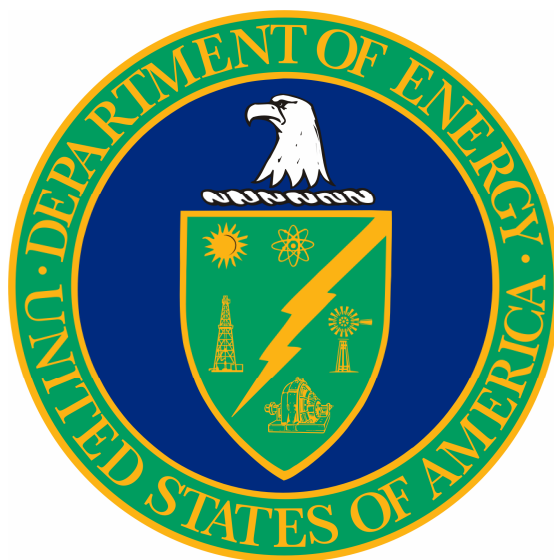


***Y-12 Site Office
Technical Qualification Program
Reaccreditation Review Team Report***



**U.S. Department of Energy
Washington, DC 20585**

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 Mark Alsdorf: Deputy Team Leader and Team Member 2

 Ron L. Alderson: Team Member..... 2

 Daryn J. Moorman: Team Member 3

 Donna R. H. Riggs: Team Member 3

 Michael C. Garcia: Team Member 4

EXECUTIVE SUMMARY

The Technical Qualification Program (TQP) establishes a process to objectively determine if individuals performing activities related to the technical support, management, oversight, or operation of defense nuclear facilities possess the necessary knowledge, skills, and abilities (KSA) to perform their assigned duties and responsibilities. This program specifically applies to Department of Energy (DOE) technical employees whose duties and responsibilities require them to provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of a defense nuclear facility.

Recognition that an effective, sustainable TQP is in place is accomplished through an accreditation process. The accreditation process consists of three distinct activities: (1) a thorough self-evaluation by the organization requesting accreditation; (2) an independent, onsite evaluation by a TQP Accreditation Review Team; and (3) a review by an independent TQP Accreditation Board. This report documents the results of the review of the National Nuclear Security Administration (NNSA) Y-12 Site Office (YSO) TQP by the TQP Reaccreditation Review Team.

The initial DOE Federal Technical Capability Panel (FTCP) TQP Accreditation Review was conducted at YSO from May 22-26, 2006, with the Deputy Secretary granting DOE TQP Accreditation to YSO in September 2006. In accordance with DOE Order (O) 426.1, *Federal Technical Capability*, DOE TQP Accreditation is for a period of 4 years. The FTCP YSO TQP Reaccreditation Review was conducted onsite at YSO from August 23-27, 2010, in accordance with DOE O 426.1, appendix C.

To renew DOE TQP Accreditation by the Deputy Secretary, an FTCP TQP Reaccreditation Review was conducted with the review Team Leader nominated by the DOE Office of Health, Safety and Security and approved by the Chair of the DOE FTCP. The FTCP YSO TQP Reaccreditation Review Team Leader selected team members with the endorsement of both the Chief of Nuclear Safety, reporting to the Under Secretary of Energy, and the Chief, Defense Nuclear Safety, reporting to the Under Secretary for Nuclear Security & Administrator, NNSA.

The purpose of the FTCP TQP Reaccreditation Review Team evaluation was to conduct a thorough, independent evaluation of the status of the implementation of the NNSA YSO TQP and provide a recommendation for consideration by the Accreditation Board. This report documents the activities and results of the TQP Reaccreditation Review Team evaluation of the YSO TQP for the Accreditation Board.

The overall approach of the TQP Reaccreditation Review Team was to evaluate the personnel, procedures, and management control systems that demonstrate an effective program for ensuring the technical capability of YSO employees whose responsibilities require them to provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of a defense nuclear facility.

The TQP Reaccreditation Review Team verified YSO TQP participants have the required competencies to perform their assigned functions. YSO has established a well documented and mature program to implement its TQP, including procedures and policies that document the formal identification of TQP participants. YSO senior management demonstrates a strong commitment to TQP through active participation in TQP activities. Senior management throughout the office is highly engaged in qualification activities, including serving as Qualifying Officials (QO), chairing oral evaluation boards, and leading facility-evaluated walkthroughs.

Based on the results of this review, the TQP Reaccreditation Review Team recommends the next step of the process, namely the establishment of a Reaccreditation Review Board, after development of a corrective action plan for identified areas of improvement has been completed.

The following is a summary of the strengths and weaknesses identified by the TQP Reaccreditation Review Team. The Team also made a number of observations; these are further detailed in the body of the report.

Strengths

- The YSO Training Manager provides initial TQP training (i.e., *New Employee Checklist*) and ongoing, proactive engagement in YSO TQP implementation.
- YSO senior management, especially the YSO Manager, is committed and personally involved in the YSO TQP.
- YSO-2.1, *YSO Technical Qualification Training Program*, encourages facility walkthroughs on a 3-year periodicity for all non-Facility Representative (FR) TQP participants.
- YSO effectively integrates TQP into management systems to meet mission.
- YSO electronic training tracking systems (Pegasus Information Management System and the B&W Training Database (i.e., SAP)) appear effective and innovative.

Areas for Improvement

- The QO method of evaluation is not documented for certain Site-Specific and Functional Area Qualification Cards.
- Designated YSO FR and Safety System Oversight (SSO) QOs include all qualified FRs and SSOs instead of specifying only individuals having firsthand technical knowledge of the competencies being evaluated.
- No QO was listed for Decontamination and Decommissioning (D&D) Functional Area Qualification Standard (FAQS).

- The YSO provisional qualification process conflicts with the requirement to use FAQs competencies without modification or additions, allowing deviation from FAQs as written.
- YSO TQP procedures are not always implemented as described in the procedure.
- YSO site-specific competency development was informal and undocumented.
- There is no documented evidence of compensatory measures and/or duty limitations for Senior Technical Safety Managers (STSM) who have not completed qualification.
- FRs are initially qualified to an interim qualification, which does not include all the elements of General Technical Base (GTB) and DOE Standard (STD) 1151, as required by DOE-STD-1063 (FRs).

INTRODUCTION

The TQP establishes a process to objectively determine if individuals performing activities related to the technical support, management, oversight, or operation of defense nuclear facilities possess the necessary KSAs to perform their assigned duties and responsibilities. The TQP specifically applies to DOE technical employees whose duties and responsibilities require them to provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of a defense nuclear facility.

Recognition that an effective, sustainable TQP is in place is accomplished through an accreditation process. The accreditation process consists of three distinct activities: (1) a thorough self-evaluation by the organization requesting accreditation; (2) an independent, onsite evaluation by a TQP Accreditation Review Team; and (3) a review by an independent TQP Accreditation Board. This report documents the results of the review of the NNSA YSO TQP by the TQP Reaccreditation Review Team.

The TQP Reaccreditation Review Team conducted the review in accordance with the *Y-12 Site Office Technical Qualification Program (TQP) Reaccreditation Review Plan* and TQP reaccreditation review schedule that were developed for this review. These documents followed the requirements, objectives, criteria, and guidance provided in DOE O 426.1, *Federal Technical Capability*.

The “Results” section of this report summarizes the status related to each objective, including how the objective is met, and identifies any strengths or areas for improvement. Detailed results of the assessment of the individual criteria for each objective can be found in appendix A of this report. The review was led by David A. Chaney, NNSA Service Center, with assistance from qualified team members from across the Department. Team member assignments for each of the objectives are captured below.

TEAM LEADER

David A. Chaney, NNSA Service Center
Advisor – Ali Ghovanlou

Demonstration of Competence	Competency Levels	Plans and Procedures	Qualification Tailored to Work Activities
Ronnie Alderson, NNSA-NSO	Mike Garcia, NNSA-SC	Mark Alsdorf, NNSA-SC	Donna R. H. Riggs, DOE-ORO
Credit for Existing TQP	Transportability	Measurable	
Mark Alsdorf, NNSA-SC	Mike Garcia, NNSA-SC	Daryn Moorman, DOE-ID	

SCOPE AND METHODOLOGY

The overall approach of the TQP Reaccreditation Review Team evaluation of the YSO TQP was to evaluate the personnel, procedures, and management control systems that demonstrate an effective program for ensuring the technical capability of DOE technical employees whose responsibilities require them to provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of a defense nuclear facility. The evaluation process included the following:

- Reviews of YSO policies, procedures, and other documents that support the TQP;
- Interviews of YSO management and technical personnel in the TQP;
- Field observations of YSO TQP participants; and
- Assessment of the adequacy of the YSO self-assessment for reaccreditation.

Conduct of the Evaluation

This evaluation was a disciplined, systematic, and documented examination of the personnel, procedures, and management control systems in place to ensure the technical capability of applicable DOE technical employees.

The TQP Reaccreditation Review Plan formed the basis for the review and included lines of inquiry for each of the criteria. The lines of inquiry help define the scope and depth of the review for each TQP objective. The Objective and Criteria Evaluation Forms in Appendix A were used by the team members to document the results of their review.

The Team Leader conducted required accreditation training for the Team prior to the start of the review. The TQP Reaccreditation Review Team met daily during the onsite review to facilitate coordination of effort and exchange of information. The meetings allowed the members to discuss significant observations of problems identified during the day and permitted the Team Leader to identify any trends or areas of concern where more detailed information was required.

Review process quality assurance was the responsibility of the Team Leader and included oversight of the review, daily onsite peer reviews of team member findings, and specification of the form of reports. All team members were told they could issue a dissenting opinion in the final report. This independence, coupled with the professional experience of the team members, was intended to ensure an objective and comprehensive review.

Documentation Process

During the onsite review, team members were responsible for documenting the results of the review of their assigned objectives. This included a description of how the team member measured the site's performance relative to the objective and associated criteria, as well as how the office was achieving the criteria, and the identification of strengths, areas for improvement, or noteworthy observations. In addition, the Team identified the documents reviewed, personnel

interviewed, and activities observed. Each team member's evaluation was submitted to the Team Leader using Objective and Criteria Evaluation Forms.

RESULTS

The following provides a summary assessment of the YSO activities observed and evaluated by the TQP Reaccreditation Review Team during this review as they relate to the objectives for TQP accreditation. Additional details relevant to the review can be found in the Objective Criteria Evaluation Forms provided in Appendix A.

TQP-1 Demonstration of Competence – *The program clearly identifies and documents the process used to demonstrate employee technical competence.*

The YSO established a well documented and mature program to implement its TQP, including procedures and policies that document the formal identification of TQP participants. The YSO Manager, with the concurrence of the YSO Assistant Managers, assumes full responsibility for the selection and designation of all TQP participants as outlined in the memorandum, *Y-12 Site Office Technical Qualification Program Assignments* (August 13, 2010). Interviews conducted with YSO management personnel confirmed the requirement to ensure technical staff providing management direction or oversight that could impact the safe operations of defense nuclear facilities are properly identified and included in the TQP.

Individual Development Plans (IDP) are required by all YSO employees to identify training, development, and educational activities for their position. Both short- and long-term goals are identified, described, and approved for each fiscal year. YSO-2.1, *YSO Technical Qualification Training Program*, describes the IDP as a Web-based process accessed through the Employee Self Service (ESS) Web site. Interviews with staff and management confirm this process for completing IDPs was consistently acknowledged. This document also states that participants shall complete at least 80 hours of professional development training during the requalification period (3 years) and was confirmed in evaluated IDPs.

The YSO TQP relies heavily on QOs to validate participant knowledge and skills. Individuals are recommended to be approved as QOs by Assistant Managers based on their education, work experience, and site-specific knowledge. This designated list of QOs is sent to the YSO Training Manager for compilation. The QO list is then submitted to the YSO Manager for approval. The YSO Manager may choose to perform an interview with any or all individual(s) prior to approval; this interview addresses the YSO Manager's expectations and objectives on the performance of the QOs responsibilities. Discussions with the YSO Training Manager and QOs verified that all QOs are required to attend a training session conducted by the YSO Manager and the Training Manager. This training is documented in staff training files for QOs.

Interviews with staff, as well as QOs, indicated a variety of techniques used to verify the level of knowledge a TQP participant possesses for a given competency. Although the YSO Manager

conducts training for each QO, outlining his expectations for their sign-offs on TQP competencies, YSO lacks a consistent and rigorous approach to evaluate competencies by QOs. Identified as a Noteworthy Issue in the 2006 Accreditation Assessment, the corrective action to resolve this issue has not been effective.

Areas for Improvement

AFI-1-1: The QO method of examination is not documented for certain Site-Specific and Functional Area Qualification Cards, contrary to DOE O 426.1 (Requirements section 4.b. (5) (c))

AFI-1-2: Contrary to DOE O 426.1 (Responsibilities section 5.b.(5)), YSO FR and SSO QOs designated include all qualified FRs and SSOs instead of specifying individuals having firsthand technical knowledge of the competencies being evaluated.

AFI-1-3: A TQP participant pursuing the D&D FAQs had no QO listed on the YSO QO list for qualification, contrary to DOE O 426.1 (Requirements section 4.b.(3)(d)).

Noteworthy Information

NI-1-1: The process for YSO TQP participants to complete IDPs has not resulted in all TQP participant involvement, impacting YSO Fiscal Year Training Needs and Assessment and subsequent YSO training fund allocation.

