

[letterhead]

July 1, 2010

The Honorable Dr. Steven Chu, Secretary
Department of Energy
1000 Independence Ave SW
Washington, DC 20585

The Honorable Mr. Tom D'Agostino, Administrator
National Nuclear Security Administration
1000 Independence Ave SW
Washington, DC 20585

Re: A new Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) is needed for the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at Los Alamos National Laboratory (LANL).

Dear Secretary Chu and Administrator D'Agostino –

We would like to draw your attention to the following important matters, presented first in summary form and subsequently in greater detail.

I am writing on behalf of the Los Alamos Study Group (Study Group).¹

The Study Group is a nonprofit research and educational organization based in Albuquerque, New Mexico. The Study Group has worked to educate the general public, federal and contractor management, members of Congress, and others on a range of interrelated policy issues, centrally concerning Department of Energy (DOE) missions, programs, and infrastructure. The Study Group and many of its members have been intimately involved in analysis and education regarding LANL plutonium infrastructure and programs since October 1989.²

The Study Group has approximately 2,691 members and supporters within a 50-mile radius of LANL, approximately 2,341 of whom live within a 30-mile radius of LANL. These people, along with other Study Group members, are directly affected by federal choices regarding construction and operation of the proposed CMRR-NF. Many of these members would be directly harmed by the environmental impacts of CMRR-NF.

From time to time and as the occasion warrants, the Study Group has been formally joined in its concerns regarding LANL plutonium infrastructure and programs – including many of the same issues we raise here – by hundreds of nonprofit organizations, churches, and businesses.³

¹ For general background please see <http://www.lasg.org> and for specific background regarding the CMRR and closely-allied issues see http://www.lasg.org/CMRR/open_page.htm.

² Some of the resulting public discussion is archived at http://www.lasg.org/Pit_Prod.htm.

³For example see the endorsers of the “Call for Nuclear Disarmament” at <http://www.lasg.org/campaigns/CallEndorsers.htm>, which includes: “We therefore call upon our elected leaders to: Stop the design and manufacture of *all* nuclear weapons, including plutonium bomb cores (“pits”) at Los Alamos and elsewhere [;] ... Halt disposal of nuclear waste at Los Alamos, as thousands of citizens and dozens of environmental organizations have already requested.”

The Study Group and its members have commented to the National Nuclear Security Administration (NNSA) and its predecessor DOE Defense Programs (DP) regarding the matters raised here on almost every possible occasion over the last two decades. The Study Group commented on the scope of the CMRR EIS.⁴ Dozens of Study Group members commented on the draft CMRR EIS.

The Study Group has met or spoken with NNSA officials in Los Alamos many times regarding CMRR issues and has travelled dozens of times to Washington, DC at our expense to meet with NNSA and other executive branch officials, as well as members of Congress and their staff, regarding some of the issues raised here as well as closely-allied matters. To the limit of our resources and abilities, and within the limits of information available to us, we have carefully followed and engaged with the federal government on all CMRR issues. We have diligently pursued and exhausted all the administrative remedies available to us, and many more, over a decade-long period, specifically concerning CMRR.

Brief CMRR Background

All LANL buildings and property are acquired and owned, and all operations at LANL overseen, by NNSA or by DOE directly. LANL is operated by Los Alamos National Security (LANS), LLC.

The aim of the CMRR Project (initially an element within NNSA Project 03-D-103, now Project 04-D-125) is to complete two new buildings at LANL's Technical Area (TA-) 55, the CMRR-NF and a Radiological Laboratory, Utility, and Office Building (RLUOB).⁵

A map is attached as Figure 1. Figure 2 is an aerial view showing the CMRR site.

The primary purpose of the CMRR facility is to facilitate the large-scale production of plutonium warhead cores ("pits").⁶

CMRR-NF and RLUOB comprise 90% and 10% of the total estimated CMRR construction cost, respectively (i.e. \$3,431.6 million and \$363.4 million, respectively, out of a recently-estimated \$3,795.0 million).⁷

The CMRR project would also decommission, demolish, and dispose of the Chemistry and Metallurgy Research (CMR) building, unless this work is arranged under another line item,⁸ or unless this work is not fully undertaken.⁹ CMR disposition is expected to cost in the neighborhood of \$400 million in today's dollars (a very preliminary estimate).¹⁰

⁴ Letter from Greg Mello to Elizabeth Withers, CMRR EIS document manager, August 14. 2002. Not in CMRR EIS.

⁵ NNSA's most recent Project Data Sheet (PDS) for the CMRR Project is in the DOE FY2011 Congressional Budget Request (CBR), Vol. 1, pp. 215-235, available at <http://www.cfo.doe.gov/> under "Products and Services."

⁶ "The CMRR facility has no coherent mission to justify it unless the decision is made to begin an aggressive new nuclear warhead design and pit production mission at Los Alamos National Laboratory." House Report 110-185, June 11, 2007, p. 105, http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_reports&docid=f:hr185.110.pdf.

⁷ Ibid.

⁸ Ibid, p. 228.

⁹ NNSA is currently considering retaining CMR Wing 9. Oral statement of members and staff of the Defense Nuclear Facilities Safety Board (DNFSB) to Greg Mello, May 7, 2010.

¹⁰ Study Group estimate in 2010 dollars, to one significant digit, from DOE FY2011 CMRR PDS, p. 228.

Including this rough figure for CMR disposition, the total CMRR cost given in DOE's February 1, 2010 budget submission to Congress becomes \$4,195 million.

RLUOB is physically complete and is being outfitted for use. It is expected to be ready for full occupancy in fiscal year (FY) 2013 and for full beneficial use approximately one year later in 2014, if we have understood NNSA correctly.¹¹

All aspects of CMRR-NF are still in preliminary design. Despite congressional concern¹² there is no CMRR-NF performance baseline.¹³

As shown in Figure 3, NNSA now seeks to divide CMRR-NF into five (5) phases and to begin (proposed concurrent) final design and construction of the initial CMRR-NF phase in mid-FY2011 i.e. on or about 4/1/10,¹⁴ unless Congress directs otherwise or does not provide adequate funding.

The first CMRR-NF phase includes temporary utilities, site preparation for laydown yards, site utility relocation, site excavation to 125 ft deep, soil stabilization involving a projected 225,000 yd³ of lean concrete and/or soil grout, warehouse (concurrent design/build), and electrical substation (concurrent design/build).

The fifth and final CMRR-NF phase, which includes the proposed concurrent final design and construction of all aspects of the CMRR-NF facility itself other than its foundation and structural components, will not acquire a performance baseline, including a reasonably confident cost estimate, until on or about April 1, 2014,¹⁵ three years after construction is slated to begin.

Summary of our concerns

As shown in Figure 4, the CMRR proposed today is expected to cost ten times as much¹⁶ as was estimated in the November 14, 2003 CMRR EIS.¹⁷ Roughly the same scaling factor applies to

¹¹ Steve Fong, NNSA Los Alamos Site Office (LASO) CMRR Project Manager, and Rick Holmes, LANL CMRR Project Manager, "Chemistry and Metallurgy Research Replacement (CMRR) Project Update, March 3, 2010, LA-UR 10-01115. http://www.lasg.org/CMRR/LA-UR-10-01115_CMRR-Public-Mtg_Mar-2010-Vol-9.pdf. Steve Fong, telephone conversation, 6/1/2010.

