

United States Government

**Department of Energy**  
National Nuclear Security Administration  
COR-Y12-7/20/2010-92254

# memorandum

DATE: July 20, 2010  
REPLY TO:  
ATTN OF: Y12-40:Sundie

SUBJECT: **NATIONAL NUCLEAR SECURITY ADMINISTRATION Y-12 SITE OFFICE REQUEST FOR RE-ACCREDITATION OF THE TECHNICAL QUALIFICATION TRAINING PROGRAM**

TO: Patricia R. Worthington, Director Office of Health and Safety, HS-10, GTN

As you are aware, the Y-12 Site Office (YSO) received accreditation of our Technical Qualification Program (TQP) in September 2006, and is due for re-accreditation this year. Therefore, in accordance with the guidelines issued by the Federal Technical Capability Panel (FTCP) for the TQP Accreditation, we have completed a comprehensive self-evaluation review of our TQP. The results of the review are documented in the attached report, which concludes that the YSO TQP has maintained compliance with the accreditation criteria. This report has been approved by me and is my confirmation that the YSO TQP has implemented the requirements of DOE Order 426.1, *Federal Technical Capability*. I request commencement of the Accreditation Review Board review.

  
for Theodore D. Sherry  
Manager  
Y-12 Site Office

Attachment:  
As stated

cc w/attachment:  
Karen Boardman, FTCP Chairperson, NZ, ALB  
Frank Russo, NA-1, FORS  
Don Nichols, NA-1, FORS  
Terry Olberding, Y12-40, YSO

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**National Nuclear Security Administration  
Y-12 Site Office**

**TECHNICAL QUALIFICATION PROGRAM (TQP)**

**Self-Assessment Report on the  
Y-12 Site Office  
Technical Qualification Training Program**

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**July 2010**

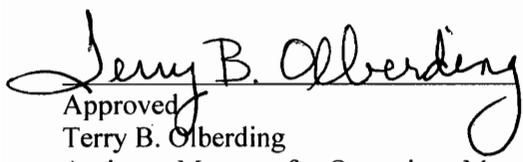
**REVIEW AND APPROVAL**

  
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**List of Acronyms**

AFI	Area for Improvement
CDNS	Chief Defense Nuclear Safety
CIP	Career Intern Program
DOE	Department of Energy
ES&H	Environment, Safety, and Health
ETS	Enterprise Training Services
FAQS	Functional Area Qualification Standard
FR	Facility Representative
FRAM	Functions, Responsibilities, and Authorities Manual
FTCM	Federal Training Capability Manual
FTCP	Federal Technical Capability Panel
GTB	General Technical Base
HSS	Health, Safety, and Security
IDP	Individual Development Plan
MAR	Monthly Assessment Report
MSD	Management System Description
NNSA	National Nuclear Security Administration
NSC	National Security Complex
PAM	Performance Analysis Matrix
PIDAS	Perimeter Intrusion Detection Alarm System
QA	Quality Assurance
QO	Qualifying Official
SC	Service Center
SD	Supplemental Directive
SME	Subject Matter Expert
SSO	Safety System Oversight
TQP	Technical Qualification Program
WQA	Weapons Quality Assurance
WQSD	Weapons Quality Surety Division
Y-12 NSC	Y-12 National Security Complex
YSO	Y-12 Site Office
YSO MSD	Y-12 Site Office Management System Description
YSO TQP	Y-12 Site Office Technical Qualification Program

## Executive Summary

The National Nuclear Security Administration Y-12 Site Office (YSO) has successfully implemented a Technical Qualification Program (YSO TQP) that produces highly qualified, technical individuals to execute oversight of site activities and support the site missions. The YSO management team considers the YSO TQP to be a significant factor by which the YSO personnel perform their jobs and support the site missions. The YSO hires competent people, and coupled with development and implementation of good processes and procedures; execute work at the highest level of quality. These processes and procedures are embodied in the structure of the YSO TQP. The YSO TQP contains the fundamental and local qualification standards, which allows for transportability across the Department of Energy complex.

This assessment was led by the YSO Training Manager, who has 29 years of operational experience, under the direct supervision of the YSO Assistant Manager for Operations Management (a Senior Technical Safety Manager), and the evaluation was supported by three staff members, with more than 30 years of training-related experience each; two of whom were loaned from the Oak Ridge Office. The assessment methodology consisted of reviewing the applicable YSO records, reports, and directives. This report documents the results of that evaluation.

The YSO TQP meets or exceeds the accreditation criteria. All of the necessary processes are in place to ensure that YSO technical personnel are trained and qualified to perform their assigned tasks. The YSO TQP also incorporates proficiency, continuing training, and professional development.

The following strengths were noted:

- The YSO Senior Management is fully committed to the success of the TQP.
- The communication from upper management and/or supervisor to the participants regarding the updating of their IDPs to include training was discussed in many of the interviews. The ability of YSO to provide corporate training and training funded from their training budget provides numerous opportunities to all participants.
- The YSO Staff believes the TQP is a valuable tool to gain skills and knowledge.

The following Area for Improvement were noted:

- YSO-2.1 Section 6.4, Step Section 6.4, Conduct of the Qualification Activities, step 6.4.6.6 directs Qualifying Officials to send notes taken during evaluations to the Training Manager; this was not being performed by the Qualifying Officials as required.

The following Observations were noted:

- The TIA procedure, YSO-2.2 does not include DOE and Industry Lessons Learned/Operating Experience in the training evaluation process.
- Appendix B, Section 9.c of the FRAM, Assistant Manager for Operations Management, should reference the newly issued DOE Order 426.1, *Federal Technical Capability*, instead of the FTCP Manual.
- The *YSO Technical Qualification Standard* has been in the review and approval process since April 2010. This revision incorporates additional or revised competencies for several positions, adds the new Highly Enriched Uranium Material Facility (HEUMF), removed de-inventoried facilities, and adds the NQA-1 training requirement. The YSO has employees in both the initial and requalification cycle who are affected by the approval delay.
- Minor inconsistencies were found in the YSO Official Training Records.

## **1.0 Introduction and Summary**

### **1.1 Introduction**

The National Nuclear Security Administration (NNSA) Y-12 Site Office (YSO) has successfully implemented a Technical Qualification Program (TQP) that supports the highly qualified, technical individuals in their oversight of site activities and support of site missions. The YSO management team considers the YSO TQP to be a key factor in YSO personnel's performance of their jobs. The YSO hires competent people, and coupled with development and implementation of good processes and procedures, fully supports the site missions.

In 2005, YSO elected to seek formal DOE Accreditation of the TQP in accordance with the Federal Technical Capability Manual. A self-evaluation and independent assessment were performed, and in July 2006, the YSO Manager, FTCP Agent, and the Accreditation Team Leader presented the assessment results to a DOE Headquarters Senior Management Board. The Board approved Accreditation of the YSO TQP and the Deputy Secretary of Energy approval was received in September 2006. YSO has maintained this accreditation status for four years and is due for re-accreditation; this self-assessment is the first step in the re-accreditation process.

### **1.2 Mission**

The YSO mission is to support national security in the manufacture and rework of nuclear weapon components, dismantle nuclear weapon components returned from the military, serve as the nation's warehouse for enriched uranium, provide special production support to other programs, support nuclear nonproliferation initiatives, and support other federal agencies through the Work for Others Program. To accomplish these missions, YSO conducts the following activities:

- Maintain technical capability for nuclear weapons development and production;
- Dismantle nuclear weapons subassemblies;
- Manage the processing and storage of highly enriched uranium and lithium for Defense Programs;
- Maintain all facilities in support of assigned programs;
- Effectively re-manufacture, surveil and assess all uranium, lithium, and secondary components in the nuclear stockpile while protecting personnel and the environment;
- Store, process, and disposition uranium, lithium, and secondary components associated with the nuclear stockpile;
- Conduct Nuclear Nonproliferation activities; and
- Other programs as assigned.

Significant efforts are underway at Y-12 NSC to achieve a modernized factory that is responsive, efficient, and cost effective in meeting the missions of the NNSA and the design basis threat guidance; these comply with the modern codes, standards, and environment, safety, and health regulations. The focal point of the modernization effort is the consolidation of all enriched uranium in the Highly Enriched Uranium Materials Facility (a storage facility); which was started up and loaded in 2010; and the Uranium Processing Facility (a manufacturing facility).

Plans are to consolidate the manufacturing operations into a smaller facility "footprint" to allow more efficient and integrated operations. This consolidation will also extend to the security Perimeter Intrusion Detection Alarm System (PIDAS), which will be modified to maintain only

those areas in the revised footprint. This will involve a series of projects of sufficient magnitude and complexity that onsite oversight is necessary to ensure requirements are met.

### **1.3 Organization**

The YSO was reorganized in 2000 for better alignment to the Department's missions in accordance with the NNSA complex-wide restructuring efforts. The YSO has progressed from its original status as part of the Oak Ridge Office to a separately organized site office with defined missions, goals, and objectives. Presently, the YSO has achieved a staffing level of 86 full-time employees and several individuals from the NNSA Future Leaders Program. The YSO is organized under the YSO Manager and Deputy Manager with 5 offices, Operations Management, Programs and Business Management, Engineering/Safety & Environment, Safeguards & Security, and the Project Directorate. Each office is managed by an Assistant Manager and consists of subject matter experts in various functional areas. The YSO TQP includes 63 of the 83 total staff members on board, and the remaining staff is responsible for the Legal, Public Affairs, and Performance Assurance, Administration, and Office Management functions for the YSO.

## **2.0 Purpose and Scope**

The purpose of this self-assessment is to:

- Evaluate the status of the YSO accreditation and the effectiveness of the current TQP to determine if the program is ready for re-accreditation;
- Verify effective implementation of the corrective actions resulting from the May 2006 accreditation evaluation and the September 2008 self-assessment, and;
- Review the TQP compliance with NA-1 M 426.1-1A; *Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*.

