



Department of Energy  
National Nuclear Security Administration  
Washington, DC 20585



October 1, 2008

The Honorable A. J. Eggenberger  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W., Suite 700  
Washington, D.C. 20004-2901

Dear Mr. Chairman:

In my March 25, 2008, letter to you, I stated that the National Nuclear Security Administration (NNSA) would provide by September 1, 2008, a long-term schedule of actions related to the continued operation of the Chemistry and Metallurgy Research (CMR) Facility at Los Alamos National Laboratory (LANL). On May 16, 2008, the Defense Nuclear Facilities Safety Board (DNFSB) issued a letter to NNSA which requested that the NNSA response provide the safety rationale for continued use of the CMR Facility.

NNSA and LANL have made progress in consolidating capabilities within the CMR Facility and relocating capabilities to other facilities. For example, Actinide Analytical Chemistry operations have been consolidated into Wings 5 and 7 and Materials Characterization operations have been relocated to the Plutonium Facility.

LANL has prepared a CMR Facility Consolidation and Risk Mitigation Program Execution Plan (PEP) that defines an integrated management structure to meet the following primary objectives:

- Minimize the material at risk (MAR) in the facility by closing wings to programs (Wings 2, 3, and 4), removing equipment and materials, and preparing for decontamination and decommissioning (D&D);
- Maintain or upgrade key safety systems in select wings (Wings 5 and 7) and improve key management systems (e.g., conducting Vital Safety System Assessments) to ensure safety and reliability;
- Maintain necessary analytical chemistry capability in the CMR Facility during the transition to the CMR Replacement (CMRR) Project facilities;
- Complete critical NNSA missions in Wing 9 (e.g., the Confinement Vessel Disposition Project) and study options for maintaining hot cell capabilities; and
- Submit for NNSA approval in January 2009 the 10CFR830, Subpart B – compliant Documented Safety Analysis and Technical Safety Requirements that will evaluate programmatic activities in the CMR Facility beyond 2010.



Enclosure 1 includes the PEP and the associated NNSA Los Alamos Site Office (LASO) memorandum that provided the PEP to NNSA Headquarters. The PEP provides a discussion of current CMR Facility programmatic requirements and capabilities for the period between 2010 and the start of operations of the CMRR Facility. The PEP also provides a high level plan for the reduction of material at risk and defines a CMR Facility Consolidation/Risk Mitigation Program, including a schedule of associated actions. An Alternatives Study was also completed for Actinide Analytical Chemistry requirements for the period between 2013 and when the CMRR Facility becomes operational. The decisions from the September 2008 Integrated Nuclear Planning (INP) Workshop will be incorporated into the plan at a future date.

In order to address the unique seismic hazards posed by the CMR Facility's structural design and to ensure adequate protection of the public and facility workers during the extension of the facility's operations beyond 2010, the following specific actions were highlighted by LASO that are consistent with the program of record as described in the CMR PEP:

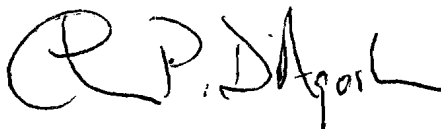
- Completing Vital Safety System assessments for safety class systems, including the CMR Facility Structure, to verify that no structural modifications degrade performance;
- Continuous reduction of MAR;
- Termination of programmatic operations in operational wings as soon as practical (Wings 2/3/4 completed) and initiation of cleanup activities, including D&D;
- Maintaining or upgrading key safety systems to mitigate risk in remaining operational wings to support necessary analytical chemistry capability in the CMR Facility during the transition to the CMR Replacement (CMRR) Project facilities; and
- Relocating resident personnel as soon as practical and preparing for D&D.

LANL, LASO, and NNSA are maintaining a fragile Hazard Category 2 nuclear facility in the CMR Facility. The Laboratory is attempting to reduce the risk to the public and workers from seismic events during continued operation of the CMR Facility while still meeting programmatic requirements. The two primary contributors to this risk are 1) radiological risk to workers and the public and 2) risk to personnel in the CMR Facility due to structural failure. Given the inability to cost-effectively improve the ability of the CMR Facility to withstand significant seismic accidents, the life of the CMR Facility is being extended by reducing the risk of operation, which means MAR reduction for the first contributor and relocation of building residents for the second contributor.

