

# memorandum

National Nuclear Security Administration  
Los Alamos Field Office  
Los Alamos, New Mexico 87544

DATE: **JAN 28 2013**  
REPLY TO:  
ATTN OF: Juan L. Griego  
SUBJECT: Los Alamos Field Office Work Force Analysis and Staffing Plan Report for Calendar Year 2012  
  
TO: Karen L. Boardman, Chairperson, Federal Technical Capability Panel, HS-50

Reference:

1. HS-50 Memorandum, from Karen L. Boardman, Chairperson, Federal Technical Capability Panel, to Distribution, Subject: *Annual Workforce Analysis and Staffing Plan Report for Calendar Year 2012*, dated October 24, 2012

Attached please find the Los Alamos Field Office (NA-00-LA) Work Force Analysis and Staffing Plan Report for Calendar Year 2012. Authorized Full Time Equivalent (FTE) allocation remains less than the number of FTEs required to perform the oversight identified necessary by the analysis results reported. Staffing shortages are compensated for through support service contract support, National Nuclear Security Administration Office of Safety and Health personnel support, and increased reliance on Contractor Assurance System products.

If you have any questions or comments regarding this memorandum and the included attachment, please contact Fred Bell at (505) 664-4856.



Juan L. Griego  
Acting Manager

Attachment

cc w/attachment:

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**Annual Workforce Analysis and Staffing Plan Report  
as of December 31, 2012  
Reporting Office: Los Alamos Field Office, NA-00-LA**

**Section One: Current Mission(s) of the Organization and Potential Changes**

The National Nuclear Facility Administration (NNSA) Los Alamos Field Office provides contract management and oversight of the Los Alamos National Laboratory (LANL), a large complex multi-program Laboratory supporting diverse Department of Energy (DOE) and other government agency missions. Facility statistics and ongoing work activities include:

- Approximately \$2.2 billion annual budget;
- Thirteen major operating Category II and III nuclear facilities, 237 radiological facilities, 16 high and moderate hazard facilities, and 909 low hazard facilities including 2 large accelerators, numerous explosive facilities and firing sites, and science facilities supporting lasers, chemicals, physics/material science and biological work;
- 40 square miles (size of Washington, DC), 100 miles of roads, 34 miles of 115KV transmission lines, and 63 miles of gas transmission lines;
- Line Item Construction Projects replacing or upgrading Nuclear Facilities totaling over \$2.0 billion;
- Production mission supporting Pit and Detonator Manufacturing, Pu Oxide, and Medical Isotope Production;
- Research and Development supporting Materials and Particle Physics, Medical Isotope Research, Stockpile Stewardship, Nuclear Nonproliferation, Hydrodynamic Testing, Explosive Research, Plutonium Operations, Radiological Waste Processing, Homeland Security Work, and Work for Others;
- Approximately 1104 buildings;
- 8.6 Million gross square feet of facilities;
- 43% of facility square footage is more than 40 years old;
- \$976 Million infrastructure deferred maintenance;
- \$12.6 Billion replacement plant value;
- Approximately \$5.9 Billion in environmental liability;
- Over \$600 Million spent annually to maintain and improve these assets;
- NNSA owns and operates electric and generation facilities at LANL (37 MW); and
- Allocation of hydroelectric power (35 MW) from Western Area Power Administration.

LANL conducts a wide variety of radiological activities in the following areas:

- Research, development, production, and testing associated with nuclear weapons;
- Radiochemistry and metallurgy with radioactive materials;

- Fabrication of radioisotope thermoelectric generators and heat sources;
- Accelerator-based nuclear physics research and applied technologies;
- Mixed fission and activation product production and analysis, including hot cell work;
- Materials science and testing involving radioactive materials and accelerators;
- Dynamic testing with radioactive materials;
- Tritium research and applications;
- Use of radiation generating devices and radioactive sealed sources;
- Biomedical research using radiotracers and irradiators;
- Nuclear criticality experimentation;
- Research, development, and applications in support of nuclear fuels;
- Work in support of nonproliferation, counterterrorism, and homeland security;
- Emergency response;
- Transportation of radioactive material;
- Radioactive and mixed waste treatment, storage, and disposal;
- Decontamination and decommissioning of facilities;
- Environmental sampling and restoration; and
- Other miscellaneous research, development, and operations involving ionizing radiation and/or radioactive materials.