Additionally, the criteria to be used during this assessment include the TQP criteria, shown in Attachment 1, and requirements extracted from NA-1 M 426.1-1A in Attachment 2.

## **3.0 External Assessments**

In April 2008, the Office of Independent Oversight, within the Office of Health, Safety and Security (HSS), inspected environment, safety, and health (ES&H) programs at the DOE Y-12 Site Office. HS-64 determined that, "Many aspects of the YSO safety oversight are mature and effective. The YSO Facility Representative program provides adequate coverage of Y-12 facilities and the Facility Representatives perform regular and effective assessments, surveillances, and walkthroughs of Y-12 facilities and track, follow-up, and close findings in accordance with actions entered into the Pegasus issues management system. The Facility Representative program is effective in keeping YSO management informed about Y-12 facility operations and issues and is supported by a mature and effective qualification program. The YSO technical qualification program is mature, well documented, well managed, and proactively supported by YSO senior management. YSO is the only site office to date to achieve accreditation of its technical qualification program. All personnel at YSO with technical responsibilities participate in the technical qualification program, and many YSO personnel are qualified in multiple functional areas." There were no issue identified in the area of Federal Training and Qualification.

In January 2009, YSO performed a self-assessment (REP-AB-12/4/2008-75939) of the Federal Training Program in preparation for the April, 2009 Office of the Chief Defense Nuclear Safety (CDNS) review. The assessment reported that all criteria were met and no issues were identified.

In April 2009, the Office of the Chief Defense Nuclear Safety (CDNS) performed its biennial review of the YSO nuclear Safety Performance. In the Federal Training Functional area, the review identified 3 findings, 4 Opportunities for Improvement, and one Noteworthy Practice and YSO identified appropriate corrective actions as follows.

1. Findings:

- **FED T&Q.1-1/F:** The YSO fire protection engineer requalification package did not address proficiency requirements specified in DOE-STD-1137-2007, Appendix A.  
Corrective Action/Resolution: The YSO Training Manager will review training records to ensure YSO personnel qualified in Fire Protection meet the continuing training requirements of the DOE Fire Protection Functional Area Qualification Standard (FAQS). Identify any missing or inadequate records and update as necessary. Resolution: The Training Manager completed an assessment on YSO Fire Protection Engineer (FPE) continuing training and documented under AST-OM-1/21/2010-87253 (REP-OM-1/21/2010-54076). YSO verified that all FPE continuing training is tracked and correct and in compliance with DOE-STD-1137-2007. In addition, the YSO Training Manager reviewed a sample of additional requalification packages to ensure proficiency is tracked appropriately. A self assessment (AST-OM-2/1/2010-72614) of YSO TQP for proficiency and continuing training requirements was performed and documented in REP-OM-2/1/2010-63794. One minor observation noted that YSO-2.1 IDP process could be enhanced; no concerns/issues were noted. Self assessment included a sampling review of requal packages.
- **FED T&Q.1-2/F:** The NNSA TQP Manager is not fulfilling the responsibility to notify STSMs 18 months prior to their requalification deadline.  
Corrective Action/Resolution: The NNSA TQP Manager is located at the NNSA Service Center in Albuquerque. The YSO Training Manager worked with the TQP Manager to resolve this issue. The NNSA TQP Manager initiated notifications of requalification to STSMs as required by NA-1 M 426.1-1A.
- **FED T&Q.1-3/F:** Records retention requirements in NA-1 M 426.1-1A and YSO-2.1 are not being met.  
Corrective Action/Resolution: YSO initiated the action to set up and maintain official training records. The results of this assessment are in Section 5.3.E (criterion TQP-3.5).

2. Opportunities for Improvement:

- **FED T&Q.1-1/OFI:** Consideration should be given to reducing the number of functional areas assigned to any one individual in the YSO TQP to ensure adequate proficiency is maintained while still meeting YSO's nuclear facility oversight requirements.  
Corrective Action/Resolution: This was considered by YSO Senior Managers and the option of allowing more than one functional area qualification by an individual was maintained.
- **FED T&Q.1-2/OFI:** Consideration should be given to ensuring requalification status is tracked for YSO Project Managers.  
Corrective Action/Resolution: YSO completed an assessment of Federal Project Director continuing training to ensure training is being entered and tracked properly. All FPDs are tracking their PMCDP continuing training correctly and accurately in the CHRIS database. No issues were noted. Reference AST-OM-12/9/2009-92675 (REP-OM-12/9/2009-29306).

- **FED T&Q.1-3/OFI:** Even though the responsibility for requalification notification of STSMs resides with the NNSA TQP Manager, consideration should be given to changing the notification timeline in YSO-2.1 to be in compliance with NA-1 M 426.1-1A.  
Corrective Action/Resolution: This recommendation was accepted and procedure YSO-2.1 has been revised to reflect this recommendation.
  - **FED T&Q.1-4/OFI:** Consideration should be given to revising YSO-2.1, Section 6.6, to require FTCP Agent notification of TQP completion extension requests and justifications.  
Corrective Action/Resolution: This recommendation was accepted and procedure YSO-2.1 has been revised to reflect this recommendation
3. Noteworthy Practice:
- **FED T&Q.1-1/NP:** The TIA process as documented in YSO-2.2 ensures that changes to site office documents and facilities are consistently identified and communicated to the technical staff responsible for overseeing the safety of these facilities as part of their continuing training program.

## 4.0 Methodology

### 4.1 Assessment Objectives and Criteria

The primary objective of this assessment is to evaluate the status of the YSO accreditation for re-accreditation and the effectiveness of the current TQP and to verify closure and implementation of the associated corrective actions. Additionally, the criteria to be used during this assessment include the TQP criteria, shown in Attachment 1, and requirements extracted from NA-1 M 426.1-1A in Attachment 2.

### 4.2 Approach

The general approach of this assessment employed a sampling methodology as practicable. For example, interviews were conducted with senior management and a sample of participants, focusing on those in safety assurance positions. Training records were reviewed for a representative sample of YSO staff. Policies, procedures and accompanying practices were also sampled.

This re-accreditation self-evaluation was led by the YSO Assistant Manager for Operations Management (a Senior Technical Safety Manager), and performed by the YSO Training Manager, who has 29 years of operational experience, was supported by three support contractors with more than 30 years of training-related experience each. The assessment methodology consisted of reviewing applicable YSO records, reports, and directives. This report documents the results of that evaluation.

More specifically, the approach consisted of interviewing the Site Manager, Deputy Manager, and Assistant Managers to determine how the assessment criteria are met and identify any strengths and weaknesses (and corresponding corrective actions) for their organizations. The evidential data was collected, reviewed, compiled and reported by the team. Subsequently, the team presented the results of the assessment to the NNSA YSO Manager and Acting Deputy Manager, and Assistant Manager for Operations Management (NNSA Federal Technical Capability Panel (FTCP) Agent). The report was transmitted to the DOE FTCP by the NNSA YSO FTCP Agent.

### 4.3 Schedule

Assessment planning began in late June 2010; with data collection performed in late June, early July, 2010, followed by data analysis and reporting.

### 4.4 Documents Reviewed

- YSO Memorandum from T. Sherry to YSO Assistant Managers and Senior Project Director, subject: *Y-12 Site Office Technical Qualification Program Assignments*, August 11, 2008
- YSO Letter from T. Olberding to Mr. D.P. Kohlhorst, B&W Technical Services Y-12, LLC, subject: *Revised National Nuclear Security Administration Y-12 Site Office Facility Representative Responsibility List*, September 9, 2009.
- NNSA YSO Technical Qualification Program (TQP) Independent Assessment Report on the Y-12 Site Office Technical Qualification Training Program, September 2008
- YSO Letter from Theodore D. Sherry to Raymond Hardwick dated April 6, 2006, subject: *National Nuclear Security Administration Y-12 Site Office (YSO) Request for Accreditation of Technical Qualification Training Program*.
- Letter from Michael Mikolanis, Accreditation Evaluation Review Team Leader to Ray Hardwick and Ted Sherry dated June 6, 2006, subject: *Completion of the YSO Accreditation Evaluation*
- YSO Memorandum from T. Sherry to K. Boardman, Chairperson, Federal Technical Capability Panel: *Technical Qualification Program Compensatory Measures to Expert Level Competencies for Entry Level Personnel*, May 27, 2010
- NNSA YSO Technical Qualification Program (TQP) Independent Assessment Report on the Y-12 Site Office Technical Qualification Training Program, September 2008
- DOE Standard, Facility Representatives, DOE-STD-1063-2006
- YSO Qualifying Official Briefing (conducted by the YSO Manager)
- YSO Technical Qualification Program Standard; Revision 9, April 2009
- YSO Corrective Action Plan for the YSO Technical Training Program Accreditation Review, 2006
- DOE O 426.1, *Federal Technical Capability*
- DOE-HDBK-1078-94, *Training Program Handbook: A Systemic Approach to Training*
- DOE-HDBK-1080-97, *Guide to Good Practices for Oral Examinations*
- DOE-HDBK-1114-98, *Guide to Good Practices for Line and Training Manager Activities*
- DOE-HDBK-1118-99, *Guide to Good Practices for Continuing Training*
- DOE-HDBK-1201-97, *Guide to Good Practices: Evaluation Instrument Examples*
- DOE-HDBK-1204-97, *Guide to Good Practices for the Development of Test Items*
- DOE-HDBK-1205-97, *Guide to Good Practices for the Design, Development, and Implementation of Examinations*
- DOE-HDBK-1206-98, *Guide to Good Practices for On-the-Job Training*
- DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs*
- NNSA Directive, NA-1 M426.1-1A, *Technical Qualification Program for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*
- YSO Procedure 2.1, *YSO Technical Qualification training Program*
- YSO Procedure 2.2, *Training Impact Assessments*
- YSO Qualification Standard, YSO Facility Representative
- YSO Qualification Standard, YSO Safety System Oversight
- YSO Qualification Standard, YSO Technical Qualification Standard

