

# NNSA Production Office



## CDNS Self-Assessment

February 2014

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# Executive Summary

In preparation for the upcoming Chief for Defense Nuclear Safety (CDNS) review, a self-assessment of NNSA Production Office (NPO) oversight of the B&W Pantex Plant and the Y-12 National Security Complex was completed from October 2013 – January 2014. The scope included all available CDNS Criteria, Review, and Approach Documents (CRADS) identified as of September 2013. The results of past CDNS Biennial Reviews performed on the Pantex and Y-12 Site Offices were reviewed by assessment team members to determine if corrective actions were completed or if they should be incorporated into the NPO processes. Results are captured in the functional area reports that follow this Executive Summary.

Nineteen functional areas were reviewed during this self-assessment, with eighteen being addressed in this report. The area of Startup and Restart of Nuclear Facilities was reviewed by HSS and that report has not been finalized, thus this report will address the remaining 18 CDNS objectives, plus 8 additional NPO objectives that were covered during this self-assessment (see Conduct of Engineering Y-12 and Quality Assurance). The review focused on the Office of Nuclear Safety and Engineering (NSE), Office of Safeguards and Security and Emergency Management, Office of Operations Management (OM), Office of Environment, Safety, Health, and Quality (ESH&Q) and Office of Programs and Projects (P&P) within NPO. Five (5) of the 18 CDNS Objectives for the functional areas were fully met, with the remainder being partially met.

Issues were categorized in accordance with NPO procedures as Findings, Performance Problems, or Management Concerns. Categorizations of these issues were approved by the responsible Assistant Manager and are summarized in the table below. Two (2) Management Concerns, which are issues in the judgment of the NPO Executive Leadership Team, represent broad-scoped or significant system breakdowns in management; twenty-one (21) findings, which are violations or failures to meet performance requirements that could have an immediate or systemic impact to mission accomplishment, spanning 12 functional areas; and sixty (60) performance problems, which are performance-based issues that do not have a systemic impact to mission accomplishment, were noted during this self-assessment.

The following table outlines the status of each CRAD and issues by Assistant Manager Organization and functional areas is provided below:

Functional Area	Issues	# of Objectives	Status
NPO-10 Nuclear Safety & Engineering			
Conduct of Engineering – Y-12	<b>5F, 8PP</b>	<b>5*</b>	<b>3 Met; 2 Partial</b>
Conduct of Engineering – Pantex	<b>4PP</b>	<b>1</b>	<b>Partial</b>
Criticality Safety	<b>0</b>	<b>1</b>	<b>Met</b>
Safety Basis	<b>0</b>	<b>1</b>	<b>Met</b>
Nuclear Explosive Safety	<b>2F, 2PP</b>	<b>1</b>	<b>Partial</b>
NPO-20 S&S & Emergency Management			

Emergency Preparedness	<b>2F, 2PP</b>	<b>1</b>	<b>Partial</b>
NPO-30 – Operations Management			
Conduct of Operations	<b>0</b>	<b>1</b>	<b>Met (Y-12) Partial (PX)</b>
Facility Representatives	<b>1F, 3PP</b>	<b>1</b>	<b>Partial</b>
Maintenance	<b>3F, 1PP</b>	<b>1</b>	<b>Met</b>
NPO-60 Environment, Safety, Health & Quality			
Quality Assurance	<b>1MC, 3F, 34PP</b>	<b>4**</b>	<b>Partial</b>
Contractor Training & Qualification	<b>0</b>	<b>1</b>	<b>Partial</b>
Federal Training & Qualification	<b>3F, 1S</b>	<b>1</b>	<b>Partial</b>
Fire Protection	<b>1F, 2PP</b>	<b>1</b>	<b>Partial</b>
Radiation Protection	<b>0</b>	<b>1</b>	<b>Met</b>
Radioactive Waste Management	<b>0</b>	<b>1</b>	<b>Met</b>
ISMS Implementation FRAM	<b>1MC</b>	<b>1</b>	<b>Partial</b>
ISMS Implementation Contracts	<b>0</b>	<b>1</b>	<b>Partial</b>
Feedback and Improvement	<b>4PP</b>	<b>1</b>	<b>Partial</b>
NPO-70 Programs and Projects			
Startup and Restart of Nuclear Facilities	<b>TBD***</b>		
Packaging and Transportation	<b>1F</b>	<b>1</b>	<b>Partial</b>

\*Additional Objectives added by NPO; otherwise, all Objectives are CDNS

\*\*3 of these Objectives were added by NPO; the 4<sup>th</sup> is the CDNS objective

\*\*\* HSS leading this effort. Report not final.

**MC – Management Concern      F – Finding    PP- Performance Problem    S- Strength**

While many issues were noted during this self-assessment, **two** key themes stood out and involve Staffing and Issues Management. As a result, two (2) Management Concerns were documented to address these issues. The first, and most pressing Management Concern, which is a tremendous challenge for NPO, is staffing. This theme was noted as problematic in 10 of the 18 functional areas. Staffing remains the chief concern of NPO senior leaders and is reported weekly via the NNSA Dashboard to Headquarters leaders. The second Management Concern relates to the lack of a consistent approach to tracking issues or reporting results identified by the different NPO organizations. The lack of an integrated Issues Management system has previously been noted by Management and an Integrated Solutions Team, led by a senior manager, was formed to evaluate a variety of potential systems based on functional criteria developed by the team. A recommendation will be forthcoming in the third quarter of FY14.

The standup of the NPO unified two Site Offices (Pantex and Y-12) into an integrated Production Office with oversight responsibilities for two M&O Contractors – recognizing purposeful differences. New processes and procedures were created to define oversight expectations. NPO procedure-related issues to include the existence thereof, the transition from the former Y-12 Site and Pantex Site Office procedures, and general flow down from requirements into procedures were noted in a number of functional areas. This is an expected condition given that NPO is undergoing

its planned transition from the former Site Office model to the full evolution of the Production Office, which is a new concept for NNSA. The remaining findings and performance problems are provided at the end of the Executive Summary. This is the first opportunity since the NPO standup to self-assess NPO's implementation of these CRADs.

The sections of this self-assessment report are organized by the respective NPO Assistant Manager organizations.

In the area of **Nuclear Safety and Engineering**, four functional areas were reviewed. Overall the review showed that the areas of *Conduct of Engineering* and *Nuclear Explosive Safety* only partially met the CDNS CRADs with the specific issues listed in the Issues Summary below. While it was noted in these self-assessments that the SSO programs continue to have supervisory evaluations and the Federal staff maintains cognizance of the System Engineering Program and monitors performance of Safety SSCs and SMPs at Y-12, there are opportunities to improve in areas such as SSO system qualification, knowledge of assigned systems, and the tracking of issues. NPO has established an effective program to conduct SSO functions and oversee contractor activities. In the area of *Nuclear Explosive Safety*, NPO is effectively implementing the requirements of the NES evaluations and readiness activities to authorize Nuclear Explosive Operations, but attention is needed in the areas of staffing and personnel training and qualifications. The objectives for both *Criticality Safety* and *Safety Basis* were met.

In the area of **Safeguards and Security and Emergency Management, Emergency Preparedness** was reviewed and results showed this area partially met the objective. While the respective Sites' continue effective oversight activities, issues were documented with the lack of NPO Pantex ensuring emergency planning is adequate along with associated documentation.

In the area of **Operations Management**, three functional areas were reviewed. Overall, the review showed that the *Conduct of Operations* has established an assessment program containing oversight procedures and mechanisms to ensure implementing processes meet contract requirements. The Pantex review noted an issue with staffing, which is consistent with the previously noted Management Concern. In total, Conduct of Operations partially met given the staffing issue. The same can be said with regard to the *Facility Representative (FR)* program as the area partially meets the objective due to staffing, oversight guidance inconsistencies, lagging ORPS reports, and timely FR program assessments; however, the assessment verified that NPO has procedures and mechanisms in place to validate that nuclear activities are authorized and safe. With regard to *Maintenance*, oversight requirements are being met with continued focus needed in the areas of defining roles; issues management; oversight guide consistency with NPO procedures; and addressing previous issues.