Los Alamos National Laboratory (LANL) is one of three designated NNSA laboratories supporting plutonium operations, nuclear weapons design, stockpile stewardship, nuclear energy research, nuclear forensics, nuclear safeguards, and counterterrorism. LANL is the only DOE/NNSA facility designated for the manufacturing of plutonium weapons components. As a Security Category 1B facility within the Nuclear Weapons Enterprise, LANL sets the standard in providing the optimal balance of personnel and technologies necessary to provide a highly effective and efficient security posture over approximately 40 square miles of DOE-owned land that contains approximately 1100 buildings/facilities, over 60 designated Security Areas, over 800 designated Property Protection Areas and approximately 10,400 employees including contractors.

The Los Alamos Field Office manages a variety of Construction Line Item projects, which are significant within the Construction Working Group (CWG) and are all critical within the NNSA projects portfolio; these projects are at different stages of development and range in value from \$16M to \$250M, and are listed below:

- TA-55 Reinvestment (TRP) II, TPC range is \$75 - 99 Million (Overall CD-1, CD-3A and CD-3);
- TA-55 Reinvestment (TRP) III, TPC Forecast is TBD (Forecast as a FY15 new start);
- TRU Waste Facility, CD-1 TPC range \$74 - \$124 Million (CD-1 overall, CD-2A still pending ESAAB approval);

- Radioactive Liquid Waste Treatment Facility Upgrade (RLWTF-UP), Current Estimated TPC of \$220-\$270 Million (revalidated CD-1, CD-2 still pending ESAAB approval);
- Nuclear Materials Safeguards and Security Project (NMSSUP), Phase II, TPC of \$213 Million (CD-3);
- Energetic Materials Characterization Facility, TPC Forecast of \$40 to 80 Million (Forecast as a FY15 new start);
- TA-3 Substation Replacement, estimated TPC \$25 Million, (CD-0, forecast as FY14 New Start);
- CMRR Nuclear Facility (NF) Currently in CD-1. Project deferred in 2QTR FY12 and NF closeout activities completed end of CY2012. CMRR-NF is now currently planned to be completed no sooner than 2025 with beneficial occupancy anticipated approximately two years later. These dates are consistent with NNSA's FY13 President's Budget Request that defers the CMRR-NF construction by at least five years;
- CMRR RLUOB TPC \$164 M. Tailored CD-4 for structure. Beneficial occupancy currently achieved 4<sup>th</sup> QTR FY-11, in process of outfitting labs via RIE subproject; and
- CMRR REI TPC \$199.4M. Currently CD-3 with readiness for radiological operability 3<sup>rd</sup> QTR FY13.

Major programs fiscal year 2013 Presidential Budget Request:

NNSA - Weapons Activities (WA)	\$1,307,895,000
NNSA - Nuclear Nonproliferation (NN)	\$218,810,000
DOE - Environmental Management	\$234,913,000
DOE - Other DOE Programs	\$132,580,000
Work for Others (WFO)	\$282,000,000
<b>Total</b>	<b>\$2,176,198,000</b>

**Potential or probable changes to the mission that may significantly affect technical staffing needs:**

Additional Federal Project Directors and waste specialists will be assigned to the acceleration of TRU waste disposal from TA-54 Area G. This scope of work is being prioritized as a result of the environmental risk due to wild fires experienced in 2011 and the emphasis placed by the New Mexico Governor.

CMRR Project Funding affects the number of federal staff required. Deferral of this project resulted in CMRR assigned Federal staff being reassigned within Los Alamos Field Office to fill other vacancies. Federal staff will have to be reassigned to manage this project when work is reauthorized.

Continued escalation in the number of products submitted for Los Alamos Field Office Quality Assurance verification for support to the MOX/ARIES program, RPS program, and NNSA weapon and weapon related materials will require additional FTEs above current allocations to ensure succession planning and the availability of trained and qualified individuals.

In addition to CMRR, large line-item construction portfolio require fluctuating FTE needs include TRU Waste Facility, TRP II, and RLWTF projects – all involving Hazard Category 2/3 facilities. Federal Project Directors (FPDs) transition in and out of Acquisition and Project Management (NA-APM) to meet line item project needs.