¹² "The committee is very concerned that the NNSA follow the DOE 413 order series and project management and guidance. The NNSA is also directed to conduct a true independent cost estimate for the CMRR Nuclear Facility [CMRR-NF], phase III of the CMRR project. The committee is concerned that the phase III project [CMRR-NF] is being divided into multiple sub-projects. Notwithstanding this management approach the committee directs the CMRR baseline to reflect all phases and subprojects for the purposes of the cost and schedule baseline provision and to be accounted for as a single project." [FY2011 Defense Authorization Act Senate Report](#), pg. 274, at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_reports&docid=f:fr201.111.pdf.

¹³ In DOE project management, a "performance baseline" consists of a detailed project scope of work, a completed preliminary design (25-30% of completed design, with a clearly-understood path to all the rest), key performance parameters understood, specified, and agreed to by all relevant parties, a cost estimate (80-90% confidence), a completion schedule (80-90% confidence), and well-organized and approved documentation supporting these. DOE G 413.3-5 "Performance Baseline Guide," 9/12/08, <http://www.er.doe.gov/opa/PDF/g4133-5%20Performance%20Baseline.pdf>.

¹⁴ John Bretzke, LANL Deputy Associate Director, "Pajarito Construction Activities," June 16, 2010 presentation, slide 7, at http://www.lanl.gov/projects/pcc/presentations/John-Bretzke_Presentation_for_Community_Forum.pdf.

¹⁵ Ibid.

¹⁶ Figure 4 cost estimates are from NNSA's PDSs for the CMRR, found in its annual congressional budget requests.

the nuclear laboratory component of CMRR, now called CMRR-NF, which in absolute terms is responsible for nearly all the projected cost increases.

Without further evidence – though evidence is available – these huge cost increases strongly suggest that there are reasonable alternatives to the project as currently proposed. The range of alternatives analyzed in the CMRR-EIS was very narrow, in part because the nuclear laboratory component of the project was expected to be relatively inexpensive and soon available. Neither has turned out to be true. The CMRR EIS was based on a matrix of assumptions now known to be false.

Most of this cost increase has occurred in the last three years and much of it in just the last year, betokening a recent rapid expansion in project scale and impacts – and bringing about this letter.

This dramatic cost increase has been accompanied by a huge increase in resource requirements. In key cases more than ten times as many resources are now required as was originally estimated, as shown in Table 1.

Today's CMRR-NF would have dramatically greater construction impacts than any of the CMRR alternatives analyzed then. Some of these impacts are shown in Table 1. Today's CMRR-NF also includes several new, unanalyzed project elements, such as additional buildings, construction yards, and major traffic modifications, and has entirely new categories of impacts, than were even mentioned in the CMRR-EIS, let alone analyzed there.

Today's proposed CMRR-NF, which is on a larger scale entirely than the alternatives analyzed in 2003, has simply never been the subject of any NEPA analysis.

Furthermore, the February 18, 2004 Record of Decision (ROD)¹⁸ did not choose the CMRR-NF NNSA now wants to build. How could it, since it was not among the choices available?

No NEPA analysis of the CMRR nuclear laboratory, now CMRR-NF, was provided in either the April 4, 2008 LANL Site-Wide Environmental Impact Statement (SWEIS)¹⁹ or the October 24, 2008 Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS).²⁰

This lack of appropriate NEPA analysis is all the more apparent if CMRR-NF is considered in the context of NNSA's integrated "Pajarito Construction Corridor"²¹ and its "Integrated Nuclear Planning,"²² which include a number of connected infrastructure plans, decisions, and projects.

¹⁷ DOE [Final CMRR Environmental Impact Statement](http://www.gc.energy.gov/NEPA/finalEIS-0350.htm), EIS-0350, at <http://www.gc.energy.gov/NEPA/finalEIS-0350.htm>.

¹⁸ http://www.lanl.gov/orgs/cmrr/eis/documents/cmrr_rod_20040218.pdf.

¹⁹ <http://www.doeal.gov/laso/NEPASWEIS.aspx>.

²⁰ <http://www.complextransformationspeis.com/>.

²¹ Bretzke, op. cit.

²² E.g. "NNSA will not make a decision [in the CMRR ROD] on other elements or activities that have been recently undertaken *associated* with the LANL "Integrated Nuclear Planning" (INP) initiative. . . . Recognizing the need for the CMRR Project to be *integrated* with other contemplated actions, near and long term, affecting nuclear mission capabilities at LANL, NNSA and UC at LANL developed the INP process. INP is intended to provide an *integrated, coordinated* plan for the *consolidation* of LANL nuclear facility construction, refurbishment and upgrade, and retirement activities." CMRR EIS, op. cit., p. S-7. Emphasis added. The decisions made under INP are "connected actions" under NEPA: "Connected actions, which means that they are closely related and therefore, should be discussed in the same impact statement. Actions are connected if they: (i) Automatically trigger other actions which

These projects are functionally interrelated, geographically proximate, and more or less contemporaneous.

Without further disclosure of the project alternatives that have been – and, upon information and belief, are still being, or are about to be – considered, and without any NEPA analysis of the resulting environmental impacts, it is not clear whether NNSA’s overall Pajarito Road project is tantamount to a “Modern Pit Facility,” for which no EIS was ever completed, or is really a “Pajarito Corridor Construction Project,”²³ for which no EIS has even been initiated, or is quite simply a different and new project now called CMRR-NF, for which no applicable EIS was ever produced.

In any of these alternative cases an original EIS is needed, beginning with establishment of an appropriate scope of analysis through the required scoping process.²⁴

In addition to the above concerns, there was never any notice or comment process involving the public, agencies, or tribes concerning a) the nature of project being designed today, b) its alternatives, or c) the likely impacts of the new project and its alternatives. Six years past the CMRR ROD, the public, agencies, and tribes have not even been notified that the project alternatives analyzed in the CMRR EIS, and the alternative chosen in the CMRR ROD, were far smaller and less impactful projects than the one proposed today. These procedural and informational injuries have harmed all these parties and they have harmed the Study Group.

Remedy

Is a Supplemental EIS (SEIS) the answer? The Council on Environmental Quality (CEQ) states (40 CFR 1502.9(c)(1)):

Agencies: (1) Shall prepare supplements to either draft or final environmental impact statements if: (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

These requirements are echoed at 10 CFR 1021.314.

Preparation of SEIS at this stage is inadequate and inappropriate because there are not *only* “substantial changes to the [CMRR] proposal” and “significant new circumstances or information relevant to environmental concerns” (10 CFR 1021.314) but *also and in addition*, these changes are of such a sweeping nature as to affect the range of “actions, alternatives, and impacts” that are the essence of the scoping process (40 CFR 1508.25) and indeed of project definition itself. Failure to publicly review the scope of possible actions and alternatives would be tantamount to a post-decision environmental analysis – better paperwork, but without the

may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) Are interdependent parts of a larger action and depend on the larger action for their justification. (40 CFR 1508.25)

²³ As presented in the LANL June 16, 2010 forum.