In the areas of **Environment, Safety, Health, and Quality (ESH&Q)**, of the nine functional areas that were reviewed, *Radiation Protection* and *Radioactive Waste Management* met the CDNS objective. Regarding *Quality Assurance*, twenty-three (23) performance problems support the Quality Assurance finding pertaining to the Quality Assurance Program not fully documenting or implementing DOE, NAP, or DP Weapons Quality Assurance Procedures Manual. These performance problems are detailed and will serve as a road map in making the current NPO QAP stronger. In addition, the Management Concern regarding the lack of a consistent approach to track

issues and report results are noted in this section. Additional findings are captured in the Issue Summary section below. For this area, improvements are necessary regarding the flow down of requirements to work practices. The areas of ***Contractor Training and Qualifications*** did not meet the objective due to staffing issues and ***Federal Training and Qualification*** did not meet the objective due to lack of approved standards, lack of fully trained Training Managers at both Sites, and lack of an approved Training Manual. One strength was noted with regard to staffing and involves the “Solicitation of Interest” process implemented by NPO Management. The self-assessment showed that both sites have effective oversight in place for ***Fire Protection***, but need additional focus in the areas of formally documented programs. Where many areas of ***ISMS Implementation of the FRAM and Contracts*** are on track, one Management Concern was noted with regard to staffing critical skill positions. This issue is echoed in 10 of the 18 functional areas. With regard to ***Feedback and Improvement***, NPO has established an effective feedback and improvement process; although, the overall objective was only partially met due to performance problems such as a lack of procedures, issues tracking, feedback to contractors, and assessment planning.

In the areas of ***Programs and Projects***, two functional areas were reviewed. The first being ***Startup and Restart of Nuclear Facilities***, which was evaluated by HSS whose report has not been issued at the time of the issuance of this document. The second area involves ***Packaging and Transportation***, which was noted to partially meet the CDNS objective. One issue was noted with regard to User Aid Procedure requiring updates to address the dual-site nature of NPO; otherwise, oversight is on track.

While many of the CDNS and NPO CRADs only partially met, the self-assessment conducted demonstrates an overall self-critical review of Federal processes and responsibilities. Results of this self-assessment will be leveraged to improve the NPO evaluation and planned transition from the former Y-12 and Pantex Site Office’s long-engrained processes and procedures.

The following provides a summary of issues identified during this self-assessment process. The development of corrective action plans (CAPs) will commence for Management Concerns and Findings upon the approval of this self-assessment report. CAPs for Performance Problems will only be at the direction of the responsible Assistant Manager.

## **Summary of Management Concerns, Findings, and Performance Problems**

### **MANAGEMENT CONCERNS**

#### **Quality Assurance**

- **Management Concern 1-0: NPO does not have a consistent approach to tracking issues or reporting results identified by the different NPO organizations.**

## ISMS Implementation FRAM

- **Management Concern - MC-ISMS.1-1: Due to attrition, NPO has vacancies in critical skill positions such as, nuclear safety, facility representatives, and safeguards and security. Constrained travel funding has adversely impacted NPO's approach to leveraging existing expertise across the two sites. In addition, some functional areas are being covered by personnel that are newly assigned and will not be at full capability for a period of time.**

## **FINDINGS**

### Conduct of Engineering/SSO

- **PGM-F-1: The NPO 2012 calendar year Federal Technical Capabilities Program staffing analysis report included inaccurate information for the Nuclear Safety and Engineering organization that was not vetted through the Assistant Manager for Nuclear Safety and Engineering.** (Crosswalk with CE.1, Criterion 5)
- **TQ-F-1: NPO Y-12 Safety System Oversight personnel are not qualified or in the process of qualification of all assigned primary and backup safety SSC systems.** (Crosswalk with CE.1, Criterion 1)
- **MG-F-1: Contrary to NPO-2.2.3.1, Section 6.7, all SSO's IDPs were not submitted for approval in FY13 until June 2013.** (Crosswalk with CE.1, Criterion 1)
- **OP2-F-1: 5-year comprehensive assessment reports lack the level of detail needed to meet the supplemental directive required safety SSCs assessment.** (Crosswalk with CE.1, Criterion 2)
- **PSA-F-1: Safety Management Programs have not been assessed per the NNSA 5 year comprehensive oversight requirements and documented in a single assessment report (Configuration Management and Initial Testing In-Service Surveillance).** (Crosswalk with CE.1, Criterion 2)

### Nuclear Explosive Safety

- **Finding FY14 NES 2-02: NPO does not designate the NES Oversight SME as a position requiring critical technical capabilities.**
- **Finding FY14 NES 5-01: NPO has not formally documented the relationship between its Office and NA-121.1 through a Memorandum of Understanding or similar method.**

### **Emergency Management**

- **EP.3-1/F: NPO at Pantex has not ensured the EPHAs and HSs for emergency planning purposes are adequately performed and documented.**
- **EP.4-1/F: NPO at Pantex has not ensured that emergency plans and procedures are prepared, reviewed annually, and updated, as necessary, for all facilities under their purview and are integrated within the overall Cognizant Field Element emergency preparedness program.**

### **Facility Representatives**

- **Finding PreCDNSFR 6-1: At Pantex, based on the staffing analysis, staffing levels are below the required level. Currently there are six Facility Representatives and the staffing analysis requires nine Facility Representatives to be fully staffed.**

### **Maintenance**

- **Finding (MNTSA-FND-2013-12-1): Lack of coordination and defined roles to ensure consistent and appropriate maintenance oversight between NPO Assistant Manager Offices.**
- **Finding (MNTSA-FND-2013-12-2): There is no single NPO Issues Management System.**
- **Finding (MNTSA-FND-2013-12-3): Inaccuracies within the AMOM Oversight Guide do not follow the requirements of NPO procedures.**

### **Quality Assurance**

- **Finding 1-0: The NPO Quality Assurance Program (QAP) does not fully document or implement the requirements of DOE O 414.1D, Section 4, Requirements; NAP 24; and NNSA DP Weapon Quality Assurance Procedures Manual and, therefore, is not fully implemented.**
- **Finding 1-1: NPO does not have a process to ensure external documents that establish NPO requirements are identified, controlled, and when revised will be incorporated into NPO procedures as required.**



- **Finding 3-1: Chapter 4, Verification Inspection: is not properly implemented. Acceptance authority should be clarified in the QAP. NPO-PX needs a delegation memorandum from the NPO CO to authorize acceptance of product by qualified CORs.**

#### **Federal Employee Training And Qualification Program (Fed T&Q)**

- **(FED T&Q.1-1/F) Finding: NPO-2.2.3.1.1, Training Program Manual, which will implement the needs analysis requirements of DOE Order 360.1C is in draft and not approved.**
- **(FED T&Q.1-2/F) Finding – The lack of approved Site Specific Technical Qualification Standards and Training Program Manual indicate that the NPO TQP is not fully implemented.**
- **(FED T&Q.7-1/F) Finding: NPO does not have fully qualified Technical Training Managers at both sites, therefore has insufficient resources to adequately develop and implement a fully compliant TQP.**

#### **Fire Protection**

- **FP.1-1/F: The Field Office has not formally documented a fire protection program to ensure oversight of the fire protection program combining both NPO Y-12 and NPO Pantex (DOE O 420.1C, 4).**

#### **Packing and Transportation**

- **Finding #C1: The NPO P&T User Aid/Procedure must be updated to address the new dual oversight of both Pantex & Y-12.**

#### **Performance Problems**

#### **Conduct of Engineering/SSO**

- **PGM-PP-1: An evaluation of the staffing needs for SSOs for the Y-12 site has not been formally conducted in accordance with the HSS guidance since 2006. (Crosswalk with CE.1, Criterion 5)**

- **PGM-PP-2: The Qualifying Officials list for the TQP is outdated.** (Crosswalk with CE.1, Criterion 5)
- **MG-PP-1: With the merging of the AMGPA group into the AMESHQ group and reality of these particular SSOs time spent, it is recommended to revise both Employee Interface Service agreements with the AMESHQ and include documented percentages to support the pending updated HSS-compliant NPO SSO Staffing Analysis.** (Crosswalk with CE.1, Criterion 5)
- **OP1-PP-1: It is recommended that the SSO Program Manager coordinate with B&W Engineering to improve communication between SSOs and B&W System Engineers.** (Crosswalk with CE.1, Criterion 3)
- **OP2-PP-1: There is a gap of SSO working level knowledge of some of the assigned safety SSCs.** (Crosswalk with CE.1, Criterion 1)
- **OP2-PP-2: There is insufficient communication between SSOs and Facility Representatives.** (Crosswalk with CE.1, Criterion 3)
- **PSA-PP-1: SSO does not fully understand the USQD process.** (Crosswalk with CE.1, Criterion 5)
- **PSA-PP-2: The resolution of the issues identified by the 2011 SSO Program Self-Assessment was not adequately tracked to ensure issues were being resolved or closed out.** (Crosswalk with CE.1, Criterion 4)
- **FY13 SSO SA CE.1.1-01: Qualification records do not indicate which systems SSO personnel are qualified to oversee.**
- **FY13 SSO SA CE.1.1-02: The current NPO SSO procedure does not reflect the current organization structure and responsibilities. The draft NPO SSO procedure does not include the SSC table of systems covered by the SSO program.**
- **FY13 SSO SA CE.1.3-01: NPO procedure 3.1.2 does not list the system elements covered by the SIAP process nor the risk ranking of these system elements.**
- **FY13 SSO SA CE.1.5-01: NPO Pantex does not have adequate SSO resources in accordance with the current staffing analysis.**

