



U.S. Department of Energy
NNSA Production Office
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February 11, 2014

**MEMORANDUM FOR: KAREN BOARDMAN, CHAIRPERSON
FEDERAL TECHNICAL CAPABILITY PANEL
NATIONAL TRAINING CENTER**

FROM: TERESA ROBBINS
FTCP AGENT
NNSA PRODUCTION OFFICE

**SUBJECT: Federal Technical Capability Panel (FTCP) Staffing Plan for the NNSA
Production Office**

We have completed our analysis of staffing needs per the guidance provided. The FTCP staffing plan report for the NNSA Production Office is attached.

Should you have any questions, please contact me at 865-576-0841 or Mark Sundie at 865-241-6441.

cc w/attachment:
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Section One: Current Mission(s) of the Organization and Potential Changes

1. NPO, B&W Pantex, LLC, and B&W Y-12 LLC share a joint vision for the Pantex and Y-12 Plant that includes securing America as the NNSA's production integrator and provider of the nuclear deterrent to the Department of Defense; expert in nuclear technology and special nuclear materials processing and manufacturing technologies; serving the Nuclear Security Enterprise through our Highly Reliable people, processes, infrastructure, and business systems. One of NPO's primary roles is maintaining effective oversight of all contracts and contracting operations managed at the Pantex and Y-12 production Plants.

This jointly held vision ensures alignment for the plant and, though through different roles and responsibilities, highlights the common objective for the Plant. The NPO mission supports this common vision and is grouped into the following topical areas:

- **National Security** – Protect critical National Security mission elements by being the best led, best trained, and best equipped in protecting strategic nuclear material, weapon components, and infrastructure.
- **Nuclear Technology and Materials** - Manufacture complex components to extremely high levels of precision that includes processing highly enriched uranium to propel nuclear submarines in the Naval Reactors Program. This includes a collaborative partnership with other federal agencies and industry to apply the best scientific discoveries to real-world manufacturing challenges, developing processes and producing prototypes. Create prototypes of complex equipment.
- **Nuclear Explosives Operations** - Ensure a safe and reliable nuclear deterrent through assessment, surveillance and refurbishment that includes life extension, surveillance and dismantlement.
- **High Explosives Operations** - Provide our customers with high explosive products and services through unique core technologies in explosive manufacturing, engineering and physics, materials evaluation and analytical services, and Work for Others Program.
- **Nuclear Materials Management and Storage Program** - Receives, stores, protects, dispositions, and manages strategic and special nuclear materials and provides programmatic planning, analysis, and forecasting for national security material requirements supporting the Stockpile Stewardship and other DOE programs.
- **Nuclear Packaging System Program** - Provides certified and economical packaging for transporting and storing weapon components and assemblies, radioactive materials, and other materials.
- **Naval Reactors** - NPO Y-12 Plant processes highly enriched uranium for use by the Naval Reactors Program for Naval Nuclear Propulsion. Our support of the Naval Reactors program began in Fiscal Year 2002 and is currently planned through FY 2050 and beyond. We use

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dismantled weapons to provide feedstock, moving the material off-site and reducing Y-12's storage footprint and risk.

- **Stewardship** - Provides the environmental, infrastructure, human capital and energy management stewardship to support the unique production processes at both the Pantex and Y-12 Plants.
- **UPO Support** – Provides technical and business management support to the Uranium Processing Facility Project at Y-12 on an as needed basis to supplement the oversight functions of the UPF Project Team.
- **Contract Transition** – When the new M&O contract is implemented, a transition period will be required to ensure proper turnover. NPO will be closely monitoring the transition activities to ensure critical mission milestones are met and safety and security are not compromised.