²⁴ See especially 40 CFR 1501.7, 1508.22, and 1508.25. DOE’s scoping requirements at 10 CFR 1021.311 include the notice of intent requirements of 40 CFR 1508.22, which must include the proposed alternatives to be analyzed. “Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement...” (40 CFR 1508.25). This range has changed dramatically since the original notice of intent of July 2002 to prepare an EIS for CMRR (<http://www.epa.gov/EPA-IMPACT/2002/July/Day-23/i18552.htm>).

objective “hard look” needed to freshly evaluate project alternatives without prejudice. NEPA’s purpose isn’t post-hoc paperwork.

NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. (40 CFR 1500.1)

And since neither the project being designed today nor reasonable alternatives to it was analyzed in the original EIS, there is no applicable EIS to supplement.

Were NNSA not preparing them²⁵ it would not be necessary to point out that “Supplement Analyses” (SAs) – analyses of whether a SEIS is necessary, with no requirement for agency, tribal, or public review and comment; see 10 CFR 1021.314(c) – are inadequate in this case. Such assessments cannot be not be objective, given the agency’s decade-long commitment to the project; would not provide public, agency, and tribal input into the scope of actions, alternatives, and impacts; and obviously do not halt the increasing, and increasingly-prejudicial, investments in the project. SAs would merely provide one more avenue to forestall objective analysis until continuing federal investments make all environmental (and business case) analysis moot.

NNSA cannot initiate detailed design or construction of its currently-preferred suite of alternatives without applicable NEPA analysis. The Council on Environmental Quality’s (CEQ’s) government-wide NEPA regulations state (at 40 CFR 1506.1):

- (a) Until an agency issues a record of decision as provided in §1505.2 (except as provided in paragraph (c) of this section), no action concerning the proposal shall be taken which would: (1) Have an adverse environmental impact; or (2) Limit the choice of reasonable alternatives....

DOE’s NEPA regulations state (at 10 CFR 1021.210):

- (b) DOE shall complete its NEPA review for each DOE proposal before making a decision on the proposal (e.g., normally in advance of, and for use in reaching, a decision to proceed with detailed design), except as provided in 40 CFR 1506.1 and §§1021.211 and 1021.216 of this part.

DOE further requires (at 10 CFR 1021.211, “Limitations on actions during the NEPA process,” in relevant part) that:

While DOE is preparing an EIS that is required under §1021.300(a) of this part, DOE shall take no action concerning the proposal that is the subject of the EIS before issuing an ROD, except as provided at 40 CFR 1506.1.

Pursuant to these laws we therefore request that you halt any and all CMRR-NF design activities, make no further contractual obligations, and seek no further funding until a CMRR-NF EIS is written and subsequent ROD is filed. Actions which can be, and we believe must be, undertaken, are by contrast those which are necessary to evaluate and choose project alternatives.
²⁶

²⁵ John Bretzke, op. cit., slide 9.

No administrative or congressional commitments to initiate final design (“Critical Decision 2,” in DOE parlance), or to build (“Critical Decision 3”) CMRR-NF has been made. As noted above, both commitments are expected on about April 1 of 2011, barring further delays.

If the needed NEPA (and business case) analyses are begun promptly, NNSA might be able to achieve NEPA compliance without any, or without a significant, project delay.

The present moment is an ideal time to initiate NEPA analysis. *Accurate* NEPA analysis could not have begun prior to this year, given the very recent changes and expansions in the project. Now NEPA analysis cannot be delayed without significantly delaying the project – *assuming it can properly go forward at all given the recently-expressed concerns of Congress*. The Senate Armed Services Committee has requested a review of CMRR-NF project alternatives²⁷ and as noted above also questions the propriety of initiating final design and construction without an approved project baseline, which will take at least two or three years to complete.²⁸

Therefore our request, and NEPA’s requirements, need not delay agency action and will help, not harm, agency interests.

If we do not hear favorably from you within 20 calendar days we expect to promptly file for judicial relief in federal district court.

Sincerely,

²⁶ The CMRR-NF project has been developed long past DOE’s normal NEPA threshold, incurring some \$289 million in appropriations so far (8.5% of expected total costs), prejudicing NNSA’s choice of alternatives. It is precisely for this reason that, “[I]n conventional construction, this step [NEPA analysis] occurs in the Pre-Title I phase of project development.” DOE Order 430.1-1, p. 3-4. <https://www.directives.doe.gov/directives/current-directives/430.1-EGuide-1-Chp03/view?searchterm=NEPA>.

²⁷ “The committee continues to believe that replacing the existing Chemical and Metallurgical Research facility is essential but that the new Chemical and Metallurgical Research Replacement (CMRR) facility has many unresolved issues including the appropriate size of the facility. CMRR will be a category I facility supporting pit operations in building PF-4. Now that the Nuclear Posture Review is completed the NNSA and the Department of Defense (DOD) are in a better position to ensure that the facility is appropriately sized.” FY2011 Defense Authorization Act Senate Report, pg. 274, at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_reports&docid=f:sr201.111.pdf.

²⁸ From a hearing of the Strategic Forces Subcommittee of the Senate Armed Services Committee, April 14, 2010:

SEN. BINGAMAN: Thank you. Let me ask about this CMR replacement project facility. The budget you have given us doesn’t have in it any cost estimates. I guess your statement just a few minutes ago related to this. When would we expect to have firm cost estimates and completion dates for that project?

MR. D’AGOSTINO: We expect, I expect in calendar year 2012 time frame. Whether that bridges into fiscal year ’12 or ’13, I’d have to double check exactly. It’s going to take us a good year-and-a-half more of design work to be confident. But the most important thing is my desire, the secretary’s desire, is to work, get the department’s reputation back on track with respect to large facilities. We do have programs in the department that do well in this, and what we’ve learned is that in getting the design work largely completed, we’re getting it to around the 80 to 90 percent level is what it takes in order to do that. So, we’re going to work on that approach here for these two facilities. My expectation is about the 2012 time frame to get that done. If it takes longer though, sir, I’m willing to push back the performance baseline by a year in order to make sure I know what we’re asking for. I think in the long run that will be the right thing to do.

LANL (see Figure 3) more recently estimated a completion date of 2014 for this milestone.

Thomas Hnasko, Esq.