#### Nuclear Explosive Safety

- **Performance Problem FY14 NES 2-01: NPO does not require any of its personnel to be qualified in the functional area of Nuclear Explosive Safety Study.**

- **Performance Problem FY14 NES 6-01: NPO does not have a permanent FTE dedicated as the NES Oversight SME.**

### **Emergency Management**

- **EP.1-1/P: The Field Office has not formally documented how the EM program will be implemented across both sites to ensure consistent, compliant oversight can be tracked and evaluated for meeting DOE requirements.**
- **EP.6-1/P: - Coordination with State, Tribal, and local agencies and organizations responsible for offsite emergency response (e.g., "911" emergencies) and for protection of the health and safety of the public. For example, Medical support must be planned in accordance with DOE O 440.1A for workers contaminated by hazardous material. Medical support must include documented arrangements with onsite and offsite medical facilities to accept and treat contaminated, injured personnel. These agreements must be maintained and accurate to ensure timely and critical response when needed.**

### **Facility Representative**

- **Performance Problem PreCDNSFR 3-1: The AMOM Oversight guidance for ORPS does not match the oversight guidance sections of NPO 3.4.2 and NPO Procedures 3.4.2 and 2.1.1.1.1 need updating to reflect current practices and assignments.**
- **Performance Problem PreCDNSFR 3-2 Not all Y-12 FR/FRD ORPS report reviews are being completed in the required 14 days and the previous corrective actions for FRD was not effective.**
- **Performance Problem PreCDNSFR 5-1: No documentation has been generated in e-Pegasus to address this Self-Assessment finding.**

### **Maintenance**

- **Performance Problem (MNTSA-PP-2013-12-4): NPO has not adequately addressed issues previously identified for PXSO and YSO.**

### Quality Assurance

- **Performance Problem 1-1: NPO FRAM responsibilities and requirements regarding QAP review and approval are inconsistent with DOE directives. (Note: Performance Objective 2 issue regarding Weapons QA rolled into this issue.)**
- **Performance Problem 1-2: NPO QAP graded approach description does not provide enough information to prescribe a consistent and adequate graded approach within NPO implementing procedures.**
- **Performance Problem 1-3: Implementing procedures for the NPO oversight process do not meet NPO QAP requirements (i.e., lack of consistent reporting methods and issue tracking).**
- **Performance Problem 1-4: QAP section 6.4 references an incorrect order revision, incorrectly names an NPO implementing procedure, and references an implementing procedure that has not been developed.**
- **Performance Problem 1-5: NPO does not have a documented process in the QAP for inspection and acceptance of product.**
- **Performance Problem 1-6: Specific personnel who need Suspect/Counterfeit Item control and prevention training are not identified and they are not kept informed of potential S/CI problems.**
- **Performance Problem 1-7: NPO processes do not ensure or validate that safety software is identified during NPO safety documentation reviews.**
- **Performance Problem 2-1: The risk-management process and areas of graded rigor for weapon and weapon-related products are not documented in the QAP.**
- **Performance Problem 2-2: The QAP does not include a requirement to use metrics to evaluate the effectiveness of the Weapons Quality Management System (WQMS).**
- **Performance Problem 2-3: The QAP and FRAM do not address the requirement for a WQAP or state that the existing QAP was developed in accordance with that requirement.**
- **Performance Problem 2-4: The QAP does not address the NAP-24 requirements for management of nonconformances and corrective actions.**
- **Performance Problem 2-5: The QAP does not address the requirement for independence of quality verification personnel.**

- **Performance Problem 2-6: QAP does not include focus on prevention, reducing variability or building quality into NPO processes.**
- **Performance Problem 2-7: Although NPO procedures are formally approved, effective dates are not specified.**
- **Performance Problem 2-8: Notification of issuance or effective date of some NPO procedures was not received by affected staff.**
- **Performance Problem 2-9: The QAP does not discuss identification, control, and status of acceptance stamps and ink used by NPO to prevent damage, loss, and deterioration and ensure proper use.**
- **Performance Problem 2-10: The Quality Inspection List and associated Quality Assurance Inspection Procedures are maintained on the classified network and are not referenced on the NPO Command Media SharePoint site or mentioned in the QAP.**
- **Performance Problem 2-11: The QAP does not address requirements for NPO approval prior to performance of non-routine activities related to NNSA-accepted material.**
- **Performance Problem 2-12: The QAP does not address NAP-24 non-conformance requirements to detect, correct, and disposition of potential and actual non-conforming conditions. Extent of condition reviews are not described.**
- **Performance Problem 2-13: QAP section 6.3 should reference DOE O 226.1, not the oversight policy to incorporate by reference the use of lessons learned and effectiveness reviews.**
- **Performance Problem 2-14: QAP does not capture NAP-24 records requirements for authentication.**
- **Performance Problem 2-15: QAP does not discuss NPO use of software to access weapon or weapon-related documents and records.**
- **Performance Problem 2-16: Several implementing procedures for NAP-24 quality assurance requirements have not been issued or are too new to review performance.**
- **Performance Problem 2-17: The implementation phase of the consolidated contract will need to address replacement of QC-1 with NAP-24.**
- **Performance Problem 2-18: The requirement for authorization of specific NPO individuals to perform acceptance stamping is not addressed in the QAP or FRAM.**

- **Performance Problem 2-19: The NPO QAP General Overview and the FRAM delegations do not include NAP-24 as a requirement.**
- **Performance Problem 2-20: The FRAM is inconsistent on who is authorized to approve the NPO and contractor QAPs.**
- **Performance Problem 2-21: The assessments of contractors are not being sent to HQ and some reports are not being sent to the contractor.**
- **Performance Problem 2-22: Documentation requirements for improvement initiatives such as the Integrated Solution Teams are unclear.**
- **Performance Problem 3-1: Chapter 8, *Performance Measures and Quality Reports*: is not adequately performed. Timeliness of WQA Quarterly and Annual Report delivery is delinquent. WQAPM requires submittal within 3 weeks of the end of the quarter/FY.**
- **Performance Problem 3-2: Chapter 2, *Quality Assurance Activities Plan*: NPO procedures do not direct QAAP development. The NPO-wide SIAP is called out in the QAP; however, the QAAP or its development is not referenced in the QAP or in an implementing procedure.**
- **Performance Problem 3-3: NPO does not currently have procedures in place to meet basic requirements of Chapters 5, 7 and 9. NPO-PX currently has an operator aid for the IMR process in MRP; however, with the recent transition from MRP to IPRO at PX, and the Product Characterization System at Y-12, this will need updating and incorporation of NPO-Y-12s process. NPO procedures are currently being developed to resolve this issue.**
- **Performance Problem 4-1: The level of detail for SSQA activities in the NPO QAP is very high-level and there is not an NPO procedure for SSQA that captures all of the 10 SSQA work activities.**
- **Performance Problem 4-2: NPO QA staffing is below recommended staffing levels for steady-state operations. With the anticipated changes to weapons programs, new facilities and contract oversight, it appears that staffing will be insufficient to handle the anticipated changes.**

### **Fire Protection**

- **FP.3-1/P: Even though effective oversight of the FPPs are being done, the Field Office has not formally documented all of the mechanisms for ensuring the Site Contractor's fire protection program is defined in accordance with contract requirements and that the implementing mechanisms comply with DOE expectations (DOE O 420.1C).**
- **FP.7-1/P: Even though a consistent process is historically followed, the current NPO and B&W Y-12 contractor procedures and contract language are not consistent to provide clear and accurate steps to ensure compliance with DOE O 420.1C, Facility Safety, Fire Protection Equivalency and Exemption process. The NPO FRAM**

delegates responsibilities for the Fire Protection Authority Having Jurisdiction (AHJ) to the AMES&Q; however, NPO's process for reviewing and recommending approval of fire safety equivalencies and exemptions is not well defined and requires additional review criteria as discussed in DOE O 420.1C.


