NUCLEAR EXECUTIVE LEADERSHIP TRAINING

Challenges of a Technical Workforce

Karen L. Boardman
Director, NNSA Service Center, Albuquerque, NM
Chair, FTCP

Karen Boardman is the Director, Department of Energy (DOE), National Nuclear Security Administration (NNSA) Service Center. During her 24-year career with the DOE, she has served in a variety of positions including Manager of the Sandia Site Office, Deputy Manager for Programs and Technical Support at the former Albuquerque Operations Office, Director of the Weapon Programs Division, Deputy Assistant Manager for Safety and Security and Director of the Technical Analysis and Support Division. She has also served on details as the Acting Deputy Associate Administrator for Facilities and Operations, NNSA Headquarters and as the Acting Deputy Manager, Dayton Area Office.

On May 4, 2007, Ms. Boardman was appointed DOE Federal Technical Capability (FTCP) Chair by the Deputy Secretary, DOE.

Ms. Boardman is a graduate of the University of New Mexico in Civil Engineering.

Michael Kane
Chief Human Capitol Officer
Department of Energy

Michael Kane, a member of the Senior Executive Service, currently serves as the Chief Human Capital Officer (CHCO) for the Department of Energy. He is responsible for strategically aligning the agency's workforce to its missions through effective management of human capital policies and programs. The CHCO advises and assists the Secretary and Deputy Secretary of Energy, and other agency officials, in selecting, developing, training, and managing a highly skilled, productive, and diverse workforce in accordance with merit system principles and all applicable statutory requirements.

Prior to his appointment as the CHCO, Mr. Kane was the Associate Administrator for Management & Administration in the National Nuclear Security Administration (NNSA). There, he was responsible for the management and operations of the Administration’s Budget and Financial Management, Human Capital Management, Acquisition Management, Diversity, Internal Controls and Administrative Operations supporting more than 33,000 employees’ nation-wide.

Prior to his appointment in the NNSA Mr. Kane was the Director of Special Projects in the Department of Energy where the initial formation of the NNSA began, prior to that position he served as the procurement executive for the Office of Field Management. Mr. Kane has held key leadership positions in Financial Management, Program Management, Acquisition in the Department of the Navy where he served as Chief of Planning and Program Management for Naval Avionics and ultimately as the Deputy for Operations of the Marine Corps Heavy Lift and Presidential Helicopter Programs. Mr. Kane began his federal career at the National Gallery of Art as a member of the special exhibits staff.

Mr. Kane holds numerous public service awards including The Senior Executive Service Presidential Rank Award, The NNSA Gold Medal, The U.S. Navy Meritorious Service Medal and The Secretary of Energy's Superior Achievement and Exceptional Service Awards.

Mr. Kane is an alumnus of Edinboro University in Pennsylvania and the Kennedy School of Government, Harvard University.

Jack Grobe
Deputy Director for Engineering and Corporate Support
Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission

Jack Grobe is the Deputy Director for Engineering and Corporate Support in the Office of Nuclear Reactor Regulation (NRR). Prior to becoming NRR Deputy Director, Jack served as NRR Associate Director for Engineering and Safety Systems.

Mr. Grobe joined the NRC in 1980 as an engineering inspector in the NRC Region III Office in Chicago, Illinois. He subsequently held progressively more responsible positions in Region III, including Project Engineer, Senior Resident Inspector; Director, Enforcement and Investigation Coordination; Chief, Nuclear Materials Safety and Chief, Fuel Cycle Safety. In 1996, he was appointed to the Senior Executive Service (SES) and served as the Deputy Director for the Division of Reactor Projects and Division of Reactor Safety; and Director for the Division of Reactor Projects and Division of Reactor Safety overseeing facility operational safety at the nuclear reactors in the Midwest.

During his tenure in Region III, Mr. Grobe participated in several major agency tasks, including Chair of NRC Oversight Panels for a number of facilities in long term shutdown due to operational safety deficiencies. From 2002 to 2004, Mr. Grobe served as Chair of the NRC's Davis Besse Oversight Panel following discovery of the reactor vessel head corrosion. In 2004, Mr. Grobe was appointed as the Director, Office of Nuclear Security Special Projects in NRC headquarters to direct the NRC initiatives regarding enhanced safety strategies to deal with loss of large areas of the facility due to fire or explosion caused by various potential malevolent acts.