NI-1-2: In some cases, YSO QOs have expanded KSAs examined beyond those contained in FAQs competencies, causing unnecessary QO reevaluation.

TQP-2 Competency Levels – Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.

YSO implemented a comprehensive TQP that establishes competencies for assigned Federal staff associated with Y-12 nuclear facilities and operations. The YSO TQP includes elements to define specific knowledge, skills, and ability elements to fully meet the broad range of work requirements at the site. The Annual Workforce Analysis and Staffing Plan Report, dated December 31, 2009, provides the basis necessary to identify mission objectives and delineates technical staffing needs along functional lines of responsibility. Site Office technical staff are assigned both functional area and site-specific qualification standards based on assigned site duties.

Site Office subject matter experts (SME) support the identification of competencies for the YSO technical staff. The identified SMEs are engaged in the identification of requirements in support of the YSO Training Manager and designated Site Office managers and supervisors.

Professional accreditations and nationally recognized certifications are to be used by QOs as a basis for meeting the requirements of FAQS. YSO-2.1, *YSO Technical Qualification Training Program*, provides guidance for considering the use of certifications as basis for meeting FAQS. The process delineates the actions necessary for using certifications and accreditations as means of meeting standard requirements.

Site Office TQP participants are provided defined competencies and the necessary basic technical knowledge through qualification on the General Technical Base Qualification Standard (GTBQS), applicable FAQS and the YSO site-specific standard. In addition, position-specific KSAs are established through a review of requirements and discussions among the YSO Training Manager, employee, supervisor, and the designated Assistant Manager.

Strength

S-2-1: The YSO Training Manager provides initial TQP training (i.e., *New Employee Checklist*) and ongoing, proactive engagement in YSO TQP implementation.

Noteworthy Information

NI-2-1: In at least one instance, a YSO TQP participant's certification (i.e., CHP, CSP, etc.) and ongoing support of national accrediting organizations were not recognized as an important contribution to his TQP qualification process nor YSO's technical capability.

TQP-3 Plans and Procedures – Plans and/or procedures are developed and implemented to govern administration of the program.

YSO senior management demonstrates a strong commitment to TQP through active participation in TQP activities. Senior management throughout the office is highly engaged in qualification activities, including serving as QOs, chairing oral evaluation boards, and leading facility-evaluated walkthroughs. Identification of TQP positions, candidates, and QOs is coordinated through senior management and approved by the YSO Manager. Qualification progress status of TQP participants is presented to senior management and programmatic issues are discussed on a weekly basis.

The YSO Technical Qualification Training Program, YSO-2.1, *YSO Technical Qualification Training Program*, YSO-1.6, *Facility Representative Program*, and YSO-7.4, *YSO Safety System Oversight Program*, capture all the requirements specified in DOE O 426.1, *Federal Technical Capability*, to implement TQP.

YSO-Manual (M) 411.1-1C, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual*, dated 12-9-09, delineates the key responsibilities of the YSO Manager, Deputy Manager, and the Assistant Manager for Operations Management. Additionally, YSO-2.1, *YSO Technical Qualification Training Program*, defines TQP responsibilities for the Manager, Assistant Managers, and the senior project director, FTCP Agent, QOs, qualification candidates,

and TQP Training Manager. Interviews conducted with the YSO Senior Management, QOs, Training Manager, FTCP Agent, and TQP participants revealed YSO staff understand the expectations of the program and implement the program as required.

YSO initiated a program to “provisionally qualify” entry-level TQP participants at a working level and identify appropriate compensatory measures until the participant achieves full qualification status. This policy is codified in the YSO-2.1, *YSO Technical Qualification Training Program*.

YSO-2.1, *YSO Technical Qualification Training Program*, has expanded on the requirements of DOE O 426.1, *Federal Technical Capability*. However, YSO has not fully implemented several of these self-imposed requirements, though none of these instances violate the requirement of DOE O 426.1, *Federal Technical Capability*.

Areas for Improvement

AFI-3-1: The YSO provisional qualification process conflicts with the requirement to complete FAQs competencies without modification or additions. (DOE O 426.1, Requirements section, 4.b.(2) (f) and 4.b.(3)).

AFI-3-2: Some YSO TQP procedures are not implemented as written. (DOE O 426.1, Requirements section, 4.b.(2) (c)).

Strengths

S-3-1: YSO Senior Management, especially the YSO Manager, is committed and personally involved in the YSO TQP.

S-3-2: YSO-2.1, *YSO Technical Qualification Training Program*, encourages facility walkthroughs on a 3-year periodicity for all non-FR TQP participants.

TQP-4 Qualification Tailored to Work Activities – *The program identifies unique Department and position-specific work activities and specifies the knowledge and skills necessary to accomplish that work.*

The YSO site-specific qualification standard includes competencies for Y-12 Base Standards; Administrative, Management, and Oversight Standards; Facility and System-Specific Standards; and Technical Position-Specific Standards. The YSO TQP standards also include specific rules, regulations, codes, standards, and guides in many of the specific supporting knowledge and/or skills. All TQP participants (except FRs) must complete all competencies in the YSO site-specific qualification standard. YSO has four additional standards to support the needs of the Site Office based upon specific position duties and responsibilities. These standards are required in addition to the site-specific standard for selected positions. However, the analyses performed

by YSO to develop the competencies for the four position-specific documents were informal and undocumented.

YSO Management stresses the importance of TQP in achieving mission goals and objectives by integrating TQP into individual employee performance plan elements; weekly TQP metrics and reporting; the Management System Description/Quality Assurance Program; and TQP-related quality objective, performance milestone, and performance indicators in the YSO 2010 Annual Operating Plan. The TQP assists in the achievement of the Federal staffing reengineering to address skill-mix deficiencies and recruitment of new staff.

Areas for Improvement

AFI-4-1: The analyses performed by YSO to develop the competencies in the YSO TQP standards were informal and undocumented. (DOE O 426.1, Requirements section, 4.b.(4), use of Systematic Approach to Training Process).

AFI-4-2: There is no documented evidence of compensatory measures and/or duty limitations for STSMs who have not completed qualifications. (DOE O 426.1, Requirements section, 4.b.(6)(e), Compensatory and Alternative Measures).

Strength

S-4-1: YSO effectively integrates TQP into management systems to meet mission.

Noteworthy Information

NI-4-1: The YSO TQP Standard includes few practical factors.

NI-4-2: Some supporting knowledge and skills statements are so general that participants may have difficulty in comprehending meaning or locating applicable reference materials.

NI-4-3: The YSO TQP Standard, revised in August 2010, includes references to DOE O 5480.19 although it was cancelled by DOE O 422.1 on June 29, 2010, and the Facility Representative Qualification Standard, updated in 2008, references DOE O 414.1A although DOE O 414.1C was issued in 2005.

NI-4-4: YSO TQP Standard P10.0 erroneously includes P10.6 and P10.7 under “practical factors.”

TQP-5 Credit for Existing Technical Qualification Programs – *The program is structured to allow credit, where appropriate, for other TQP accomplishments.*

YSO-2.1, *YSO Technical Qualification Training Program*, describes the use of equivalencies or “credit” for previous education, training, experience, and/or certification. Site supervisors are

encouraged to conduct a review of a participant's previous qualifications to determine transferability to the YSO TQP.

Form YSO-2.1-6.5.3, *Competency Equivalency/Exemption Form*, must be used to officially request equivalency consideration by providing detailed information. This form provides space for the participant to provide justification for the recommendation, as well as an equivalency discussion. This form also provides direction to attach additional documentation describing equivalency justification as necessary. However, equivalencies are rarely used at YSO; no examples of completed Competency Equivalency/Exemption Forms could be found.

TQP-6 Transportability – Competency requirements identified as applying throughout the Department are transferable.

A review of the qualification cards and interviews with nine participant staff members support the determination that Site TQP participants complete the DOE GTBQS and DOE FAQs. In addition, TQP participants complete the YSO Site-Specific Qualification Standard.

DOE O 426.1, *Federal Technical Capability*, states that “competency requirements identified as having Department-wide applicability must be transferable. For ease of transportability of qualifications between DOE elements, the DOE GTBQS and the various DOE FAQs' must be used without modification or additions.” The YSO “provisional qualification program” affects the transportability of YSO qualification records.

Records are maintained consistent with DOE O 426.1, *Federal Technical Capability*. YSO-2.1, *YSO Technical Qualification Training Program*, requires TQP participants to maintain an updated copy of their qualification cards, certificates, etc. During the qualification process, TQP participants are required to maintain the functional area qualification documentation. Upon final completion of the initial and or requalification process, records are maintained in the TQP Training Department. The YSO Training Manager, as the designated custodian, maintains custody of the records until a request is received to transfer the records to the gaining site.

Strength

S-6-1: YSO electronic training tracking systems (Pegasus Information Management System and the B&W Training Database (i.e., SAP) appear effective and innovative. (Reference: 3.1)

Noteworthy Information

NI-6-1: “Provisionally Qualified” TQP participants qualifying to changed FAQs conflicts with DOE O 426.1. (See: AFI 3-1)

TQP-7 Measurable – The program contains sufficient rigor to demonstrate compliance to the principles.

The TQP Reaccreditation Review Team verified YSO TQP participants have the required competencies to perform their assigned functions. The Team conducted a walkthrough of the multiple facilities with FRs to observe interactions with facility personnel and facility systems. The FRs were qualified in all applicable TQP areas and demonstrated good technical knowledge of the facility and its operations, and had established a good working relationship with the contractor.

The YSO FR qualification process includes an Interim Qualification prior to full qualification. The Interim Qualification allows FRs to perform many of the duties of a fully qualified FR, including serving as the Duty FR. A review of DOE-STD-1063-2006, *Facility Representatives*, revealed that Interim Qualification as described in *National Nuclear Security Administration Y-12 Site Office Facility Representative Interim Qualification Program* does not meet the requirements of Interim Qualification. DOE-STD-1063-2006 requires completion of DOE-STD-1146, *General Technical Base Qualification Standard*, and DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*. The YSO Interim Qualification Standard includes a small portion of FR FAQs and site/facility specific areas in which level of knowledge is reduced from FAQs and does not include GTB. However, all YSO FRs have completed full qualifications.

Through a combination of methods, it is evident that YSO actively seeks and embraces TQP feedback to implement TQP continuous improvement in support of the YSO mission accomplishment and the needs of the Department. YSO-2.1, *YSO Technical Qualification Training Program*, outlines the process for utilization of feedback questionnaires for TQP participants. These feedback forms have resulted in improvements to TQP by modifying qualification standards, examinations, and procedures.

In addition to feedback received in response to events and activities, periodic evaluations including self-assessments, external reviews, and requested assist visits provide feedback and improvement information. Issues identified during these assessments have been appropriately analyzed and prioritized. Selected corrective actions reviewed by the Team were found to be well-formulated, actionable, and were tracked in Pegasus.

The requirements for a TQP continuing training process are described in YSO-2.1, *YSO Technical Qualification Training Program*. TQP participants are expected to participate in continuing education and training, particularly in areas necessary for maintaining current knowledge of the requirements referenced in their qualification packages. The TQP continuing training program also includes monthly training for FRs. Interviews and a review of selected continuing training packages demonstrate that the NNSA continuing training process and tools as described in the NNSA Continuing Training User's Guide have generally been appropriately and effectively implemented.

YSO has a robust continuing training program for FRs. Continuing training for the FRs is compliant with DOE-STD-1063 and is defined in the Facility Representative Qualification Standard and YSO-1.6, *Facility Representative Program*. Reviews of continuing training

tracking and interviews with FRs show that the training is appropriate and enhances the FR's ability to perform job assignments.

Area for Improvement

AFI-7-1 – Contrary to the requirements of DOE-STD-1063-2006, FRs are initially qualified to an Interim Qualification which does not include all the requirements of GTBQS and the FAQs. (DOE O 426.1, Requirements, 4.b.(6) (Key Qualification Areas), (f)).

Noteworthy Information

NI-7-1 – A majority of FRs did not attend 10 continuing training sessions in 2009, and 4 FRs will not be able to achieve the minimum 10 in 2010.

NI-7-2 – GTBQS does not appear to be included in continuing training in all cases to maintain currency. DOE-STD-1146 recommends that personnel complete the GTBQS and requalify on a periodicity not to exceed 5 years.

APPENDIX A – OBJECTIVE AND CRITERIA EVALUATION FORMS

This Appendix contains the detailed reports for each specific criteria for the seven objectives required for TQP Accreditation. The reports reflect the results of each of the individual team members assigned to evaluate the objective(s) and are provided as backup information. Although much more formal than “field notes,” the information included in this section reflects the view of the individual team members based on their data-gathering and evaluation. The “Results” section of the report contains the formal, integrated results of the evaluation and reflects the consolidated view of the entire team.

OBJECTIVE 1

Team Member(s): Ronnie Alderson

TQP-1 – Demonstration of Competence. The program clearly identifies and documents the process used to demonstrate employee technical competence.

Criteria

- 1.1 At minimum, personnel providing management direction or oversight that could impact the safe operation of a defense nuclear facility have been identified as TQP participants.
- 1.2 IDPs, training plans, technical qualification records, or other related documents are updated to reflect the activities required for each individual to satisfy competencies.
- 1.3 A formal evaluation process is in place to objectively measure the technical competency of employees. The rigor of the evaluation process is commensurate with the responsibilities of the position.