### Feedback and Improvement

- **FI-1/PP: NPO procedures have not been established (e.g., Operating Experience Program).** *An Operating Experience Program procedure has been submitted and is in the queue for publication to the NPO Command Media.*
- **FI-2/PP: NPO is not uniform in how they track issues to completion.**
- **FI-3/PP: NPO is not uniform in how the AMs provide feedback to the contractor.**
- **FI-4/PP: NPO still has not established a baseline of required assessments.**

### **STRENGTHS**

- **(FED T&Q.7-2/S) Strength: The NPO has generated a "Solicitation of Interest" process that allows employees to expand their knowledge of different functional areas while at the same time reallocating resources to meet mission needs. This allows excellent use of existing resources.**

**NPO-60 – Environment, Safety, Health & Quality**

 2/6/2014

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**Teresa Robbins, Assistant Manager for Environment, Safety,  
Health, and Quality**



## **Contractor Training and Qualification**

## CONTRACTOR TRAINING AND QUALIFICATION (T&Q)

### EXECUTIVE SUMMARY

Since the standup of the NNSA Production Office (NPO), the NPO Training Staff has worked to produce a viable and compliant Federal Technical Qualification Program and maintain line oversight of the contractor per DOE Order requirements. There remains a significant amount of work to accomplish to establish the TQP; however, the contractor's training programs at both Y-12 and Pantex are mature and well established. B&W Y-12 and B&W Pantex Training Departments have maintained the programs well and continued performing successful self-assessments to maintain their training programs in good standing. The self-assessment of the NPO Federal Technical Qualification Program resulted 7 of the 8 total criteria met. One issue found identified insufficient federal staffing to perform effective line oversight of contractor training. This issue was already identified in the Federal T&Q self-assessment; no new issues were found. The objective was partially met.

### OBJECTIVE

**T&Q.1:** The Field Office has oversight processes and procedures in place and has ensured that an effective and fully compliant Training and Qualification (T&Q) safety management program (SMP) has been implemented in support of site nuclear activities.

### CRITERIA

1. The Field Office has developed and implemented processes and procedures to effectively oversee contractor performance in this functional area (DOE O 226.1B; DOE O 426.2; NA-1 SD 226.1A).

#### Documents Reviewed:

- DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE Order 226.1B, *DOE Oversight Policy*
- NPO-3.4.1.1, *DOE Oversight Process*
- NPO-3.1.2, *NPO Oversight Planning Process*
- NPO-60 Oversight Guide

#### Discussion:

NPO issued procedure NPO-3.4.1.1, *DOE Oversight Process* to implement the methodology the NPO staff is required to use to perform oversight and assessments of the contractor. The procedure defines the process for doing assessments, observations, and evaluations of contractor performance and how to document the results. NPO also issued the procedure NPO-3.1.2, *NPO Oversight Planning Process*, to define the method for planning assessments and NPO self-assessment activities. The Assistant Manager for Environment, Safety, Health, and Quality (NPO-60) developed a guide to define specific

oversight requirements in the Environmental, Safety, Health, Quality Assurance, and Training Functional Areas. At the time of this assessment, no assessments of the contractor were conducted at Y-12; Pantex performed one assessment.

This criterion was met.

2. The Site Contractor has prepared and submitted a Training Implementation Matrix (TIM) (or succeeding training program description or plan (TPP)) that has been approved by the Field Office Manager or designee. The TIM or TPP is current and consistent with the commitments in the applicable documented safety analysis (DSA). (10 CFR Part 830; DOE O 426.2; NA-1 SD 411.1-1C).

#### Documents Reviewed:

- DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- Letter to E.J. Bergin, General Manager, Lockheed Martin Energy Systems, Inc., from Corey A. Cruz, Acting Assistant Manager for Defense Programs dated February 16, 2000; *Request to Close Y-12 Plant Training Implementation Matrix (TIM) Revision 6 (Y/GA-66/R6)*
- Letter to W. R. Mairson, Division Manager, ES&H, B&W Pantex, from Mark A. Padilla, Assistant Manager Contract Administration and Business Management, Pantex Site Office, dated November 3, 2009; *Pantex Training Implementation Matrix (TIM)*.
- B&W Y-12 Procedure Y90-027, *Conduct of Training*
- B&W Pantex *DOE Order 426.2 Requirements Crosswalk*
- Memorandum to S.W. Baker, BWXT from T. Sherry NNSA Y-12 Site Office dated February 9, 2011, *Y-12 Site Office Approval of Y90-027, Conduct of Training Manual, Revision January 13, 2011*
- Memorandum to N. Johnson, BWXT from T. Sherry, NNSA Y-12 Site Office dated December 8, 2011, *Response to Request for Approval of Y90-027, Conduct of Training Manual, Revision October 26, 2011*

#### Discussion:

Both Y-12 and Pantex Sites closed the Training Implementation Matrix (TIM) by official memorandum in 2000 and 2009 respectively. B&W Y-12 developed and issued procedure Y90-027, *Conduct of Training*, which implements all DOE Order 426.2 requirements through contractual work control requirements called Standards/Requirements Identification Documents (SRIDs). The S/RIDs are divided into subject matter areas call “Functional Areas” and each Functional Area defines the scope and content of the program. The Training & Qualification S/RIDs were incorporated into the Y90-027 procedure. DOE Order 426.2 was revised in 2010 and requires the Field Office to review and approve the Training Program Plan and Y90-027 includes instructions for this review. NPO has reviewed this procedure and approved it and all subsequent revisions. Review of Y-12 correspondence records found examples of Site Office Manager’s approval of the B&W Y-12 Y90-027 procedure which demonstrates Order compliance.

B&W Pantex met all the requirements of the previous DOE O 5480.20A Training Implementation Matrix (TIM) and as a result the TIM was archived on November 3, 2009. Upon implementation of DOE O 426.2, B&W Pantex developed and published the DOE O 426.2 Compliance Matrix which

crosswalks the flow down of the Order requirement through the provision of Plant Work Instructions. This Compliance Matrix, which constitutes the site's Training Program Plan (TPP), was developed and approved by NPO in accordance with Chapter I. 1, of the Order.

This criterion was met.

3. Field Office procedures and mechanisms ensure that the Site Contractor implementation processes for the T&Q SMP comply with contract requirements and meet the commitments within the individual DSAs and TSRs. The elements of the training program comply with DOE expectations specified in DOE O 426.2 (10 CFR Part 830, DSAs and TSRs, DOE O 426.2).

Documents Reviewed:

- DOE O 426.2, *Personnel Selection, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE O 226.1B, *DOE Oversight Policy*
- B&W Pantex document, *DOE O 426.2 Compliance Matrix*

The NPO Pantex Training office conducts monthly meetings to discuss the training elements M&O contractor assessed. B&W Pantex developed and published the DOE O 426.2 Compliance Matrix which crosswalks the flow down of the Order requirements to plant Work Instructions (WIs). This Compliance Matrix, which constitutes the site's Training Program Plan (TPP), was developed and approved by NPO in accordance with Chapter I. 1, of the Order. The B&W Pantex is compliant with the requirements of DOE O 426.2.

NPO Y-12 performed regular assessments of contractor training that includes assessments of programmatic elements and uses the criteria defined in DOE-STD-1070-94. There were no issues (deficiencies, observations, or weaknesses) resulting from the federal oversight of T&Q SMP. There was no indication of programmatic failure related to contract requirements or meeting the commitments within the individual DSAs and TSRs.

NPO conducts assessments, shadows, reviews, and oversight of all elements of our Training Program as follows:

- NPO Training reviews and has the opportunity to shadow each Contractors Technical Training Departments Quarterly assessment that focuses on the criteria identified in DOE-STD-1070-94. Each year all criteria from DOE-STD-1070-94 are evaluated.
- NPO reviews Training & Qualification program compliance through the conduct of Readiness Assessments and Operational Readiness Reviews. During the Readiness Assessments and Operational Readiness Reviews, Technical Safety Requirements (TSRs) are evaluated against the DSA as applicable.
- NPO oversees all independent assessments such as: Quality Assurance Surveys (QAS), NES Master Studies, Defense Board reviews, and specific programmatic assessments deemed necessary by NNSA Headquarters.
- NPO provides oversight of corrective actions documented in the contractor's issues management systems at both plants.

Based on these activities, no issues or concerns are noted.

This criterion was met.