Attachments:

Figure 1: CMRR-NF location map

Figure 2: Aerial view of LANL TA-55, showing RLUOB and CMRR-NF site

Figure 3: CMRR-NF project schedule

Figure 4: History of CMRR projected costs

Table 1: Selected CMRR-NF construction requirements & impacts; new & omitted elements

cc:

President Barack Obama

Vice President Joe Biden

Senator Jeff Bingaman, New Mexico

Senator Tom Udall, New Mexico

Representative Ben Ray Lujan, New Mexico Third Congressional District

Senator Dan Inouye, Chairman, Committee on Appropriations

Senator Thad Cochran, Vice-Chairman, Committee on Appropriations

Senator Byron Dorgan, Chairman, Appropriations Subcommittee on Energy and Water Development

Senator Bob Bennett, Ranking Member, Senate Subcommittee on Energy and Water Development

Senator Carl Levin, Chairman, Committee on Armed Services

Senator John McCain, Ranking Member, Committee on Armed Services

Representative Dave Obey, Chairman, Committee on Appropriations

Representative Jerry Lewis, Ranking Member, Committee on Appropriations

Representative Peter J. Visclosky, Chairman, Subcommittee on Energy and Water Development

Representative Rodney Frelinghuysen, Ranking Member, Subcommittee on Energy and Water Development

Representative Ike Skelton, Chairman, Committee on Armed Services

Representative Howard P. (Buck) McKeon, Ranking Member, Committee on Armed Services

Thomas D'Agostino, Administrator, NNSA

Peter S. Winokur, Chairman, Defense Nuclear Facilities Safety Board

Jonathan Gill, Assistant Director, Government Accountability Office

Jonathan Medalia, Specialist in Nuclear Weapons Policy, Congressional Research Service

Table 1: Selected CMRR-NF construction requirements, impacts; new, omitted project elements; operational impacts not included

Assessed construction requirements	CMRR EIS (two or three buildings)	CMRR-NF only
Land	26.75 acres	Greatly increased acreage
Locations	TA-55 (or TA-6)	TA-55, TA48, TA-63, TA-66, TA-46 and TA-50, TA-54 or TA-36 and possibly more.
Laydown yard(s)	1 site, 2 acres max	Many sites, ~19 acres
Concrete and soil grout	6,255 yards ³	347,000 yards ³ (55 times original estimate for <i>two or three</i> buildings)
Steel	558 us tons	>15,000 us tons (27 times original for <i>two or three</i> buildings)
Peak employment	300	844
Temporary worker housing	Minimal impact	Major impact
Construction period	34 months	144 months
Excavation depth	50-75 ft. Max	125 ft.
Un-assessed construction impacts		
CO2 emissions from concrete	Not analyzed	>100,000 metric tons
Other sources	Not analyzed	Significant emissions
Truck traffic and worker transport		
Aggregate deliveries for concrete	Not analyzed	Up to 24,000 dump truck trips (at 55k lbs.)
Traffic impacts	Not analyzed	Significant impacts
Air quality	Not analyzed	Needs analysis
Road wear	Not analyzed	Needs analysis
Other trucking impacts	Not analyzed	Needs analysis
Worker transport to site	Minimal impact	Significantly increased
Aggregate mining	Not analyzed	Significant impacts
Worker Safety	Not analyzed	Significantly impacted by depth, scale, and duration of new project
CMR operations	Assumed out by 2010, safety upgrades dropped.	Extended and maintained in unsafe condition by delay and costs of CMRR-NF.
New project elements		
Craft worker facility		Needs analysis

Electrical substation		At TA-50, needs analysis
Stormwater pond		Needs analysis
Traffic modifications		
Possible bypass road		Route unknown, significant impacts, needs analysis
Closure of Pajarito Road		2 years, affecting 4,600 employees, significant impacts
Truck inspection facility		Location unknown, needs analysis
Warehouse		10,000 square foot, needs analysis
Temporary facilities for displaced “Pajarito Corridor” operations		Needs analysis, significant impacts
Omitted project elements		
CMRR final disposition	Not analyzed	Impact large, needs analysis
Connected actions include elements of the “Pajarito Construction Corridor,” “Integrated Nuclear Planning,” and “Plutonium Center of Excellence.”		

Sources: NNSA, “Final CMRR Environmental Impact Statement,” November 2003, DOE/EIS-0350; NNSA public statements; other NNSA communications; “Cement and Concrete: Environmental Considerations,” Environmental Building News, 3/1/1993 at <http://www.buildinggreen.com/auth/article.cfm/1993/3/1/Cement-and-Concrete-Environmental-Considerations/>.

Edits stop here.

We believe the November 14, 2003 Environmental Impact Statement (EIS)²⁹ and the February 18, 2004 Record of Decision (ROD)³⁰ for the CMRR-NF at LANL do not meet the requirements of the NEPA (42 U.S.C. 4321-4347), and it's implementing regulations at 40 CFR 1500-1508 and 10 CFR 1021.

There has never been any NEPA analysis of any version of the CMRR-NF, taken by itself. There is no environmental impact analysis of even an early, modest version of what has become the CMRR-NF, either in the CMRR EIS or in any other EIS. By “bundling” the relatively benign RLUOB with the far more impactful CMRR-NF, the separate environmental impacts of the latter were obscured and diluted relative to the primary program benefit (laboratory space) to be provided by both projects. Now, CMRR-NF has evolved to comprise an estimated 90% of the total, aggrandized CMRR project cost, and it will have a very large fraction of the total (but as yet unanalyzed and unknown) environmental impacts. In addition, its construction and completion schedule lags far behind that of the RLUOB – currently six years behind. It has become a separate project.

²⁹ <http://www.gc.energy.gov/NEPA/finalEIS-0350.htm>.

³⁰ http://www.lanl.gov/orgs/cmrr/eis/documents/cmrr_rod_20040218.pdf.

Completion of the RLUOB building, together with the dramatic contextual changes (discussed below) which have occurred in the past seven years, expand the range of reasonable alternatives to CMRR-NF. By virtue of its long delay, its dramatically changed circumstances, its unforeseen large scale, and its greatly expanded cost, the decision to build CMRR-NF has evolved to be a quite separate decision from building RLUOB, one that entails unique, separate, and avoidable environmental impacts, and separate in every other way as well. NNSA itself is now analyzing it as such. The RLUOB, in contrast to the CMRR-NF, was not much changed, delayed, or made more expensive by events and changes in circumstance over the last seven years.

Many aspects of the CMRR-NF project have changed dramatically since 2003.

- The CMRR-NF predecessor that was analyzed in the CMRR EIS has changed dramatically in physical aspects that greatly affect its environmental impact, both on-site at LANL and in nearby communities: NNSA's projected requirements for concrete in the CMRR-NF are now 57 times as much as analyzed in the EIS; the amount of steel needed has risen at least 30 times; tens of thousands of heavy truck trips are now required; hundreds of thousands of cubic yards of concrete ingredients may be needed from off-site mines and plants; and so on.

NNSA has never, either in 2003 or at any other time, analyzed the project it now proposes to build, and NNSA has never analyzed the aggrandized project's much larger environmental impacts.

Nor has the proposed expanded project or its impacts ever been presented to the public, government agencies, and tribes for review and comment at any time, let alone early in the NEPA decision-making process as NEPA requires. The new project's expanded environmental impacts are now unknown and inaccessible to government decisionmakers as well as to everyone else, yet NNSA is secretly choosing between project alternatives which will have widely-differential impacts on these communities.

- The range of reasonable alternatives to CMRR-NF has expanded, including alternatives to: a) the CMRR-NF itself; b) the timing of CMRR-NF; c) CMRR-NF's overall concept and especially its depth of burial; d) certain construction methods which will affect, for example, the quantity and sources of the large quantities of raw materials needed currently foreseen to be required; and e) decontamination, decommissioning, demolition, and disposal (here, D4) of the Chemistry and Metallurgy Research (CMR) Building.

This expansion of reasonable alternatives has been caused by:

- CMRR-NF's circa 10-fold cost escalation;
- Its circa 11-year delay, which has for example created a need for new, parallel investments in other infrastructure with comparable purposes if safety is not to be degraded;
- New design challenges, and new safety, security, and logistical challenges during construction, which arise from facts not available in 2003;
- New government actions, changed government policies, and new scientific information, all of which affect purpose and need, especially when considered in the light of increased costs and delays; and, as noted above,

- Completion of the RLUOB.