Document Review

- DOE O 426.1, *Federal Technical Capability*, 11-19-09
- NA-1 M 426.1-1A, *Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*, 05-19-08
- Memorandum dated August 13, 2010, Y-12 Site Office Technical Qualification Program Assignments
- Y-12 Annual Workforce Analysis and Staffing plan Report dated December 31, 2009
- IDPs for
- Y-12 Site Office Technical Qualification In-Progress dated August 13, 2010
- Y-12 IDP Organizational Status Report dated 4/30/2010

Interviews

- NNSA Y-12 Training Manager/TQP Manager
- YSO Manager
- Assistant Manager for Safeguards and Security
- Assistant Manager for Program
- Assistant Manager for Operations Management
- Mechanical Engineer/SSO
- Instrumentation and Control/SSO
- Nuclear Safety Team Leader
- 3 Facility Representatives

Discussion

Criteria 1.1 At minimum, personnel providing management direction or oversight that could impact the safe operation of a defense nuclear facility have been identified as TQP participants.

YSO has established a well documented and mature program to implement their Technical Qualification Program (TQP), including procedures and policies that document the formal identification of TQP participants. The Y-12 National Security Complex Manager, with the concurrence of his Assistant Managers, assumes full responsibility in the selection and designation of all TQP participants as outlined in the memorandum, *Y-12 Site Office Technical Qualification Program Assignments* (August 13, 2010). This process was confirmed during interviews. The attachment to the memorandum identifies sixty-five participants by name, Division, Primary Functional, Secondary Functional, and YSO Specific Standards assigned. In the 2006 accreditation assessment, a Noteworthy Issue was identified and addressed in section 4.2.1 of YSO 2.1 *YSO Technical Qualification Training Program*. The Assistant Managers (AMs) and Senior Project Director (SPD) was authorized to assign Functional Area Qualification Standards (FAQS) for TQP participants. DOE O 426.1, (Requirements Section 4.b (5) (a)), requires the Field Element Manager (FEM) to designate the positions and/or individuals in their respective organizations required to participate in the TQP. This issue was resolved with an update to YSO 2.1, *YSO Technical Qualification Training Program* in which section 4.1.11 was added, designating the YSO Manager to assign in writing, those employees in YSO who will participate in the TQP Program.

Interviews conducted with YSO management personnel has confirmed the requirement to ensure technical staff providing management direction or oversight that could impact the safe operations of defense nuclear facilities are properly identified and included in the TQP program as documented in YSO 2.1, *YSO Technical Qualification Training Program*.

YSO completed the Annual Workforce Analysis and Staffing Report as of December 31, 2009. The report identified the need for nine additional FTEs, three are within baseline staffing levels and six are not. The nine positions identified include: 1) Lead Operations Engineer, 2) Cost Estimator, 3) Protective Force Specialist/Firearms Safety Specialist, 4) Quality Assurance Chief

(Not in the baseline FTE target), 5) Project Engineering & Design (Not in the baseline FTE target), 6) Criticality Safety Engineer; 7) Fire Protection Engineer/SSO (Not in the baseline FTS target); 8) Industrial Hygienist (Not in the baseline FTE target); and 9) Authorization Basis Engineer/SSO (Not in the baseline FTE target). Two of these positions have currently been filled. The Criticality Safety Engineer position was filled by a Future Leader Graduate in FY 2010. The Fire Protection Engineer/SSO and Industrial Hygienist positions are to be filled in FY 2011 by a Future Leader Program graduate; the Authorization Basis Engineer/SSO position is to be filled in FY 2012 by a Future Leader Program graduate.

Criteria 1.2 IDPs, training plans, technical qualification records, or other related documents are updated to reflect the activities required for each individual to satisfy competencies.

Individual Development Plans (IDPs) are required by all YSO employees, as identified in YSO-2.1, *YSO Technical Qualification Training Program*, to identify training, development, and educational activities for their position. Both short- and long-term goals are identified, described, and approved for each fiscal year. As documented in section 6.3 of YSO-2.1, *YSO Technical Qualification Training Program*, the IDP is a web-based process that is accessed through the Employee Self Service (ESS) website, through interviews with staff and management, this process for completing IDPs was consistently acknowledged. Section 6.7.4.6 of YSO-2.1, states that participants shall complete at least 80 hours of professional development training during the re-qualification period (3 years); this training was documented in the 4 IDPs that were reviewed.

Personnel have 18 months to complete initial YSO TQP qualification in accordance with YSO-2.1, *YSO Technical Qualification Training Program*. YSO uses weekly progress reports as a management tool to ensure personnel are completing their qualifications within the 18-month time period. These weekly reports are provided to YSO Management and reflect the total qualification progress obtained by each YSO TQP participant, as well as previous progress. A monthly report is also issued that includes the status of employee progress.

YSO provides updates on qualification status to the NNSA Service Center for inclusion in the NNSA-wide TQP progress matrix, however in certain instances this update is not transmitted in a real time manner. YSO also provides updates to the NNSA-wide Qualifying Officials listing, which is managed by the Service Center.

The 2006 YSO Accreditation Assessment documented an Area for Improvement (AFI-1) which stated that when re-qualifying or filling a vacant position, review of assigned qualification card competencies by QOs is not always performed in a thorough manner. YSO revised YSO-2.1, *YSO Technical Qualification Training Program*, to correct this 2006 AFI. Sections 4.4.23, 5.1.4, and 6.2 define the process for documenting TQP qualification reviews which are required for initial qualification, requalification, or change of position. Sections 4.4.22, 4.4.24, 6.7.1, and 6.7.2 document the process for performing the gap qualification analysis and incorporating the results into the requalification card. Discussions with the YSO Training Manager indicated

evaluations are conducted to ensure that qualification card competencies derived reflect any identified gaps.

In addition, the 2006 Accreditation Assessment documented an Area for Improvement which indicated that not all staff has updated Individual Development Plans. The YSO Training Manager receives a monthly IDP status report from the Enterprise Training Services (ETS). This report is used to track IDP progress. YSO-2.1, *YSO Technical Qualification Training Program*, was revised and approved on 12/21/2006 to address the 2006 AFI. Section 6.3 of YSO-2.1, was expanded to include specific steps to develop IDPs, perform a needs analysis and address budget forecasts. Section 6.3 also includes a methodology to prioritize training needs and define the prioritization categories. Reviews of Monthly Organizational IDP Status Reports for June, July and August of 2010, show a continuing trend of IDPs not being updated. For FY 2010 all 76 YSO IDPs were signed and approved. Currently YSO has 80 employees and the ETS August, 2010 IDP report for FY 2011 contains varying status levels including 74 signed, one in progress, two discussions needed, one requested manager review, and two listed as not started. The corrective action for this issue has not properly addressed the 2006 AFI. Training Needs Assessment and subsequent YSO training fund allocation is impacted by incomplete IDPs.

NI-1-1: The process for YSO TQP participants to complete IDPs has not resulted in all TQP participant involvement, impacting YSO FY Training Needs and Assessment and subsequent YSO training fund allocation.

Review of one individual technical qualification record revealed a Duty Limitations memo for Provisional Qualifications after a Fully Qualified TQP Certificate was issued. This issue will be discussed further in TQP Objective 3.

Criteria 1.3 A formal evaluation process is in place to objectively measure the technical competency of employees. The rigor of the evaluation process is commensurate with the responsibilities of the position.

The YSO TQP Program relies heavily on Qualifying Officials (QO) whose responsibilities are identified in YSO-2.1, *YSO Technical Qualification Training Program*. Individuals are recommended as a Qualifying Official by Assistant Managers based on their education, work experience, and site specific knowledge. This designated list of Qualifying Officials is sent to the Training Manager for compilation. The QO list is then submitted to the Y-12 Site Manager for approval and issuance. The YSO Site Manager may choose to perform an interview with any or all individual(s); this interview consists of the Y-12 Managers expectations and objectives on the performance of the Qualifying Official responsibilities. A Noteworthy issue was identified in the 2006 Accreditation Assessment, which identified the QO training not having any lesson plans with terminal objectives or evaluation tools developed. This training session lends itself to a briefing not formal training. This issue was resolved by updating YSO-2.1 and including the training manager in the QO training session with the manager. Discussions with the YSO Training Manager and Qualifying Officials, state that all QOs are required to attend a training

session conducted by the YSO Manager and the Training Manager. This training is documented in staff training files for Qualifying Officials.

Interviews with staff, as well as QOs have indicated a variety of techniques were used to verify the level of knowledge that a TQP participant possesses for a given competency. Verification examples given during interviews ranged from written tests, to a QO asking questions that were outside of the qualification competency knowledge, skills, and abilities, in one instance to general discussions about a particular topical area. Although the YSO manager conducts training for each QO, outlining his expectations for their sign-offs on TQP competencies, it appears that YSO lacks a consistent and rigorous approach to evaluate competencies by QOs. This was identified as a Noteworthy Issue in the 2006 Accreditation Assessment. The corrective action taken to resolve this issue has not been effective.

NI-1-2: In some cases, YSO QOs have expanded KSAs examined beyond those contained in FAQs competencies, resulting in QO reevaluation.

Also when reviewing qualification cards an inconsistency with not having a column for what type of evaluation was conducted to ensure competency was achieved was noted with qualification cards from Functional Area Qualification Standards to Site Specific Standards. This is in noncompliance with DOE O 426.1 (Requirements section 4.b.(5) (c)).

AFI-1-1: QO method of examination is not documented for certain Site Specific and Functional Area Qualification Cards, contrary to DOE O 426.1

The Qualification Official List dated May 2010 documents Topical Areas, Primary Functional Areas, and Qualifying Officials. For the following QO Topical Area: Facility Walk-Downs (Y-12 Manufacturing), the QO is identified in the QO List as Qualified Facility Representatives (Facility group Specific). For the Following Primary Functional Areas: Facility Representative (Part I, Sections 2.0 and 3.0), Facility Representative (Part II), and Facility Representative (Part III), the QO identified in the QO List as Qualified Facility Representatives, Qualified Facility Representative or SME, and Qualified Facility Representative (Facility/Group Specific), and the Safety System Oversight (SSO) has the QO identified as Qualified SSO. This is not consistent with DOE O 426.1 (Responsibilities section 5.b.(5)).

AFI-1-2: Contrary to DOE O 426.1 (Responsibilities section 5.b.(5)) YSO FR and SSO QOs designated include all qualified FRs and SSOs instead of specifying individuals having 1st hand technical knowledge of the competencies being evaluated.

Also a QO was identified for Instrumentation and Control. That QO is not qualified as a TQP participant for Instrumentation and Control, contrary to YSO-2.1. This issue will be discussed further in TQP Objective 3.

Interviews with staff indicated that a Deactivation and Decommission (D&D) TQP position was designated to a staff member, and this individual was pursuing the D&D FAQs. Upon further

review of the Qualification Official List dated May 2010, it indicated that the Topical Area for Deactivation and Decommission was not listed. This is not consistent with DOE O 426.1 (Requirements section 4.b.(3) (d)).

AFI-1-3: A TQP participant pursuing the D&D FAQs had no QO listed on the YSO QO list for qualification contrary to DOE O 426.1 (Requirements section 4.b.(3) (d)).

Areas for Improvement

AFI-1-1: QO method of examination is not documented for certain Site Specific and Functional Area Qualification Cards, contrary to DOE O 426.1 (Requirements section 4.b.(5) (c))

AFI-1-2: Contrary to DOE O 426.1 (Responsibilities section 5.b.(5)) YSO FR and SSO QOs designated include all qualified FRs and SSOs instead of specifying individuals having 1st hand technical knowledge of the competencies being evaluated.

AFI-1-3: A TQP participant pursuing the D&D FAQs had no QO listed on the YSO QO list for qualification contrary to DOE O 426.1 (Requirements section 4.b.(3) (d)).

Strengths

None

Noteworthy Information

NI-1-1: The process for YSO TQP participants to complete IDPs has not resulted in all TQP participant involvement, impacting YSO FY Training Needs and Assessment and subsequent YSO training fund allocation.

NI-1-2: In some cases, YSO QOs have expanded KSAs examined beyond those contained in FAQs competencies, resulting in QO reevaluation.

OBJECTIVE 2

Team Member: Michael Garcia

TQP-2–Competency Levels. Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.

Criteria

- 2.1 Competency requirements include clearly defined knowledge, skill, and ability elements.
- 2.2 Recognized experts help establish competency requirements.
- 2.3 Related professional accreditation requirements are considered in the program as applicable.
- 2.4 Competency requirements are identified in the areas listed below.
 - **Basic Technical Knowledge.** Competency in areas such as radiation protection, occupational safety, chemical safety, nuclear safety, and environmental regulations.
 - **Technical Discipline Competency.** Competency in a technical discipline (e.g., mechanical engineering, chemical engineering) that can be demonstrated by education, professional accreditation, examination, or on-the-job performance.
 - **Position Knowledge, Skills, and Abilities.** Competencies specific to the position, facility, or program and the office.