4. NNSA Field Office procedures and mechanisms ensure that the Site Contractor has conducted periodic systematic evaluations of the T&Q SMP and found it to be effective and compliant with contract requirements (DOE O 226.1B; NA-1 SD 226.1A; DOE O 422.1; 10 CFR Part 830).

Documents Reviewed:

- DOE O 426.2, *Personnel Selection, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE O 226.1B, *DOE Oversight Policy*
- NPO-3.4.1.1, *DOE Oversight Process*
- NPO-3.1.2, *NPO Oversight Planning Process*

Discussion:

NPO Training Department performed numerous assessments of contractor's training program to include Weapons Assessments, Conduct of Operations Assessments, and Assessments of programmatic elements and uses the criteria defined in DOE-STD-1070-94. This review was conducted throughout the year and there were no issues noted for (deficiencies, observations, or weaknesses) resulting from the federal oversight of T&Q SMP. Routine interface meetings were held through the year held between the M&O and NPO site Training Managers to discuss all the requirements for training, observations and assessment results and any other training-related topic resulting from oversight activities.

The shadow assessments on the M&O Training performed and assessed by NPO Pantex went through a thorough review and there was no indication of any programmatic failures related to contract requirements or meeting the commitments within the individual DSAs and TSRs at Pantex. NPO Y-12 performed similar shadow assessments that resulted in the same conclusion, no indication of programmatic failures or impact of the Y-12 Plant DSAs and TSRs.

This criterion was met.

5. NNSA Field Office or other DOE/NNSA organizations have completed assessments of the contractor T&Q SMP in accordance with DOE-STD-1070-94. The assessments have found the SMP to meet DOE requirements and the commitments in the site nuclear facility DSAs and TSRs (DOE O 426.2). (NOTE: DOE O 426.2 paragraph 5.c. (11) requires additional assessment reporting information to be provided to the PSO and HSS within one year of issuance of the Order (due by 4-21-2011)).

Documents Reviewed:

- DOE O 426.2, *Personnel Selection, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training Programs, June 1994*
- NPO-3.1.2, *NPO Oversight Planning Process*
- B&W Y-12 Procedure Y90-027, *Conduct of Training*

- PD 02.03.02.03, *Process for B&W Pantex Training and Qualification Program*
- Pegasus report REP-ESH-9/26/2012-39574, *NPO Observed a Pilot Training Course for Upgraded Lockout/Tagout Theory Refresher*
- Pegasus report REP-ESH-8/29/2012, *Activity Observation of Facilities, Infrastructure, and Services Pilot Training Class on Conduct of Operations*
- Pegasus report REP-AB-6/20/2012-32374, *Programmatic Assessment of B&W Technician and Maintenance Training Programs*
- Pegasus report REP-AB-6/20/2012-89373, *Evaluation of B&W Training Records & Documentation Process*
- Pegasus report REP-ESH-9/26/2012-11007, *Programmatic Assessment of the B&W Training & Qualification Proficiency Program*
- Pegasus report REP-OM-11/4/2010-40182, *Shadow/Programmatic Assessment of the B&W General Employee Training*
- Final Report for the Assessment of the H Gear Training Program (ESH-TRAIN-14-01) (Pantex)
- NNSA Readiness Assessment for the Restart of the W84 Action Link (PAL) Operations at the Pantex Plant, Final Report dated June 28, 2013

#### Discussion:

NPO Y-12 Training used an assessment strategy that derived 18 training topical areas that encompassed the criteria of DOE-STD-1070-94 and DOE Order 426.2 and reviewed these topical areas over a 3-year period resulting in 6 topic areas per year. Several of the assessments were shadow assessments of B&W Y-12 Training Management & Delivery Organization self-assessment of the training program. B&W Y-12 developed a schedule of Management Self-Assessments (MSAs) and surveillances; the scope of the MSAs were the programmatic topic areas and the surveillances were direct field observation of training activities, such as classroom, On-the-Job training, or a practical performance demonstration. NPO Y-12 shadowed a portion of the MSAs and reviewed all the reports generated from the MSAs and surveillances. These were documented in the Pegasus database, which were reviewed by management. B&W Y-12 incorporated simulations and practical exercises into several training courses, such as Conduct of Operations, Forklift certification, Asbestos abatement, and Lockout/Tagout Training. NPO Y-12 Training observed several of these sessions and found the courses to be well organized, well delivered, and properly documented (in lesson plans and Performance Documentation Checklists). Some minor observations to improve the simulations were noted but no issues or concerns were identified. For this self-assessment a sampling of assessment reports from the NPO Y-12 Pegasus database were reviewed and no issues were noted.

The NPO Pantex Training Department performed a Tri-Annual assessment in 2011 of contractor's Training and Qualification program and concluded the contractor satisfied all eight objectives and thirty-five criteria of DOE-STD-1070-94. The facilities dedicated to the hands on weapons training program reflects the importance of the training. The B&W technical training staff is knowledgeable, dedicated, and generally consists of long term members of the training organization. B&W Pantex has a comprehensive and well documented program that ensures that instructors have and maintain required knowledge and skills; initial knowledge, experience, and education are evaluated in the hiring and selection process. Instructors are evaluated on a continuing basis through student feedback, line management observations, and periodic evaluations required by Work Instructions (WIs). The B&W Pantex process for

identifying tasks required for competent job performance is robust and the training program is based upon the results of these analyses.

B&W Pantex Technical Training Department uses mockups of components and materials, to support the learning objectives and promote effective methods of training. A continuing training program that uses both On-the-Job-Training (OJT) and Flexible training is in place to maintain and improve the knowledge and skills of the on job incumbents. Training is conducted in a manner that promotes information retention by the trainees. Hands on weapons training is conducted in Training Bays and Cells which closely replicate actual weapons work areas.

The Results of the Assessment one noteworthy practice was identified during this assessment. B& W Pantex maintains a Business Requirements and Instruction Network (BRAIN). Unclassified site-wide procedures, including training procedures, are organized into Process Documents (PD) and Work Instructions (WI). The PDs describe specific goals such as PD 02.03.02.03, Process for B&W Pantex Training and Qualification Program. Also, the implementing WIs are tied electronically to the PD; field observation of training activities observed during the assessment verified this linkage. This visual association and electronic linkage of program goals and implementing procedures is a logically organized central procedures library maintained current by the plant procedures system. No findings or weaknesses were identified in the review.

This criterion was met.

6. NNSA Field Office processes and procedures ensure effective line oversight of the Contractor Assurance System (CAS) in this functional area.

Documents Reviewed:

- DOE O 426.2, *Personnel Selection, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE O 226.1B, *DOE Oversight Policy*
- NPO-3.4.1.1, *NPO Oversight Process*
- NPO-60 Oversight Guide
- Sampling of Performance Indicators from both B&W Y-12 and B&W Pantex

Discussion:

The NPO utilizes several documents and contractor processes to oversee the Contractor Assurance System. NPO procedure NPO-3.4.1.1, NPO Oversight Process, is NPO's administrative procedure used to review the contractor's CAS and determine the risk of operations. Based on the risk ranking the NPO determines which contractor assessments to shadow and what independent assessments to perform. B&W (both sites) generate performance indicators routinely to NPO to demonstrate training program health and stability on a monthly basis. The performance indicators cover such topics as training deficits, assessment performance status, staffing levels, and lessons learned. B&W also identifies trends. NPO Training utilizes all this information to perform routine and effective oversight and is in compliance with applicable DOE Order requirements.

This criterion was met.

7. Issues identified during **previous** reviews (e.g. CDNS Biennial Reviews, HSS reviews, self-assessments) have been appropriately resolved, corrective actions have been completed and are adequate, or a clear path to completion is indicated (DOE O 226.1B; NA-1 SD 226.1A).

Documents reviewed:

- Headquarters Biennial Review of Site Nuclear Safety Performance for the Y-12 Site Office, March 2009
- Headquarters Biennial Review of Site Nuclear Safety Performance Final Report for the Pantex Site Office, March 2011
- 2011 Y-12 Site Office Self-Assessment in Preparation for CDNS Assessment

Discussion:

Y-12 Findings:

No Findings or Weaknesses identified.

Opportunities for Improvement:

- **T&Q.1-1/OFI:** Consideration should be given to revising the YSO FRAM to identify that the Site Office Manager approves exceptions to specific T&Q requirements for nuclear facilities as documented in the contractor's *Y90-027* manual. The Y-12 Site Office FRAM was revised to incorporate Site Office Manager Approval for exceptions.