Increasing off-site independent oversight (e.g., DNFSB, DOE-HS, CDNS, DOE-IG) is creating an increasing demand on on-site federal staff to service their information requirements.

There is an increasing demand for sustained on-site federal oversight of radiation protection and integrated work management, as evidenced by:

- The Deputy Secretary's commitments to the Defense Nuclear Facilities Safety Board (DNFSB) to strength oversight on activity-level work control (Dep Sec letter to the DNFSB, dated 11/30/12, Attachment, pg 7-10); and
- The Los Alamos Neutron Science Center (LANSCE) Tc-99 accident investigation report (NA-1 letter, dated 10/18/12, Conclusions 10 and 11).

**Section Two – Site Characteristics<sup>1</sup>**

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

HC1 0 HC2 10 HC3 3

Number of Radiological Facilities<sup>2</sup>: 237

Number of High or Moderate Hazard Non-Nuclear Facilities: 16

Number of Low Hazard Non-Nuclear Facilities: 909

Number of Documented Safety Analyses: 9

Number of Safety Systems<sup>3</sup>: 84

Number of Site Contractor FTEs: 10,404

Number of Federal Office FTEs: 122 (109/100 NNSA, 24/22 EM authorized/on-board)

Notes:

1. Sites accountable to multiple Headquarter Program Offices should list FTE needs by each Cognizant Secretarial Office, e.g. Total 22 FTEs (EM – 20, SC-2)) NE – SC - 2).
2. Radiological Facilities are defined in 10 CFR 830 as below Hazard Category 3 Facilities. Hazard Category 1, 2, or 3 Nuclear Facilities should not be double counted as Radiological Facilities.
3. Safety Systems must be credited in a Documented Safety Analysis.

**Section 3 - Technical Staffing Summary Table (See Notes below)**

Technical Capability	For All Facilities <sup>1</sup>		Comments
	Number of FTEs Needed <sup>1</sup>	Number of FTEs Onboard <sup>1</sup>	
Senior Technical Safety Managers	8	6	8 NNSA
Safety System Oversight Personnel	5	5	4 NNSA, 1EM
Facility Representatives	17	15	17 NNSA
Other Technical Capabilities:			
Aviation Safety Manager			
Aviation Safety Officer			
Chemical Processing			
Civil/Structural Engineering			
Construction Mgmt	2	2	2 NNSA
Criticality Safety	1	1	1 NNSA
Deactivation and Decommissioning			
Electrical Systems/Safety Oversight	0.5	0	.5 NNSA
Emergency Management	2	1	2 NNSA
Environmental Compliance	3	2	2 NNSA, 1EM
Environmental Restoration	2	2	1 NNSA, 1 EM
Facility Maintenance Mgmt	1	1	1 NNSA
Fire Protection Engineering	1	1	1 NNSA
Industrial Hygiene	1	1	1 NNSA
Instrumentation and Control			
Mechanical Systems			
Nuclear Explosive Safety			
Nuclear Safety Specialist	11	9	11 NNSA
Occupational Safety	2	1	2 NNSA
NNSA Packaging Cert. Engineers			
Quality Assurance	3.5	1.5	3.5 NNSA
Radiation Protection	3	2	2 NNSA, 1 EM
Safeguards and Security	10	10	10 NNSA
Safety Software Quality Assurance	1	0.5	1 NNSA
Technical Program Manager	13	10	11 NNSA, 2 EM
Technical Training	1.5	1	1.5 NNSA
Transportation & Traffic Mgmt	0.5	0	.5 NNSA
Waste Management	2	1	1 NNSA, 1 EM
Weapons QA	2.5	2	2.5 QA
<b>Total:</b>	<b>93.5</b>	<b>75</b>	
Federal Project Directors <sup>2</sup>	14*	14*	5 NNSA, 9 EM

\* Four FPDs assigned to APM, but deployed to this field office are not included in the needed or onboard FTEs.

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. Federal Project Managers/Directors are not qualified via the Technical Qualification Program (other than completing the GTB, if FPM/Ds assigned to DOE Defense Nuclear Facilities), but in accordance with the Project Management Career Development Program.

### **Section Three: Current TQP shortages and plans for filling them**

Vacancies authorized to be filled and within staffing allocations are advertised and filled through the OPM hiring process. Senior positions are filled through details until positions are permanently staffed. Currently, there are no NNSA vacancies authorized to be filled at the Los Alamos Field Office.