Since joining NRR, Mr. Grobe has led the agency's initiatives to implement digital instrumentation and controls at operating and new reactors and to resolve longstanding post-fire safe shutdown concerns and transition to risk-informed fire protection at the operating reactors.

Prior to joining the NRC, Mr. Grobe was a radiation safety officer at the Fermi National Accelerator Laboratory in Batavia, Illinois. Mr. Grobe is also a leader in his community. He served on the Wheaton, IL School Board for seven years including President of the Board, and on the Board of Directors for the Montgomery County (Maryland) Science Fair.

Mr. Grobe has a Master of Science degree in Bionucleonics and a Bachelor of Science degree in Nuclear Engineering, both from Purdue University. In 2005 he was awarded with the Meritorious Executive Rank Award by the President of the United States for his contributions to nuclear safety.

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

The Challenges of a Technical Workforce

Karen Boardman
Michael Kane
Jack Grobe
August 2, 2010

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

The Challenges of a Technical Workforce – FTCP Perspective

Karen Boardman
August 2, 2010

Learning Objectives

- Explain the application of the Technical Qualification Program to ensure or improve technical competence.
- Describe the function, application, and relationship of the following programs, and explain how they are used to ensure safe operation of defense nuclear facilities:
  - Facility Representative
  - Safety System Oversight
  - Senior Technical Safety Manager
  - Nuclear Safety Specialist
  - Program (TPM) /Project Manager (PMCDP)

Federal Technical Capability Panel (FTCP)

- Develop and maintain a technically competent workforce to accomplish the DOE mission in a safe and efficient manner (DOE O 426.1)
- Oversee the Technical Qualification Program (TQP)
- Conduct periodic assessments of the effectiveness of the TQP using internal and independent experts
- Provide recommendations to senior Departmental officials regarding DOE technical capability
- http://www.hss.energy.gov/deprep/ftcp

Elements of a Technical Qualification Program (TQP)

- Demonstration of competence
- Competency levels
- Plans and procedures
- Qualification tailored to work activity
- Credit for existing qualification programs
- Transportable
- Measurable

TQP Challenges

- Qualifications and training of personnel responsible for nuclear safety
- Consistency and transportability of qualification programs
- Recruit and maintain a technically capable workforce
  - Next 5 yrs~1/2 DOE workforce eligible to retire
  - Workforce analysis and FTE ceilings
  - Intern Programs
- TQP position PDs require TQP and/or STSM designation
  - TQP participants/supervisor performance plans require elements measuring performance on TQP qualification and re-qualification (STSM's/FR's), with removal from Defense Nuclear Facility oversight duties under certain circumstances.
- E-TQP to be implemented by OCHCO-ETS/FTCP in FY11 (Voluntary)
- Effective Continuing Training

Technical Qualification Program (TQP)

- The TQP applies to DOE technical employees whose duties and responsibilities require them to provide assistance, guidance, direction, oversight or evaluation of contract activities that could impact the safe operation of a defense nuclear facility.
- Key positions include:
  - Facility Representatives (FR)
  - Safety System Oversight (SSO)
  - Senior Technical Safety Managers (STSM)
  - Nuclear Safety Specialist (NSS)

TQP Requirement for Safety Management Program Oversight

Employees responsible for technical oversight of nuclear facility safety management programs must qualify on:

- **General technical base qualification standard,**
- **Functional area qualification standard related to the safety management program they are assigned to oversee, and**
- **Site and facility qualification requirements for oversight of the respective safety management programs.**

Functional Area Qualification Standards

- Aviation Manager
- Aviation Safety Officer
- Chemical Processing
- Civil/Structural Engineering
- Construction Management
- Criticality Safety
- Deactivation and Decommissioning
- Electrical Systems and Safety Oversight
- Emergency Management
- Environmental Compliance
- Environmental Restoration
- Potential New FAQS (Explosive Safety)

Functional Area Qualification Standards

- Facility Maintenance Management
- Facility Representative (Requal may move from 3 to 5 Yrs.)
- Fire Protection Engineering
- General Technical Base
- Industrial Hygiene
- Instrumentation and Control
- Mechanical Systems
- NNSA Package Certification Engineer
- Potential New FAQS (Nuclear Weapons Program Manager)
- Nuclear Explosive Safety Study
- Nuclear Safety Specialist