Y-12 Observation:

- **T&Q1.1/O.1:** Utilization of the Issues Management System (IMS) as an input to YSO assessment planning may further strengthen or contribute to continuance of an already effective Contractor T&Q SMP. YSO modified the Pegasus database to directly tie into the contractor's IMS. SMEs were able to directly review contractor corrective actions associated with their issues and resulted in a more efficient processing of YSO issues.

Pantex Findings:

- T&Q.1-1/F: There was no evidence that the process described in PXSO P 226.1-2C was conducted for contractor T&Q for FY11. During the CDNS assessment the Training Manager had just been detailed into the training position and had not executed the required oversight responsibilities of this order. The NPO Pantex Training Manager assumed the oversight responsibilities and performed assessments as required. This finding has been corrected and no further action is required this Finding is closed.
- T&Q.1-2/F: Exemptions to DOE O 426.2 were approved through the contractual process



without approval by the Site Office Manager, effectively modifying the crosswalk. Exemptions to DOE 0 426.2 were not sent for CTA concurrence. The Pantex Site Office Management reviewed the initial submittal of the Compliance Matrix; following the CDNS finding and determined that this finding is not applicable to NPO Pantex. The issue was terminology; the term “exception/exemption” was not appropriate terminology and was misleading. NPO Management requested B&W to revise the Compliance Matrix to remove exception/exemption terminology. The revised Compliance Matrix was submitted to the Site Office and was approved. This action addresses the finding this issue is considered closed.

- T&Q.1-3/F: The last full-scope evaluation of the contractor training & qualification program by PXSO was in 2006. DOE 0 426.2 requires the full-scope assessments every three years. A Tri-Annual Assessment was completed by the Assessment Team from NNSA Service Center from Albuquerque in 2011 this closes this finding.

#### Pantex Weakness:

- T&Q.1-1/W: The new cross walk/TPP has yet to be approved by the Site Office Manager as required by DOE 0 426.2, paragraph 4.b. The Site Manager delegated signature authority to the Contacting Officer who approved the B&W Pantex Compliance Matrix, which is the official TPP by letter on November 3, 2009.

#### Pantex Opportunities for Improvement:

Note: For these OFIs, Pantex Site Office Management reviewed them and took these under advisement.

- T&Q.1-1/OFI: Consideration should be given to documenting the plans and processes specific to overseeing contractor T&Q.
- T&Q.1-2/OFI: PXSO should consider requiring the addition of SMPs to the TSRs as Administrative Controls.
- T&Q.1-3/OFI: One observation was that TSR training is not required for safety basis personnel. PXSO should consider reviewing this issue to determine whether it indicates a deficiency in identification of job requirements.
- T&Q.1-4/OFI: PXSO should consider tracking the issue concerning the process for updating the Requirements Crosswalk to closure.

This criterion was met.

8. Field Office has sufficient staff, and assigned personnel have adequate technical competence, to oversee the performance of the contractor's T&Q SMP (NA-1 SD 411.1-1C, DOE O 426.2).

Documents reviewed:

- 10 CFR Part 830, *Nuclear Safety Management*
- DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*
- DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*
- DOE-STD-1070-94, *Guidelines For Evaluation of Nuclear Facility Training Programs*
- NPO Workforce Analysis & Staffing Plan Report, As of December 31, 2013. DRAFT

Discussion:

The Annual Work Force Analysis and Staffing Plan is a tool used by the NPO Management team to position technically capability personnel to the Mission needs of the site. The NPO Leadership Team utilizes the staffs experience, education, and qualifications to position that employee into the desired job. The annual workforce analysis and staffing plan helps to focus the management team on critical skill positions and on shortcomings and future needs. NPO updates the staffing plan annually; the revision/update to the last approved staffing plan was in draft at the time of this self-assessment and is due for issue to the FTCP by January 15, 2014. The draft revision states that NPO has several vacancies due to retirements and transfer, however, the NPO Leadership Team has prioritized the vacancies and is actively pursuing filling them. NPO has two positions assigned to manage Federal Training and oversee Contractor Training. NPO has one individual fully qualified as Technical Training Manager at Y-12 and one individual in training as a Technical Trainer at the Pantex office. The Solicitation of Interest phase (Reference FED T&Q Criteria Number 7) includes a change in Training Managers at the NPO Pantex office. This places the responsibility for oversight of the contractor at both sites on the experienced qualified individual while the Pantex TM becomes familiar with the process. This presents a staffing shortage in this area. This issue was identified in the Federal T&Q Self-Assessment evaluation, criteria number 7.

Overall, NPO noted staffing was a concern in the majority of functional areas evaluated during this review. As such, a Management Concern, MC-ISMS.1-1, was documented to capture this NPO-wide staffing issue.

This criterion is not met.

## **Federal Training and Qualification**

## **FEDERAL EMPLOYEE TRAINING AND QUALIFICATION PROGRAM (FED T&Q)**

### **EXECUTIVE SUMMARY**

Since the standup of the NNSA Production Office (NPO), the NPO Training Staff has worked to produce a viable and compliant TQP per DOE Order requirements. There remains a significant amount of work to accomplish to establish this program. The self-assessment of the NPO Federal Technical Qualification Program resulted 3 of the 7 total criteria not met and documented three findings and one strength. The three findings indicate the need to complete the program documents and fully qualify the training staff which should result in a fully compliant TQP. Overall the objective was partially met.

The results are summarized as follows:

- **(FED T&Q.1-1/F) Finding: NPO-2.2.3.1.1, Training Program Manual which will implement the needs analysis requirements of DOE Order 360.1C is in draft and not approved.**
- **(FED T&Q.1-2/F) Finding – The lack of approved Site Specific Technical Qualification Standards and Training Program Manual indicate that the NPO TQP is not fully implemented.**
- **(FED T&Q.7-1/F) Finding: NPO does not have fully qualified Technical Training Managers at both sites, therefore has insufficient resources to adequately develop and implement a fully compliant TQP.**
- **(FED T&Q.7-2/S) Strength: The NPO has generated a “Solicitation of Interest” process that allows employees to expand their knowledge of different functional areas while at the same time reallocating resources to meet mission needs. This allows excellent use of existing resources.**

### **OBJECTIVE**

**FED T&Q.1:** The NNSA Field Office has established an effective and compliant training and qualification program for Federal employees.

NOTE: Some aspects of the FED T&Q program may be assessed in other functional areas such as Safety Basis and Facility Representatives. Programmatic issues identified during those reviews will be included in the report of this functional area. Duplication of reviews should be avoided through coordination among reviewers. In accordance with DOE O 426.1 Chg 1: FTC Program Implementation: Organizations may accredit their TQPs by following the TQP Accreditation Process (see DOE O 426.1 Chg 1, Appendix C). For organizations that have received accreditation, internal departmental oversight activities must credit that site program's TQP for being properly implemented during the period of time that the site or program's FTCP accreditation is current.]

## CRITERIA

1. The NNSA Field Office has implemented the elements of DOE O 360.1C section 4 (Requirements) and section 5 (Responsibilities) for all assigned Federal employees who support or oversee work in defense and other nuclear facilities (DOE O 360.1C).

### Documents Reviewed:

- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*
- NPO-2.2.3.1.1, *NPO Technical Training Program Manual*

### Discussion:

DOE Order 360.1C, Section 4 requires each DOE element to have a training policy and procedure to manage and administer a training program; allocate funding for a training budget, complete Individual Development Plans (IDPs), process training requests and evaluations, and maintain training records. NPO issued procedure NPO-2.2.3.1, Technical Training & Qualification Program, which documents the process for the administration of the Technical Qualification Training Program and NPO is in the process of issuing NPO-2.2.3.1.1, NPO Training Program Manual (currently in draft). The requirements of DOE Order 360.1C, Section 4 that apply specifically to the NPO organization flow down to these two documents as follows:

- NPO-2.2.3.1, Section 6.7 defines the process for development and approval of IDPs;
- NPO-2.2.3.1, Section 6.4 defines the process for Continued Service Obligations;
- NPO-2.2.3.1, Section 7.0 defines the process for maintaining training records;
- NPO-2.2.3.1.1, Chapter 4 defines the process for Training Needs Analysis and Training Budget;
- NPO-2.2.3.1.1, Chapter 6 defines the policy for reimbursement for College Courses;

NPO also is partially in compliance with DOE Order 360.1C, Section 5, *Responsibilities*, with the same two training documents, NPO-2.2.3.1 and NPO-2.2.3.1.1. The responsibilities of the Management Team, Training Manager, Federal Technical Capability Panel (FTCP) Agent, and Staff are defined in section 5.0 of NPO-2.2.3.1. The NPO Site Manager designated by memorandum, the Assistant Manager for Environment, Safety, Health, and Quality (AMESH&Q) to represent the NPO on the panel as the Agent. The Deputy Assistant Manager for ESH&Q Y-12 is the backup. One identified finding is that NPO-2.2.3.1.1, Training Program Manual which will implement the needs analysis requirements of DOE Order 360.1C is in draft and not approved (**FED T&Q.1-1/F**).