The Site Manager (STSM) position is currently vacant and being filled by the Deputy Manager acting as Field Office Manager. The NNSA Associate Administrator for Infrastructure and Operations (NA-00) is evaluating options for permanently filling the position. The Senior Science, Technology and Engineering Advisor (STSM) position is not currently being actively recruited due to staff ceiling limitations.

Approval has been requested to fill the two vacant waste management and two vacant technical management Environmental Management (EM) positions.

A selection has been made to fill the vacant environmental compliance (NEPA) position; the individual is expected to report for duty in January 2013.

The 17.5 FTE technical personnel shortage that cannot be filled due to the ceiling in FTE allotments or because positions have not been authorized to fill are compensated for through a variety of methods including:

- Details within the Field Office;
- NNSA Office of Safety and Health (formerly Albuquerque Complex) personnel support;
- Headquarters personnel support;
- Support Service Contracts;
- Collateral duty assignments to current staff;
- Utilization of Future Leaders Program Interns;
- Oversight prioritized to greater risk activities;
- Overtime;
- Postponement of planned activities; and
- Additional reliance on the Contractor's Assurance System.

#### **Section Four: Projected shortage/surplus over next five years**

Approximately 16% of Los Alamos Field Office staff are currently eligible for retirement. Five staff members are actively pursuing retirement through currently offered retirement incentive programs. Approximately 42% of staff will be eligible to retire within the next six years.

Budget uncertainty for CMRR specifically, and all NNSA work generally, discourages hiring to anticipate and prepare for future workloads. FTE reallocations sometimes prevent recovery from attrition. The same concerns minimize the number of positions filled by younger graduates who would be groomed to fill voids due to future retirement and attrition.

Increasing off-site independent oversight (e.g., DNFSB, DOE-HS, CDNS, DOE-IG) is creating an increasing demand on on-site federal staff to service their information requirements. This may require dedicated on-site federal staffing to support.

Expectations upon Field Office technical staff are increasing in areas including but not limited to:

- Operational oversight not only in the nuclear facilities, but also in lower hazard operations (e.g., Deputy Secretary commitments to sustained oversight of activity-level work planning and control and recommendations in the LANSCE Accident Investigation Report); and
- Safety basis quality and timeliness.

This situation is increasingly exacerbated by the laboratory pace of improvements not keeping up with aging infrastructure; by federal on-site technical hiring not keeping pace with losses; and by the local high-cost of living and relatively remote location of the laboratory complicating federal hiring. The inevitable result is that on-site federal technical personnel are being increasingly stretched to do more with less, which incurs a growing risk to the laboratory's operations.

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

Expectations for continuing and increasing nuclear safety oversight:

- Such as specified in NA-1 SD 226.1A, *NNSA Line Oversight and Contractor Assurance System Supplemental Directive*, and DOE G 226.1-2, *Federal Line Management Oversight of Department of Energy Nuclear Facilities*;
- As required by oversight organizations' recurring finding that NNSA oversight is inadequate whenever an event occurs in contractor managed facilities; and
- To support detailed reporting requirements through the chain of command for all facility operations anomalies drive an increasing technical staffing need. This is in conflict with the NNSA move towards reduced federal staffing and greater reliance on Contractor

Assurance Systems being implemented through staff ceiling reductions and hiring restrictions.

Continuing efforts to develop methods to support efficient and timely achievement of initial technical qualification are necessary to promote technical staff earliest availability to perform oversight.

The FTCP must remain vigilant in minimizing the increase in size of functional area qualification standards (FAQS). The FAQS cannot become a document that perfectly suits all sites' needs. Technical competencies that do not specifically support most sites should be left to site-specific standards.

Methods to cost-effectively develop subject matter experts to the expert level need to be developed. The challenge is that there are many areas where there is only one SME (1 FTE or less) at a site for a specific subject area. When allowed, we effectively hire qualified staff and facilitate initial TQP qualification, but have limited methods to further develop staff to the expert level.

Technical positions should be filled prior to the date of technical need to allow time for achieving TQP interim qualification prior to performing technical field oversight.

A single technical workforce analysis analogous to this report should be completed for the full NNSA to determine minimum enterprise-wide technical staff need and to promote sharing of technical resources across NNSA.