- YSO Qualification Standard, YSO Weapons Quality Assurance - Engineer
- YSO Qualification Standard, YSO Weapons Quality Assurance - Specialist
- YSO Training Record, Assistant Manager for Administration
- YSO Training Record, Assistant Manager for Engineering, Safety, and Environment
- YSO Training Record, Assistant Manager for Operations Management
- YSO Training Record, Assistant Manager for Programs
- YSO Training Record, Assistant Manager for Safeguards and Security
- YSO Training Record, Deputy Manager
- YSO Training Record, Facility Representative (2)
- YSO Training Record, Lead Safety System Oversight Engineer
- YSO Training Record, YSO Manager
- YSO Training Record, Quality Assurance Engineer
- YSO Training Record, Senior Project Director
- YSO Training Record, Senior Safety Engineer
- YSO Training Record, Technical Training Consultant
- YSO Training Record, Training Manager
- YSO Record of Attendance, Qualifying Officials Briefing
- YSO 2010 Operating Plan
- YSO Annual Workforce Analysis and Staffing Plan Report, December 31, 2009
- U.S. DOE NNSA YSO Performance Indicators May 2010
- Training Impact Assessment Pegasus printout for actions closing TIA for YSO-1.12
- Position Description for Facility Representative (2)
- Position Description for Health Physicist
- Position Description for Senior Project Manager
- Position Description for Assistant Manager for Operations Management
- Position Description for Assistant Manager for Safeguards and Security
- ESS printout for PMCDP CE Hour Status Report for Project Manager and course certificate
- Pegasus printout for schedule of YSO Qualifying Official Effectiveness biennial assessments, 2009 – 2025
- Pegasus Report: Assessment Report # REP-AB-2/16/2010-911, Qualifying Official
- Pegasus Report: Action # ACT-OM-11/14/2008-23647, YSO Training Manager will perform an assessment of QO effectiveness
- Pegasus Report: Action # ACT-OM-11/14/2008-38919, YSO Training Manager will verify a formal assessment to evaluate QO effectiveness is included in the YSO Master Assessment Plan, YSO-1.9; initiate revision if needed
- Pegasus Report: Action # ACT-OM-11/14/2008-67921, PAOM will ensure a biennial assessment of TQP qualifying official effectiveness (YCON-3) is scheduled in Pegasus as a recurring assessment every 2 years
- Pegasus Report: Action # ACT-OM-11/17/2008-49278, Transition into NNSA-wide Technical Qualification Program (TQP) continuing training program and revise YSO-2.1 appropriately
- Pegasus Report: Action # ACT-OM-11/14/2008-21598, Investigate the NNSA policies for continued service obligations, summarize, and present to management for evaluation and consideration; revise YSO-2.1 appropriately
- Pegasus Report: Assessment Report # REP-OM-2/24/2009-91473, Evaluation of the effectiveness of the qualifying officials in validating technical qualification program requirements

- Pegasus Report: Action # ACT-AB-6/16/2010-51601, Read the attached letter and include SB academy training within your IDP and training estimates in order to comply with expectations (Attachment: T. D'Agostino Memorandum to NNSA, Subject: Expectations for participation in the Safety Basis Professional Program (SBPP))
- YSO Vacancy Announcement, Protective Force-Firearms Safety position
- YSO Program and Business Management Y12-10, FY 2010 Training Requirements
- YSO Assistant Manager for Engineering, Safety and Environment, FY 2010 Training Requirements
- YSO Extension Request Form for the AMSS, June 15, 2010

#### **4.5 Interviews Conducted**

- YSO Manager
- YSO Acting Deputy Manager
- Assistant Manager for Engineering, Safety, and Environment
- Assistant Manager for Operations Management
- Assistant Manager for Programs & Business Management
- Assistant Manager for Safeguards and Security
- Acting Director, Senior Project Directorate
- Team Lead, Material Protection Team
- Team Lead, Information Protection Team
- Team Lead, Cyber and Security Program Management Team
- Team Lead, Nuclear Safety Team
- Team Lead, Environment, Safety, & Health Team
- Team Lead, Quality Assurance Team (Acting)
- Team Lead, Strategic Partnerships and Planning Team
- Training Manager
- Maintenance Engineer
- Facility Representative
- Safety System Oversight Engineer (3)
- Authorization Basis Engineer
- Quality Assurance Engineer
- Weapons Quality Assurance Engineer
- Fire Protection Engineer (Future Leader)
- Firearms Safety/Pro Force Specialist
- Security Systems Specialist
- Technical Training Consultant

#### **4.6 Activities Observed**

- Group I Facility Representative Oral Board
- Oral Board Preparation meeting
- New Employee Orientation (2)
- SSO Walkdown

### **5.0 Assessment Results**

**The following results include an evaluation of the Areas for Improvement (AFI) documented in the initial 2006 Accreditation Review, which also included a verification of closure of the documented corrective actions. In addition, this review included the results from the 2008 Self-**

**Assessment.** This was completed based on documentation reviews, interviews, and observations. The AFIs and 2008 Self Assessment results evaluation are embedded in the respective criteria from which they originated.

### 5.1 TQP-1, Demonstration of Competence

**The program clearly identifies and documents the process used to demonstrate employee technical competence.**

- A. TQP-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.

#### Discussion

The YSO TQP establishes a process for participation in the program. For the last twelve years, YSO management has maintained a standard that all individuals in a technical or security-related position will participate in the YSO TQP. The Assistant Manager of a newly assigned employee determines which functional area standard the employee will complete, and the employee's and position is considered in this determination. The YSO Manager issues a memorandum to formally designate YSO TQP participants on an as-needed basis. The most recent memorandum was issued on August 11, 2008, and it designates the YSO TQP participants by name and the functional areas to which they are assigned. This process was confirmed during the interviews. In addition, according to the interviewed TQP participants, once they are identified, the training organization meets with them individually and lays out the specific training and qualification processes. The team also observed two new employee orientation sessions conducted by the Training Manager. The sessions were informative and interactive. At the time of this assessment, 64 of the 83 YSO staff members (77%) participate in the YSO TQP.

The YSO designates participation in the YSO TQP in the position descriptions for each SME in the YSO TQP. Training and qualification are included in the annual individual performance appraisals.

Strengths – None

Area(s) for Improvement - None

Observations - None

This criterion is met.

- B. TQP-1.2: Individual Development Plans (IDPs), training plans, technical qualification records, or other related documents are updated to reflect the activities required for each individual to satisfy competencies.

#### Discussion:

YSO prepares an Annual Training Needs Assessment that typically represents 100% of the YSO employee's IDPs.

The TQP records are generated by the participants with the completion of their qualification and requalification cards and are supplemented by training course completion records, such as annual access training, annual compliance training, and other specific training completed pursuant to their IDPs.

Based on discussion with participants and their supervisors, it appears that changes to functional area and Office/Facility-Specific (OFS) qualifications are addressed and/or factored into the IDP process. Participants discussed the process of their supervisors indicating to them to update their IDPs to include training they desired and/or needed. This was especially relevant with regards to corporate sponsored training.

All YSO TQP personnel are required to enter their IDP in the DOE Employee Self-Service System and have it reviewed by their supervisor on an annual basis. The IDP is an effective tool for planning and developing short- and long-range training needs for completion of any required/desired training courses needed for initial qualification, requalification, professional development, or continuing training.

Personnel have 18 months to complete the initial YSO TQP qualification in accordance with YSO-2.1. The YSO has developed a tracking system for use as a management tool to ensure personnel are progressing and complete their qualification within the 18-month time period. Weekly progress reports are provided to the YSO Management Team reflecting the total qualification progress obtained by each YSO TQP participant, as well as the progress obtained from the previous week. A monthly report is issued that reflects the total required progress, total obtained progress, and percent progress gained from the previous month. This report is included in the *YSO Monthly Performance Indicator Report*. Both reports provide the required YSO TQP completion dates and required monthly completion percentages for each TQP participant.

YSO provides routine updates on qualification status to the NNSA Service Center for inclusion in the NNSA-wide TQP progress matrix. YSO also provides updates to the NNSA-wide Qualifying Officials listing, which is managed by the Service Center, whenever YSO updates its controlled QO list.

The 2006 Accreditation Review documented an Area for Improvement (AFI-1) which stated that when re-qualifying or filling a vacant position, review of assigned qualification card competencies is not always performed in a thorough manner. YSO revised the YSO-2.1 procedure and approved Revision 11 on 6/8/06, to correct AFI-1. Steps 4.4.23, 5.1.4, and section 6.2 define the process for documenting TQP qualification reviews which are required for initial qualification, requalification, or change of position. Steps 4.4.22, 4.4.24, 6.7.1, and 6.7.2 document the process for performing the gap analysis and incorporating the results of the analysis into the requalification card. This AFI was completely addressed and closed appropriately in the Pegasus system.

In addition, the 2006 Accreditation Review documented an Area for Improvement (AFI-6) 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) at the Service Center. This report is used to generate a monthly Performance Indicator which tracks IDP progress. YSO-2.1 was revised and Revision 12 was approved on 12/21/2006 to correct AFI-6. Section 6.3 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. This AFI was completely addressed and closed appropriately in the Pegasus system.

#### Strengths

The communication from upper management and/or supervisor to the participant regarding the updating of their IDPs to include training was discussed in many of the interviews. The ability of YSO to provide corporate training and training funded from their training budget provides numerous opportunities to all participants.

#### Area(s) for Improvement - None

#### Observations - None

This criterion is met.

- C. TQP-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.

#### Discussion

The formal evaluation of technical competency is demonstrated by use of the following.

- The Qualifying Official;
- Self-evaluation commitment to the FTCP; and
- Individual performance appraisal system.