Functional Area Qualification Standards

- Occupational Safety and Health
- Quality Assurance
- Radiation Protection
- Safeguards and Security
- Safety Software Quality Assurance
- Senior Technical Safety Manager
- Technical Program Manager
- Technical Training
- Transportation & Traffic Management
- Waste Management
- Weapons Quality Assurance

Effective Use of TQP

- All levels of management must be actively involved
- Personnel must be assigned to the right position/area
- Qualification process and requirements must be valid and adequate for site-specific programs and systems

Corporate Accreditation of TQPs

- Enables both Headquarters and field organizations to demonstrate that they have implemented an effective technical qualification program for defense nuclear facilities.
- Accreditation of TQP is **voluntary**

Corporate Accreditation Process

Process is based on the Institute for Nuclear Power Operations (INPO) accreditation model and includes:

- Development and implementation of a TQP that meets the requirements outlined in the *Federal Technical Capability Order*
- A comprehensive self assessment of the TQP
- Evaluation of the requesting organization's TQP by an onsite accreditation review team
- A recommendation to the Deputy Secretary of Energy regarding accreditation of the program by an independent TQP Accreditation Board
- A determination by the Deputy Secretary regarding accreditation

Pilot Accreditation Process

- Conducted for the Y-12 Site Office from 2/24/06 to 7/20/06
- Y-12 Site Office TQP granted accreditation by the Deputy Secretary of Energy in October 2006
- Conducted at the NNSA Service Center and Sandia Site Office from June 23 – 27, 2008
- NNSA Service Center and Sandia Site Office TQP granted accreditation by the Deputy Secretary of Energy in November 2008
- Next Sites: NSO (7/2010), YSO Re-Accreditation (8/2010)

Pilot Accreditation Results

- The process works
- Y-12 Site Office, NNSA Service Center and Sandia Site Office already had a mature TQP and were performing self assessments required by the TCP Manual
- The on-site accreditation review team validated TQP strengths and weaknesses identified in their self-assessment, but found additional weaknesses
- None of the TQP weaknesses were judged as preventing the TQP from performing the intended functions
- YSO, NNSA Service Center and Sandia Site Office have implemented a corrective action plan to address identified areas for improvement

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

The Challenges of a Technical Workforce – Human Capitol Office Perspective

Michael Kane

August 2, 2010

Overview

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

- Changing Dimensions in Federal Workforce Development
- Challenges in Federal Workforce Development
- Federal Workforce Development Strategies
- Strategic Workforce Development at DOE
- Moving Forward

Changing Dimensions

- Today
  - There are about 2.0 million civilian employees in the Federal Government, excluding the Postal Service
  - The Federal Government is the Nation's largest employer
  - Workforce development is largely ad hoc in its identification, funding, and delivery

Changing Dimensions (Cont.)

"…Many Federal workers have to be in a constant state of self-learning to acquire skills to meet the flexible and adaptable needs of their jobs…. Formal, classroom training isn't the best route for many Federal workers."

(Brian Friel, GovExec Magazine, July 2010, p. 44)

"…Social networking sites have helped foster permanent, professional development networks for government workers."

(Brian Friel, Government Executive Magazine, July 2010, p. 44)

Changing Dimensions (Cont.)

- Tomorrow
  - Federal retirements expected to rise over the next decade
  - Competition to fill vacancies will be high
  - New workforce will reflect increasingly mobile workforce
  - New strategies will be needed to recruit, retain, develop, and transition tomorrow's workforce
  - *What positions, functions, and skills will be critical to your organization's mission success?*
  - *How will you monitor progress, and measure success?*

Challenges

- Today and Tomorrow
  - **Learner Driven Content ("InTeach")** – Leaders must become architects of learning
  - **Measuring Learning** – IOB vs ROI
  - **E-learning and Mobile Learning** – They're here…
  - **Knowledge Transfer** – Requires human touch (mentoring, coaching, etc.)
  - **Government agencies must innovate NOT incubate ideas!**

"…Our youngest leaders matured in the glow of computer screens; our oldest in the shadow of the Depression and World War II…"