Some of these newly-reasonable alternatives differ greatly in environmental impact as well as cost. There has been no NEPA process or analysis whatsoever concerning most of these newly-reasonable alternatives.

NNSA in the past has considered some of these alternatives reasonable. Some have been considered reasonable by other authorities in government and by government advisors. We believe other alternatives also would be found to be reasonable subjects for NEPA and business case analysis if they were actively considered as part of a decision-making process, given the new factual context in which we find ourselves today.

- Scientific understanding of some environmental impacts has changed dramatically since 2003, greenhouse gas emissions being a prime example. The looming climate catastrophe has raised the importance of NEPA's call to "recognize the worldwide and long-range character of environmental problems," a purpose which informs the Council on Environmental Quality's (CEQ's) draft guidance for analyzing greenhouse gas emissions under NEPA.³¹ The greenhouse gas emissions to be expected from the current CMRR-NF project, but not its reasonable alternatives, greatly exceed CEQ's draft threshold for NEPA analysis.

Changes to the CMRR-NF project and its environmental impacts have made it abundantly clear that the original CMRR EIS, and the vetting of alternatives went into it, were premature from the NEPA perspective. NNSA did not understand the project, the reasonable alternatives to the project, or the project's environmental, impacts.

Changes in the project and its environmental impacts, and great new differences in the environmental impacts within the broadened scope of reasonable alternatives, are altogether so dramatic you must produce a new EIS, beginning with the required scoping process, and use this EIS to inform a new ROD for the CMRR-NF.

External review of the proposed scope of analysis is particularly important given years of apparent government commitment to one project alternative, chosen too soon from a prematurely-narrowed and naïve field of alternatives. Yet NNSA has itself quietly rejected its chosen alternative in favor of a different and gradually-evolving, larger project.

Internal NEPA supplement analysis or any other form of post-decision NEPA analysis and subsequent public, agency, and tribal discussion, cannot NEPA's fulfill requirement for prior consultation and comment, which must begin with a full and open scoping process. The diverse standpoints of affected parties, and the independent expertise of other government agencies, are particularly important in establishing the relevance of specific environmental impacts.

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 CFR 7629) applies:

[E]ach Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and

³¹ <http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf>.

adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.³²

The CMRR-NF, in combination with other plutonium infrastructure elements being built, upgraded, or maintained at LANL's Technical Area (TA-) 55 via other line item projects and by other means, is comparable in physical scale, production capacity, cost, required resources, and environmental impacts to one or more alternatives within NNSA's Modern Pit Facility (MPF) project. A draft, but no final, EIS for the MPF was produced; no ROD was issued.³³ It is difficult to distinguish NNSA's expanded CMRR-NF, in its context of LANL "Integrated Nuclear Planning," from a phased, segmented MPF.

Considering these facts and pursuant to the above laws, we request that you halt all CMRR-NF activities and make no further contractual obligations to it except as necessary to accomplish the decision-making goals of NEPA and the business case analyses required to vet reasonable NEPA alternatives. We request that you seek no further CMRR-NF funding from Congress until a new EIS is written and a new ROD filed.

The Los Alamos Study Group has spared no effort in informing your staff and others in government and at LANL of our ongoing analysis and concerns about this project, beginning in 1999 when the CMRR project was first announced and continuing up to the present. Within the financial limitations that affect us all, and which especially constrain voluntary citizen associations, we have devoted thousands of hours in good-faith efforts to engage in principled, factual dialogue with your agencies and others in government. We have assiduously sought every piece of information which could assist that dialogue. We have made dozens of trips to Washington, DC to meet with NNSA, other agencies, and Congress regarding this matter. We have more than exhausted any possible informal remedies.

If we do not hear favorably from you within 30 days we expect to promptly file for judicial relief in federal district court.

Management considerations: the case for CMRR-NF is deteriorating

The purpose of NEPA is to help foster good federal decisions. That is our purpose here. The processes mandated by NEPA are management opportunities, not liabilities.

³² From Council on Environmental Quality, *Environmental Justice: Guidance under the National Environmental Policy Act*, <http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf>:

In the memorandum to heads of departments and agencies that accompanied Executive Order 12898, the President specifically recognized the importance of procedures under the National Environmental Policy Act (NEPA) for identifying and addressing environmental justice concerns. The memorandum states that "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]." The memorandum particularly emphasizes the importance of NEPA's public participation process, directing that "each Federal agency shall provide opportunities for community input in the NEPA process." Agencies are further directed to "identify potential effects and mitigation measures in consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices.

³³ NNSA, *Draft Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility*, May 2003, DOE/EIS-0236-S2, http://nepa.energy.gov/nepa_documents/docs/deis/deis0236S2/deis0236.htm. Project abandonment was announced here: <http://www.nnsa.energy.gov/mediaroom/pressreleases/nnsa-delays-modern-pit-facility-environmental-impact-statement-and-selection>.

Therefore, apart from the above legal considerations but closely related to them, we urge you to see that CMRR-NF has now reached such high levels of estimated cost, complexity, overall management risk, delay, and environmental impact that it merits a full and sober reconsideration quite apart from your specific NEPA obligations.

For a number of reasons we believe the economic situation in the U.S. is deteriorating, and with it the federal fiscal position, and so we therefore urge you to value, more highly than before, alternatives which are simple, safe, less risky, near-term, and relatively inexpensive. For external reasons beyond any of our control, CMRR-NF may never be completed.

You are now conducting one or more CMRR-NF project reviews. We are not privy to the scope and details of these reviews or the decisions you are making between project alternatives you may have identified. Obviously internal reviews do not meet NEPA's openness standards, but these reviews could be a good preparation for the NEPA analysis which is now needed.

At this point in time, some of the hoped-for functional and net safety benefits of CMRR-NF have been eroded by schedule delay and skyrocketing costs. As a result of these delays you must provide safe plutonium infrastructure for programs being housed in CMR for approximately another 15 years *with or without CMRR-NF*, because it will take at least that long to bring any new nuclear facility into full beneficial use.

Looking back over the past decade and before, many practical and relatively inexpensive renovations to existing nuclear facilities at LANL have not been made. For example, the Chemistry and Metallurgy Research (CMR) Upgrades Project was funded by Congress, but DOE abandoned it in favor of CMRR. As a result many safety deficiencies at CMR, but also at PF-4 and no doubt other facilities at LANL as well remain, either poorly addressed, not addressed at all, or addressed by means of program or activity abridgement. In substantial part this has occurred because of DOE's, and then NNSA's, fixation on expanding a) its plutonium missions and b) its nuclear facilities at LANL. None of NNSA's grand plutonium plans for LANL have come to fruition. They might never.

The result has been that over the last decade, throughout the current one, and on through half of the next – a quarter-century in all – a generation of workers and the public have been and will continue to be exposed to unnecessary dangers in facilities which NNSA and the Defense Nuclear Facility Safety Board (DNFSB) have continuously described as substandard.

