

# memorandum

DATE: January 9, 2009  
REPLY TO:  
ATTN OF: NE-34  
SUBJECT: Los Alamos National Laboratory (LANL) Ongoing Performance Issues  
TO: Donald L. Winchell, Jr., Manager  
Los Alamos Site Office (LASO)

The attached memorandum provided fiscal year (FY) 2009 program and budget guidance to LASO for the Office of Radioisotope Power Systems (NE-34) activities related to plutonium-238 manufacturing and processing activities at LANL. To date, LANL has failed to provide any reasonable plan for expenditure of the \$13 million anticipated budget nor basic reporting information as required by the guidance memorandum. The purpose of this memorandum is to request LASO assistance in correcting the laboratory's chronic poor performance on this program. As a first step, LANL must be held accountable for its use of funds. I cannot allow continued expenditures of taxpayer funds with no accountability. If the laboratory does not provide an adequate task plan and a detailed financial and technical report by February 15, 2009, I will take steps to stop work and withdraw funding.

The lack of planning information from the laboratory is causing the following ongoing impacts to both NE-34 and the Office of National Nuclear Security Administration (NNSA):

- NE-34 has no milestones or measurable deliverables attached to a \$13 million budget.
- NE-34 has not been able to start work critical to both NE-34 and NNSA including the urgent establishment of an alternative analytical chemistry capability to allow us to cease operations in the Chemistry and Metallurgy Research facility.
- Because NE-34 has no cost estimates for conduct of its work, it has also been unable to estimate how much of its funding may be available to support the LANL infrastructure cost increases (the "space model charges") in FY 2009 or beyond. As such, no funds have been made available to support this need.

The LANL performance issues on this program are not new and extend far beyond the receipt of this single planning document. For at least the last several years, LANL has been unable to prepare basic plans or routine reports. As an example, so far in FY 2009, no schedule or cost plan has been provided, and only one report has been received on January 8, 2009. Its financial content consisted only of actual cost with no breakdown by task and no forecast or spend plan. If these were isolated issues, we would consider approaching them in a less drastic manner as we have attempted to do for several years. Unfortunately, these are merely examples of an overall failure of the laboratory to manage this program. The intent of this memorandum is not to start a discussion on the details of

Representative and the Director of the Office of Radioisotope Power Systems, is essential for meeting NE's FY 2009 performance measures. The final PMP shall be issued within 30 days of receipt of the work authorization guidance subject to final review and approval by LANL, LASO, and NE-34.

Attached are a Work Authorization System (WAS) form and associated statement of work consistent with this program guidance. Funds covered by this guidance letter and WAS shall not be used to hire support service contractors who are then used by Headquarters Federal personnel to perform specific tasks directed by a Federal employee. A copy of the WAS signed by the designated field office and management and operating contractor officials is to be returned to Daphne Miss, NE-42, as soon as possible.

If there are any questions, contact Rebecca Richardson at (301) 903-0023.



Owen W. Lowe, Acting Director  
for Radioisotope Power Systems  
Office of Nuclear Energy

#### 2 Attachments

cc: Dennis Miotla, NE-2.3  
Juan Griego, LASO  
Cindy Murdock, LASO  
Delores Lucero, LASO  
Steve McKee, LANL  
Craig Van Pelt, LANL



**Fiscal Year (FY) 2009 Statement of Work for the  
Los Alamos National Laboratory (LANL)**

LANL shall implement the tasks set forth below in a manner that supports the delivery of plutonium-238 (Pu-238) to meet the technical and schedule requirements of the National Aeronautics and Space Administration (NASA) and national security programs. The following defines the general nature of tasks to be performed. The schedule and cost plans for execution of these tasks will be described in the LANL Pu-238 Program Management Plan (PMP) and schedule to be prepared by LANL and approved by the Los Alamos Site Office (LASO) and the Office of Radioisotope Power Systems (NE-34) as described in Task 4 below. When approved by LASO and NE-34, the more specific statement of tasks in the PMP, with its associated priority levels and milestones, will supercede this initial Statement of Work. Specific user-funded fuel production projects, should any arise during the fiscal year, will provide separate funding and associated work scope required for their execution.

The program shall continue to implement current NE-34 program quality assurance guidelines, namely, American Society of Mechanical Engineers NQA-1-1989 Basic and Supplements; Quality Assurance Program Requirements for Nuclear Facilities; and Department of Energy (DOE)/SDPS/PQAR-1, Programmatic Quality Assurance Requirements; and DOE Order 414.1C. All production activities shall be conducted under full configuration control using appropriately documented and approved procedures and acceptance criteria in conjunction with respective Quality Assurance/Quality Control functions assuring compliance with specific requirements for materials delivered to the Idaho National Laboratory or the Oak Ridge National Laboratory.