**(FED T&Q.1-1/F) Finding: NPO-2.2.3.1.1, Training Program Manual which will implement the needs analysis requirements of DOE Order 360.1C is in draft and not approved.**

2. This criterion is not met. The NNSA Field Office Federal T&Q program includes the self-assessments, assessments and evaluations required by DOE O 426.1 Chg 1 and DOE O 226.1B; results indicate an effective program to maintain sufficient technical capability and knowledge of site and contractor activities to make informed decisions about hazards, risks, and resource allocation; provide direction to contractors; and evaluate contractor performance. (DOE O 226.1B, DOE O 360.1C, DOE O 426.1 Chg 1).

Documents Reviewed:

- DOE Order 426.1 Chg 1, *Federal Technical Capability*
- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*
- NPO-3.4.1.1, *DOE Oversight Process*
- NPO-3.1.2, *NPO Oversight Planning Process*
- Pantex Site Office Technical Qualification Program Self-Assessment Report, FY12, dated October 2011
- Technical Qualification Program (TQP) Self-Assessment Report on the Y-12 Site Office Technical Qualification Training Program, dated July, 2010
- Y-12 Site Office Technical Qualification Program Reaccreditation Review Team Report, dated August 23-27, 2010

Discussion:

NPO issued procedure NPO-3.4.1.1, *DOE Oversight Process* to implement the methodology the NPO staff is required to use to perform oversight and assessments of the contractor. The procedure defines the process for doing assessments, observations, and evaluations of contractor performance and how to document the results. NPO also issued the procedure NPO-3.1.2, *NPO Oversight Planning Process*, to define the method for planning assessments and NPO self-assessment activities. In addition, procedure NPO-2.2.3.1, *NPO Technical Training & Qualification Program* was issued to manage and administer the NPO Technical Qualification Program (TQP). Section 6.15 of the procedure defines the requirements to assess the Federal Training Program and Step 6.15.b defines the specific FTCP self-assessments to be performed. Review of these procedures concludes that the NPO oversight program and self-assessment program for the TQP are in place and meet DOE Order requirements.

Due to the merger of the Y-12 and Pantex Site Offices into the NPO organization, the TQP is not fully developed. Both sites are working to establish one NPO TQP and consequently, at the time of this self-assessment, 3 of the 6 total training documents that manage the entire TQP are not approved; these include the site specific qualification standards (NPO-2.2.3.1.2, and NPO-2.2.3.1.3 respectively) and the Training Program Manual, (NPO-2.2.3.1.1). As a result, at the time of this self-assessment, no assessments of the NPO TQP were performed. However, both Y-12 and Pantex performed self-assessments within the last 3 years; the Y-12 TQP was re-accredited in January 2012 and Pantex performed a self-assessment using accreditation criterion from DOE Order 426.1. The core of the TQP is the implementation of the General

Technical Base Standard, Functional Area Qualification Standard, and Site/Position Specific Qualification Standards. NPO has not approved the Site/Position Specific Qualification Standards, which is a key element of the TQP. The Site/Position specific standards are essential to assigning the necessary knowledge and skill competencies to individuals in new positions, therefore the lack of approved Site Specific Technical Qualification Standards is a serious weakness in the program and is a finding. **(FED T&Q.1-1/F)**

**(FED T&Q.1-2/F) Finding – The lack of approved Site Specific Technical Qualification Standards and Training Program Manual indicate that the NPO TQP is not fully implemented.**

This criterion is not met.

3. The NNSA Field Office has established a Federal Technical Capability Program (FTCP) as part of the Federal T&Q program that incorporates the purpose of the four FTCP principles of recruiting, deploying, developing, and retaining a technically competent workforce that will accomplish DOE missions in a safe and efficient manner. (DOE O 426.1 Chg 1).

Documents reviewed:

- DOE Order 426.1 Chg 1, *Federal Technical Capability*
- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*
- Annual Workforce Analysis and Staffing Plan Report As of December 31, 2012 issued February 6, 2013
- Annual Workforce Analysis and Staffing Plan Report As of December 31, 2013 (DRAFT)
- Position Description, NPO Training Manager

#### **Discussion:**

The NPO Executive Leadership Team (ELT) utilizes established Human Resources processes, such as Excepted Service, to recruit and deploy highly competent technical personnel to fill key safety positions and incorporates the TQP into the position descriptions. This is a specific action in the accreditation aspect of the TQP. Position descriptions and job announcements highlight the requisite technical qualities of incumbents and applicants. If the position is designated as requiring TQP, it is clearly stated in both the Position Description (PD) and job announcement. The senior management staff is held accountable through annual performance plans to further develop staff capabilities and to ensure staff completion of qualification and certification requirements. In addition, the Workforce Analysis and Staffing Plan requires the management team to focus on critical skill positions, staffing shortages, succession planning, and future needs. The staffing analysis produced for 2014 was under development and not due for submittal at the time of this review, therefore the draft was reviewed and determined to meet the DOE Order requirements.

Staff technical development is accomplished through implementation of the TQP. Proficiency is maintained through the Continuous Training Program, which helps the employee and supervisor to plan an individual's career development and seek appropriate training to meet individual career goals and also meet mission needs. NPO uses the Individual Development Plan (IDP) process to formally request and document appropriate training needs. NPO Managers and the candidate are required to update their

Individual Development Plans as frequently as needed but at a minimum of annually. This engagement helps the managers and candidate identify the specific training and development needs of the employee.

This criterion is met.

4. The NNSA Field Office FTCP is structured to meet the DOE and NNSA expectations described in DOE Directives and the NNSA Supplemental Directive (DOE O 360.1C, DOE O 426.1 Chg 1).

Documents reviewed:

- DOE Order 426.1 Chg 1, *Federal Technical Capability*
- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*
- NPO-2.2.3.1.1, *NPO Technical Training Program Manual*
- Memorandum from K.E. Waltzer to Karen L. Boardman, dated November 13, 2013, Designation of Agent, Backup, and Support for the Federal Technical Capability Panel for the NNSA Production Office (U)

**Discussion:**

The NPO issued a letter of designation for the FTCP Agent, Backup, and Support for the Federal Technical Capability Panel for the NNSA Production Office (U) dated November 13, 2013. The NPO has made new assignments for our representation and support of the Federal Technical Capability Panel (FTCP) as required by the DOE O 426.1, Federal Technical Capability. The duties and responsibilities of the NPO FTCP Agent is structured to meet all the DOE and NNSA expectations as described in NPO-2.2.3.1 Technical Training and Qualification Program. Section 5.8 of the procedure provides detailed list of the Agent's responsibilities. The NPO-2.2.3.1.1 Training Program Manual, although currently in draft status, was developed to provide guidelines for the management and administration of the various training programs and functions for the National Nuclear Security Administration Production Office (NPO). Chapter 22 describes in detailed the tasks and actions taken by the FTCP Agent. As previously identified under Criteria 2, the NPO Training Program Manual is in draft status and needs to be issued final to fully implement this process.

This criterion is met.

5. The NNSA Field Office FTCP includes provisions for conducting and documenting program evaluations in accordance with Technical Qualification Program assessment guidance and criteria (DOE O 226.1B, DOE O 360.1C, DOE O 426.1 Chg 1).

Documents reviewed:

- DOE Order 426.1 Chg 1, *Federal Technical Capability*
- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*



Procedure NPO-2.2.3.1, *NPO Technical Training & Qualification Program* was issued to manage and administer the NPO Technical Qualification Program (TQP). Section 6.15 of the procedure defines the requirements to assess the Federal Training Program and Step 6.15.b defines the specific FTCP self-assessments to be performed. Review of these procedures concludes that the NPO oversight program and self-assessment program for the TQP are in place and meet DOE Order requirements.

This criterion was met.

6. Issues identified during **previous** reviews (e.g. CDNS Biennial Reviews, HSS reviews, self-assessments) have been appropriately resolved, corrective actions have been completed and are adequate, or a clear path to completion is indicated (DOE O 226.1B; NA-1 SD 226.1A).

