



September 16, 2008

Stephanie A. Grainger  
Interim City Manager  
P.O. Box 791  
Boulder, CO 80306-0791

Dear Ms. Grainger:

Since the June 9 spill of plutonium in a NIST-Boulder laboratory, a NIST-wide effort has been launched to develop and implement improved policies and procedures to ensure that Institute employees and associates working onsite have the training, equipment, and oversight necessary to do their jobs in a consistently safe manner.

I am writing you today to notify you of a change in NIST leadership and to provide you with an update on NIST's efforts to improve its safety performance.

First, NIST Deputy Director James M. Turner has announced that he is leaving NIST to accept another job at the Department of Commerce as Deputy Assistant Secretary for International Affairs for the National Oceanic and Atmospheric Administration. Patrick D. Gallagher has been appointed as the new Deputy Director of NIST. Gallagher has a strong background in safety as Director of NIST's Center for Neutron Research and as chair of the NIST Ionizing Radiation Safety Committee, which issued a report on the Boulder plutonium incident that we provided to the City on July 30. Under Gallagher's leadership, we are confident that NIST will continue toward its goal of substantially improving its safety programs.

Second, substantial progress has been made on several different safety fronts at NIST. In a letter to you dated July 22, 2008, former NIST-Boulder Director Thomas O'Brian described a number of immediate actions NIST was taking both to clean up the laboratory in which the spill occurred and to prevent such incidents in the future. He also made several commitments to the City to supply requested information, conduct audits, and implement improved procedures.

Since that time, NIST has:

- completed an investigation into the root cause of the plutonium spill;
- enlisted the assistance of nationally recognized experts to help audit and recommend improvements to NIST safety and management practices, policies, and procedures;
- remedied a number of safety issues identified through these reviews; and

- taken steps to actively engage its managers, employees, and guest researchers in more consciously integrating safety and the safety office into their daily work.

Below is a description of accomplishments so far and additional planned actions. Also included are links to supporting documents.

### **Decontamination Efforts**

NIST has contracted with *EnergySolutions*, a company licensed by the Nuclear Regulatory Commission (NRC), to decontaminate the laboratory where the plutonium spill occurred. A detailed plan for this work was approved by the NRC and provided to the City on August 29, 2008.

The great majority of the plutonium present in the laboratory already has been recovered and transferred to Los Alamos National Laboratory.

In accordance with NRC regulations, the spill laboratory will be decontaminated. Contaminated objects will either be decontaminated or properly disposed of as hazardous radioactive waste.

### **Hazardous Materials Inspection**

As promised in our July 22 letter, NIST has conducted a comprehensive assessment and inspection of hazardous materials on the NIST-Boulder campus.

While several aspects of this effort are ongoing, substantial progress has been made. For example:

- The assessment included review of labeling, container integrity, compatibility of stored chemicals, quantities of chemicals, combustible hazards, regulatory requirements, and procedures for ensuring that the inventory is kept up to date.
- An updated inventory of chemicals used on the NIST-Boulder campus has been completed. As a direct result of this inventory, substantial amounts of unused, legacy, and excess chemicals have been properly packaged and removed from the campus by NIST's regular licensed hazardous waste disposal contractor.

### **DOE-Assisted Audit**

NIST and the Department of Commerce also have enlisted the assistance of external experts to provide safety audits and guidance on implementing a strong NIST safety management system.

At the request of the Deputy Secretary of Commerce, a safety assessment of the NIST-Boulder Laboratories, conducted by a special review team from the Department of

Energy's Office of Independent Oversight (part of the DOE Office of Health, Safety, and Security), has been completed. The review was based on onsite visits from August 4-7, 2008, and August 18-28, 2008. The review was overseen by Pat Gallagher and me, and also included participants from the NIST Safety, Health and Environment Division and the NIST research divisions in Boulder.