Document Review

- DOE O 426.1, Federal Technical Capability
- DOE-STD-1138-2007, Industrial Hygiene Functional Area Qualification Standard
- DOE-STD-1174-2003, Radiation Protection Functional Area Qualification Standard
- DOE-STD-1146-2007, General Technical Base Qualification Standard
- DOE-STD-1151-2002, Facility Representative Functional Area Qualification Standard
- YSO, Annual Workforce Analysis and Staffing Plan, December 31, 2009
- YSO, Organization Chart, July 9, 2010
- YSO, TQP Self Assessment Report, July 2010
- YSO-2.1, TQP
- Sponsors and Recognized Experts for FAQs Document, Updated July 2010
- YSO, Employee Entrance Checklist
- YSO, Training Impact Assessment Form
- YSO, Maintenance Engineer FLP First 6-Month Plan

- YSO, TQP Records Reviewed: Training Manager, Assistant Manager Operations Management, Industrial Safety Manger, Maintenance Program Manger, Facility Representative, Criticality Safety Engineer, Radiological Control Engineer, Protective Forces/Firearms Safety Specialist and Chemical Process Engineer

Interviews

- Training Program Manager
- Assistant Manager, Office for Operations Management
- Industrial Safety Engineer
- Maintenance Program Manager
- Facility Representative (Group 1)
- Criticality Safety Engineer
- Radiological Control Engineer
- Protective Forces/Firearms Safety Specialist
- Chemical Process Engineer

Activity Observations

- Facility Representative Morning Conference Call

Discussion

Criteria 2.1 Competency requirements include clearly defined knowledge, skill, and ability elements.

YSO has implemented a comprehensive Technical Qualification Program (TQP) that establishes competencies for assigned federal staff associated with Y-12 nuclear facilities and operations. The Program includes elements to define specific knowledge, skills and ability elements to fully meet the broad range of work requirements on the Site. The Annual Workforce Analysis and Staffing Plan Report, dated December 31 2009, provides the basis necessary to identify mission objectives and delineates technical staffing needs along functional lines of responsibility. Site Office technical staff are assigned both Functional Area and Site Specific Qualification Standards based on assigned Site duties.

The Site Office Training Program Manager has primary responsibility for Program implementation and for assisting technical staff in the coordination of a broad range of requirements associated with the TQP. The Training manager works with the designated Site managers and supervisors to assign Functional Area Qualification and Site Standards consistent with DOE O 426.1 and the YSO-2.1 Technical Qualification Training Program and the YSO Technical Qualification Standard. The Training Manager and supervisor identify individual competencies from the YSO technical position qualification requirements. Once the qualification requirements are identified, the Training Program Manager and the respective

Assistant Manager, with input from the employee, develop Office Specific qualification including Practical Factors appropriate for the position. The final competency Standard is prepared by the Training Program Manager and submitted to the supervisor and Assistant Manager for review and approval.

Following the assignment of the Standards, the Training Program Manager provides each employee with a briefing on the requirements and expectations for completion of the requirements. All new employees are provided a briefing of the Program expectations as part of the "Employee Entrance Checklist". The Checklist provides the opportunity for the Training Program Manager to ensure new employees is fully briefed on the Program elements.

S-2-1: The YSO Training Manager provides initial TQP training (i.e. "New Employee Checklist") and ongoing, continuous proactive engagement in YSO TQP implementation.

Criteria 2.2 Recognized experts help establish competency requirements.

Site Office subject matter experts (SMEs) support the identification of competencies for the Site technical staff. The identified SMEs are engaged in the identification of requirements in support of the Training Manager and designated Site managers and supervisors. Along with the direct Site Program support, YSO SMEs have participated in the development of the DOE Program Standards including: Mechanical Systems Qualification Standard, DOE-STD-1161-2008, Nuclear Safety Specialist Qualification Standard, DOE-STD-1183-2007, Weapons Quality Assurance Qualification Standard, DOE-STD-1025-2008, and Electrical Systems and Safety Oversight Standard, DOE-STD-1170-2007. Site Office staff who participated in the development of the DOE Standards served as experts in their respective disciplines and were successful in providing a Site Office perspective as an integral part of the Standards development process.

In response to the YSO Accreditation Evaluation, dated June 2006, the Site Office addressed an issue identified in one of the Areas for Improvement, AFI-2, "The process for ensuring that clearly defined knowledge, skills and abilities are developed for site/office/position-specific qualification standards is not fully implemented". Specifically, the Site Office completed a revision to the Site Technical Qualification Standards in November 2006 to expand on the competencies to ensure a level of consistency with the YSO Facility Representative Qualification Standard. The actions were documented and closed in the Pegasus recordkeeping system. However, some of the KSAs are somewhat general and may not be actionable. (See **NI-4-2**)

Criteria 2.3 Related professional accreditation requirements are considered in the program as applicable.

Professional accreditations and nationally recognized certifications, including Certified Health Physicist, are to be used by Qualifying Officials as a basis for meeting the requirements of Functional Area Qualifications. YSO-2.1 provides guidance for considering the use of

certifications as basis for meeting Functional Area Qualification. The process as outlined in Section 6.5, Equivalency for Training Competencies, delineates the actions necessary for using certifications and accreditations as means of meeting Standard requirements. However, during one of the employee interviews, a statement was made that the certification held was not considered by the Qualifying Official during the review of the assigned Functional Area Standard. The Qualifying Official involved with the determination was no longer a member of the Site Office and therefore was not interviewed to confirm the statement.

In a subsequent discussion with another TQP participant, a view was expressed that maintaining certifications and accreditations was not given much recognition. Certification and accreditations can be an asset to YSO technical capability. Overall, ongoing employee participation in activities sponsored by the national accrediting organizations provides an important contribution to the Site TQP qualification process.

NI-2-1: In at least one instance, a YSO TQP participant's certification (i.e., CHP, CSP, etc.) and ongoing support of national accrediting organizations was not recognized as an important contribution to his TQP qualification process nor YSO's technical capability.

Criteria 2.4 Competency requirements are identified as follows: 1) Basic Technical Knowledge, 2) Technical Discipline Competency, and 3) Position Knowledge, Skills, and Abilities.

Site Office TQP participants are provided defined competencies and the necessary basic technical knowledge through both qualification on the GTBQS, FAQs and the YSO Site TQP Standard. In addition, the position specific KSAs are established through a review of requirements and discussions between the Training Program Manager, employee, supervisor and the designated Assistant Manager.

A review of (9) training records verified necessary identification of requirements and the completion of training as required in the Site Standard and the DOE O 426.1. The Training Department maintains a complete record on employee participation and accomplishments as required by the Program. In addition, the Site Pegasus System and the BWXT SAP (i.e. Training Module) provides complete listing of all training accomplished by the TQP participants.

Areas for Improvement

None

Strengths

S-2-1: The YSO Training Manager provides initial TQP training (i.e. "New Employee Checklist") and ongoing, continuous proactive engagement in YSO TQP implementation.

Noteworthy Information

NI-2-1: In at least one instance, a YSO TQP participant's certification (i.e., CHP, CSP, etc.) and ongoing support of national accrediting organizations was not recognized as an important contribution to his TQP qualification process nor YSO's technical capability.

OBJECTIVE 3

Team Member(s): Mark Alsdorf

TQP-3 – Plans and Procedures. Plans and/or procedures are developed and implemented to govern administration of the program.

Criteria:

- 3.1 Senior management is committed to the TQP.
- 3.2 Written procedures that adequately define the processes and requirements to implement the TQP are in place.
- 3.3 Roles and responsibilities for implementing the TQP are clearly defined and understood by all involved.
- 3.4 The procedures that govern implementation of the TQP are understood by all involved and are being implemented as written.
- 3.5 A training and qualification records system is established for each employee in the TQP.

Document Review

- Memorandum to Karen Boardman, Chair, Federal Technical Capability Panel, “Technical Qualification Program Compensatory Measures to Expert Level Competencies for Entry Level Personnel, May 27, 2010
- DOE O 426.1, *Federal Technical Capability*, 11-19-09
- NA-1 M 426.1-1A, *Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*, 05-19-08
- YSO-2.1, *YSO Technical Qualification Training Program*, 06-08-2010
- YSO-1.6, *Facility Representative Program*
- YSO-7.4, *YSO Safety System Oversight Program*
- YSO-M 411.1-1C, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual*, December 10, 2009
- YSO Technical Qualification Program Qualifying Official List, May 2010
- Y-12 Site Office Technical Qualification Program Standard, August 2010
- Y-12 Site Office Technical Qualification Program Assignments, August 13, 2010
- YSO TQP Position Designation Letter
- NNSA YSO Technical Staff Qualifications List, August 10, 2010
- Form YSO-2.1-6.5.3, Competency Equivalency/Exemption Form

- Form YSO-2.1-6.6.2, Extension Request Form
- Form YSO-2.1-6.13.1, Feedback and Improvement Report
- Y-12 Site Office Organizational Chart, 08-09-2010
- TQP Records for the following positions/subject matter experts: FTCP Agent, Senior Project Manager (2), Federal Project Director, Safety System Oversight (3), Criticality Safety, Fire Protection Engineer, Information Protection Team Leader, Personnel Security Specialist, Security Systems Engineer, Physical Security Specialist (2), Operations Team Lead Operations Engineer (STSM), Senior Program Manager (Defense Programs Team), Future Leaders (3)
- Self-Assessment Report on the Y-12 Site Office Technical Qualification Program, July 2010

Interviews

- Site Manager
- Acting Deputy Site Manager/Senior Project Director for the Project Directorate
- Assistant Manager for Operations Management/FTC Agent
- Assistant Manager for Engineering, Safety, and Environment
- Assistant Manager for Safeguards and Security
- Assistant Manager for Program and Business Management
- Federal Project Director
- Senior Project Manager (2)
- Deputy Assistant Manager for Security
- Physical Security Specialist
- Firearms Safety/Pro Force
- Cyber and Security Program Management Team Leader
- Security Systems Specialist
- Defense Programs Team Leader
- Strategic Partnerships and Planning Program Manager
- YSO Training Manager

Activity Observations

- EOC Manager during Joint Tennessee Emergency Management Agency/Y-12 National Security Complex Emergency Preparedness Integrated Capability Exercise 2010-3, August 25, 1020

Discussion

Criteria 3.1 Senior management is committed to the TQP.

The YSO senior management demonstrates a strong commitment to the Technical Qualification Program (TQP) through active participation in TQP activities. Senior management throughout the office is highly engaged in qualification activities, including serving as qualifying officials, chairing oral evaluation boards and leading facility evaluated walkthroughs. Identification of TQP positions, candidates, and qualifying officials is coordinated through senior management and approved by the Site Manager. Qualification progress status of TQP participants is presented to senior management and programmatic issues are discussed on a weekly basis.

Interviews confirmed that YSO senior management is committed to the YSO TQP and hold them accountable for the implementation of the TQP. This is a strength of the program.

S-3-1: YSO senior management, especially the site office manager, is committed and personally involved in the YSO TQP.

Criteria 3.2 Written procedures that adequately define the processes and requirements to implement the TQP are in place.

The YSO Technical Qualification Training Program, YSO-2.1, adequately translates the expectations of DOE O 426.1, *Federal Technical Capability*, into a functional document. Program requirements are also described in two additional documents, YSO-1.6, *Facility Representative Program*, and YSO-7.4, *YSO Safety System Oversight Program*. These documents capture all the requirements specified in DOE O 426.1, *Federal Technical Capability*, to implement the TQP.

Several sections in YSO-2.1, *YSO Technical Qualification Training Program*, expand on requirements to strengthen the YSO TQP. Specifically, this procedure includes provisions for establishing continued service obligations, validating competencies for previously qualified participants, continuing training, and requalification beyond requirements in DOE O 426.1, *Federal Technical Capability*. In one instance, YSO-2.1, *YSO Technical Qualification Training Program*, encourages walkthroughs of facilities for re-qualifying non-FR TQP participants to maintain familiarity level knowledge on general layout, purpose, and hazards of the facilities listed in the YSO Technical Qualification Standard. This is a strength.

S-3-2: YSO-2.1, YSO Technical Qualification Training Program, encourages facility walkthroughs on a three-year periodicity for all non-FR TQP participants.

Criteria 3.3 Roles and responsibilities for implementing the TQP are clearly defined and understood by all involved.

YSO-M 411.1-1C, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual*, dated 12-9-09, delineates the key responsibilities of the YSO Manager, Deputy Manager, and the Assistant Manager for Operations Management. The defined responsibilities for the YSO manager are:

- Maintains appropriate qualification standards for personnel with oversight responsibilities and clear unambiguous lines of authority and responsibility for oversight.
- Approves assignment of SSO officials to Vital Safety Systems.
- Ensures oversight of the contractor's training and qualification program.

The defined responsibilities for the Deputy Manager are:

- Serves as the YSO Federal Technical Capabilities Program Agent and STSM.

The defined responsibilities for the Assistant Manager for Operations Management are:

- Develops, implements, and maintains the Technical Qualification Program (TQP). (Supervisors approve staff qualification cards.)
- Implements the Federal Technical Capability Program in accordance with DOE O 426.1, *Federal Technical Capability*, to ensure the NNSA Federal technical employees responsible for oversight are trained to perform their duties safely and efficiently.
- Conducts and participates in periodic evaluations of Federal Training and Qualification Programs.
- Provides support to the FTCP Agent.
- Develops, achieves, and maintains accreditation of YSO for the Training and Qualification Program in accordance with DOE O 426.1, *Federal Technical Capability*.
- Develops and approves workforce staffing analysis plan.
- Responsible for the oversight of FTCP/TQP assessments.

Additionally, YSO-2.1, *YSO Technical Qualification Training Program*, defines responsibilities for the Manager, assistant managers and the senior project director, FTCP Agent, QOs, qualification candidates, and TQP Training manager.

All participants interviewed exhibited a firm understanding of responsibilities delineated in these documents. For example, a recent vacancy announcement for an STSM position correctly identified the position as one in the TQP and in the STSM functional area. The FTC Agent concurred with the vacancy announcement and with the candidate selection, as required by DOE O 426.1.