The YSO TQP Program is dependent on the Qualifying Official concept. Individuals are recommended as a Qualifying Official by Assistant Managers based on their education, past work experience, and qualification level. Prior to assuming the duties of a Qualifying Official, individuals must receive training from the YSO Manager and the Program Training Manager. In this training, (which is in the form of a briefing) the YSO Manager defines the YSO policy and the expectations, and specific guidelines for becoming a Qualifying Official. All Qualifying Officials must be approved by the YSO Manager. The duties, responsibilities, and administrative control process for Qualifying Officials are institutionalized in YSO-2.1, *YSO Technical Qualification Training Program*. The Qualifying Officials List is periodically reviewed for personnel additions or removal, and the YSO Training Manager is responsible for maintaining the list. According to the senior managers interviewed, at least one person has been removed from the Qualifying Official list due lack of rigor and attention to the qualification process. A team lead demonstrated an exemplary approach in how she qualified a staff member in her area of responsibility. She evaluated the candidate in significant depth regardless that the competency was only at the familiarity level.

Further, the effectiveness of the qualifying official practices is scheduled for biennial reviews, the next of which will occur in 2011. The previous review was conducted by the Training Manager in February 2009, and the results were satisfactory.

A comparison of the qualification processes used by the qualifying officials (as noted during the interviews) against the YSO-2.1 and NA-1 M 426.1-1A showed that the qualifying officials were not in compliance with either directive. The directives state that the qualifying officials are to send a "summary of areas covered to the TQP Manager for inclusion in the

which he or she is not fully qualified. This program implements the requirements established by DOE-STD-1063-2006, *Facility Representatives*.

- The *Facility Representative Qualification Standard* is the qualification standard developed to meet the requirements established for Facility Representative qualification in the FTCM and DOE-STD-1063-2006. This standard incorporates DOE-STD-1146-2007, *General Technical Base Qualification Standard*; DOE-STD-1151-2002, *Facility Representative Functional Area Qualification Standard*; and the YSO site- and facility-specific required competencies. The standard is divided into five parts and three appendices as follows:
  - Part 1, General Technical Base and Department-Wide Facility Representative Qualification Standards
  - Part 2, Y-12 Security Complex Specific
  - Part 3, Y-12 Facility-Specific (assigned oversight facilities)
  - Part 4, Final Qualification Requirements
  - Part 5, Requalification Requirements (includes continuing training, cross training, and proficiency requirements)
  - Appendix A, Qualification Card
  - Appendix B, Written Examinations
  - Appendix C, Oral Board
- The *Safety System Oversight (SSO) Standard* establishes specific knowledge and skills for the YSO System Engineers assigned responsibility for oversight of the Y-12 NSC vital safety systems. This qualification area is considered an additional functional area and must be completed after completion of the candidate's primary functional area qualifications. Completion of the Safety System Oversight qualification ensures that a sufficient number of competent personnel are assigned to oversee the contractor's management of safety systems and safety management programs at DOE defense nuclear facilities.

The 2006 Accreditation Review identified an Area for Improvement (AFI-2) where the YSO Technical Qualification Standard did not fully implement a process for ensuring that clearly defined knowledge, skills, and abilities are developed. YSO completed Revision 8 of the YSO Qualification Standard in November 2006, to expand the appropriate position competencies to the level of detail of the existing YSO Facility Representative Qualification Standard. Review of the standard verified that AFI-2 was corrected and closed in the Pegasus system.

YSO has implemented an approach to the qualification fulfillment of functional area qualification standard (FAQS) competencies that are designated as expert level. Because the expert level is nearly impossible for an entry-level person to acquire in the nominal 18 months, YSO achieves a working level qualification for those expert designated competencies, and declares a provisional qualification status for that individual. This provisional status remains in place as long as it takes for the individual to demonstrate expert level knowledge or skill for those particular competencies in the standard. In the interim, there are compensatory measures for those individuals with provisional status, for example, these individuals will be restricted from specific activities requiring expert level knowledge, and be monitored by experienced team leaders and/or subject matter experts (SMEs) who are qualified in those competencies, as noted in the May 27, 2010, memorandum from T. Sherry to K. Boardman.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

- B. TQP-2.2: Recognized experts help establish competency requirements.

Discussion

YSO develops qualification competencies are developed using Subject Matter Experts through a Table-Top-Job-Analysis exercise. This process enables the SMEs and Training personnel to break down the competencies required for a certain position and ensure they have a plan established which will enable the participant to complete the competency. It also ensures the competency is relative to their position.

The General Technical Base and Functional Area Qualification Standards are developed by DOE-Headquarters and field SMEs in accordance with the direction and format established by the FTCP. Further, draft Functional Area Qualification Standards are distributed throughout the complex for review and comment. The YSO participates in the review/revision process for Functional Area Qualification Standards.

The YSO Technical Qualification Standard positions competencies, knowledge, and skills are established by the Assistant Managers, the Training Manager, and SMEs. For example, working groups consisting of the Training Manager and Senior Technical Safety Managers were formed to establish the site-specific competencies required for the Assistant Manager for Operations Management position, the Assistant Manager for Engineering, Safety, and Environment (positions, etc.) Likewise, reviews were conducted with SMEs to establish the required site-specific competencies for the staff positions such as Program Manager, Operations Engineer, etc. The standard is compiled and submitted by the Training Manager, reviewed by all YSO Assistant Managers and the Deputy Manager, and approved by the YSO Manager.

As an example of expert based establishment of requirements, a complex-wide functional area qualification standard was not in place for the Weapon Quality Assurance Specialist and Engineer positions, so the YSO led the team that created a national standard for Weapon Quality Assurance. The team consisted of both Technical Training and Weapon QA subject matter expertise and generated a common set of knowledge and skills necessary to initially qualify a WQA Specialist and Engineer.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

- C. TQP-2.3: Related professional accreditation requirements are considered in the YSO TQP as applicable.

### Discussion

The YSO determined the need to institutionalize professional development of the staff. For those in the YSO TQP, the YSO has established a requirement that (in addition to the TQP requirements set by the standards) the technical staff will participate in 80 hours of professional development during the requalification period. This training must be related to their respective primary functional area or their office/position-specific standard. The applicability of training is determined by the immediate supervisor and must consist of a minimum of 24 hours classroom training, participation in performance-based technical exercises (such as participation on an Operational Readiness Review, a Readiness Assessment, or on an emergency response drill/exercise) and attendance at annual workshops or seminars in their primary functional area. Participation in these types of activities outside the YSO introduces new ideas, opens lines of communications with other YSO staff members, and enhances the personal and professional development of the YSO staff.

A review of the YSO staff's education and experience was performed. The YSO maintains a multitiered workforce, with each staff member having unique skills and competencies. YSO employees hold 9 associate degrees, 84 bachelor degrees, and 34 master degrees. In addition, YSO employees maintain 104 licenses and certifications, which include Registered Environmental Manager, Registered Professional Engineer, Certified Safety Professional, Certified Health Physicist, Project Manager, and American Welding Society Certified Welding Inspector QC1-96. These statistics, though collected in 2008, are still relevant today.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

D. TQP-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.

### Discussion

Each individual completing initial qualification in the YSO TQP is provided with a qualification card that is divided into three sections as follows:

- The General Technical Base competencies, taken directly from DOE-STD-1146-2007, *General Technical Base Qualification Standard*, dated December 2007, include the basic technical knowledge. Those persons in the security disciplines are required to complete the Safeguards and Security General Technical Base Qualification Standard, DOE-STD-1123-2009.

- The Functional Area Qualification Standard competencies are taken from the appropriate DOE standards, depending on the individual's job function. Examples include Technical Trainer, Nuclear Safety Specialist, and Facility Maintenance Management. The Functional Area Qualification Standards establish the DOE-defined competencies, knowledge, and skills associated with the individual qualification areas.
- The Site/Office/Position-Specific competencies are taken from the *YSO Technical Qualification Standard*. Each YSO technical position has a set of specific competencies and defined knowledge and skills that are specific to the Y-12 NSC operations and mission. There is also a core set of requirements applicable to all YSO technical personnel, such as required site access training, YSO policies and procedures, as well as required tours of all major nuclear and non-nuclear facilities with a Facility Representative.

The YSO has issued several documents that define the competency requirements for all the YSO TQP positions in all of these areas. These documents include the following:

- *YSO Technical Qualification Standard*
- *Facility Representative Interim Qualification Standard*
- *Facility Representative Qualification Standard*
- *Safety System Oversight Standard*

Upon completion of the qualification card, the individual is interviewed and evaluated by his/her Assistant Manager, and the card and supporting evidence are verified by the YSO Training Manager. The final step in the qualification process is an interview by the YSO Manager, and this is a responsibility that has not been delegated to any other YSO manager.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

### 5.3 TQP-3, Plans and Procedures

**Plans and/or procedures are developed and implemented to govern administration of the program.**

A. TQP-3.1: Senior management is committed to the TQP.

#### Discussion

Technical training and qualification is institutionalized at the YSO. Evidence of this is found in YSO M 411.1-1C, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual (FRAM) Level II*, dated December 2009. This document describes the line organizations'

numerous responsibilities and requirements for implementation of safety requirements and objectives. Included is the requirement for implementing the Guiding Principles for Integrated Safety Management. For the Principle of Competence Commensurate with Responsibilities, "A Qualification and Training Program are maintained to ensure that YSO personnel are qualified to carry out their assigned responsibilities. Qualification Standards and Qualification Cards have been established by position for YSO personnel to guide and document qualifications." The FRAM requires the YSO to ensure that "personnel are technically trained, qualified, and competent to perform their duties." Related management responsibilities for technical qualification and competency are listed below.

**Site Office Manager:**

Plans, coordinates, directs and controls, evaluates, and provides staff and assistance with respect to ensuring that the Integrated Safety Management Program is fully integrated into all work activities.

**Office of Assistant Manager for Operations Management:**

Directs and performs supervisory, oversight, and contract administration activities of the following functions: Training and Qualification Program – develops, implements, and maintains the YSO TQP, approves the YSO TQP and the site qualification standard, and is the line manager for Weapons Quality Assurance Program and Non-Weapons Quality Assurance.

