

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO**

THE LOS ALAMOS STUDY GROUP,

Plaintiff,

Case No. 1:10-CV-0760-JH-ACT

v.

**UNITED STATES DEPARTMENT OF
ENERGY, et al.,**

Federal Defendants.

DECLARATION OF HERMAN C. LEDOUX

I, Herman C. LeDoux, pursuant to Title 28, United States Code, Section 1746 declare:

1. I am the Federal Project Director for the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at the Los Alamos Site Office (LASO) of the National Nuclear Security Administration (NNSA), a semi-autonomous agency within the Department of Energy (DOE). I have held this position since June 2005. Prior to serving in this capacity, I served as the Assistant Manager for Projects and the LASO Deputy Site Manager. I am a graduate of the University of New Mexico with a B.S. in Civil Engineering.
2. This declaration provides information on the current status of the CMRR Nuclear Facility (CMRR-NF), existing National Environmental Policy Act (NEPA) coverage under the 2003 CMRR Environmental Impact Statement (CMRR EIS) and other analyses, and why the current design process for the Project should continue. The CMRR-NF Project is currently in the design

phase, and construction of the CMRR-NF building has not begun. The information contained herein is based on my personal knowledge and information provided to me during the performance of my official duties.

3. The *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS0350)(CMRR EIS) was issued in November 2003, and a Record of Decision (ROD) was issued in February 2004 (69 Fed. Reg. 6967). The 2003 CMRR EIS analyzed the potential environmental impacts associated with replacing the existing Chemistry and Metallurgy Research (CMR) Building, as well as the potential environmental impacts associated with the reasonable alternatives to replacing the CMR building. In the 2004 ROD, NNSA stated its decision to, among other things, construct two new buildings in Technical Area-55 (TA-55) at the Los Alamos National Laboratory (LANL) to replace the aging CMR building located within LANL's Technical Area-3 (TA-3).

4. The 2004 ROD consisted of a decision to construct: (1) an above ground building to house administrative office and support functions, now referred to as the Radiological Laboratory Utility Office Building (RLUOB); (2) and a below ground building to house consolidated special nuclear material (SNM)¹-capable Hazard Category 2 work space, CMRR-NF. Both buildings would have multiple stories, each with floor space for operations and for building operational requirements for the safety of the public, the workers, and for the protection of the environment.

¹ Special nuclear material includes plutonium, uranium enriched in the isotope 233 or the isotope 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material.

5. In addition to the 2003 CMRR EIS and the resulting 2004 ROD, the potential environmental impacts associated with the construction and operation of the CMRR-NF were analyzed in the May 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS-0380) as a part of the No Action Alternative and each of the action alternatives for continued operation of LANL. The potential environmental impacts associated with the construction and operation of the CMRR-NF were also analyzed as part of the analysis of certain alternatives in the October 2008, *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (DOE/EIS-0236-S4).

6. Since the 2004 CMRR ROD, some aspects of the proposed CMRR-NF Project plans have changed from what was foreseen when the 2003 CMRR EIS was prepared. As a result, DOE and NNSA are preparing a Supplemental Environmental Impact Statement (SEIS) to analyze the potential environmental impacts associated with those proposed changes and their reasonable alternatives.

7. As a result of the decisions made in the 2004 ROD, project personnel have engaged in an iterative planning process for the RLUOB and the CMRR-NF at TA-55. The construction of the RLUOB has been completed.

8. In concept as analyzed in the 2003 CMRR EIS, the CMRR-NF was anticipated to include approximately 200,000 gross square feet of interior floor space. The current interior floor space in the proposed CMRR-NF, which is still subject to change through design maturation, is approximately 400,000 gross square feet due to changes in safety requirements, updated building

codes associated with the construction and operation of a more robust nuclear facility, and other technical considerations. However, the current interior mission space allocated for chemistry operations and material characterization activities within the CMRR-NF is the same or less than contemplated in the 2003 CMRR EIS.

9. In my experience, DOE and NNSA engage in an iterative process before making a final design decision. Since the 2004 ROD, new building codes, new security requirements, new site seismic requirements,² energy and sustainability initiatives, and safety basis integration requirements have been combined with an evolved understanding of the support systems and facility characteristics required for safe and secure operations. The planning and design work for the CMRR-NF have followed this iterative process pattern in order to account for these modifications and to improve worker and public safety.