Criteria 3.4 The procedures that govern implementation of the TQP are understood by all involved and are being implemented as written.

Interviews were conducted with the YSO senior management, qualifying officials, Training Manager, FTC Agent and TQP participants regarding their understanding of the TQP and its implementing direction. From the interviews, it was clear YSO staff understands the expectations of the program and implement the program as required.

In a memorandum to the FTCP Chair, dated May 27, 2010, YSO "identified an issue of assigning expert level competencies from the Functional Area Qualification Standards to entry-level Technical Qualification Program participants with the unrealistic expectation to complete the competencies within 18 months". YSO notified the Chair of their intention to "provisionally

qualify” entry-level TQP participants at a working level and identify appropriate compensatory measures until the participant achieves full qualification status. This policy is codified in paragraph 6.2.3 of YSO-2.1, *YSO Technical Qualification Training Program*.

Paragraph 6.2.3 states, “the individuals’ job tasks requiring expert level knowledge will be monitored by experienced Team Leaders and/or Subject Matter Experts who are qualified in that functional area. These individuals will be qualified to the full scope of their job responsibilities; however, they will be restricted from specific activities requiring expert level knowledge. These restrictions will be documented in an approved Duty Limitations letter, as defined by YSO-2.1, *Technical Qualification Training Program*, section 5.3, “Duty Limitations” and Attachment 4, *Duty Limitations Letter*. These individuals will be “Provisionally Qualified” on the specific competencies until an expert level of knowledge is verified by their Assistant Manager/Senior Project Director. On a case-by-case basis, their status will be re-evaluated by the appropriate Assistant Manager/Senior Project Director when requalification comes due (3 or 5 years) and if deemed to have demonstrated an expert level of knowledge; their training will be adjusted accordingly. The qualification card will reflect “working-level” knowledge until expert level knowledge is achieved. The Training Manager will ensure that qualification cards reflect the appropriate level of knowledge and the “Provisionally Qualified” status. Once expert level knowledge is achieved and verified by the appropriate AM/SPD, the Training Manager will update the qualification card and write a letter to the Training Files documenting the change from Provisionally Qualified status to full qualification. The letter will be approved by the individual’s appropriate AM/SPD.”

Several TQP participants have been identified as requiring this action. A compensatory/duty limitations letter has been issued to each of them and included in their official training records. However, in the only case where this policy has been seen through to completion, the individual’s competencies had been modified, in contradiction with paragraph 4.b.(2) (f) of DOE O 426.1, *Federal Technical Capability*, to reflect “working-level” knowledge. Paragraph 4.b.(2)(f) states that “competency requirements identified as having Department-wide applicability must be transferable. For ease of transportability of qualifications between DOE elements, the DOE General Technical Base Qualification Standard and the various DOE FAQs must be used without modification or additions.” Additionally, instead of reflecting the “Provisionally Qualified” status, the participant’s qualification card indicated full qualification.

Also, there is no provision to define a path forward for the individual to attain full qualification. The first time the participant is re-evaluated for attainment of expert level knowledge, and therefore, complete full qualification is upon requalification at the 3 or 5-year point.

AFI-3-1: The YSO Provisional Qualification process conflicts with the requirement to complete FAQs competencies without modification or additions. (DOE O 426.1, Requirements section, 4.b. (2) (f) and 4.b. (3)).

Paragraph 4.b. (2)(c) in DOE O 426.1, *Federal Technical Capability* requires that “plans and procedures must be developed and implemented to govern the administration of the program.”

Additionally, paragraph 4.b.(5) states that “Headquarters and Field Element Managers (FEMs) must implement their TQP Plans.” Several examples of YSO not implementing their TQP include:

- 1) YSO-2.1, *YSO Technical Qualification Training Program*, paragraph 5.3, states that “prior to starting the initial qualification process, the individual’s supervisor shall determine any limitations of the TQP participant’s duties and provide the details to the Training Manager.” No duty limitations were on file for any participants in initial qualification except for participants undergoing “provisional qualification”. While this is acceptable, there is no documented evidence that supervisors performed duty limitation determinations. Additionally, paragraph 5.3 states “The supervisor and Training Manager shall clearly document the duties and responsibilities of the TQP participant during the initial qualification via a letter.” No letters detailing positional duties and responsibilities during initial qualification have been produced.
- 2) YSO-2.1, *YSO Technical Qualification Training Program*, paragraph 6.2.8, states that “when the employee’s TQS is approved, the Training Manager ensures a copy is sent to the NNSA TQP Manager at the Service Center. This copy serves to notify the NNSA TQP Manager at the Service Center of qualification progress updates, in addition to the required updates. This process shall be completed within 60 days of the individual’s approval for inclusion in the TQP.” To date, no YSO TQS has been received by the NNSA TQP Manager.
- 3) YSO-2.1, *YSO Technical Qualification Training Program*, note to paragraph 6.5, states that “exemptions are no longer allowed per NNSA policy”, but references the process for obtaining exemptions, including the use of Form YSO-2.1-6.5.3, the Competency Equivalency/Exemption Form. This form contains exemption submission areas under the Self-Assessment Recommendation and Reason for Exemption sections of the form. There is also a “competency exemption” definition in the procedure stating that “the Y-12 Site Manager approves the exemptions”.
- 4) YSO-2.1, *YSO Technical Qualification Training Program*, paragraph 6.7.1, states “prior to the end of the three-year or five-year qualification period (as appropriate), the Training Manager will perform a “gap” analysis of current requirements in the TQP participant’s standards.” DOE O 426.1, *Federal Technical Capability*, identifies only two functional areas as requiring requalification, STSM and FR. Specifically, paragraph 4.b.(6)(c) states “FEMs must require personnel filling STSM positions to re-qualify to the latest version of the STSM FAQs every five (5) years. The requalification period for FRs is addressed in DOE-STD-1063-2006, *Facility Representatives*” Paragraph 4.b.(5)(g) identifies the competency maintenance requirements for all other TQP positions: “TQP participants who complete applicable qualification requirements must continue their professional development and maintain proficiency through participation in continuing training, education, or other developmental activities.” This maintenance requirement also applies to STSMs and FRs. While YSO can require requalification of every position in the site TQP, YSO-2.1, *YSO Technical Qualification Training Program*, does not specify which functional areas are appropriate for the three-year or five-year qualification period.

- 5) YSO-2.1, *YSO Technical Qualification Training Program*, paragraph 6.10.1, states to obtain QO designation, “as a minimum, the individual shall have completed initial qualifications for the Technical Qualification Program in their respective primary functional area.” However, some YSO-designated QOs are not qualified in areas they are evaluating. For example, one Instrumentation and Control (I&C) FAQS QO is not qualified in the I&C FAQS. This is in conflict with YSO 2-1, but not DOE O 426.1, *Federal Technical Capability*. QOs represent the position supervisor when signing QS competencies and should be approved by the supervisor prior to performing an evaluation.
- 6) YSO-2.1, *YSO Technical Qualification Training Program*, paragraph 6.11.2, designates five YSO positions as STSM positions. Three additional positions have also been assigned the STSM FAQS. These are two Team lead positions in the Office of Engineering, Safety and Environment (pursuing STSM qualification for professional development), and one team leader position in the Office of Operations Management. These positions are not identified in YSO-2.1 as required to complete STSM qualification.
- 7) YSO-1.6, *Facility Representative Program*, paragraph 5.8.7, states that “the YSO Training Manager shall develop an annual schedule for continuing training.” The FR team lead maintains a log of continuing training, but is unaware of any annual schedule.

AFI-3-2: YSO TQP procedures are not implemented as written. (DOE O 426.1, Requirements section, 4.b. (2) (c)).

Criteria 3.5 A training and qualification records system is established for each employee in the TQP.

Paragraph 7.0 of YSO-2.1, *YSO Technical Qualification Training Program*, establishes the YSO training and qualification records system. It identifies the records that constitute the YSO official training files for each TQP participant. A review of the records revealed that individual training files are securely kept in an easily auditable format. Each TQP participant had an individual file that contained all the required records. Additional discussion on the training records system is contained in TQP Objective 6.

Areas for Improvement

AFI-3-1: The YSO Provisional Qualification process conflicts with the requirement to complete FAQS competencies without modification or additions. (DOE O 426.1, Requirements section, 4.b. (2) (f) and 4.b. (3)).

AFI-3-2: YSO TQP procedures are not implemented as written. (DOE O 426.1, Requirements section, 4.b. (2) (c)).

Strengths

S-3-1: YSO senior management, especially the site office manager, is committed and personally involved in the YSO TQP.

S-3-2: YSO-2.1, *YSO Technical Qualification Training Program*, encourages facility walkthroughs on a three-year periodicity for all non-FR TQP participants.

Noteworthy Information

None

OBJECTIVE 4

Team Member(s): Donna R. H. Riggs

TQP-4 - Qualification Tailored to Work Activities. The program identifies unique Department- and position-specific work activities and specifies the knowledge and skills necessary to accomplish that work.

Criteria

- 4.1 An analysis has been performed to identify the related knowledge, skill, and ability elements to accomplish the duties and responsibilities for each TQP functional area or position.
- 4.2 The program includes job-specific requirements related to the rules, regulations, codes, standards, and guides necessary to carry out the mission of the office.
- 4.3 The program supports the mission needs of the office.

Document Review

- DOE Order 426.1, Federal Technical Capability
- Qualification Notebook for Weapons Quality Engineer
- Qualification Notebook for Training Manager
- Performance Plan/Performance Appraisal Form for Training Manager
- Annual Workforce Analysis and Staffing Plan Report as of December 31, 2009, Reporting Office: Y-12 Site Office
- Memorandum, Y-12 Site Office Manager to distribution, Y-12 Site Office Technical Qualification Program Assignments, August 13, 2010
- Self-Assessment Report on the Y-12 Site Office Technical Qualification Training Program, July 2010
- YSO Management Staff Meeting, Meeting Notes, Monday, Aug 16, 2010
- Office Manager's handwritten notes from the YSO Management Staff Meeting, August 23, 2010
- Technical Qualification In-Progress Week Ending 08/13/10
- TQP Re-qualification Progress Week Ending 08/13/10
- YSO-2.1, YSO Technical Qualification Training Program, revision 16
- Qualifying Officials, revision 18
- Quarterly Report on Federal Technical Capability – 10-NA SC-006, June 2010
- Qualifying Official's questions and participant handouts for YSO 1.9, 3.2 and 4.2
- DOE-STD-1138-2007, Industrial Hygiene Functional Area Qualification Standard

- DOE-STD-1174-2003, Radiation Protection Functional Area Qualification Standard
- Y-12 Site Office Technical Qualification Program Standard, revision 10
- Y-12 Site Office Facility Representative Interim Qualification Program, December 2007
- Y-12 Site Office Facility Representative Qualification Standard, revision 12
- Y-12 Site Office Safety System Oversight Qualification Standard, revision 2
- Letter from NNSA Administrator, Expectations for Participants in the Safety Basis Professional Program (SBPP), June 1, 2010
- DOE Order 422.1, Conduct of Operations
- Y-12 Site Office Management System Description/Quality Assurance Program, November 2009
- Y-12 Site Office 2010 Operating Plan
- YSO-M 411.1-1C, Y-12 Site Office Functions, Responsibilities, and Authorities Manual (FRAM) Level II, revision 9

Interviews

- Facility Representative (Group I) and Qualifying Official
- Facility Representative (Group II) and Qualifying Official
- Health Physicist and Qualifying Official
- Performance Assurance Manager and Qualifying Official
- Authorization Basis Engineer and Qualifying Official
- Metal Processing Engineer, Safety System Oversight and Qualifying Official
- Facility Quality Assurance Engineer and Qualifying Official
- Weapons Quality Engineer, Acting Quality Assurance Team Lead
- Fire Protection Engineer and Qualifying Official
- Quality Assurance Engineer – Projects and Qualifying Official
- Nuclear Safety Team Lead and Qualifying Official
- Environment, Safety and Health Team Lead and Qualifying Official
- Operations Engineer, Training Manager and Qualifying Official

Activity Observations

- YSO Management Staff Meeting, August 23, 2010
- Daily Operations Briefing, August 24, 2010

Discussion

Criterion 4.1: An analysis has been performed to identify the related knowledge, skill, and ability elements to accomplish the duties and responsibilities for each TQP functional area or position.

The YSO utilizes the General Technical Base Qualification Standard and Functional Area Qualification Standards prepared by recognized DOE subject matter experts and approved by the

FTCP. These standards provide the basis for the YSO Technical Qualification Program. YSO has four additional standards to support the needs of the site office based upon specific position duties and responsibilities:

- Y-12 Site Office Technical Qualification Program Standard,
- Y-12 Site Office Facility Representative Interim Qualification Program,
- Y-12 Site Office Facility Representative Qualification Standard, and
- Y-12 Site Office Safety System Oversight Qualification Standard.

In accordance with DOE O 426.1, 4.b. (4), “Each organizational element must use FAQs or other appropriate means to document technical qualification requirements for the position. These requirements must be established using the systematic approach to training methodology and include the following. ... (c) Position Knowledge, Skills and Abilities specific to the position, facility, program and/or office.” The analyses performed by YSO to develop the competencies for the four site specific documents were informal and undocumented.

AFI-4-1: The analyses performed by Y-12 Site Office to develop the competencies in the YSO TQP Standards were informal and undocumented. (DOE O 426.1, Requirements section, 4.b. (4), use of Systematic Approach to Training Process).