Bennis & Thomas 2002

Generations in the Workplace

Generation	Born	Number in Cohort	Values Factoid	Defining Trait
Traditionalist/ Veteran	1922 – 1945	44 million	Loyalty	Consistency
Baby Boomers	1946 – 1964	81 million	Competitive	Growth & Expansion
X	1965 – 1979	61 million	Self-reliance	Pragmatism
Y	1980 – 2000	83 million	Achievement	Techno/info Savvy

Source: Census Bureau, 2004 population estimates (numbers have been rounded)

Strategies

- Identify positions, functions, and skills critical for mission success
- Assess workforce against critical skills
- Close skills gaps using a full range of workforce development strategies
- Use blended learning solutions to address learners' needs

Strategic Workforce Development at DOE

- Learning and Development Governance
- Competency-based workforce development
- Integration of learning technologies
- Increased collaboration across organizational boundaries
- Expanded knowledge sharing, identification, and use of best practices

Moving Forward

- Highlight critical positions
- Review leadership/supervision structure
- Identify Technical Experts
- Define skills and knowledge that can be archived

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

The Challenges of a Technical Workforce – NRC Perspective

Jack Grobe
August 2, 2010

Topics

NUCLEAR EXECUTIVE LEADERSHIP TRAINING

- Mission, Vision, Values
- Recruiting
- Training
- Leveraging Resources
- Closing Thoughts

Mission, Vision, Values

- The MISSION inspires the staff and maintains their focus
- Clear VISION facilitates accomplishment of strategic goals
- Effective organizational VALUES promote an open and collaborative work environment

NRC Mission

To regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment.

NRC Values

- Integrity
  . . . in our working relationships, practices and decisions
- Service
  . . . to the public, and others who are affected by our work
- Openness
  . . . in communications and decision-making
- Commitment
  . . . to public health and safety, security and the environment
- Cooperation
  . . . in the planning, management and performance of agency work
- Excellence
  . . .in our individual and collective actions
- Respect
  . . .to the public, and others who are affected by our work

Recruiting

- Effective candidates have:
  - Necessary technical skills
  - Inclination towards the agency values
  - Critical thinking necessary for problem solving & continuous learning
- Special Programs
  - Summer Employment Program
  - Co-Operative Education Program
  - Nuclear Safety Professional Development Program (NSPDP)

Recruiting - NSPDP

- Recent graduates with bachelors, masters, or doctoral degrees
- Two-year program that provides both a broad and a specialized perspective of NRC operations
- Participate in on-the-job training, formal classroom training, and rotational assignments

Training

- Initial training & qualification
- Continuing training
- Leadership development

Training - Qualification

- New employee orientation website
- Qualification activities
  - Classroom training
  - Experiential training
  - On-the-job training
- Dedicated training facilities
  - Professional Development Center
  - Technical Training Center
- Branch specific training plans

Training – Continuing Training

- Periodic training
  - Required refresher training
  - Continuing technical development
- Continuing education
  - Variety of on-site & off-site courses
  - Graduate fellowships
- Individual Development Plans

Training – Leadership Development

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Leadership Potential Program

- Emphasizes core competencies related to managing programs and supervising and leading staff

Senior Executive Service (SES) Candidate Development Program

- Prepares top managers for executive assignments

Leveraging Resources

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- Mentoring Programs
  - Docents
  - Formal and informal mentors
- Knowledge Management (KM)
- Open, Collaborative Work Environment (OCWE)

Leveraging Resources - KM

- Senior management stewardship
- Continually assess tools and identify gaps
- KM tools
  - Branch Specific Training Plans
  - Operating Experience Program
  - Community of Practice websites
  - Inspector Newsletter
  - Lunch ‘n Learn
  - SharePoint

Leveraging Resources - OCWE

- Servant/Forward Focused Leadership
- Open Door Policy
- Non-Concurrence Process
- Differing Professional Opinions – Team Player Award
- Internal feedback programs/surveys

In closing . . .

- Provide employees with a clear understanding of their role in achieving the MISSION of the agency
- Challenge employees to succeed at maintaining the agency's VISION
- Incorporate the agency's VALUES into employee activities and evaluations

Panel Q&A Session