The FRAM requirements and responsibilities for the implementation of training and qualification activities are linked to the requirements in YSO-2.1, *YSO Technical Qualification Training Program*, and flow down to the management and staff position descriptions and Performance Appraisal Program. The purpose of YSO-2.1 is "to assign responsibilities and provide guidance and instruction for establishing, maintaining, monitoring, and evaluating personnel development, qualifications, requalification training Programs and activities to fully implement all applicable requirements set forth in Department of Energy (DOE) Order 360.1B." YSO-2.1 describes the YSO Manager's responsibilities for implementation of training and qualification activities. The Assistant Manager/Senior Project Director's activities that are crucial to successful YSO TQP implementation are as follows:

- Approves the assigned YSO Technical Qualification Standards and IDPs for direct reports.
- Reviews directly reporting employees' progress on completing developmental activities for YSO TQP qualification and/or continuing training activities.
- Designates and approves individuals to serve as Qualifying Officials.
- Approves initial and requalification of YSO TQP participants.

YSO senior management is fully committed to the success of the YSO TQP. As the YSO Certifying Official, the YSO Manager conducts a personal interview with all YSO TQP candidates for completion of both initial or requalification activities. To date, this personal interview has not been delegated.

The effectiveness of the YSO technical training and qualification process is dependent in part on the rigor of the evaluation process instituted by the YSO Manager. To ensure consistency among the designated Qualifying Officials, the YSO Manager personally conducts a briefing for new and current Qualifying Officials. This briefing consists of two parts: policy and specific guidelines. In this briefing, the YSO Manager defines the YSO policy and the expectations, and specific guidelines for becoming a Qualifying Official. All Qualifying Officials must be recommended by their respective Assistant Manager/Senior Project Director and approved by the YSO Manager.

Management has established a monthly program review/continuing training program open to all staff members. The purpose of the program is to provide updates on the various program/oversight activities in progress at the Y-12 NSC, as well as to provide an open communications line between the staff and senior management. A question and answer period is conducted at the end of each session. Although attendance is not mandatory, these sessions have been well attended by staff and senior management.

The interviews with the senior management and staff all confirmed the top-down commitment to the TQP. For example, the YSO Manager indicated that he “owns the TQP that the training manager executes, it is a cornerstone of the site office operations, and it is the tool to ensure that staff develop and maintain the appropriate competence.” Further, this senior management commitment flows down into the performance plans of each employee.

### Strengths

The YSO Senior Management is fully committed to the success of the TQP.

Area(s) for Improvement - None

### Observations

Appendix B, Section 9.c of the FRAM, Assistant Manager for Operations Management, should reference the newly issued DOE Order 426.1, “Federal Technical Capability”, instead of the FTCP Manual.

This criterion is met.

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

### Discussion:

The YSO has issued several documents to both define and support the YSO TQP as follows.

- Procedure YSO-2.1, *YSO Technical Qualification Training Program*, is the document that is the administrative control of the YSO TQP. Elements of the YSO TQP are defined, with responsibilities assigned and a clear definition of the required results. The procedure also includes instructions for continuing training, requalification, employee job rotation strategy, and required reading. YSO-2.1 generally meets the accreditation criteria; however, the review team noted that Section 6.4, Conduct of the Qualification Activities, step 6.4.6.6 directs Qualifying Officials to send notes taken during evaluations to the Training Manager; in all the interviews conducted of Qualifying Officials this was not being performed. This is an Area for Improvement.
- Procedure YSO-2.2, *Training Impact Assessments*, is the procedure for reviewing proposed changes to specific command media to determine the need for changes to YSO staff training requirements. The Training Impact Assessment is an essential element of the YSO continuing training process. Training Impact Assessments are used to provide information on changes to procedures, Unreviewed Safety Question Determinations, authorization basis changes, incidents of security concern, and

occurrence report corrective actions. Review of the procedure indicates that the Lessons Learned/Operating Experience program is not tied into the training evaluation process. The TIA procedure, YSO-2.2 does not include Lessons Learned/Operating Experience in the training evaluation process. This is an Observation.

- The *YSO Technical Qualification Standard* is the document that defines all site-, position-, and office-specific knowledge and skills. The YSO has established a core set of training requirements applicable to all YSO TQP participants. The standard implements the requirement for including competencies specific to the position, a facility, or program and the office into the YSO TQP. The *YSO Technical Qualification Standard* has been in the review/approval process since April 2010. This revision incorporates additional/revised competencies for several positions, adds the new Highly Enriched Uranium Material Facility (HEUMF), removed de-inventoried facilities, and adds the NQA-1 training requirement. The YSO has employees in both the initial and requalification cycle that are affected by the approval delay. This is an observation.
- The *Facility Representative Interim Qualification Standard* is the YSO process used to establish and document the specific requirements to be met prior to a Facility Representative candidate being assigned to provide interim coverage in a facility for which he or she is not fully qualified. This program implements the requirements established by DOE-STD-1063-2006, *Facility Representatives*. Normally, interim qualifications should be completed within 12 months. The actual time period is determined by the Assistant Manager for Operations Management based on the candidate's previous experience. For example, a Facility Representative who was a fully qualified Facility Representative at another site and who is familiar with the job may be assigned six months to complete the interim qualifications. However, an individual who has no previous DOE experience but who has commercial nuclear, Nuclear Regulatory commission, or nuclear U.S. Navy experience may require more than six months learning the DOE regulatory processes and facilities.
- The *Facility Representative Qualification Standard* is the qualification standard developed to meet the requirements established for Facility Representative qualifications in the FTFCM and DOE-STD-1063-2006. This standard incorporates DOE-STD-1146-2007, *General Technical Base Qualification Standard*; DOE-STD-1151-2002, *Facility Representative Functional Area Qualification Standard*; and the YSO site- and facility-specific required competencies. The standard is divided into five parts and three appendices as follows.
  - Part 1, General Technical Base and Department-Wide Facility Representative Qualification Standards
  - Part 2, Y-12 Site-Specific
  - Part 3, Y-12 Facility-Specific (assigned oversight facilities)
  - Part 4, Final Qualification Requirements
  - Part 5, Requalification Requirements (includes continuing training, cross training, and proficiency requirements)
  - Appendix A, Qualification Card
  - Appendix B, Written Examinations
  - Appendix C, Oral Boards

- The *Safety System Oversight (SSO) Standard* establishes specific knowledge and skills for the YSO System Engineers assigned responsibility for oversight of the Y-12 NSC vital safety systems. This qualification area is considered an additional functional area and must be completed after completion of the candidate's primary functional area qualifications. Completion of Safety System Oversight qualification ensures that a sufficient number of competent staff personnel are assigned to oversee the contractor's management of safety systems and safety management programs at DOE defense nuclear facilities.

The procedure, YSO-2.1, contains in Section 6.1.2 a reference to the YSO Applicability Matrix. While this is terminology used by the NNSA Service Center, at YSO this matrix is simply the list of TQP participants and their assigned functional area qualification standards. This nomenclature issue needs to be rectified.

The team noted that YSO-2.2 does not address DOE and industry operating experience and lessons learned. This would be an enhancement to the training impact review process. These operating experiences and lessons learned, when incorporated appropriately into training activities, can prevent adverse operating incidents and enhance existing operational and oversight processes.

In the 2006 Accreditation review, AFI-4 identified several minor deficiencies in the YSO-2.1 procedure. Revision 11 of YSO-2.1, corrected the differences listed between the NNSA TQP Program Plan issued in 2004. In addition, the YSO Manager and Training Manager conducted refresher briefings of all the Qualifying Officials on 9/6/06 and 10/2/06; this was confirmed by reviewing the attendance rosters and the revision of the Qualifying Officials list in place at the time. In addition, the latest revision of the QO list was reviewed and confirmation made that all QOs have received the proper briefing. Two of the original issues by the Accreditation Review Team remain accepted by YSO. YSO has maintained a policy to issue one letter identifying all TQP participants, in lieu of the Attestation Form required by the FTCP Manual. The second issue was that the NNSA TQP Plan required individuals to complete qualifications within the 3-year period; YSO has retained the policy to allow up to 90-day extensions to qualification due dates. Review of the procedure verified that AFI-4 was corrected and closed in the Pegasus system.

Strengths - None

Area(s) for Improvement

YSO-2.1 Section 6.4, Step Section 6.4, Conduct of the Qualification Activities, step 6.4.6.6 directs Qualifying Officials to send notes taken during evaluations to the Training Manager; this was not being performed by the Qualifying Officials as required.

Observations

The TIA procedure, YSO-2.2 does not include Lessons Learned/Operating Experience in the training evaluation process.

The *YSO Technical Qualification Standard* has been in the review/approval process since April 2010. This revision incorporates additional/revised competencies for several positions, adds the new Highly Enriched Uranium Material Facility (HEUMF), removed de-inventoried

facilities, and adds the NQA-1 training requirement. The YSO has employees in both the initial and requalification cycle that are affected by the approval delay.

This criterion is met.

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

#### Discussion

Procedure YSO-2.1 provides a list of the roles and responsibilities of the YSO management, FTCP Agent, the Training Manager, Qualifying Officials and the technical qualification candidates. This information is sufficiently detailed to conclude that clear definition of roles and responsibilities for the YSO TQP is achieved for the YSO and administratively controlled by this procedure. It is clear from the interviews with YSO management that their roles and responsibilities for implementing and overseeing the TQP are well defined. Each of the assistant managers, for example, echoed that they are personally responsible for ensuring that their staff fulfill and maintain their qualifications, and complete their required continuing training commitments. For example, several assistant managers indicated that when a participant falls behind his or her scheduled qualification activities, that they provide significant counseling to ensure that the participant gets back on track. Occasionally, the assistant manager will relieve the participant of his or her job duties until the qualification activities have been completed.