2. There are a number of special initiatives and potential changes in requirements that could impact NPO staffing levels in the future. Major areas include the following:
 - Impacts due to implementation of the Nuclear Posture Review (NPR) and Strategic Arms Reduction Treaty (START).
 - The number of line-item projects is expected to increase significantly over the next several years to replace aging infrastructure.
 - The Y-12 and Pantex Field Offices were merged in FY 2012 to support the consolidation of the Pantex Plant and the Y-12 National Security Complex contracts. NPO technical staff will be required to support validation of cost savings and avoidances as the Federal Technical Points of Contact. NPO has streamlined the monthly performance evaluation and assessment process including contractor performance indicators, metrics, and contractor self-assessments. NPO has instituted cross training/qualification for multiple positions in order to align the work load with available staff and to provide backup capability. Cross training/qualification has been implemented for Nuclear Safety Specialists and Safety System Oversight, Facility Representatives, and other subject matter experts.
 - NPO needs to add one additional Nuclear Safety Specialist to the Pantex staff. This position is not in the baseline FTE target and therefore additional funding or re-distribution of existing FTE positions will be needed.

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- 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. This will result in a surge in technical training work to meet qualification requirements for reassigned personnel. The reassignments will be implemented in February, 2014 as shown in the following table:

Current Position	New Position
Facility Representative	Deputy AMOM
S&S Engineer	Facility Representative
Maintenance Engineer	S&S Engineer
Facility Representative	Safety System Oversight/Nuclear Safety Specialist
Safety System Oversight	Facility Representative
Maintenance Engineer	Safety System Oversight
Quality Assurance	Maintenance Engineer
Technical Training	Quality Assurance/Explosives Safety
Quality Assurance	Safety System Oversight/Nuclear Safety Specialist
S&S Specialist	Weapons Quality Assurance
Technical Program Manager	Technical Training
Safety System Oversight/Nuclear Safety Specialist (Y-12)	Safety System Oversight/Nuclear Safety Specialist (Pantex)
S&S Information Security	S&S Engineer

Section Two: Technical Staffing

Number of Hazard Category 1, 2, or 3 Nuclear Facilities: HC 1: 0 HC 2: 84 HC 3: 0

Number of Radiological Facilities: 60

Number of Chemically Hazardous Facilities: 15

Number of Documented Safety Analyses: 29

Number of Safety Systems: 28

Number of Site Contractor FTEs: 8,500

Number of Federal Office FTEs: 123*

*: This is NPO's current staffing ceiling and includes technical and administrative federal personnel.

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Table 1: NPO Staff Positions

For All Facilities ¹			
TECHNICAL FUNCTIONAL AREA	No. of FTEs Needed ¹	No. of FTEs Onboard ¹	COMMENTS
Senior Technical Safety Managers	15	13	2 vacancies – working to fill; Senior Scientific Technical Advisor, Deputy Asst. Mgr. Nuclear Safety & Engineering
Safety System Oversight (SSO)	11	10	1 vacancy – Senior SSO
Facility Representatives	18	15	3 vacancies
Nuclear Safety Specialist (NSS)	8.5	7.5	1 vacancy – AB Engineer
Other Technical Capabilities:			
Aviation Manager	0	0	
Aviation Safety Officer	0	0	
Chemical Processing	0	0	Function covered by SSO Engineer (see Note 2)
Civil/Structural Engineering	0	0	Functions covered by Project Managers; support from Service Center as needed.
Construction Mgmt	0	0	
Criticality Safety	2.5	2.5	
Electrical Systems	0	0	Function covered by SSO Engineer (see Note 2)
Decontamination & Decommissioning	0	0	Function covered as a collateral duty by a Facility Rep qualified in D&D.
Emergency Management	1.5	1.5	
Environmental Compliance	2	2	
Facility Maintenance Mgmt	2	1	1 vacancy
Fire Protection Engineering	1.5	1.5	
Industrial Hygiene	0.5	0.5	
Instrumentation and Control	0	0	Function covered by SSO Engineer (see Note 2)
Mechanical Systems	0	0	Function covered by SSO Engineer (see Note 2)
Occupational Safety	1.5	1.5	
NNSA Packaging Cert. Engineer	0	0	
Nuclear Explosive Safety	1	1	