10. As decided in the 2004 ROD, the CMRR-NF was to have both above and below ground components. As conceived, the above ground laboratory space would have included a grated walking space that would permit workers to perform inspection, maintenance and repair on the utility systems. During the iterative design process, however, new seismic information became available in 2007. As a result, the design engineering team focused on the need for additional

² Prior to 2007, the seismic design requirements at LANL were based on a Probabilistic Seismic Hazards Assessment (PSHA) which was completed in 1995. Field investigations since then revealed that large earthquakes occur more frequently and that small earthquakes occur less frequently than previously thought. This information was incorporated into a complete update to the 1995 PSHA. This Update to the PSHA (UPSHA) was completed in 2007. As a result of this update, the seismic design ground motions resulting from a projected seismic event increased approximately 50%. Accordingly, LANL invoked more stringent seismic design requirements in its Engineering Standards Manual to account for that increase. The CMRR-NF Project adopted those more stringent design requirements.

structural stability and replaced the open-grated walking space with a hardened structural floor. This hardened floor area, known as the interstitial floor level, is now designed to be part of the facility. This enclosed, hardened floor area, while not part of the mission space for operations, would count as floor space within the building and would run across the entire length of the building, except in the proposed vault sections.

11. A similar design evolution occurred with the basement level. As a result of the need to design a more robust structure, the design of the mezzanine level would include splitting a large portion of the upper and lower parts of the basement into two floors. Like the interstitial floor, the mezzanine utility floor would run across the entire building, except in the proposed vault sections. Photos of a similar design in the already-constructed RLUOB building are visible in Attachment 1. This change in the design of the interstitial and mezzanine floors accounts for a large portion of the revised internal square footage estimate. The proposed footprint sits well within the site analyzed in the 2003 CMRR EIS. The analyzed site is constrained by the location of the RLUOB building on the east, the existence of the security fence on the west and north, and the roadway and canyon edge on the south.

12. Another proposed change in the design of the CMRR-NF that accounts for the increase amount of floor space involves the relocation of water tanks that serve fire protection systems from outside the building's exterior walls to the inside the building.

13. Incorporating new seismic information for the site was a principal factor for requiring the design of thicker, stronger walls and floors that added mass to the proposed building. These required enhancements will result in a building that would survive the revised earthquake criteria

without an adverse impact on mission functionality, capability, safety of the public, the workers, or the environment.

14. Design of the CMRR-NF is not complete, nor will it be completed by the time the SEIS is completed. In fact, continuing the design process will provide important information for the analysis in the SEIS needed to understand and address uncertainties associated with the construction of the CMRR-NF. Continuing with the design effort is expected to provide beneficial and reliable information related to the following:

a. CMRR-NF Building Elevation--Continuing the design work will lessen the risk of inaccuracies in the calculations associated with the performance of the building structure during projected seismic or postulated accident events analyzed in the SEIS. Continuing the design effort will inform decision-makers regarding the viability of construction options, including those regarding the depth of the foundation of the proposed building; the amount of engineered fill necessary to replace any soils removed to accommodate the foundation; the quantity of concrete needed for construction; constructing more of the building above grade; and the various safety and security implications of building designs.

b. Potential realignment of Pajarito Road--Design options include no realignment of the road and a partial shift of the road a number of feet to the south where the road runs adjacent to the proposed building site of the CMRR-NF. The use of the Pajarito Road, the amount and type of construction traffic that would be needed to support the construction of the CMRR-NF and the activities associated with the various construction

alternatives analyzed in the SEIS are directly impacted by the design efforts underway. Continuing with the design effort will assist the project personnel to understand the potential environmental impacts associated with the construction alternatives that will be analyzed in the SEIS.

c. Potential construction of a new electrical substation--No determination has been made whether the power demands of the proposed CMRR-NF will necessitate the construction of a new electrical substation or whether the existing electrical infrastructure is sufficient. The design effort, including the extent to which energy efficient features can be incorporated into the design of the proposed CMRR-NF and the other action alternatives that will be analyzed in the SEIS, will determine the electricity demands. As a result, the potential environmental impacts associated with the construction of a new electrical substation will be analyzed in the SEIS.

d. Potential construction of two concrete batch plants--Based on up-to-date information, no determination has been made whether it may be necessary to construct one or two concrete batch plants as part of the construction of the proposed CMRR-NF. As a result, the potential environmental impacts associated with the construction and operation of up to two concrete batch plants will be analyzed in the SEIS. Factors to be considered in making this determination include the amount of concrete needed for the CMRR-NF and the need for redundancy should one plant require maintenance or repair. Continuing with the design effort will assist DOE and NNSA in calculating the amount of concrete needed for construction of the proposed building and a more accurate analysis of the air quality impacts, among others.