We therefore urge you to invest in substantial and sustainable – not partial and ephemeral – safety upgrades for those portions of your existing facilities which must remain in use. NNSA's grandiose ambitions and its extremely poor initial assessment of CMRR-NF costs and benefits have been costly to safety, which is just the opposite of how the CMRR-NF has been presented.

If the distant – and, we believe, uncertain – CMRR-NF remains your goal, you will need to make a double set of infrastructure investments to lower risks in the meantime, in CMRR-NF and also in existing facilities. This is a far cry from the quick, cheap, low-impact investment you first described more than ten years ago and in your 2003 NEPA analysis.

Not just capital costs, but operational costs as well will dramatically increase if CMRR-NF is pursued. Neither Congress nor the public has seen any remotely accurate accounting of these costs.

As became apparent to all eyes as NNSA's ambitious but variable plutonium plans were successively revealed over the past several years, NNSA's intentions for TA-55 were never as

modest as they seemed. They far exceeded their original descriptions and still do. These grandiose ambitions, embodied in CMRR-NF from its grossly-understated beginnings until now, have collided with unchangeable geologic and geographic realities at the site, shooting costs and environmental impacts sky-high and requiring the continued long-term operation of less-than-safe, antiquated facilities which need renovation.

Literally as well as figuratively, CMRR-NF has no solid foundation.

Poor project assessment is all too normal at DOE and especially NNSA, predating both your tenures. For decades your agencies have had a relatively poor track record in successfully and economically completing major projects, as described in numerous external reviews. DOE and NNSA management of large construction projects and major system acquisitions (MSAs) remains to this day a very active concern in both houses of Congress, in the Department of Defense (DOD), and elsewhere in government. As you know, proposed legislation on this subject was passed by a Senate subcommittee last month and may become law soon.

Project and NEPA background

The CMRR project would complete two new buildings at TA-55, CMRR-NF and a Radiological Laboratory, Utility, and Office Building (RLUOB), comprising about 90% and 10% of the total CMRR construction cost, respectively.

For more than a decade NNSA has extensively described the CMRR project as “replacing” the capabilities of the Chemistry and Metallurgy Research (CMR) building.³⁴

The CMRR project would also decommission, decontaminate, demolish, and dispose of the CMR, unless this work is arranged under another line item, or is not fully undertaken (see below).

The RLUOB building is physically complete and is being outfitted for use. It is expected to be ready for full occupancy in fiscal year (FY) 2013 and for full beneficial use approximately one year later, if all goes well.³⁵

³⁴ The CMRR EIS described the complete purpose and need for agency action as follows.

Analytical chemistry and materials characterization (AC and MC) are fundamental capabilities required for the research and development support of DOE and NNSA mission assignments at LANL. CMR capabilities have existed at LANL for the entire history of the site [sic – not for LANL’s first decade] and are critical for future work conducted there.

CMR Building operations and capabilities are currently being restricted in scope due to safety constraints; the building is not being operated to the full extent needed to meet the DOE, NNSA operational requirements established in 1999 for the next 10 years. In addition, continued support of LANL’s existing and evolving missions is anticipated to require modification of some capabilities, such as the ability to physically handle larger containment vessels (as compared to existing capabilities) in support of dynamic experimentation and subsequent cleanout. The facilitation and consolidation of like activities at LANL would enhance operational efficiency in terms of security, support, and risk reduction in handling and transportation of nuclear materials.

NNSA needs to act now to provide the physical means for accommodating continuation of the CMR Building’s functional, mission-critical CMR capabilities beyond 2010 in a safe, secure, and environmentally sound manner. At the same time, NNSA should also take advantage of the opportunity to consolidate like activities for the purpose of operational efficiency, and it may be prudent to provide extra space for future modifications or additions to existing capabilities. (pp. S-3,4 and I-5,6)

³⁵ Steve Fong, NNSA, and Rick Holmes, LANL, “Chemistry and Metallurgy Research Replacement (CMRR) Project Update, March 3, 2010, LA-UR 10-01115. http://www.lasg.org/CMRR/LA-UR-10-01115_CMRR-Public-

All LANL buildings and property are acquired and owned, and all operations at LANL overseen, by NNSA, or by DOE directly. LANL is operated by Los Alamos National Security (LANS), LLC.

CMRR is now the largest capital project in NNSA's Weapons Activities account. This year's (preliminary) CMRR cost estimate includes \$3.4 billion (B) for design and construction of both buildings ("Total Estimated Cost," TEC), \$0.4 B in "Other Project Costs" (OPC), and roughly \$0.4 B (in 2010 dollars) for decommissioning and decontamination (D&D) of the CMR building, or \$4.2 B altogether ("Total Project Cost," TPC).³⁶

With or without CMR D&D, CMRR has become the largest capital project for nuclear warhead production and related activities in the world.

It has also become the largest proposed public infrastructure project in the history of New Mexico *by far*, except for the interstate highway system. CMRR's estimated cost exceeds that of all other projects in the state's history *by at least a factor of ten* in inflation-corrected dollars, with the exception of Sandia National Laboratories' MESA complex, which CMRR exceeds by a factor of eight.³⁷ In constant dollars CMRR is expected to cost five times as much as the Golden Gate Bridge. RLUOB has been the largest publicly-funded construction project underway in the state since MESA.³⁸

Thus over the last eight years CMRR has become not just big but huge, with huge resource commitments and opportunity costs, and with logistical problems that NNSA has only provisionally solved. And it has commensurately great environmental impacts. As we are prepared to show, NNSA and DOE have done no NEPA analysis that corresponds to the scale or impacts of the project being designed today.

Numerous official documents from NNSA, DOE, the Office of Management and Budget (OMB), and reports from and testimony before congressional committees all attest to the fact that the primary purpose of the CMRR project, and especially CMRR-NF, is to increase LANL's installed capacity to make plutonium warhead cores ("pits").³⁹ CMRR-NF would also have other uses, but facilitating prompt and large-scale pit production while minimizing the impact on other programs and facilities is and always has been the primary CMRR mission driver. NNSA is fond of saying CMRR-NF merely establishes a capability for (handling, storing, and processing large quantities of) plutonium, but plutonium has very few uses. All non-pit-production missions at LANL have been and are being pursued without CMRR-NF. NNSA has plans to continue all its essential missions during the coming decade without CMRR-NF and if necessary without CMR as well.⁴⁰

There is no reason those non-CMR, non-CMRR-NF arrangements, were they implemented, could not continue for another decade, or longer. We believe a decade's pause in CMRR-NF

[Mtg_Mar-2010-Vol-9.pdf](#). Steve Fong, telephone conversation, 6/1/2010.

³⁶ CMRR Project Data Sheet, in DOE FY2011 Congressional Budget Request (CBR), Vol. 1, pp. 215-235. At <http://www.cfo.doe.gov/>.

³⁷ Los Alamos Study Group, http://www.lasg.org/CMRR/open_page.htm.

³⁸ Compare RLUOB's TPC of \$363 M with projects at http://southwest.construction.com/southwest_contractor_projects/.

³⁹

⁴⁰

acquisition would save \$1 B in present value, but the management information and experience gained would be even more valuable.