The YSO Technical Qualification Program Standard includes competencies for Y-12 Base Standards; Administrative, Management, and Oversight Standards; Facility- and System-Specific Standards; and Technical Position-Specific Standards. It specifically excludes Facility Representatives who are covered by the Facility Representative Interim Qualification Program and the Facility Representative Qualification Standard. All TQP participants (except Facility Representatives) must complete all competencies in the Y-12 Base Standards; Administrative, Management, and Oversight Standards; and Facility- and System-Specific Standards.

Six competencies (P10.4, P10.5, P10.6, P10.7, P41.10 and P41.11) are identified as “practical factors” in the YSO Technical Qualification Program Standard to ensure mastery of identified skills and abilities.

NI-4-1: The YSO TQP Standard includes few practical factors.

The YSO Facility Representative Qualification Standard includes a “performance evaluation” section that includes activities such as logging into and out of the Occurrence Reporting and Processing System (ORPS), writing a Surveillance Report and several “assessments” sections in part III require performance of three, four, or five specific assessments. The YSO Safety Systems Oversight Qualification Standard includes practical factors and performance demonstration requirements in section E.2.0.

Criterion 4.2: The program includes job-specific requirements related to the rules, regulations, codes, standards, and guides necessary to carry out the mission of the office.

The FAQs include Department-wide job-specific requirements related to the rules, regulations, codes, standards, and guides necessary to carry out job tasks. The YSO TQP standards also include specific rules, regulations, codes, standards, and guides in many of the specific supporting knowledge and/or skills, however, some supporting knowledge and/or skills are too general to allow the participant to locate the requisite knowledge.

NI-4-2: Some supporting knowledge and skills statements are so general that participants may have difficulty in comprehending meaning or locating applicable reference materials.

A few examples include:

- P3.2 a. “Knowledge of the DOE Order and any associated standard that requires a specific project to be implemented at Y-12 to ensure compliance.”
- P28.1a. “Knowledge of the DOE Order(s), any associated standard, Federal Codes, or requirements that relate to Y-12 HVAC systems to ensure compliance.”
- P29.1a. “Knowledge of the DOE Order(s), any associated standard, Federal Codes, or requirements that relate to Y-12 Metal Working, Machining, and Forming processes to ensure compliance.”

The YSO TQP standards include general or specific references to contractor programs, documents and procedures in many competencies. All TQP participants except Facility Representatives are required to complete familiarity level competencies for awareness of activities and configuration of the Y-12 facilities. The YSO TQP standards use a mix of familiarity level and working level competencies. None of the YSO TQP standards include expert level competencies.

The August 2010 revision to the YSO TQP Standard includes multiple references to DOE Order 5480.19 (in P5.0 through P8.0) although DOE Order 5480.19 was cancelled by DOE Order 422.1 on June 29, 2010. Also, the YSO Facility Representative Qualification Standard updated in 2008 references DOE Order 414.1A although DOE Order 414.1C was issued in 2005.

NI-4-3: The YSO TQP Standard revised in August 2010 includes references to DOE Order 5480.19 although it was cancelled by DOE Order 422.1 on June 29, 2010 and the Facility Representative Qualification Standard updated in 2008 references DOE Order 414.1A although DOE Order 414.1C was issued in 2005.

The Facility Representative Interim Qualification Program and the Facility Representative Qualification Standard include references to some obsolete DOE orders which should be corrected during the normal triennial review per YSO 4.2, Preparation and Configuration Management of Command Media and Records.

Consolidation of selected Facility Quality Assurance, Weapons Quality Assurance and Software Quality Assurance competencies under the Lead Quality Assurance Engineer YSO TQP

Standard P10.0 resulted in competencies P10.6 and P10.7 appearing to be “practical factors” when they are not.

NI-4-4: YSO TQP Standard P10.0 erroneously includes P10.6 and P10.7 under “practical factors.”

Criterion 4.3: The program supports the mission needs of the office.

YSO Management stresses the importance of the TQP in achieving mission goals and objectives by integrating TQP into individual employee performance plan elements, weekly TQP metrics and reporting, sections 2.1.4 and 2.1.5 of the Management System Description/Quality Assurance Program, and TQP-related quality objective, performance milestone and performance indicators in the YSO 2010 annual operating plan.

S-4-1: YSO effectively integrates TQP into management systems to meet mission.

The TQP assists in the achievement of the Federal staffing reengineering to address skill mix deficiencies and on boarding of newly recruited talent. DOE FAQs with expert level competencies provide a challenge for qualifying less experienced staff members. See objective 3 for further discussion of this issue.

The YSO TQP Standard includes supporting knowledge and/or skills that directly address mission. A few examples include:

- F6.1 a. “Discuss the purpose of the warehouses and their roles in meeting the DOE mission requirements...”;
- P1.2 a. “Discuss each of the mission programs associated with Y-12”; and
- P1.2 b. “Describe how the various programs interrelate to accomplish the mission.”

Recent reports for technical qualifications and re-qualifications in progress show that 40% of the individuals in initial qualification are behind schedule and 36% of the individuals in re-qualification are behind schedule indicating that participants may not be fully qualified to support the mission as planned. The YSO 2010 Operating Plan includes a performance milestone of 95% of staff re-qualifying on time and a performance indicator of staff currently in qualification or re-qualification meeting the “green” time requirements. Twelve of the thirty-one individuals in qualification or re-qualification are currently behind in meeting the “green” time requirements.

In accordance with DOE O 426.1, 4.b. (6)(e), Compensatory and Alternative Measures: “Management must put in place compensatory measures if the incumbent in an identified STSM position has not completed qualification or does not meet the education or experience requirements contained in the STSM FAQs. In developing and implementing compensatory measures, management must ensure that positions of authority are compensated by fully qualified STSMs.” A review of YSO STSM positions qualification records identified one STSM who has not completed initial qualification. This position, Operations Team, Lead Operations

Engineer under the Office of Operations Management, did not have documented evidence of compensatory measures and/or duty limitations.

AFI-4-2: There is no documented evidence of compensatory measures and/or duty limitations for STSMs who have not completed qualifications. (DOE O 426.1, Requirements section, 4.b. (6)(e), Compensatory and Alternative Measures).

Areas for Improvement

AFI-4-1: The analyses performed by Y-12 Site Office to develop the competencies in the YSO TQP Standards were informal and undocumented. (DOE O 426.1, Requirements section, 4.b. (4), use of Systematic Approach to Training Process).

AFI-4-2: There is no documented evidence of compensatory measures and/or duty limitations for STSMs who have not completed qualifications. (DOE O 426.1, Requirements section, 4.b. (6)(e), Compensatory and Alternative Measures).

Strength

S-4-1: YSO effectively integrates TQP into management systems to meet mission.

Noteworthy Information

NI-4-1: The YSO TQP Standard includes few practical factors.

NI-4-2: Some supporting knowledge and skills statements are so general that participants may have difficulty in comprehending meaning or locating applicable reference materials.

NI-4-3: The YSO TQP Standard revised in August 2010 includes references to DOE Order 5480.19 although it was cancelled by DOE Order 422.1 on June 29, 2010 and the Facility Representative Qualification Standard updated in 2008 references DOE Order 414.1A although DOE Order 414.1C was issued in 2005.

NI-4-4: YSO TQP Standard P10.0 erroneously includes P10.6 and P10.7 under “practical factors.”

OBJECTIVE 5

Team Member(s): Mark Alsdorf

TQP-5 – Credit for Existing Technical Qualification Programs. The program is structured to allow credit, where appropriate, for other TQP accomplishments.

Criteria

- 5.1 Credit (equivalency) is granted for previous training, education, experience, and completion of related qualification/accreditation programs, where applicable.
- 5.2 Equivalency is granted based upon a review and verification of objective evidence, such as transcripts, course certificates, test scores, or on-the-job experience.
- 5.3 Equivalencies are formally validated, approved, and documented.

Document Review

- Memorandum to Karen Boardman, Chair, Federal Technical Capability Panel, “Technical Qualification Program Compensatory Measures to Expert Level Competencies for Entry Level Personnel, May 27, 2010
- DOE O 426.1, *Federal Technical Capability*, 11-19-09
- NA-1 M 426.1-1A, *Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*, 05-19-08
- YSO-2.1, *YSO Technical Qualification Training Program*, 06-08-2010
- YSO-1.6, *Facility Representative Program*
- YSO-7.4, *YSO Safety System Oversight Program*
- YSO-M 411.1-1C, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual*, December 10, 2009
- YSO Technical Qualification Program Qualifying Official List, May 2010
- Y-12 Site Office Technical Qualification Program Standard, August 2010
- Y-12 Site Office Technical Qualification Program Assignments, August 13, 2010
- YSO TQP Position Designation Letter
- NNSA YSO Technical Staff Qualifications List, August 10, 2010
- Form YSO-2.1-6.5.3, Competency Equivalency/Exemption Form
- Form YSO-2.1-6.6.2, Extension Request Form
- Form YSO-2.1-6.13.1, Feedback and Improvement Report
- Y-12 Site Office Organizational Chart, 08-09-2010
- TQP Records for the following positions/subject matter experts: FTCP Agent, Senior Project Manager (2), Federal Project Director, Safety System Oversight (3), Criticality Safety, Fire Protection Engineer, Information Protection Team Leader, Personnel Security Specialist,

Security Systems Engineer, Physical Security Specialist (2), Operations Team Lead
Operations Engineer (STSM), Senior Program Manager (Defense Programs Team), Future
Leaders (3)

- Self-Assessment Report on the Y-12 Site Office Technical Qualification Program, July 2010

Interviews

- Site Manager
- Acting Deputy Site Manager/Senior Project Director for the Project Directorate
- Assistant Manager for Operations Management/FTC Agent
- Assistant Manager for Engineering, Safety, and Environment
- Assistant Manager for Safeguards and Security
- Assistant Manager for Program and Business Management
- Federal Project Director
- Senior Project Manager (2)
- Deputy Assistant Manager for Security
- Physical Security Specialist
- Firearms Safety/Pro Force
- Cyber and Security Program Management Team Leader
- Security Systems Specialist
- Defense Programs Team Leader
- Strategic Partnerships and Planning Program Manager
- YSO Training Manager

Activity Observations

- EOC Emergency Manager transition from incident to reentry and recovery during Joint Tennessee Emergency Management Agency/Y-12 National Security Complex Emergency Preparedness Integrated Capability Exercise 2010-3, August 25, 2010

Discussion

Criteria 5.1 Credit (equivalency) is granted for previous training, education, experience, and completion of related qualification/accreditation programs, where applicable.

Paragraph 6.5 of YSO-2.1, *YSO Technical Qualification Training Program*, describes the use of equivalencies or “credit” for previous education, training, experience and/or certification. Competency equivalency is defined in this document as “requirement satisfied based on objective evidence that an individual has prior education, experience or training that meets the competency requirement. Approval of an equivalency shall be by the Y-12 Site Manager.” A review of several TQP records could not confirm the implementation of this policy. No instance of an equivalency being granted could be found. Paragraph 6.5.2 states that “equivalencies shall be used ONLY when all other forms of training (i.e., classroom, OJT, oral exam, etc.) are NOT

available. Equivalencies and exemptions shall therefore be used as a last resort to completion of any competency(ies).” Interviews confirmed that while there was an official policy allowing the use of equivalencies, informal site policy discouraged its use.

Site supervisors are encouraged to conduct a review of a participant’s previous qualifications to determine transferability to the YSO TQP. Specifically, paragraph 6.4.1.5 of YSO-2.1, *YSO Technical Qualification Training Program*, states that “acceptance of transferred qualifications is based on the appropriate evaluation of the individual’s level of knowledge by the supervisor/QO. If the supervisor/QO is satisfied that all the qualification requirements are transferrable, the supervisor signs the qualification card as appropriate.” As a result, equivalency form, YSO-2.1-6.5.3, Competency Equivalency/Exemption Form, is rarely used to document previous qualification transferability.

Criteria 5.2 Equivalency is granted based upon a review and verification of objective evidence, such as transcripts, course certificates, test scores, or on-the-job experience.

Paragraph 6.5.3 of YSO-2.1, *YSO Technical Qualification Training Program*, requires the use of Form YSO-2.1-6.5.3, Competency Equivalency/Exemption Form to officially request equivalency consideration by providing detailed information. This form provides space for the participant to provide justification for the recommendation as well as an equivalency discussion. This form also provides direction to attach additional documentation describing equivalency justification as necessary. No other guidance could be found to quantify acceptable documentation supporting an equivalency request.

Criteria 5.3 Equivalencies are formally validated, approved, and documented.

Paragraph 6.5.1 of YSO-2.1, *YSO Technical Qualification Training Program*, states that “all equivalencies shall be reviewed by and concurred with, the appropriate AM or SPD and then provided to the Y-12 Site Manager for final approval.” Form YSO-2.1-6.5.3, Competency Equivalency/Exemption Form must be used when requesting an equivalency. Paragraphs 6.5.4 and 6.5.5 establish the formal process. They state “if an equivalency is approved by the Y-12 Site Manager, the completed, signed Competency Equivalency/Exemption Form and any supporting documentation is sent to the Training Manager for records disposition. All approved equivalencies shall be documented on the qualification card by indicating “EQ” in the Evaluation Method column for each competency satisfied by the equivalency.”

Area for Improvement

None

Strength

None

Noteworthy Information

None

OBJECTIVE 6

Team Member: Michael Garcia

TQP-6 – Transportability. Competency requirements identified as applying throughout the Department are transferable.