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For All Facilities ¹			
TECHNICAL FUNCTIONAL AREA	No. of FTEs Needed ¹	No. of FTEs Onboard ¹	COMMENTS
Nuclear Operations Engineer	0	0	Functions covered by Maintenance Engineer (see Note 2)
Weapons QA Specialist	2.5	2.5	
Weapons QA Engineer	3	3	
Quality Assurance	0	0	Function covered by Weapons QA Engineer position
Radiation Protection	1	1	
Safeguards and Security	23	18	5 vacancies
Safety Software Quality Assurance	0	0	Function covered by Weapons QA Engineer at NPO Y-12(See Note 2)
Technical Program Manager	7.5	7.5	
Technical Training	2	2	
Transportation & Traffic Management	0	0	Function covered by SSO Engineer at NPO Y-12
Waste Management	0	0	Function covered by Environmental Compliance position (See Note 2)
Federal Project Director (Non-UPF)	5	4	1 vacancy
Totals	109	95	14 total vacancies

Notes:

1. These columns identify the number of FTEs needed to perform the Federal Safety Assurance function for your site or office based on potential facility and operational hazards.
2. SSO staffing analysis worksheets may be used in this process. They are posted at <http://www.energy.gov/hss/services/assistance/federal-technical-capability-program-ftcp>

Federal Project Managers/Directors are not qualified via the Technical Qualification Program, but are qualified in accordance with DOE O 360.1A using the Project Management Career Development Program.

Note 1: Facilities, systems, personnel and authorities listed should be those in the organization's immediate line authority. The NPO list includes Federal Staff, Future Leaders, and Support Contractors.

Note 2: Many of the current NPO staff members are covering multiple functional areas. Fortunately, this is due to the high level of technical expertise and experience of the individuals in these areas. This capability will not necessarily be available in future years, resulting in a need for additional staffing.

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Section Three: Current shortages and plans for filling them

The following are the anticipated shortages for NPO in the critical technical capabilities/positions. These positions are contingent upon retaining current staff.

1. Senior Scientific Technical Advisor (Pantex)
2. Deputy Assistant Manager for Nuclear Safety and Engineering (Pantex)
3. Senior Cyber Security Specialist (Pantex)
4. Personnel Security Specialist (Pantex)
5. Facility Representative (Pantex)
6. Facility Representative (Pantex)
7. Program Manager (Startup Engineer) Pantex
8. Maintenance Engineer (Pantex)
9. Safety Basis Engineer (Pantex)
10. Nuclear Material Control and Accountability Specialist (Y-12)
11. Cyber Security Specialist (Y-12)
12. Senior Security Specialist (Pantex)
13. Information Protection Security Specialist (Pantex)
14. Project Manager (Pantex)

Section Four: Projected shortage/surplus over next five years

The following table shows the NPO technical positions occupied by individuals who meet retirement eligibility and will represent a potential staffing shortage.

Position/Function	2014	2015	2016	2017	2018
Nuclear Safety Specialist				2	
Technical Program Manager	7	2			
Facility Representative	4	4	2	2	
Senior Technical Safety Manager	1		1		
Classification Specialist	1				
Emergency Management	1				
Safety System Oversight	1				
Security Specialists	2		1	1	
NMC&A Specialist	1				
Weapons QA Engineer	2				
Criticality Safety Engineer	2				
Technical Training Manager	1				
Environmental Compliance				1	1
Environmental Management	1				
Radiological Engineer					1
Occupational Safety				1	
Sub Totals	24	6	4	7	2

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Section Five: General concerns or recommendations related to the Technical Staffing

1. NPO is challenged by short notice retirements due to a larger percentage of our workforce already eligible for retirement or will be eligible in the next 5 years. We have determined that approximately one third of our present staff will reach minimum retirement age in the next five years (see table in Section 4). The skill mix represented by this group affects all areas of the organization, in particular the Facility Representative, Safeguards & Security, Technical Program Managers, and the Subject Matter Experts that occupy 1-deep positions. The lack of entry-level positions to support succession planning continues to be a problem for effective skill preservation management.
2. Many of the existing NPO technical staff members are covering multiple functional areas; the ability to handle this workload is due to the high level of technical expertise and experience of the individuals themselves. In future years, this level of competency may not be sustainable, which could result in the need for additional FTE resources in several functional areas.