Documents reviewed:

- Headquarters Biennial Review of Site Nuclear Safety Performance for the Y-12 Site Office, March 2009
- Headquarters Biennial Review of Site Nuclear Safety Performance Final Report for the Pantex Site Office, March 2011

Discussion: Y-12 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. Training Records for Fire Protection Engineer were reviewed and determined that all proficiency requirements were met. A sample of additional TQP requalification packages were reviewed to ensure proficiency requirements are compliant. No concerns were identified and the issue was closed.
- 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. The NNSA TQP Manager initiated the proper notifications; which were verified by the YSO Training Manager and the issue was closed.
- FED T&Q.1-3/F: Records retention requirements in NA-1 M 426.1-1A and YSO-2.1 are not being met. Procedure YSO-2.1 was revised to clarify record retention requirements; revision 14 was issued 5/29/09 which addressed this issue. The issue was closed.

Y-12 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. This was considered by YSO Senior Managers to be an option which was not based on any existing requirement, and therefore no action taken.
- FED T&Q.1-2/OFI: Consideration should be given to ensuring requalification status is tracked for YSO Project Managers. YSO performed an assessment and determined the Project Directors were

tracking all PMCDP continuing training correctly and accurately in the CHRIS database. No issues were noted and the observation closed.

- 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. Procedure YSO 2.1 was revised (Revision 14) to reflect this recommendation and issued 5/29/2009. The observation was closed.
- 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. Procedure YSO 2.1 was revised (Revision 14) to reflect this recommendation and issued 5/29/2009. The observation was closed.

#### Y-12 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.

#### Pantex Findings:

- FED T&Q.1-1/F: As required by DOE M 360.1-1B, Section 8(b), Pantex has not submitted the latest PXSO Federal Employee Training Self-Assessment Report FY10, dated 10/14/2010. The finding was entered into ePegasus; the Self-Assessment report was issued in FY11 which corrects this finding, and this issue is closed.

#### Pantex Weaknesses:

- FED T&Q.1-1/W: PXSO management has not formally designated the Quality Assurance Specialist acting on multiple concurrent details as the Training and Qualification Manager for over eight months. This position was advertised and filled in 2012 and the weakness closed.
- FED T&Q.1-2/W: A Position Description fully outlining the roles and responsibilities of the assigned individual overseeing the PXSO Training and Qualification Program should be generated and provided to ensure management and oversight expectations are being met. The PD for the PXSO Training Manager was updated in 2012 to include the management and oversight responsibilities and this issue closed.

#### Pantex Opportunities for Improvement:

Note: For these OFIs, Pantex Site Office Management reviewed them and took these under advisement.

- FED T&Q.1-1/OFI: It is recommended that the PXSO Training Manager periodically review the PXSO issues management systems and programmatic internal self- assessments to evaluate training and qualification deficiencies from a tracking and trending perspective.
  - FED T&Q.1-2/OFI: It is recommended that the PXSO Training Manager integrate with stand-alone training processes for Facility Representatives, Safety System Oversight, Emergency Management/Duty Officer, and Safeguards and Security.
  - FED T&Q.1-3/OFI: As a future enhancement process, it is recommended that PXSO review the sub-tier in-house continuous training documents and consider developing a site-wide continuous training directive.
  - FED T&Q.1-4/OFI: It is recommended that new or recently qualified Facility Representatives receive authorization as Qualifying Officials for their area(s) of competence to maintain consistency with the PXSO QO policies and AMFO direction.
  - FED T&Q.1-5/OFI: It is recommended that PXSO P 414.1A be updated on the next revision to reflect changes in management organization pertaining to PXSO Federal Training and Qualification roles and responsibilities.
  - FED T&Q.1-6/OFI: To further enhance and demonstrate implementation of the PXSO Training Program, it is recommended, upon approval and further assessment of the pending PXSO Annual Training Plan and Training Program documents, that PXSO seek HQ technical accreditation of its Training Program.
  - FED T&Q.1-7/OFI: It is recommended that Qualifying Officials for PXSO business and technical functional areas complete or demonstrate an appropriate level of qualifications through knowledge, skills, and abilities before signing off other experts in the field.
  - FED T&Q.1-8/OFI: Revising and continued maintenance of the PXSO and NNSA SC Qualifying Official listing is recommended to remove employees no longer assigned QO duties, departed employees, or add employees recently installed as Qualifying Officials in additional functional areas.
7. The NNSA Field Office Federal T&Q program is staffed with an adequate number of personnel who have competence commensurate with their assigned responsibilities and Field Office technical employees whose duties and responsibilities require them to provide assistance, guidance, direction, or oversight that could affect the safe operation of a defense nuclear facility, including evaluation of contractor activities at those facilities, are included in the site's TQP. This includes personnel designated as Senior Technical Safety Managers (STSM), FRs, Safety System Oversight (SSO) personnel or other Functional Area Qualification STDs (FAQSs) designated site personnel and employees who are on extended detail or temporary assignment (i.e., 90 days or longer). (DOE O 226.1B, DOE O 360.1C, DOE O 426.1 Chg 1).

Documents Reviewed:

- DOE Order 426.1 Chg 1, *Federal Technical Capability*
- DOE Order 360.1C, *Federal Employee Training*
- NPO-2.2.3.1, *NPO Technical Training & Qualification Program*
- NPO Workforce Analysis and Staffing Plan as of December 31, 2012, issued February 6, 2013
- NPO Workforce Analysis and Staffing Plan as of December 31, 2013 (DRAFT)

Discussion: The Annual Work Force Analysis and Staffing Plan is a tool used by the NPO Management team to position technically capability personnel to the Mission needs of the site. The NPO Leadership Team utilizes the staffs experience, education, and qualifications to position that employee into the desired job. The annual workforce analysis and staffing plan helps to focus the management team on critical skill positions and on shortcomings and future needs. NPO updates the staffing plan annually and the revision to the last approved staffing plan was in draft at the time of this self-assessment and is due for issue to the FTCP on January 15, 2014. The draft revision states that NPO has several vacancies due to retirements and transfer, however, the NPO Leadership Team has prioritized the vacancies and is actively pursuing filling them. NPO has two positions assigned to manage Federal Training and oversee Contractor Training. The staffing analysis also shows that 43 of the 123 Full Time Employees are either eligible or will be eligible for retirement within the next five years and this indicates a potentially serious impact to the skill mix of the office. A number of staff members hold qualifications in multiple areas and in several cases, functional areas are covered by one individual and some of these individuals manage programs for both sites. NPO recognized this situation and has implemented a solicitation of interest to the staff In order to align technical capability needs of NPO with the interest and capabilities of employees where possible, NPO completed the first phase of a Solicitation of Interest effort. This effort was intended to make optimum use of existing resources. Qualified individuals submitted a request to transfer to other technical positions within the office, for example, a Facility Representative desired to perform work of a Safety System Oversight Engineer; a solicitation of interest was written and provided to the Executive Leadership Team for review. The ELT reviews all the submittals and looks at them collectively for impacts on the organization and determines which solicitation of interest requests would be beneficial to both the organization and the individual and either approves or denies the request. There is no change in pay status, and the individual requesting the change understands that he/she will have to qualify per the TQP requirements. A total of 10 positions are affected, including Facility Representatives, Safety System Oversight Engineers, Maintenance, Quality Assurance, Training, and Security. A number of these individuals who are changing positions are the newer additions to the staff; therefore this concept is innovative and a positive method of developing the staff and making excellent use of the existing resources. This is considered a strength. **(FED T&Q.7-2/S)**

Specifically, NPO has one individual fully qualified as Technical Training Manager at Y-12 and one individual in training as a Technical Trainer at the Pantex office. The Solicitation of Interest phase includes a change in Training Managers at the NPO Pantex office. This places the bulk of the effort to develop a combined NPO TQP on the experienced qualified individual while the Pantex TM becomes familiar with the program. This presents a staffing shortage in this area. **(FED T&Q.7-1/F)**

**(FED T&Q.7-1/F) Finding: NPO does not have fully qualified Technical Training Managers at both sites, therefore has insufficient resources to adequately develop and implement a fully compliant TQP.**

**(FED T&Q.7-2/S) Strength: The NPO has generated a “Solicitation of Interest” process that allows employees to expand their knowledge of different functional areas while at the same time reallocating resources to meet mission needs. This allows excellent use of existing resources.**

Overall, NPO noted staffing was a concern in the majority of functional areas evaluated during this review. As such, a Management Concern, MC-ISMS.1-1, was documented to capture this NPO-wide staffing issue.

This criterion is not met.