Criteria

- 6.1 The program includes all competencies that have been identified as applying throughout the Department.
- 6.2 Formal documentation of the completion of Department-wide competencies is maintained in a manner that allows for easy transferability.
- 6.3 The TQP is integrated with personnel-related activities, such as position descriptions, vacancy announcements, recruiting, and performance appraisals.

Document Review

- DOE O 426.1, Federal Technical Capability
- DOE-STD-1138-2007, Industrial Hygiene Functional Area Qualification Standard
- DOE-STD-1174-2003, Radiation Protection Functional Area Qualification Standard
- DOE-STD-1146-2007, General Technical Base Qualification Standard
- DOE-STD-1151-2002, Facility Representative Functional Area Qualification Standard
- YSO, Annual Workforce Analysis and Staffing Plan, December 31, 2009
- YSO, Organization Chart, July 9, 2010
- YSO, TQP Self Assessment Report, July 2010
- YSO, Employee SAP HR Record
- YSO, List of Participants in Technical Qualification Program, dated August 13, 2010
- YSO, Position Descriptions for the following participants: Site Manager, Lead Operations Engineer, Assistant Manager for Safeguards and Security, Authorization Basis Engineer, Assistant Manager for Administration, Assistant Manager for Engineering, Safety and Environment, Assistant Manager for Operations Management and Supervisor General Engineer.
- YSO, Pegasus Information Management System, Individual Performance Report
- YSO, Participant Qualification Record
- YSO, Vacancy Announcement (Safety and Occupational Health Manager and Lead General Engineer/Physical Scientist)

Staff Interviews

- Training Program Manager
- Assistant Manager, Office for Operations Management
- Industrial Safety Engineer
- Maintenance Program Manager
- Facility Representative (Group 1)
- Criticality Safety Engineer
- Radiological Control Engineer
- Protective Forces/Firearms Safety Specialist
- Chemical Process Engineer

Activity Observations

- Facility Representative Continuing Training: DOE O 422.1, Conduct of Operations

Discussion

Criteria 6.1 The program includes all competencies that have been identified as applying throughout the Department.

A review of the qualification cards and interviews with (9) participant staff members support the determination that Site TQP participants complete the GTB and FAQs. In addition, TQP participants complete the YSO Site Specific Qualification Standard.

Individual TQP records reviewed and employees interviewed verified consistency with both the requirements of the YSO-2.1 and DOE O 426.1 requirements. Designated Qualifying Officials review the documentation and provide a final evaluation and signature on the completed qualification card. The Site Manager completes the review process with a final interview and or site walk-through as required by the Procedure.

TQP records are readily transportable for use by other sites with the exception of individual records designated as being “Provisionally Qualified” (Ref. Memo dated May 27, 2010, Sherry to Boardman). The provisional qualified designation does not meet the requirement of the DOE O 426.1, 4.b.(2)(f), “...General Technical Base Qualification Standard and the various DOE FAQs must be used without modification or additions”. Though the use of this designation is limited in scope there is a concern regarding transportability of the records in question.

NI-6-1: “Provisionally Qualified” TQP participants qualifying to changed Functional Area Qualification Standards conflicts with DOE O 426.1. (See: AFI 3-1)

Criteria 6.2 Formal documentation of the completion of Department-wide competencies is maintained in a manner that allows for easy transferability.

Records are maintained consistent with the DOE O 426.1. YSO-2.1 requires Program participants to maintain an updated copy of their qualification cards, certificates, etc. Interviews with (8) TQP participants and review of their records confirmed records management consistent with DOE Orders and Site Standards.

During the qualification process, the TQP participants are required to maintain the Functional Area Qualification documentation. Upon final completion of the initial and or re-qualification process, records are maintained in the TQP Training Department. The Training Manager as the designated custodian maintains custody of the records until a request is received to transfer the records to the gaining site.

YSO has implemented an electronic recordkeeping system to document and track the completion of required TQP related training. Though individual Qualification Standards are maintained in hard copies, a complete list of training is maintained in the YSO Pegasus System and the Site Contractor's Training Module.

S-6-1: YSO electronic training tracking systems (Pegasus Information Management System and the B&W Training Database (i.e., SAP)) appear effective and innovative. (Reference: 3.1)

Criteria 6.3 The TQP is integrated with personnel-related activities, such as position descriptions, vacancy announcements, recruiting, and performance appraisals.

The full range of personnel-related activities has been integrated as a part of the Site TQP and is consistent with the DOE O 426.1. Reviews were conducted of the following records: position descriptions (9) and vacancy announcements (2). The position descriptions include reference to participation in the TQP. However, there was one discrepancy with reference to the Site STSM designation. Specifically, YSO-2.1 identifies five positions to be designated STSMs at YSO: Site Manager, Deputy Site Manager, Senior Project Director, Assistant Manager for Operations Management and Assistant Manager for Engineering, Safety, and Environment. The Site Manager's position description specifically referenced the STSM position requirement. However, the Assistant Manager for Operations Management did not include a reference to the requirement to be an STSM.

Another discrepancy with the position descriptions was the use of several different formats for the different position descriptions. The Training Program Manager reported that the position descriptions will be updated with the new recommended format once guidance is provided by Human Capital Management staff. No date has been identified for completion of the update to the position descriptions.

The two vacancy announcements reviewed (i.e. Safety and Occupational Health Manager and

Lead General Engineer/Physical Scientist) included a statement that the incumbents were required to be in the TQP. Also, the Training Program Manager confirmed that all TQP participant performance plans include specific TQP measures as a part of their respective Plans. A YSO TQP participant performance plan was reviewed and the TQP performance measure was verified to be included in the plan.

Areas for Improvement

None

Strength

S-6-1: YSO electronic training tracking systems (Pegasus Information Management System and the B&W Training Database (i.e., SAP)) appear effective and innovative. (Reference: 3.1)

Noteworthy Information

NI-6-1: “Provisionally Qualified” TQP participants qualifying to changed Functional Area Qualification Standards conflicts with DOE O 426.1. (See: AFI 3-1)

OBJECTIVE 7

Team Member(s): Daryn Moorman

TQP-7 – Measurable. The program contains sufficient rigor to demonstrate compliance to the principles.

Criteria

- 7.1 The technical competency of personnel who have completed the requirements of the TQP is adequate and appropriate.
- 7.2 The program allows for continuous feedback and periodic evaluation to ensure that it meets the needs of the Department and the missions of the office.
- 7.3 The TQP provides for continuing training.

Document Review

- YSO-2.1 *YSO Technical Qualification Training Program*
- YSO-1.6 *Facility Representative Program*
- *National Nuclear Security Administration Y-12 Site Office Facility Representative Qualification Standard*
- *National Nuclear Security Administration Y-12 Site Office Facility Representative Interim Qualification Program*
- 2009 Self-Assessment of the YSO Facility Representative Program
- 2009 Headquarters Biennial Review of Site Nuclear Safety Performance for the Y-12 Site Office
- Corrective action package for resolving issues from 2009 HQ Biennial Review of Site Nuclear Safety for the Y-12 Site Office
- Facility Representative Continuing Training Tracking January 2010 – December 2010
- Facility Representative Continuing Training Tracking January 2009 – December 2009
- YSO Qualifying Official list
- YSO 2010 TQP Self-Assessment
- YSO 2006 TQP Accreditation Review
- Corrective action package for resolving issues form 2006 TQP Accreditation Review
- YSO Training Record, Facility Representative (3)
- YSO Training Record, Lead Operations Engineer
- Position Description for Facility Representative (2)
- Facility Representative Proficiency Record Review

Interviews

- Lead Operations Engineer
- 3 Facility Representative
- Technical Training Consultant
- Training Manager

Activity Observations

- Group I Facility Representative (FR) walk-through of 9212 Facility
- Group II Facility Representative walk-through of Beta-2E Facility
- Group III Facility Representative walk-through of West End Treatment Facility and PPTF
- Technical Support Center activity for Emergency Management Drill

Discussion

Criteria 7.1 The technical competency of personnel who have completed the requirements of the TQP is adequate and appropriate.

Overall, the YSO TQP participants have the required competencies to perform their assigned functions. This was verified by the Team through examination of records and interviews with senior managers, supervisors and technical staff including, FRs, SSOs, STSMs, and SMEs. The Team also reviewed records of completed training, qualification expectations identified in standards, records of individual accomplishments, final evaluation interview documentation, and the TQP program requirements.

In addition, the Team conducted a walkthrough of the multiple facilities with FRs to observe interactions with facility personnel and facility systems. The FRs were all qualified in all applicable TQP areas and demonstrated good technical knowledge of the facility and its operations, and had established a good working relationship with the Contractor.

Interviews were conducted with three fully qualified FRs who ranged in experience from newly qualified to many years of experience. These FRs demonstrated an excellent understanding of their role, including the duties and responsibilities associated with overseeing Contractor activities. TQP records for other disciplines were sampled, and several other technical staff and managers in the areas of Operations, SSOs, and Senior Technical Safety Manager were interviewed to determine their technical competency. All individuals interviewed were able to adequately and appropriately answer the questions within their area of qualification, and no issues were identified with the level of knowledge of the persons interviewed.

Review of qualification cards for several FRs, SSOs, STSMs and SMEs indicated that the process for verification of individual competencies in GTB, FAQSS, and site/facility specific areas are in compliance with the requirements of DOE O 426.1A and its flow down to the YSO procedure. Additional information is provided in TQP Objective 3. Mechanisms for verification

of competencies used at YSO include written exams, oral evaluations, observation of task, and activity performed by the candidate.

The qualification process that is in place at YSO for FRs includes an Interim Qualification prior to full qualification. The Interim Qualification allows FRs to perform many of the duties of a fully qualified FR, including serving as the Duty FR. Review of DOE STD 1063-2006 revealed that the YSO Interim Qualification Standard does not meet the requirements of Interim Qualification as required by the standard. (DOE O 426.1, Requirements, 4.b.(6) (Key Qualification Areas), (f)). Paragraph 5.5 of the standard requires that FRs are qualified per the description of the sub paragraphs and Table 1 – Facility Representative Qualification. Table 1 requires completion of DOE-STD-1146 *General Technical Base Qualification Standard* and DOE STD 1151 *Facility Representative Functional Area Qualification Standard*.

AFI-7-1: Contrary to the requirements of DOE-STD-1063-2006, Facility Representatives are initially qualified to an Interim Qualification which does not include all the requirements of General Technical Base Qualification Standard and the Functional Area Qualification Standard. (DOE O 426.1, Requirements, 4.b.(6) (Key Qualification Areas), (f)).

The YSO Interim Qualification Standard includes a small portion of the FAQs and Site/Facility areas, in which level of knowledge is reduced from the FAQs, and does not include the General Technical Base at all. All FRs for the YSO have completed full qualifications which meet the requirements of DOE STD 1063.

Criteria 7.2 The program allows for continuous feedback and periodic evaluation to ensure that it meets the needs of the Department and the missions of the office.

Through the combination of methods described below it is evident that YSO actively seeks and embraces TQP feedback to implement TQP continuous improvement in support of the YSO mission accomplishment and the needs of the Department. YSO-2.1, *YSO Technical Qualification Training Program*, section 6.13, outlines the process for utilization of feedback questionnaires (Attachment 7) for TQP participants. These feedback forms have resulted in improvements to the TQP by modifying qualification standards, examinations and procedures. The commitments of the organization subsequent to receiving feedback are documented in the TQP Plan:

- The YSO Training Manager shall evaluate the feedback and initiate revisions to the process as necessary
- The YSO Training Manager shall also evaluate feedback for lessons learned and initiate appropriate action.
- Completed candidate evaluations shall be maintained in the official training records.

A review of a sampling of records for personnel who have completed the Attachment 7 and an Interview with the YSO Training Managers revealed that capabilities have been developed to analyze and take corrective actions in response to the feedback received.

In addition to feedback received in response to events, and activities, periodic evaluations including self-assessments, external reviews, and requested assist visits provide feedback and improvement information. A number of such activities had been conducted at YSO during the last several years, including:

- FR Program Self-assessments in 2009
- TQP Self-Assessment in 2008
- Headquarters Biennial Review of Site Nuclear Safety Performance for the Y-12 Site Office in 2009

In general, issues identified during these assessments have been appropriately analyzed and prioritized. Selected corrective actions reviewed by the Team were found to be well-formulated, actionable, and were tracked in Pegasus. In addition to assessments listed above, YSO performed a self-assessment in preparation for this TQP Reaccreditation. The Team's review of the corrective actions resulting from these assessments has resulted in improvements to the TQP program.

Criteria 7.3 The TQP provides for continuing training.

The requirements for a TQP continuing training process are described in YSO-2.1 *YSO Technical Qualification Training Program*. It is the expectation of the TQP plan for TQP participants to participate in continuing education and training, particularly in areas necessary for maintaining current knowledge of the requirements referenced in their qualification packages. The TQP continuing training program includes monthly training for FRs. An interview with the Technical Training Consultant and review of selected continuing training packages demonstrate that the NNSA continuing training process and tools as described in the NNSA Continuing Training User's Guide has generally been appropriately and effectively implemented.