The team's report is enclosed. It has been shared with the NIST Blue Ribbon Commission (see below) and posted on the NIST Web site. Consistent with other reports, the special review identified weaknesses in NIST's overall management of safety; procurement, storage and handling of hazardous wastes; hazard analysis and implementation of practices for protecting the health and safety of laboratory personnel and construction contractors; expertise available in the NIST-Boulder Office of Safety, Health and Environment; and the content and implementation of safety training.

To address the issues identified through this audit, NIST has done the following:

- Immediate corrective actions have been taken to ensure that NIST is in compliance with regulatory and standards requirements, including Occupational Safety and Health Administration (OSHA) and Resource Conservation and Recovery Act regulations. Examples include strengthened requirements for review of chemical procurements; rectification of improper storage, labeling, handling, and disposal of compressed gas cylinders, flammable chemicals, and other substances such as lead solder; updated assessments, adjustments, and replacement of fume hoods; measurement and improvement of signage for magnetic, radio frequency, and microwave fields; and improved housekeeping.
- Four laboratories and a machine shop were shut down due to potential safety concerns for personnel working in those laboratories or to a lack of updated training. One of these laboratories has reopened following establishment of strengthened procedures and completion of improved training. The other three laboratories and the machine shop will be reopened after potential identified problems have been resolved.
- All hazardous materials disposal issues raised by the audit have been rectified. Specifically, all hazardous waste is being properly labeled and stored, and additional training has been provided to waste handlers. In waste accumulation areas, improved signage has been posted, and required weekly inspections are now documented and logs of materials are being maintained.
- A new laser safety program that conforms to American National Standards Institute (ANSI) standards has been approved for use NIST-wide. The program includes establishment of a Laser Safety Committee to review and update the program regularly.
- Improved practices and/or training have been implemented for electrical safety, working in confined spaces, protecting against falls from working at elevated heights, and the use of forklifts for material handling.

- NIST-Boulder is in the process of contracting for services from five safety and environmental professionals to perform hazard and risk assessments, ensure compliance with regulations and standards, and strengthen training programs in a variety of areas.
- Construction and maintenance contracts are being modified to require that contractors identify job-related hazards and provide job-specific training and personal protective equipment consistent with NIST updated policies and procedures for its staff and associates.

### **Additional Follow Up Actions Taken**

Other actions identified in the July 22 letter that have been taken include:

- All NIST-Boulder staff and associates have been reminded of existing procedures prohibiting the discharge of hazardous materials into the sanitary sewer system.
- An Emergency Notification Checklist listing which agencies will be notified for specific types of emergencies such as chemical spills, building fires, and bomb threats has been created and provided to the City.
- Phase I of the City's testing program to determine if measurable amounts of plutonium were present in several manholes close to NIST or in the City wastewater treatment plant has been completed. The testing revealed no counts significantly different from background and recommended no further testing. Phase II is focusing on the testing of sludge samples and is expected to be completed in October 2008. NIST will reimburse the City for the cost of this testing.
- The NIST Ionizing Radiation Safety Committee has completed the first phase of its investigation into the plutonium incident. The Committee's report was previously provided to the City and is posted on the NIST Web site.

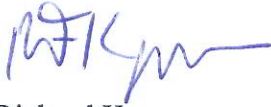
### **Blue Ribbon Commission**

The Secretary of Commerce has established the NIST Blue Ribbon Commission on Management and Safety and charged it with examining how safety is managed and implemented NIST-wide and with issuing a report within three months that includes findings to help establish a pervasive, effective, and sustainable safety culture and management system at the Institute. A description of the Commission and its membership is available on the NIST Web site (<http://www.nist.gov/director/blueribbon/index.html>). The Commission's first meeting is being held tomorrow at NIST's Gaithersburg, Md., headquarters. It also will hold a session at NIST Boulder in early October. The Commission report will be provided to both the City and the public.

In the course of responding to the plutonium incident, NIST has been open and transparent in sharing information about the conclusions of its safety reviews with the

City and public. We value our relationship with the City and its residents and welcome your feedback and input. Please contact me if you have any questions or concerns.

Sincerely,



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