Subsequent to the development of the PEP, the Deputy Administrator for Defense Programs directed the NNSA LASO Manager to submit a CMR Facility Exit Plan in December 2008 (Enclosure 2). The Exit Plan will document the transition of all program activities out of the CMR Facility as soon as practicable, including providing estimates for all direct and indirect costs for exiting the facility.

As requested in your May 16, 2008 letter, a briefing on the issues associated with the continued operation of the CMR Facility will be scheduled as soon as possible. If you have any questions, please contact me or Mr. Donald L. Winchell, Jr., the NNSA Los Alamos Revitalization Manager, at (505) 667-5105.

Sincerely,

A handwritten signature in black ink, appearing to read "T. P. D'Agostino". The signature is written in a cursive, somewhat stylized font.

Thomas P. D'Agostino  
Administrator

Enclosures

cc: M. Whitaker, Jr., HS-1.1

# memorandum

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

DATE: **SEP 04 2008**  
REPLY TO: NSM: 4MW-001  
ATTN OF:  
SUBJECT: Update to Safety Rationale for Continued Use of Chemistry and Metallurgy Research Facility at the Los Alamos National Laboratory

TO: Gerald L. Talbot, Jr., Assistant Deputy Administrator for Nuclear Safety and Operations, NA-17, HQ/FORS

#### References:

- 1) Letter, from A.J. Eggenberger to Thomas P. D'Agostino, dated October 23, 2007, Regarding Continued Operation of CMR Facility
- 2) Letter, from Thomas P. D'Agostino to A.J. Eggenberger, dated December 21, 2007, Regarding Continuing Operation of CMR Building
- 3) Letter, from Thomas P. D'Agostino to A.J. Eggenberger, dated March 25, 2008, Regarding Request for Safety Rationale for Continuing the Operation of the CMR Building
- 4) Letter, from A.J. Eggenberger to Thomas P. D'Agostino, dated May 16, 2008, Regarding Safe Operations at CMR Facility
- 5) Memorandum, from Gerald L. Talbot, Jr., to Manager of Los Alamos Site Office, Subject: "*Safety rationale for Continued Use of Chemistry and Metallurgy Research (CMR) Facility at Los Alamos National Laboratory (LANL)*", dated June 27, 2008
- 6) Memorandum, from Robert L. Smolen, to Revitalization Manager Los Alamos Site Office, Subject: "*Direction on Operation of the Chemistry and Metallurgy Research (CMR) Facility at Los Alamos National Laboratory (LANL)*", dated August 14, 2008
- 7) Letter PADWP:08-084, from Glenn Mara to Don Winchell, Subject: "*Los Alamos National Laboratory (LANL) Chemistry and metallurgy Research (CMR) Facility Consolidation/Risk Mitigation Program Execution Plan (PEP), Revision 1.0*", dated August 26, 2008

This memorandum transmits updated information regarding the safety rationale for continued use of the Chemistry and Metallurgy Research (CMR) facility at Los Alamos National Laboratory (LANL) in accordance with the above listed references. National Nuclear Security Administration (NNSA) committed to providing a long term schedule of actions related to continued operations of the CMR facility to the Defense Nuclear Facilities Safety Board (DNSFB) by September 1, 2008. To meet this requirement, the following updated documentation consistent with results from the May 20-21, 2008, Integrated Nuclear Planning (INP) workshop is provided:

- CMR Facility Consolidation and Risk Mitigation Program Execution Plan (PEP) dated August 22, 2008.

- Minutes and Actions from INP Workshop 11, LA-CP-08-0791.
- Updated Documented Safety Analysis (DSA) Schedule.