CMRR-NF began as a far simpler, cheaper, and less environmentally-impactful project. When NNSA considered reasonable project alternatives for inclusion in its November 13, 2003 CMRR Environmental Impact Statement (EIS), CMRR-NF was estimated to just cost one-tenth what it is estimated to cost today and it was to have twice as much net programmatic space in it. This huge cost inflation, taken by itself and not considering any other factor, cries out for an objective reassessment of less wasteful and more environmentally-benign alternatives that a) were deemed reasonable but were rejected by NNSA in 2003, b) did not appear reasonable in 2003 but may be reasonable today, or c) were not (and perhaps could not) have been foreseen in 2003. Some of these alternatives are discussed below.

Many other aspects of the project and its circumstances, which bear on its mission, nature, and impacts, have also changed dramatically since 2003. Here are some examples.

- In 2003, the nuclear stockpile contained over 4,000 warheads more than it will by the time CMRR-NF could be completed. There will be at least 4,000 warheads less for which to conduct pit production and related activities, if that were ever needed – roughly 40% of the 2003 total.⁴¹
- In 2003, NNSA did not know that all stockpile pits will last an additional 60, or 80, or more years into the future, far beyond any current infrastructure planning horizon. Pits are now known to have an equal or greater life, from this point forward, than the CMRR-NF itself.⁴²
- In 2003, NNSA claimed not to know that by means of life extension programs (LEPs) involving refurbishment only, and without pit replacement, NNSA can maintain the current stockpile or any subset of it indefinitely.⁴³ Over the past decade NNSA has been using LEP refurbishment, without new pits, to maintain the stockpile and will continue to produce long-lived LEP refurbishments through the present decade as well. NNSA has no plans to produce new pits for the stockpile beyond the very few being made in PF-4 today without CMRR-NF and RLUOB.⁴⁴ Unless it is changed, NNSA has only a *de minimus* pit production mission.
- In 2003, and up to the present day, NNSA has said the CMR building would soon be too unsafe to operate – irretrievably so. CMRR would therefore replace all of the CMR building, i.e. all six laboratory wings and dispose of the entire CMR.⁴⁵ Yet NNSA's most recent CMRR Project Data Sheet (PDS) includes a commitment to CMR demolition and disposal (D&D) in the CMRR project only “for completeness.”⁴⁶

⁴¹ Estimates by Stan Norris and Hans Kristensen, "The U.S. nuclear stockpile, today and tomorrow," and "U.S. Nuclear Forces, 2009," *Bulletin of the Atomic Scientists*, Sept./Oct. 2007 and Mar./Apr. 2009.

⁴² JASON, "Pit Lifetime," JSR-06-335, MITRE Corporation, Nov 20, 2006.
http://www.lasg.org/JASONs_report_pit_aging_ocr.pdf.

⁴³ JASON "Lifetime Extension Program (LEP) Executive Summary," JSR-09-334E, MITRE Corporation, September 9, 2009. <http://www.fas.org/irp/agency/dod/jason/lep.pdf>.

⁴⁴ House approps report fy10

⁴⁵ CMRR EIS preferred D&D altern

NNSA is now not sure it will tear down all of the CMR building. According to the Defense Nuclear Facilities Safety Board (DNFSB), NNSA is currently considering retaining Wing 9 indefinitely, the southwestern-most wing of CMR, the most recently and heavily built.⁴⁷ Upon information and belief, NNSA also may be informally or even formally weighing the possibility of retaining one or more additional CMR laboratory wings as well. As we shall see below the unit cost of replacing CMR laboratory space with CMRR-NF laboratory space has risen by roughly a factor of 20 since the CMRR EIS alternatives were chosen.

If Wing 9 was retained or its capabilities rebuilt elsewhere in another new, as-yet-undescribed new building, CMRR-NF would not have to replace those capabilities, which include floor vaults, hot cells, and space for confinement vessel cleanout and handling and other special projects. Thus retaining or separately replacing Wing 9 and its capabilities would subtract from the CMRR-NF mission need and therefore is now, as evidenced by NNSA's own deliberative process, a reasonable partial alternative to CMRR-NF.

Retaining one or more of the other wings near Wing 9 (i.e. one or more of wings 3, 5, or 7, the wings farthest from the fault which runs beneath the northern wings 2 and 4), would also subtract from the CMRR-NF mission need. The cost of renovating some or all of those wings may be less, and possibly much less, than the cost of completing CMRR-NF, especially if the savings from deferring CMR D&D costs for these wing(s) is included. The environmental impact would be far less.

Upgrading portions of the CMR, should this prove feasible, in combination with other management actions involving refurbishment of existing facilities which in aggregate are capable of achieving the purposes of CMRR-NF, would have a very greatly diminished environmental impact in comparison to building CMRR-NF. The entire CMRR-NF construction and future CMRR D&D impacts⁴⁸ could be avoided, and the generation of large quantities of radioactive construction debris and other waste expected from CMR D&D impacts could be deferred.

Possible reasonable CMRR-NF alternatives are listed below in a separate section.

- In 2003, NNSA was using or at least occupying all six laboratory wings in the CMR building. The alternative of upgrading all these wings was infeasible, especially for those wings which were built near or over an active fault and also had therefore a significant probability of surface rupture.

⁴⁶ “The CMR D&D commitment is reflected in this CPDS for completeness. However, as planning for this D&D activity matures, NNSA may elect to enable this effort as a separate project, execute it as an element of a wider project or program for a portfolio of D&D activities at LANL, or bundle it with other, yet undefined activities.” CMRR FY2011PDS.

⁴⁷ Oral briefing with Greg Mello, Director, Los Alamos Study Group and DNFSB Chair, Vice-Chair and member Peter Winokur, John Mansfield, Joseph Bader, respectively, and DNFSB senior staff, May 7, 2010, Washington, DC. Such consideration is of long standing; witness NNSA Principal Associate Director of Defense Programs Glenn Mara letter to Don Winchell, NNSA Los Alamos Site Office (LASO) Site Manager of February 22, 2008, which states that a study of hot cell capabilities (housed in Wing 9) was “ongoing” at the time.

⁴⁸ The CMRR EIS omitted CMRR D&D environmental impacts altogether.

NNSA is now using only wings 5, 7, and 9; wings 2, 3, and 4 having been permanently closed.⁴⁹ Some programs formerly housed in CMR have been or will be deleted;⁵⁰ some are being consolidated to the three remaining CMR wings; some have been or will be brought to PF-4 or other TA-55 facilities; and some will be brought to RLUOB.⁵¹ In net lab square footage, RLUOB lab space alone is greater than that in *all three* CMR wings currently in use.⁵² And if Wing 9 were retained, as is being considered, RLUOB and CMRR-NF (or its alternatives) would be “replacing” only wings 5 and 7.

As one of its fallback options in case CMRR-NF is not built, NNSA has considered upgrading RLUOB to a Hazard Category II nuclear facility, no doubt with limitations on material at risk (MAR).⁵³ A lower level of upgrade, to a Hazard Category III facility, is also theoretically possible. We are not in a position to evaluate the feasibility of any such plan but upon information and belief this option would not rank highest in practicality.