As a result of the corrective actions from the Accreditation review, YSO-2.1 was revised (Rev. 11) to add detailed responsibilities for the Qualifying Officials, and responsibilities for performing gap analyses, analysis of training for matrix support, and evaluation of training for vacant positions to the Training Manager. YSO-2.1 was revised again (Rev. 12) to add steps and responsibilities to perform YSO-wide needs analysis on IDP generated training course requests. YSO-2.1 adequately identifies roles and responsibilities. The procedure revisions were reviewed by those assigned the new responsibilities through the YSO procedure process (YSO-4.2, Reference 7.7) and no additional training was required. Revision 13 was issued 11/4/2008 to incorporate the requirements and clarifications needed to meet the new NNSA Supplemental Directive, NA-1 M 426.1-1A; Revision 14 was issued on 5/29/09 to address the results of the 2008 Self Assessment which added steps to develop continued service obligations and added a responsibility (4.6.16) and an action in Step 6.6.3 for the FTCP Agent to review and concur on all extensions to initial qualification and re-qualification due dates.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

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

#### Discussion

All new staff members complete an interview with the Training Manager as part of the check-in process upon arrival at the YSO. The purpose of the interview is to present their qualification standard, explain the processes for obtaining qualification signatures, qualification tracking and reporting, allotted qualification completion time, and the YSO training philosophy. In addition, YSO-2.1 is required reading for all YSO TQP initial and requalifications. The YSO Training Manager, Senior Safety Engineer and Performance Assurance Manager conduct procedure briefings/checkouts for initial qualification and requalification participants on the 5 core YSO procedures identified in sections O1.1 and O1.2 of the YSO Qualification Standard. The self-assessment interviewed a total of 26 YSO personnel, including the YSO Managers, Team Leads and Staff Members; all were well aware of the training requirements and procedures and the process for performing Qualifying Official checkouts. No concerns were noted.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

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

#### Discussion

The YSO TQP records are a work in progress. The training records are kept in two different locations. Records for TQP participants who are not Facility Representatives are kept in an office of convenience next to the Training Managers office. Facility Representative Records are kept in a vault as they contain some classified information.

Out of 64 TQP participants a total of 34 records were reviewed. Overall the records were well organized. However, some inconsistencies were observed.

- An observation was made in reference to extension issues; numerous extensions have been issued in four records an extension was approved however the final qualification date was after the extension expiration date and not further extension was located in the file.
- Numerous files had initial qualification cards missing. Some participants were qualified in multiple positions however only one initial qualification card could be located.
- Documentation of qualification which had been completed prior and not required for the current qualification was not readily identifiable as to where it had been obtained in some records.

Inconsistencies in filing were observed last pages of qualification cards only documentation contained in final qualification card tab, some signatures missing from Facility Representative Records, exams filed in wrong tab, missing TQP certificates, etc.

The 2006 Accreditation Review documented an Area for Improvement (AFI-5) which identified the need to improve records management. YSO corrective action was to revise procedure YSO-2.1 to better define the process by which YSO implements and maintains a

records system for official training files. Revision 11 was issued on 6/8/06 to address AFI-5; since that time, with the issue of the new DOE Order 426.1, YSO revised YSO-2.1, and issued Revision 16 on 6/8/2010 to identify which documents were to be included in the records and the process for managing the records. YSO is setting up the official training records, and as identified previously in this section is a work in progress. This assessment determined the files are in good order and meet the requirements of DOE O 426.1.

Strengths - None

Area(s) for Improvement - None

Observation

Minor inconsistencies were found in the contents of the YSO Official Training Records.

This criterion is met.

#### 5.4 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.**

- A. TQP-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.

Discussion

TQP assignments are based on position descriptions. Once a participant is assigned to a position their skills and knowledge are evaluated against the assigned standard. This analysis along with input from their supervisor and training allows identification of the required competencies for the position.

Through numerous interviews TQP participants were well aware of their responsibilities in regards to their training. All most all participants said the TQP program provided a solid base for them in their position as new employees and refresher as they became seasoned employees.

The YSO has relied on the SMEs who established the General Technical Base and Functional Area Qualification Standards as the experts to establish the duties and responsibilities associated with the various YSO TQP functional areas. The *YSO Technical Qualification Standard* is aimed at establishing the required competencies, knowledge, and skills associated with the site-specific positions that apply to the Y-12 National Security Complex (NSC). Although a formalized job analysis was not used to develop the required competencies for the YSO site-specific positions, an informal analysis was performed. The *YSO Technical Qualification Standard* positions' competencies, knowledge, and skills were established by the Assistant Managers, the Training Manager, and SMEs. Working groups consisting of the Training Manager and Senior Technical Safety Managers were formed to establish the site-specific competencies required for the Assistant Manager for Operations Management position, the Assistant Manager for Technical Services position, etc. Likewise, reviews were conducted with SMEs who were serving in those positions at the time to establish the required

site-specific competencies for the staff positions such as Program Manager, Operations Engineer, etc. Use of existing SMEs provided first-hand knowledge of the necessary competencies included for each of the YSO positions in the *YSO Technical Qualification Standard*.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

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

Discussion

The *YSO Technical Qualification Standard* contains the job-specific competencies, knowledge, and skills associated with each YSO position. These position competencies identify the site-specific documents associated with the Y-12 NSC. The YSO relies upon the General Technical Base and specific Functional Area Qualification Standards to contain all applicable regulations, codes, standards, and guides associated with each YSO TQP position. However, the *YSO Technical Qualification Standard* requires all new employees to the Y-12 NSC to receive a comprehensive overview of the history of the plant and its mission and contribution to the DOE weapons complex.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

- C. TQP-4.3: The TQP supports the mission needs of the office.

Discussion

The YSO issued the FY 2010 Operating Plan that specifies the various quality objectives and performance measures needed to support the site missions. Goal 3, Quality Objective YSO OA 2 states, “YSO employees are qualified to perform their work activities and their proficiency is maintained through a rigorous requalification program.” Further, there are performance indicators that accompany this objective; one being “YSO staff currently in TQP qualification or requalification process meet the green . . . on time requirements.” According to the YSO Manager and the Training Manager, this objective flows down to every employee’s performance plan. This was also confirmed during the interviews. Moreover, as evidence of the TQP supporting mission needs, the YSO FRAM specifies the line organizations’ responsibility for ensuring that “personnel are technically trained, qualified, and competent to perform their duties.” This responsibility is also reflected in YSO position descriptions and in the Performance Appraisal Program, whereby employee performance is reviewed twice yearly to ensure that the stated YSO mission tasks and IDPs are accomplished.

The YSO also implements the YSO TQP in the *YSO Management System Description* that describes management's responsibility for ensuring that YSO technical personnel who provide management direction and/or oversight that impacts the safe operation of Y-12 NSC facilities are included in the YSO TQP.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

### 5.5 TQP-5, Credit for Existing Technical Qualification Programs

**The program is structured to allow credit, where applicable, for other TQP accomplishments.**

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

Discussion

Procedure YSO-2.1 Section 6.5 defines the process for equivalencies and exemptions to training competencies. All equivalencies and exemptions must be reviewed and concurred with by an Assistant Manager and approved by the YSO Manager. YSO management has set a performance standard in the procedure that states, "Equivalencies shall be used ONLY when all other forms of training are NOT available. Equivalencies shall therefore be used as a last resort to completion of any competency." NNSA policy is not to allow any exemption. The YSO has granted only one equivalency since 2000. This individual's equivalency was based on numerous years of experience and several related training courses; his knowledge of the topics stated in the competency was verified by his Assistant Manager. His Assistant Manager reviewed the equivalency and approved it prior to Site Manager's review and approval. Further, YSO management maintains that all competencies in an individual's standard will be reviewed with a Qualifying Official to verify the appropriate level of knowledge.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

- B. TQP-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.

Discussion

Procedure YSO-2.1 section 6.5 defines the process for equivalencies to training competencies. All equivalencies must be reviewed and concurred with by an Assistant Manager and approved by the YSO Manager. YSO management has set a performance standard in the procedure that states, "Equivalencies shall be used ONLY when all other forms of training are NOT available. Equivalencies shall therefore be used as a last resort to completion of any competency." NNSA policy is not to allow any exemption. The YSO has granted only one equivalency since 2000. Further, YSO management maintains that all competencies in an individual's standard will be reviewed with a Qualifying Official to verify the appropriate level of knowledge.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

- C. TQP-5.3: Equivalencies are formally validated, approved, and documented.

Discussion

As described in the discussions for TQP-5.1 and TQP-5.2, only one equivalency has been granted at the YSO. Documentation was reviewed and found to be in compliance with the requirements established in the YSO-2.1 procedure.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

## 5.6 TQP-6, Transportability

**Competency requirements identified as applying throughout the Department are transferable.**

- A. TQP-6.1: The program includes all competencies that have been identified as applying throughout the Department.

Discussion

YSO requires all TQP participants to complete their GTB, FAQs, and YSO Qualification Standard in their entirety. The only exception is Safeguards and Security FAQs in which the participant completes the core set of competencies and those other competencies which are related to their position (e.g. physical security, cyber security, or material security.) The YSO site specific qualification competencies are based on the participant's position and input from their supervisor. Each competency in the GTB, FAQs, and YSO Site Specific standard has to be completed to the satisfaction of a Qualifying Official.

Many of the subject matter experts interviewed indicated that they participate on DOE and NNSA-wide leadership coalitions, working groups, committees, and assessment teams. Their participation is predicated on completion and maintenance of their TQP qualifications and experience.

Strengths – None

Area(s) for Improvement - None

Observations - None

This criterion is met.

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

Discussion

The qualification cards employed at the YSO include the General Technical Base (and the Safeguards and Security General Technical Base) standards and Functional Area Qualification Standards applicable to the position. All competencies contained in these standards are required by the YSO TQP, thus ensuring transferability from the YSO to all other sites within the DOE complex.