The fundamental rationale for continued use of CMR beyond 2010 remains as described in the CMR Facility Consolidation and Risk Mitigation PEP:

- Continuous reduction of Material at Risk (MAR) (accomplishments to date include reduction from 20 kg in 1998 to 9 kg in 2007 as validated by Los Alamos Site Office Material at Risk Scrub conducted in March 2008),
- Termination of programmatic operations in operational wings as soon as practical (Wings 2 and 4 complete, Wing 3 projected end of Fiscal Year 2008) and initiation of cleanup activities,
- Implementation of revised Interim Technical Safety Requirements (ITSRs) to enhance public and worker safety,
- Development of a CMR Documented Safety Analysis by January 2009 with implementation by the end of 2010 when the Basis for Interim Operations is due to expire,
- Upgrade of key systems to mitigate risk in remaining operational wings to provide necessary Analytical Chemistry/Materials Characterization (AC/MC) capability during and through transition to the CMR Replacement (CMRR) facilities, and
- Relocating resident personnel as soon as practical and preparing for decontamination and decommissioning.

INP Workshop 11 produced consensus understanding and agreement regarding the programmatic baseline for the CMR Facility for the period 2010 until 20RR (year when CMRR is operational) when the full complement of replacement facilities/capabilities currently planned through the CMRR project would be available. Specific decisions/actions regarding CMR programmatic baseline resulting from INP Workshop 11 include:

- Completing Confinement Vessel Disposition (CVD) activities in CMR Wing 9, reducing site-wide Material at Risk (MAR) and mitigating programmatic impacts at Technical Area 55 (TA-55).
- Deletion of Advanced Nuclear Energy Research from programmatic and Documented Safety Analysis (DSA) baselines.
- Deletion of International Atomic Energy Agency Schoolhouse activities from the programmatic and DSA baselines.
- Relocation of Plutonium 238 (Pu-238) analytical chemistry activities by 2010.
- Relocation of Actinide Analytical Chemistry Sample Management activities to TA-55 by 2012.
- Revised MAR estimates and goals.
- Revised CMR capability map for 2010-20RR.
- Revised facility risk mitigation prioritization.
- Clarification of the integration of Risk Mitigation prioritization with DSA development and Vital Safety System (VSS) assessments.

- Incorporation of DSA Implementation strategy and milestones.
- Incorporation of personnel relocation accomplishments and objectives.

As discussed during INP Workshop 11, the above strategy as described in the CMR Facility Consolidation and Risk Mitigation Program Execution Plan (PEP) remains the program of record for the CMR Facility at LANL to which Los Alamos Site Office (LASO) and LANL have been working to implement. Reference (6) listed above transmitted direction to LASO articulating NNSA's intent to safely transition all program activities out of the CMR facility as soon as practicable. This guidance further directs development of a CMR exit plan and order of magnitude resource requirements to NA-10 within 120 days, assuming Building PF-4 at TA-55 and the CMRR Radiological Laboratory Utility Office Building (RLUOB) are available while the CMRR Nuclear Facility (NF) would not be available. Given this recent direction, LASO is engaging with LANL to develop the directed CMR exit plan and will be coordinating with cognizant NNSA Headquarters elements over the next quarter as this plan is developed. Transition of CMR activities in advance of availability of CMRR NF will require additional analysis to develop resource requirement estimates and a full understanding of funding and programmatic impacts

The CMR Consolidation and Risk Mitigation Program Execution Plan with supporting references is provided as response to meet DNFSB commitments for the long-term plan schedule of actions for continued operations of the CMR facility. Please note that a CD containing these attachments has been provided to NNSA Headquarter elements via overnight mail the week of August 28. LASO Points of Contact for this activity are Daniel Glenn (Technical Deputy Manager) at (505) 667-5105, or Juan Griego (Acting Assistant Manager National Security Missions) at (505) 665-6439.



Donald L. Winchell, Jr.  
Manager

cc w/o Attachments:

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M. Thompson, NA-17, HQ/FORS  
R. Smolen, NA-10, HQ/FORS  
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cc: Continued on Page 4

cc:

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