The Interface Working Agreement for Encapsulated Plutonium-238 Fuel Form Production, Revision 2, June 1992, and the Advanced Long-Term Battery (ALTB) Interface Working Agreement, Revision O, dated January 1999, shall serve as the basic guide in the integration of heat source fabrication activities among DOE, designated Government heat source and fueling laboratories, and systems contractors. Additional Interface Working Agreements are being developed for the other programs.

**Task 1: Maintain Pu-238 Pelletization and Encapsulation Facility Operations**

- 1.1. Maintain capabilities for Pu-238 pelletization (fuel fabrication) and encapsulation operations. Maintain personnel training and qualification by producing fueled clads or equivalent heat sources.
- 1.2. Produce fueled clads or fueled clad equivalents (FCEs) at a rate sufficient to meet program performance measures and to support program requirements, deliverables, and milestones in accordance with the LANL Pu-238 PMP and schedule as approved by LASO and NE-34.
- 1.3. Conduct studies to develop process improvements and efficiencies.
- 1.4. Perform all related operations and support activities sufficient to support the equipment infrastructure needed for a full production level of eight FCEs per month.

- 1.5. Perform routine maintenance and/or upgrades on gloveboxes and associated equipment.
- 1.6. Execute the plan to monitor and improve Pu-238 pelletization operations to increase yields and process efficiencies, reduce personnel exposures, and reduce amounts of waste.
- 1.7. Execute the plan to monitor and improve Pu-238 pelletization operations to decrease neutron emission rates and reduce pellet cracking/breakage.

#### **Task 2: Maintain <sup>238</sup>Pu Aqueous Scrap Recovery Facility Operations**

- 2.1. Operate the bench-scale aqueous scrap processing facility at a rate sufficient to meet program performance measures and to support program requirements, deliverables, and milestones in accordance with the LANL Pu-238 PMP and schedule as approved by LASO and NE-34.
- 2.2. Recycle scrap and waste through the aqueous scrap recovery line.
- 2.3. Perform maintenance on gloveboxes and associated equipment, as required, to ensure continued aqueous scrap recovery operations in FY 2009.
- 2.4. Continue authorization basis activities in support of the full-scale aqueous scrap processing facility at a level that would allow its use in FY 2008 to support the upcoming National Aeronautics and Space Administration mission, should that become necessary.

#### **Task 3: Facility Maintenance/Program Support**

- 3.1. Maintain gas launcher facility and perform testing of components as requested.
- 3.2. Continue aging tests on the 60-watt isotope heat source.
- 3.3. Maintain, as separate inventories, the Pu-238 fuel obtained from Russia and Pu-238 fuel that was produced in domestic reactors. This shall include receipt of Russian fuel shipments, associated sampling and reporting in accordance with the Pu-238 PMP, and schedule as approved by LASO and NE-34.
- 3.4. Stabilize existing and newly generated residues through the pyrolysis process.
- 3.5. Start operation of first pyrolysis unit.
- 3.6. Continue efforts to establish DC Arc capability to replace aging equipment at CMR.
- 3.7. Develop a comprehensive plan to replace analytical chemistry capabilities that will be lost as the result of pending reduction of operations at the CMR Facility. It is important to note that this plan should look at interim and long-term possibilities including the availability of alternative sites. It should not be a plan to simply establish the capabilities lost in PF-4. At a minimum, progress must be demonstrated in the area of sample preparation and management to allow for the ability to send smaller quantities of material to other laboratories.

#### **Task 4: Program Management and Quality Assurance**

- 4.1. Provide overall program management in directing program activities to ensure all related activities are properly planned and completed on time and within budget.
- 4.2. Prepare and maintain the plutonium-238 PMP to be approved by LASO and NE-34.
- 4.3. Prepare and maintain an integrated schedule to meet program requirements. This schedule shall include major programmatic milestones beyond FY 2008 and at least top-level tasks to support those. This schedule is to be approved by LASO and NE-34.

and will serve as the schedule baseline for the multiple projects and infrastructure activities that make up the Pu-238 program. Once approved, changes to this baseline will also require LASO and NE-34 approval.

- 4.4. Provide quality assurance management of all activities performed according to the Heat Source Fabrication Projects Quality Assurance Program Plan to ensure core functions of Integrated Safety Management are followed.
- 4.5. Issue regular program technical, cost, and schedule status reports in accordance with the LANL Pu-238 PMP and schedule as approved by LASO and NE-34.
- 4.6. Issue topical technical reports as required.