15. The CMRR-NF project team is currently composed of federal employees, LANL management and operating (M&O) contractor employees, and subcontractor employees employed by various architectural and engineering (A/E) firms. Many of the employees working on the design of the proposed CMRR-NF specialize in the design of buildings housing nuclear materials or operations involving nuclear materials.

16. The procurement process that results in the selection of A/E firms for this type and magnitude of project normally requires approximately 12 months. The existing A/E firms have been working on various aspects of the CMRR-NF project since 2004. This work has included design activities, seismic studies, and Value Engineering³ studies. If the Court were to enjoin the work of these A/E firms for a period of approximately eight months, the period expected to complete the SEIS and issue a ROD, DOE/NNSA and its M&O contractor would be faced with a decision to continue to pay the costs associated with the A/E contracts and an idle workforce or terminate the contracts and face the prospect of terminating 170 A/E contract employees or reassigning these employees to other projects. The monthly cost associated with maintaining the availability of this specialized engineering expertise is approximately \$1 million in labor costs. If these 170 A/E contract employees were terminated or reassigned, it is likely that LANL would lose their specialized expertise.

17. In addition, if the Court were to enjoin the existing work on the CMRR-NF Project, the DOE/NNSA M&O contractor would be faced with the decision concerning the future of

³ Value Engineering is a systematic method to improve the “value” of goods or products and services, in our case design, by using an examination of function. Value, as defined, is the ratio of function to cost. Value can therefore be increased by either improving the function or reducing the cost. It is a primary tenet of Value Engineering that basic functions be preserved and not be reduced as a consequence of pursuing value improvements.

approximately 125 employees currently dedicated to the CMRR-NF Project. If these employees could not be transferred to other productive work at LANL, these employees may face the prospects of unemployment in a difficult economy.

18. After a cessation of work and the termination of the A/E contracts, the effort to select new A/E contractors would take at least one year from when a decision whether to resume is made. The amount of time depends upon the procurement process followed. If a non-competitive process⁴ were available, the procurement process could take up to 12 months beginning with the preparation of a new scope of work to the signing of new contracts. If a competitive process were required, the process to select new A/E contractors would involve additional steps and take longer than a non-competitive process.

19. Stopping the design work at this juncture and having to select new A/E contractors after a cessation of design work for approximately eight months would have an immediate cost impact from the point of cessation. The hiatus in the progress of the work from delaying the schedule on the CMRR-NF would cost the American taxpayer between \$6 million and \$8 million per month.⁵

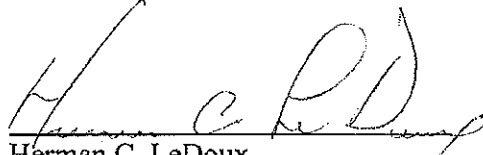
⁴ If the current A/E design agents are still available and interested, the government would determine if it was in its best interest to re-establish the contracts and whether these contracts could be justifiably sole-sourced.

⁵ This \$6 million to 8 million estimate is derived by using an escalation factor of 2 % and 3%. Cost escalation is experienced by the economy worldwide and accounts for the time value of money. Historic data on escalation rates indicate that they are difficult to accurately predict although the generally accepted average range is 2 to 3%. When the median value of the entire cost range of the project (\$3.7 billion to 5.8 billion) is escalated, approximately \$100 million per year must be added for the time value of money.

20. I certify that Attachment 1 is a true and correct copy of documents used during the course of my usual business.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated this 20th day of December, 2010, in Los Alamos, N.M.

A handwritten signature in cursive script, appearing to read "Herman C. LeDoux", written over a horizontal line.

Herman C. LeDoux
Federal Project Director
Los Alamos Site Office