The YSO TQP is designed to comply with the established DOE requirements for transportability of technical qualifications. However, it is the established practice at the YSO to require all “qualified” personnel who transfer to the YSO to undergo interviews with a Qualifying Official for each of the General Technical Base and Functional Area Qualification Standard competencies completed while stationed at another DOE site. This process ensures that individuals meet the YSO Manager’s expectation that all YSO TQP personnel’s technical competence is validated prior to their qualification at the YSO.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

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

Discussion

The *NNSA/YSO Annual Workforce Analysis and Staffing Plan Report*, dated December 31, 2009, was prepared in response to a requirement in DOE O 426.1, which states:

“Senior managers must conduct annual workforce analyses of their organizations and develop staffing plans that identify critical technical capabilities and positions that ensure safe operations of defense nuclear facilities”.

To this end, YSO management identified critical technical capabilities and projected shortfalls in key staff positions. The YSO currently has approximately 50 persons holding excepted service positions, representing most of the positions at the YSO. This is a significant recruitment tool. In addition, YSO has recruited a total of 10 individuals from the NNSA Future Leaders Program since its inception in 2005; six of these individuals have graduated from the program and are qualified or are in the process of initially qualified. All of these positions are included in the YSO TQP.

The YSO 2010 Operating Plan identified goals to ensure that YSO employees are qualified to perform their work activities and their proficiency is maintained through a rigorous requalification program and performance milestones and performance indicators are in place to meet the these goals. The YSO Management Team confirmed in the interviews that all performance appraisals of the TQP participants contain a requirement to participate in the TQP with specific performance objectives identified. In addition, the most recent vacancy announcement for the Firearms Safety Specialist was reviewed and indicated participation in the TQP is required. Also, 6 Position Descriptions were reviewed as a sample and verified that the TQP is included as a requirement.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

## 5.7 TQP-7, Measurable

**The program contains sufficient rigor to demonstrate compliance to the principles.**

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

### Discussion

The effectiveness of the YSO technical training and qualification process is dependent in part on the rigor of the evaluation process instituted by the YSO Manager. To ensure consistency among the designated Qualifying Officials, the YSO Manager personally conducts a briefing for new and current Qualifying Officials. In fact, one Qualifying Official was removed from his duties as a Qualifying Official as a result of poor performance. The Qualifying Official is the foundation for the effectiveness of the YSO TQP. There are designated Qualifying Officials for 43 topical areas and 28 functional areas. All YSO TQP participants requalify every three or five years. The following is the typical YSO training and qualification process, as described in YSO-2.1:

1. The technical employee (qualification candidate) shall satisfy each competency in his/her qualification standard by performance of any or all of the following activities.

- Reviews the applicable qualification standard, including applicable references such as DOE Orders and Standards, facility procedures, drawings, system descriptions, program guidance training materials, etc.
  - Enrolls in formal training, including classroom, college course, seminar, or workshop.
  - Schedules a qualification walkdown and/or interview with a Qualifying Official, using only those references allowed by the applicable qualification standard.
  - Completes the self-study material, as required. For each of the activities listed, the candidate is responsible for compiling the appropriate documentation as evidence of completion of each competency.
  - Completes all practical factors assigned by the Assistant Manager, and obtains the appropriate Qualifying Official signature.
2. When a Qualifying Official is tasked with a walkdown and/or an interview with the technical employee, the Qualifying Official ensures that the employee can demonstrate proficiency in the competency and completes the required information and/or signs the appropriate portion of the qualification card.
  3. After all the competencies in the qualification standard are completed and documented, including a final written examination if required, the Assistant Manager and/or YSO Manager shall conduct an oral qualification checkout.
  4. Upon completion of the oral qualification checkout, the qualification card is signed by the YSO Manager and forwarded to the YSO Training Manager.

Interviews with YSO management confirmed that the level of rigor for the implementation of the TQP is adequate and appropriate. They indicated that the use of specific qualifying officials, who administer an evaluation before they sign off for the participants, along with the fact that virtually no equivalencies have been used, spell out a very rigorous implementation process for the TQP.

The walkthrough with a Safety System Oversight Engineer was exceptional. The professional working relationship he shared with the contractor was very evident. His knowledge of the new steam plant and drawings was impeccable. The relationship he and the contractor share led to an opened-minded assessment during the walkthrough, in which the SSO Engineer was able to identify issues to the contractor while at the same time the contractor was very receptive to what was discovered. There was not an “us and them” situation which was very enlightening to witness. This professional relationship should be an example of how contractors and Department of Energy oversight personnel should conduct themselves.

Strengths - None

Area(s) for Improvement – None

Observations - None

This criterion is met.

- B. TQP-7.2: The program allows for continuous feedback and periodic evaluation to ensure that it meets the needs of the Department and the mission of the office.

Discussion

Procedure YSO-2.1 establishes a process for continuous feedback on the YSO TQP. Upon completion of an initial or requalification, the Training Manager requests the program participants to complete a feedback and improvement questionnaire/evaluation (YSO-2.1, Attachment 7) of the qualification process. The trainee provides feedback in the areas of training materials, standards, activities, the Qualifying Official List, evaluations, and logistics. The Training Manager then performs an evaluation of the input and institutes actions, as necessary. Examples of such actions may include procedure revisions, changes to training material, examination revisions, and improvements in the process itself. Several of these trainee evaluations have been submitted and resulted in enhancements and efficiencies in the process. Several revisions of YSO-2.1 included changes as a result of direct feedback from this process. The Pegasus system contains a Feedback module, where individuals can document recommendations for YSO process improvements, lessons learned, etc.

Similarly, YSO-2.2, Training Impact Assessments, examines whether changes to procedures, corrective actions, or authorization basis revisions, warrant inclusion into or should be addressed by the YSO technical training programs. YSO-2.2 is being implemented effectively as evidenced by the review team's trace through of a procedure change (for YSO-1. 12). The change was approved and entered into Pegasus for required reading action by all TQP participants. A Pegasus printout verified that all participants had completed their required reading. It is not clear how lessons learned and other operating experience reports are reviewed for incorporation into training activities, since these items are not specifically addressed by the procedure. This is an observation or suggestion for program enhancement.

YSO management also monitors the progress of all technical training routinely. Initial and requalification progress is tracked on a weekly, monthly, and quarterly basis. Weekly reports reflect the required progress, total progress obtained, and progress gained for the week. This report is forwarded to the YSO management team. Also sent to the YSO management team is monthly reports reflecting the same information as the weekly reports but noting the changes from the previous to the current month. In addition, the monthly TQP completion statistics are included in the *YSO Monthly Performance Indicators Report*, and quarterly progress is reported to the FTCP.

Based on the interviews, virtually all staff recognizes that the TQP is a valuable process to help them gain and maintain their skills and knowledge. Those individuals indicated that the TQP helped them acquire new skills and maintain their proficiency through continuing training and requalification. Two managers cited instances where TQP participants started in the program with limited relevant experience and now are subject matter experts (with one being a lead SME) for specific functional areas.

Strengths - None

Staff recognizes that the TQP is a valuable process to help them gain and maintain their skills and knowledge.

Area(s) for Improvement – None

Observations - None

YSO-2.2 should address applicable DOE and industry lessons learned and operating experience for screening for potential inclusion into YSO training activities.

This criterion is met.

C. TQP-7.3: The TQP provides for continuing training.

Discussion

YSO has monthly continuing training for Facility Representatives. Other TQP participants may attend but it is targeted to Facility Representatives. The Site Manager also has a quarterly continuing training for Facility Representatives and any other personnel he deems necessary. A record is kept of the topic, date, and participants. The Pegasus system is used extensively for tracking of continuing training such as required reading.

Procedure YSO-2.1, Section 6.7, Step 6.7.4.6, requires all YSO TQP participants to complete a minimum of 80 hours of professional development training per requalification cycle. This training must be related to their primary functional area or their site-specific position. Of this, at least 24 hours must be formalized training (e.g., classroom). Training may consist of any of the following: DOE- or Office of Personnel Management-sponsored courses; participation on Operational Readiness Review or Readiness Assessment teams; participation in emergency response cadre drills and/or exercises; attendance at workshops or seminars; or attendance college courses applicable to the individual's position.

YSO-2.1, Section 6.8, requires TQP participants to maintain the fixed continuing training topics identified in the *YSO Technical Qualification Standard* (e.g., General Employee Training, Classified Matter Protection and Control, Annual Security Refresher, Computer Security Awareness, et. al.). Completion of fixed continuing training requirements are contained on the individual requalification cards and filed with the official training records. Other types of continuing training consists of required readings, topical training, changes of contractor procedures/policies, etc. Some of the activities the YSO has conducted for continuing training sessions include classroom training (PAM/MAR, Shadow Assessments), required readings (assigned/tracked through Pegasus), Authorized Derivative Classifier training, Facility Representative continuing training, and several contractor-generated continuing training sessions.

The 2008 Accreditation Self-Assessment Review identified an Area for Improvement (Pegasus Issue number ISS-OM-9/17/2008-40760) where YSO-2.1, (Revision 12), section 6.8, steps 6.8.3 through 6.8.8 requires all technical staff to participate in quarterly training sessions on specific topical areas and presented by selected SMEs; since the YSO received accreditation in 2006, several quarterly sessions were not conducted. This was an internal YSO mandate from several years ago and was not required by the FTCP Manual that was in effect at the time. YSO has a formal training process for TQP participants through the training impact assessments, which includes required readings and briefings. YSO-2.1, Rev 13 was issued 11/19/2008 with these changes made.

Strengths - None

Area(s) for Improvement - None

Observations - None

This criterion is met.