YSO has a robust continuing training program for FRs, however it has some gaps for improvement. Continuing training for the Facility Representatives is compliant with DOE-STD-1063 and is defined in both the Facility Representative Qualification Standard and YSO-1.6 *Facility Representative Program*. Reviews of continuing training tracking, interviews with FRs and Lead Operations Engineer show that the training is appropriate and enhances the FRs ability to perform job assignments. An annual schedule for the continuing training of FRs is not being developed as required by YSO-1.6. It is being maintained as an after-the-fact log documenting training. A schedule ensures that a review of the FRs knowledge, skills and abilities are reviewed and provides follow-up training which maintains the required KSAs. See TQP Objective 3 for additional information. Additionally Facility Representatives are required to attend at least 10 continuing training sessions. The periodicity is not specified such as per

calendar year or annually.

NI-7-1: A majority of the Facility Representatives did not attend 10 continuing training sessions in 2009 and four Facility Representatives will not be able to achieve the minimum 10 in 2010.

This continuing training requirement needs to ensure the proper amount of attendance and to allow for contingencies due to normal absences and unforeseen events.

The Team attended two continuing training sessions, one for all assessors and a monthly continuing training for Facility Representatives. The continuing training for assessors was developed as a result of a Self-Assessment on Assessment Performance. This training provided lessons learned to the participants by providing examples and guidance. Discussions were encouraged during the training ensuring that all participants understood the guidance for future performance. The continuing training for Facility Representative was over the rewrite of DOE O 5480.19 to the new DOE O 422.1. The training was lead by a participant on the Team involved in the rewrite which enhanced the training because the basis for the order changes was included in the training. Again the training was well-formulated and encouraged discussion. Participants were also encouraged to perform an exercise which demonstrated the usefulness of the changes made to the order.

Interviews with TQP participants revealed that in at least one case program management staff had not received continuing training in the General Technical Base areas since initial qualification over 10 years ago.

NI-7-2: General Technical Base does not appear to be included in continuing training in all cases to maintain currency. DOE STD 1146 recommends personnel completing the General Technical Base Qualification Standard re-qualify on a periodicity not to exceed 5 years.

Area for Improvement

AFI-7-1: Contrary to the requirements of DOE-STD-1063-2006, Facility Representatives are initially qualified to an Interim Qualification which does not include all the requirements of General Technical Base Qualification Standard and the Functional Area Qualification Standard. (DOE O 426.1, Requirements, 4.b.(6) (Key Qualification Areas), (f)).

Strength

None

Noteworthy Information

NI-7-1: A majority of the Facility Representatives did not attend 10 continuing training sessions in 2009 and four Facility Representatives will not be able to achieve the minimum 10 in 2010.

NI-7-2: General Technical Base does not appear to be included in continuing training in all cases to maintain currency. DOE STD 1146 recommends personnel completing the General Technical Base Qualification Standard re-qualify on a periodicity not to exceed 5 years.

APPENDIX B – YSO TQP ACCREDITATIONS REVIEW TEAM MEMBERS

DAVID A. CHANEY, Esq. /CAPT, USN (Ret.): Team Leader

(39 years nuclear management experience): Mr. Chaney is currently the NNSA Service Center (Albuquerque, NM) Senior Advisor, Federal Technical Capability Program (FTCP) Agent (Senior Technical Safety Manager (STSM) qualified and ISM Champion. Mr. Chaney has led TQP Self-Assessments or T&Q Assessments at NNSA HQ, LSO and the NNSA SC.

Mr. Chaney served in the U.S. Navy Nuclear Power Engineering Officer program (Acting Flag Officer, OPNAV N77R, Director, Submarine Warfare Reserve Affairs), completing 4 unit commands and 3 years as Navy Department Duty Captain/Navy Command Center in the Pentagon, working for the Chief of Naval Operations (CNO) and current Director, U.S. Navy Reserve. Mr. Chaney served as a SSBN Shipyards Maintenance Monitoring Support Officer, reporting to Submarine Squadron 14, Holy Loch, Scotland, and Naval Ship Systems Command/NAVSEA.

In the commercial nuclear industry, Mr. Chaney served as Site Engineering Manager/Engineering Project Manager/Corporate Licensing Director for 4 Pressurized Water Reactors in commercial nuclear utility engineering, licensing and operations. He was a member of the Company Nuclear Review Board/Site Facility-Operations Review Groups, and was designated corporate interface with INPO/NUMARC. Mr. Chaney was Nuclear Corporate Master of Ceremony resulting in the receipt of the "Deming Medal" at FPL Group, Inc., from the Japanese Union of Scientists and Engineers (JUSE) as FPL Group Corporate Nuclear Licensing Director.

As a contractor, Mr. Chaney served as Director, Performance Assurance with Halliburton NUS at EG&G Rocky Flats, Inc.

With the US DOE/NNSA, Mr. Chaney has served in HQ program line and field technical positions, was designated on the 1st list of ISMS Verification (ISMS-V's) Team Leaders by the Undersecretary, DOE, and led portions of or participated in Phase I and II ISMS-V's at SRS, LANL, Pantex, ORO/Y-12 and SNL. Mr. Chaney facilitated/developed NNSA Line Oversight and Contractor Assurance System (CAS) policy and guidance. Coordinated and led all 8 NNSA Sites and NNSA Program Offices (NA-10/20/40/50/60/70) initial implementation of Line Oversight and CAS. He led DNFSB Rec. 2004-1 Implementation Plan Delegation policy attribute/criteria derivation issued by the DOE Deputy Secretary in 2006. Additionally, Mr. Chaney led in ISM ES&H Performance Objective guidance for NNSA, and served as a NNSA QA Roadmap Mile Marker champion for Effective NNSA Oversight and Balanced Priorities (Production vs. Safety). Selected from commercial industry as the 1st US DOE/DP Technical Standards Manager, Mr. Chaney led Generic Requirements Identification Documents creation that consolidated consensus standards for facility maintenance, safety, engineering, environmental, emergency management and operational functional areas.

Mark Alsdorf: Deputy Team Leader and Team Member

Mr. Alsdorf has over 35 years of nuclear missile operations and training development experience, and managing and providing technical support for a wide range of operational projects for DOE, industry, and other government agencies. In October, 2007, he joined the Department of Energy as the NNSA Technical Qualification Program Manager. He coordinates all aspects of the NNSA Technical Qualification Program (TQP) with the NNSA Federal Technical Capability Panel (FTCP) lead agent, working closely with the NNSA Service Center and site office FTCP agents to ensure program consistency. He oversees the integration, effective implementation, and administration of the corporate NNSA TQP. Since joining NNSA, he has participated in seven TQP self-assessments and numerous TQP assistance visits. Prior to joining NNSA, Mr. Alsdorf managed the training program at the Los Alamos Site Office (LASO) in the development and production of training program administration procedures, qualification standards, and qualification cards for LASO Facility Representative positions and all aspects of LASO TQP implementation as a Senior Engineer for Epsilon Systems Solutions, Inc. Additionally, he supported the LASO Operational Readiness Review of the Radio-Assay Non-Destructive Test Facility.

Ron L. Alderson: Team Member

Mr. Alderson received a B.S. degree in mechanical engineering in 1994. He is a certified Project Management Professional. Mr. Alderson began his working career as an engineer at the DOE Nevada Site Office. From 1994 to present, he held various technical staff and management assignments within the Waste Management Division, Engineering Division, and the National Security Organization, including responsibilities at various times for Project Manager, Team Leader, and nuclear emergency planning programs. In 1999 Mr. Alderson was hired on as the Program Manager for Subcritical Experiments at the Nevada Test Site, where he provided project management and support to nuclear safety activities (e.g., hazard analysis, accident analysis, preparation of safety analysis reports, plan of action, Readiness Assessments, Operational Readiness Reviews etc. Mr. Alderson is currently supporting the Nevada Site Office Nuclear Safety Team as the SSO Program Manager and Team Leader of the Nuclear Facilities Safety Team. Mr. Alderson has conducted several SSO assessments and has been a team member for various Safety Basis Review Teams.

Daryn J. Moorman: Team Member

Mr. Moorman is assigned as Facility Representative-Advanced Test Reactor Complex, Idaho Operations Office. He has over 16 years experience in the nuclear industry, involving nuclear operations, maintenance, testing, training, and oversight. His first twelve years in the U. S. Navy as a Submarine Warfare Officer involved operation, maintenance, supervision, dry dock maintenance and testing on the MARF prototype at Balston Spa, NY, USS Alaska (SSBN 732), on the Moored Training Ship prototype at Charleston, SC, and onboard the USS Chicago (SSN 721). In February 2006 he joined the Department of Energy - Idaho Operations Office, where he qualified as a Facility Representative at ATR Complex. In this position he reviews Documented Safety Analysis and Technical Safety Requirements (TSR) for DOE Hazard Category 1 and 2 nuclear facilities, provides input to Safety Evaluation Reports, oversees compliance to TSRs, and reviews Evaluation of Safety of the Situation (ESS) in response to Potential Inadequacy of the Safety Analysis and Unreviewed Safety Questions. He was a team member for the ARP II DOE-Readiness Assessment, covering operations and training Criteria Review. Mr. Moorman has a Bachelor of Science in Mechanical Engineering from the University of Idaho and a Masters of Science in Mechanical Engineering from Iowa State University.

Donna R. H. Riggs: Team Member

Ms. Riggs is a Senior Quality Assurance Engineer for the Office of Assistant Manager for Environment, Safety, and Health (AMESH), DOE Oak Ridge Office (ORO). She received a Bachelor of Science in Industrial Engineering from University of Tennessee Knoxville (UTK) in 1983 and a Master of Science in Industrial Engineering (Manufacturing track) from UTK in 1990. Her duties include providing expert advice and assistance to ORO line organizations and contractors, reviewing and evaluating document content and program implementation against requirements, conducting operational readiness activities, and analysis of data to identify trends and/or causal factors, and to recommend actions. She has led and performed numerous documented assessments over the past 26 years and is an NQA-1 Lead Auditor, a DOE Accident Investigator, and a registered engineer in the State of Tennessee. She is the Chair of the DOE Offices of Environmental Management, Nuclear Energy, and Science Software Quality Assurance Support Group chartered through the Office of the Under Secretary of Energy. She provided Software Quality Assurance (SQA) expertise on readiness reviews of the Remote Handled Waste at the Transuranic Waste Processing Center, the High Flux Isotope Reactor with Cold Source Restart, and the K-25/K-27 High-Risk Equipment and Other Process Gas Equipment Removal Project. She led or supported SQA reviews at Brookhaven National Laboratory, Oak Ridge National Laboratory, SLAC National Accelerator Laboratory, and various Environmental Management contractors/projects in Oak Ridge. Ms. Riggs also served as SQA subject matter expert for annual NQA-1 reviews of the Advanced Gas Reactor Fuel Development and Qualification Program Activities at Oak Ridge National Laboratory and Idaho National Laboratory. Special assignments have included the DOE Assist Teams for the U-233 Material Down-blending and Disposition Project and the Molten Salt Reactor Experiment Chemical Defueling Project Restart Team and a year-long detail to the Training and Development

Group. Ms. Riggs has completed the DOE Technical Qualification Program General Technical Base (2000), Quality Assurance Functional Standard (2000), Y-12 Site Specific Standard (2000), ORO AMESH Site Specific Standard (2003), ORO Safety Basis Functional Standard (2003), Safety Software Quality Assurance Functional Standard (2005), and General Technical Base Addendum (2008).

Michael C. Garcia: Team Member

Mr. Garcia is currently the Division Manager, Occupational Safety and Health Division (OSHD), Safety Department, Office of Technical Services, NNSA Service Center with a BS degree in Biology and a MS degree in Industrial Hygiene. Upon completion of undergraduate studies from the University of New Mexico, Mr. Garcia worked for the Los Alamos National Laboratory (LANL) in the assessment of chemical and radiological exposures for the Industrial Hygiene Chemical Section. Following completion of the Industrial Hygiene MS program at Missouri State University, he was employed as a Project Manager for the National Institute for Occupational Safety and Health (NIOSH) in the Criteria Documents Development Branch. His next assignment was with the General Electric Company (GE), Aircraft Engine Group Plant (AEGP) where he worked as the Plant Safety and Health Program Manager. Specifically, while working for the GE AEGP, a major industrial manufacturing facility with 1,800 employees, he managed a comprehensive Safety and Health program that included the following elements: Industrial Hygiene, Occupational Medicine, Industrial Safety, Industrial Security, Physical Security and Fire Protection.

Mr. Garcia was hired by DOE in 1984 in the position as a staff Industrial Hygienist. Work assignments with DOE included participation as a Team Leader or Team member on teams conducting OSH type inspections, Health and Safety Appraisals (e.g. Industrial Hygiene, Occupational Medicine and Industrial Safety), Technical Assistance Reviews, Accident Investigations, Voluntary Protection Program (VPP) Reviews, and Operational Readiness Reviews. Mr. Garcia has served as the Chairman of the DOE Industrial Hygiene Coordinating Committee, Executive Secretary of the AL Toxic Materials Coordinating Committee, and as a member of the DOE Secretarial Beryllium Rule-making Committee.

As OSHD Division Manager, Mr. Garcia has responsibility for the management of an Operational Safety and Health Division staff with expertise in the following specialty areas: Health Physics, Criticality Safety, Bio-surety, Occupational Medicine, Industrial Hygiene, Industrial Safety, Emergency Response, Fire Protection, Explosives Hazards Classification and Fire-arms Safety. The task includes providing necessary technical support to the NNSA Sites and HQs including the following: Pantex Plant, Kansas City Plant, Y-12, Nevada Test Site, Savannah River, Livermore National Laboratory, Los Alamos National Laboratory and Sandia National Laboratories. Specific responsibilities include the coordination of necessary mission related work for the Sites for completion of assessments, readiness reviews, program reviews and investigations.