technical capability of federal employees in defense nuclear facilities.

• 1997-1998
  – DNFSB requested revised plan to address actions that had not been achieved
  – DOE charters a Federal Technical Capability Panel to oversee and resolve issues

• 2004-2009
  – In aftermath of NASA’s Columbia Accident investigation, DNFSB identifies continued concerns for safety in Defense Nuclear Facilities
  – DOE establishes Central Technical Authority and Integrating Safety Management System into Nuclear Operations
Federal Technical Capabilities Program (FTCP) Mission

- FTCP focuses on the Department of Energy’s strong commitment to developing and maintaining a technically competent workforce to accomplish its missions in a safe and efficient manner.
- The FTCP provides for the recruitment, deployment, development, and retention of Federal personnel with the demonstrated technical capability to safely accomplish the Department's mission and responsibilities.
DOE FTCP Organization

- Deputy Secretary
- FTCP Chair
- FTCP Panel of Site Agents
Guiding Principles of The Federal Technical Capabilities Panel (FTCP)

• Federal personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their safety responsibilities;

• Line managers are accountable and have the responsibility, authority, and flexibility to achieve and maintain technical excellence;

• Supporting organizations (personnel, training, contracts, finance, etc.) recognize line managers as customers and effectively support them in achieving and maintaining technical capabilities;

• An integrated corporate approach is required to assure that necessary technical capabilities and resources are available to meet the overall needs of the Department's defense nuclear facility missions.
Functional Area Qualification Standards (FAQS)

• Developed from “standard” job task analysis
• Competency based on Knowledge, Skills and Abilities (KSA)
• Used “as is” without modification by sites
• Transportable between sites
• Supplemented by position specific and site specific standards
DOE Functional Area Qualification Standards (FAQS)

- Aviation Manager
- Chemical Processing
- Construction Management
- Deactivation and Decommissioning
- Environmental Compliance
- Facility Maintenance Management
- Fire Protection
- Industrial Hygiene
- NNSA Package Certification Engineer
- Nuclear Explosive Safety Study
- Occupational Safety
- Radiation Protection
- Safeguards and Security GTB
- Senior Technical Safety Manager
- Technical Training
- Waste Management

- Aviation Safety Officer
- Civil/Structural Engineering
- Criticality Safety
- Emergency Management
- Environmental Restoration
- Facility Representative
- General Technical Base (GTB)
- Instrumentation and Control
- Mechanical Systems
- Nuclear Safety Specialist
- Quality Assurance
- Safeguards and Security
- Safety Software Quality Assurance
- Technical Program Manager
- Transportation & Traffic Management
- Weapons Quality Assurance
TQP Standards Assignment

• General Technical Base
• DOE FAQS (one or more)
• Position Specific Standard
• Site Specific Standards
FTCP Qualification

• Evaluation performed by “Qualifying Official”
• Uses Functional Area Qualification Standards for Competencies based on Knowledge, Skills, and Abilities (KSA)
• Qualification based on Assessment and/or Demonstration of Competencies by Written Examination, Oral Boards, and/or Facility Walk-downs
DOE Site Program Accreditation

- Based on Commonly Established Criteria
  - Executive Commitment and line Mgt Ownership
  - Recruiting
  - Staffing
  - Development
  - Retaining
  - Transportability
  - Measureable Results
National Training Processes

• National Training Needs Assessment
• Gap Analysis on Course Offerings
• Course Development
• Course Offerings
• Course Assessment and Feedback
National Training Center

• Relies on the FAQS for job task analysis
• Bases course development on a Systematic Approach to training (SAT)
  – Analysis, Design, Development, Implementation, and Evaluation (ADDIE)
• Supports the FTCP training needs
TQP Continuous Learning Process

• Body of Knowledge (BOK)
• Site Learning Matrix
• Training Matrix
• Progress Tracker
Lessons Learned

• Processes to obtain the required competencies are established
• Processes for conducting candidate qualification and requalification evaluations as necessary are clear and consistent
• Continuing development programs are established
• Resources (time, funding) needs to be provided for qualification
• Continuous monitoring of progress is required
• The time limit needs to be realistic and based on individual experience
• Compensatory measures need to be in place until qualification is achieved
Summary

• The DOE has a Framework by which it trains and qualifies its technical workforce.

• DOE’s Framework can serve as a roadmap for others to ensure training and qualification of their workforce.