## 5.8 NNSA Supplemental Directive NA-1 M 426.1-1A Evaluation

On May 19, 2008, NNSA issued a Supplemental Directive (SD), NA-1 M 426.1-1A to replace the NNSA TQP Plan issued in 2004 and to implement the TQP consistently across the NNSA sites. The SD provided additional guidance and detail to the requirements of the FTCP Manual for implementation of Federal Training requirements. On June 27, 2008, the Senior Advisor, for Environmental Safety & Health issued a directive (Reference 7.9) that all NNSA Sites will have up to 180 days from the date of issuance to fully implement NNSA Supplemental Directive M 426.1-1A; which includes performing the necessary gap analysis, development, and implementation activities. YSO performed a gap analysis which involved identifying each directive-type statement in the SD; no “should” or “may” statements were included. The analysis compared the requirements to existing YSO TQP program documents, including YSO-2.1, YSO-2.2, YSO Qualification Standard, qualification cards, the Management System Description, and the Functions, Responsibilities, and Authorities Manual (FRAM). The 34 identified gaps are summarized as follows:

1. YSO-2.1 does not specify the responsibilities of the FTCP Agent (15 gaps).
2. YSO-2.1 needs to have more detail on the administration of examination, oral evaluations, and observation of performance (4 gaps).
3. YSO-2.1 does not have specific details on instructions for qualifications for individuals who change positions within the office and/or transfer from another site. (5 gaps).
4. The remaining 10 gaps were administrative and/or clarifications.

To address these gaps, YSO revised YSO-2.1, and approved Revision 13 on 11/4/2008. Revision 13 included added the following:

- Section 4.6, responsibilities for the FTCP Agent,
- Expanded Step 6.4.6 to add an explanation of the evaluation methods used by QOs, observation of performance, written examinations, and oral evaluations,
- Added sub-steps to step 6.4.1 to clarify actions required when an individual transfers into YSO or to a new position within YSO,
- Added clarification steps to Section 5.5 Duty Limitations,
- Added action steps 6.2.1 and 6.2.7 to add a 60-day requirement for providing a new qualification card and standard to the TQP participant,
- Several administrative and clarification type changes.

The approval of this YSO-2.1 revision 13 addressed the observation identified in the 2008 Self Assessment and the action closed in the Pegasus database. No further issues were noted. With the closure of this action, the YSO has incorporated all the requirements identified in the SD into the TQP procedures and standards. An evaluation of the compliance with the SD indicated that Section 4.g. (2) requires the QO to send of summary of areas covered in oral evaluations to the TQP Manager for inclusion in the participant’s qualification record. YSO incorporated this requirement into procedure YSO-2.1 (step 6.4.6.6). Through interviews, this assessment determined YSO QOs were not performing this step as required. This is an Area for Improvement (AFI).

Strengths - None

Areas for Improvement

YSO-2.1 and the NNSA Supplemental Directive direct QOs to document and send summary notes on evaluations to the Training Manager; this is not being performed by the QOs as required.

Observations - None

This criterion is met.

## 6.0 Conclusions

- 6.1 The YSO TQP meets or exceeds the accreditation criteria. All of the necessary processes are in place to ensure that YSO technical personnel are trained and qualified to perform their assigned tasks. The YSO TQP also incorporates proficiency, continuing training, and professional development. This assessment found that the current YSO TQP is effective.
- 6.2 This assessment addressed the corrective actions resulting from the May 2006 accreditation evaluation and the September 2008 Self-Assessment, and found that all issues have been effectively closed.
- 6.3 The YSO TQP was compared to the NNSA Supplemental Directive (SD) NA-1 M 426.1-1A to determine compliance. The analysis revealed the two areas where improvement found in the 2008 Self Assessment have been addressed and the TQP is in full compliance with one exception. The SD and the YSO-2.1 procedure require the Qualifying Officials to generate summary notes from each evaluation and submit them for filing in the official training records. The YSO QOs have not been performing this task as required by procedure and the SD.
- 6.4 The following strengths were noted during this assessment:
  - The YSO Senior Management is fully committed to the success of the YSO TQP.
  - The communication from upper management and/or the supervisor to the participant regarding the updating of IDPs to include training was discussed in many of the interviews.
  - The YSO Staff believes the TQP is a valuable tool to gain skills & knowledge
- 6.5 The following Area for Improvement was noted during this assessment:
  - YSO-2.1 directs the Qualifying Officials to send summary notes taken during evaluations to the Training Manager; the YSO QOs were not performing this task as required by procedure and the NNSA Supplemental Directive
- 6.6 The following Observations were noted during this assessment:
  - Minor inconsistencies were found in the YSO Official Training Records.
  - Appendix B, Section 9.c of the FRAM, Assistant Manager for Operations Management, should reference the newly issued DOE Order 426.1, "Federal Technical Capability", instead of the FTCP Manual.
  - The TIA procedure, YSO-2.2 does not include Lessons Learned/Operating Experience in the training evaluation process.
  - The *YSO Technical Qualification Standard* has been in the review/approval process since April 2010. The YSO has employees in both the initial and requalification cycle that are affected by the approval delay.
- 6.7 YSO is ready for re-accreditation.

## **7.0 References**

- 7.1 DOE O 426.1 *Federal Technical Capability*
- 7.2 YSO-2.1, *YSO Technical Qualification Training Program*, Revision 16
- 7.3 YSO-2.2, *Training Impact Assessments*, Revision 2
- 7.4 YSO Self-Evaluation Report *Federal Technical Capability Program and Technical Qualification Report FY2005 Assessment Report*, dated April 2005
- 7.5 *Y-12 Site Office Technical Qualification Program Accreditation Evaluation Report*, dated May 22-26, 2006
- 7.6 Corrective Action Plan to the Y-12 Site Office Accreditation Report.
- 7.7 YSO-4.2, *Preparation and Configuration Management of Command Media and Records*, Rev. 2
- 7.8 NNSA Supplemental Directive, NA-1, M 426.1-1A, *Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*.
- 7.9 Memorandum from Frank B. Russo, Senior Advisor, Environment Safety & Health, to NNSA Site Managers, *Implementation of the National Nuclear Security Administration (NNSA) Supplemental Directive M 426.1-1A, Technical Qualification Program Plan for Federal Personnel with Safety Responsibilities at Defense Nuclear Facilities*
- 7.10 DOE-STD-1063-2006, *Facility Representatives*
- 7.11 DOE-STD-1146-2007, *General Technical Base Qualifications Standard*
- 7.12 DOE-STD-1151-2002, *Facility Representative Functional Area Qualification Standard*
- 7.13 NA-121.3/WQSD Quality Assurance Procedure 1.4, *Weapon Quality Assurance Personnel Training and Qualification Program*
- 7.14 *YSO Management System Description*
- 7.15 YSO M 411.1-1D, *Y-12 Site Office Functions, Responsibilities, and Authorities Manual (FRAM) Level II*
- 7.16 *YSO 2010 Operating Plan*
- 7.17 *YSO Technical Qualification Standard*
- 7.18 *NNSA/YSO Annual Workforce Analysis and Staffing Plan Report*, dated December 31, 2009

## **8.0 Attachments**

1. Technical Qualification Program Assessment Objectives and Criteria
2. NNSA Supplemental Directive, NA-1, M 426.1-1A Criteria and Gap Analysis

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## **Attachment 1 – Technical Qualification Program Assessment Objectives and Criteria**

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

Criteria:

- 1.1 At a minimum, personnel providing management direction or oversight that could impact the safe operation of a defense nuclear facility have been identified as Technical Qualification Program participants.
- 1.2 Individual Development Plans (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 personnel. The rigor of the evaluation process is commensurate with the responsibilities of the position.

**Objective 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 Subject Matter Experts help establish competency requirements.
- 2.3 Related professional certification requirements are considered in the program as applicable.
- 2.4 Competency requirements are identified in the areas listed below. (Note: this does not imply that three separate documents are required.)
  - 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 certification, examination, or on-the-job performance.
  - Position Knowledge, Skills, and Abilities. Competencies specific to the position and the office.

**Objective 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 Technical Qualification Program.
- 3.2 Written procedures that adequately define the processes and requirements to implement the Technical Qualification Program are in place.
- 3.3 Roles and responsibilities for implementing the Technical Qualification Program are clearly defined and understood by all involved.
- 3.4 The procedures that govern implementation of the Technical Qualification Program 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 Technical Qualification Program.

**Objective 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 Technical Qualification Program 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.

Attachment 1 (continued)

4.3 The program supports the mission needs of the office.

**Objective TQP-5, Credit for Existing Technical Qualification Program(s).** The program is structured to allow credit, where appropriate, for other Technical Qualification Program accomplishments.

Criteria:

- 5.1 Credit (equivalency) is granted for previous training, education, experience, and completion of related qualification/certification 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.

**Objective 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 Technical Qualification Program is integrated with personnel-related activities, such as position descriptions, vacancy announcements, recruiting, and performance appraisals.

**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 Technical Qualification Program 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 mission(s) of the office.
- 7.3 The Technical Qualification Program provides for continuing training.

**Attachment 2 – NNSA Supplemental Directive, NA-1, M 426.1-1A Criteria and Gap Analysis**

On May 19, 2008, NNSA issued a Supplemental Directive, NA-1 M 426.1-1A to all NNSA Sites and HQ to establish a set of requirements for consistent implementation of the TQP across NNSA to achieve the goal of transportability of the program between the NNSA Sites. Further, HQ issued direction to the NNSA Sites that all sites will be in compliance with the directive within 6 months of the issue of the directive. As part of the scope of this assessment, YSO will validate compliance with the requirements of the Supplemental Directive and document non-compliances appropriately. The following is a summary listing of the NA-1 M 426.1-1A requirement topical areas included in the scope of this self-assessment.

4. REQUIREMENTS

- a. NNSA Federal Technical Capability Agents.
- b. Qualifying Officials.
- c. Identification of Positions and Development of Qualification Standards.
- d. Tailoring through Professional Certifications and Other Equivalencies.
- e. Initial Screening for STSM and TQP Participants.
- f. Learning Activities.
- g. Evaluation of Competencies.
- h. Final Qualification Approval Process.
- i. Time Limits.
- j. Changing Position Responsibilities.
- k. Duty Limitations.
- l. Continuing Education.
- m. STSM Requalification.
- n. Administration.
- o. Documentation of Learning Activities.