- In 2003, NNSA anticipated vacating CMR by 2010.⁵⁴ Now, NNSA anticipates transitioning missions to RLUOB in FY2014 and to CMRR-NF in 2022, a process which is very likely to take a few years in each case. For CMR-housed missions, NNSA must now upgrade at least some portions of CMR for safe use past 2022, or else NNSA must house those missions safely elsewhere until then. Either option begs the dual questions of a) whether CMRR-NF has simply taken too long to provide the benefits it was described as providing in 2003, and b) what the net marginal cost to provide those benefits is now, assuming those missions are moved to the CMRR-NF after 15 years, vs.

⁴⁹ Letter from D'Agostino, NNSA to Eggenberger, DNFSB, October 1, 2008:

NNSA 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. <http://www.hss.energy.gov/deprep/2008/TB08O01A.PDF>.

DNFSB LANL Weekly Site Report (WSR) for January 15, 2010:

This week, LANL submitted a revised Documented Safety Analysis and Technical Safety Requirements to support post-2010 operations at CMR. This safety analysis updates the previous January 2009 submittal based on comments from the site office and includes updated identification of facility hazards. The analysis supports continued analytical chemistry and material characterization activities in Wings 5 and 7, confinement vessel disposition activities in Wing 9 and deactivation activities in the other CMR wings. (emphasis added) http://www.dnfsb.gov/pub_docs/weekly_reports/lanl/wr_20100115_la.pdf

⁵⁰ For an indication see, e.g. NNSA Winchell memorandum to NNSA Gerald Talbot of September 4, 2008, “Update to Safety Rationale for Continued Use of Chemistry and Metallurgy Research Facility at the Los Alamos National Laboratory.” http://www.hss.energy.gov/deprep/2008/AttachedFile/tb08O01a_att.pdf.

⁵¹ Winchell memo to Talbot, 9/4/08,

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.”

Letter from D'Agostino, NNSA to Eggenberger, DNFSB, October 1, 2008:

⁵² CMR lab space is governed by far more permissive limits on nuclear material than RLUOB space will be. Nevertheless NNSA plans to move some CMR activities – those which can be conducted in a radiological facility – to RLUOB, as it has long stated. Not every program in CMR requires a nuclear facility.

⁵³

⁵⁴ CMRR EIS, p. 1-5.

keeping them indefinitely in the non-CMRR-NF locations to which they are moved or kept for the next 15 years.^{55,56} We now know that the difference in environmental impacts between these alternatives – one involving new Nuclear Facility construction, and one not involving new Nuclear Facility construction – will be very great.

DOE anticipated these arguments in February 1997, in its environmental assessment (EA) for Phase 2 of the CMR Upgrades Project, where the construction and operation of a new laboratory facility was rejected by DOE as a reasonable alternative to upgrading CMR for some of the same reasons alternatives that do not build a new facility are reasonable today.

Alternative 2: Construction and Operation of New Facility at LANL

The construction and operation of a new facility was considered and DOE determined that it was not fiscally prudent (Section 1.3). However, construction of a new facility would not meet DOE's need for continued performance of uninterrupted interim and ongoing radioactive chemical and metallurgical research activities at LANL. Planning, design, and construction of a new facility would take a minimum of 10 years to complete. As noted in Section 2.3, the higher risks and lower safety margins that would exist in the CMR Building without upgrades would be unacceptable to DOE within about 5 to 10 years. Further, a new facility is estimated to cost more than twice as much as the proposed upgrades (\$348 million vs. \$123 million). In addition, the existing CMR Building would have to be decommissioned, incurring additional costs and wastes generated would take up space in the LANL low-level radioactive waste landfill or other permitted waste disposal system.

A new facility could disturb previously undisturbed land. New construction could potentially have adverse environmental effects upon water and air quality, biological resources, and possibly archeological resources. Because this alternative could potentially cause more environmental effects than the proposed upgrades, is estimated to cost more than twice the proposed upgrades, and would jeopardize DOE's requirement to maintain the uninterrupted operational capability to perform radioactive and chemical research, construction and operation of a new facility were not considered reasonable, and therefore, not analyzed further in this EA.

- In 2003, NNSA claimed not to know it would need to protect CMR-NF against magnitude 7.0 earthquakes. Finally, and only after legislation specifically requiring the

⁵⁵ In overall terms this question was posed to Greg Mello by Rudy Barnes, majority staff member, House Armed Services Committee, in November 2009.

⁵⁶ David E. Hunter, et. al., "Economic Analysis of National Nuclear Security Administration (NNSA) Modernization Alternatives," Institute for Defense Analyses Report R-411, November 2007:

To account for the loss of the Chemistry and Metallurgical Research (CMR) facility in 2010, LANL proposes to reconfigure a wing of the PF-4 facility to accommodate the analytic chemistry capabilities required for pit production. Analytic chemistry on smaller samples could be accomplished in the Chemistry and Metallurgical Research Replacement Radiological Laboratory/Utility/Office Building (CMRR-RLUOB), available in 2010, but this is not sufficient for pit production.

CMRR-NF project design to comply with DNFSB views on seismic safety and on safety-class systems (see next bullet),⁵⁷ NNSA does know this today.⁵⁸

- In 2003, NNSA had no intention of specifying safety-class ventilation and other safety equipment in CMRR-NF, equipment which must function during and after the design-basis earthquake and other unplanned events. Finally, but only after legislation requiring NNSA to do so, the agency has agreed to do so today.⁵⁹
- In 2003 and subsequently, NNSA's stockpile plans included transformation of the entire nuclear stockpile with Reliable Replacement Warheads (RRWs) or their equivalents. NNSA has no such plans now.⁶⁰

⁵⁷ Defense Authorization Act for FY 2009, P.L. 110-417, Section 3112 “Limitation on Funding for Project 04-D-125 Chemistry and Metallurgy Research Replacement Facility Project, Los Alamos National Laboratory, Los Alamos, New Mexico.” Fences all but \$50.2 M in FY2009 appropriations for CMRR until “the Administrator for Nuclear Security and the Defense Nuclear Facilities Safety Board have each submitted a certification to the congressional defense committees stating that the concerns raised by the Defense Nuclear Facilities Safety Board regarding the design of CMRR safety class systems (including ventilation systems) and seismic issues have been resolved...”

⁵⁸ Ivan Wong, et. al, “*Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory, Final Report*” May 25, 2007, LANL, URS Corp. http://lasg.org/LANL_PSHA_2007.pdf. Years of disagreement Letter and enclosures from Roy Kasdorf, DNFSB Nuclear Facility Design and Infrastructure Group Lead to Gerald Talbot, NNSA, January 16, 2009, at <http://www.hss.energy.gov/deprep/2009/fb09J16b.pdf>.

⁵⁹ See letter and enclosures from Roy Kasdorf, DNFSB Nuclear Facility Design and Infrastructure Group Lead to Gerald Talbot, NNSA, January 16, 2009, at <http://www.hss.energy.gov/deprep/2009/fb09J16a.pdf>. Subsequent communications and DNFSB certification at <http://www.hss.energy.gov/deprep/archive/cmrr.asp>. This letter follows many years of DNFSB concerns about NNSA's failure to require safety-class equipment at LANL plutonium facilities, both existing and in design.

⁶⁰ “In any decision to proceed to engineering development for warhead LEPs, the United States will give strong preference to options for refurbishment or reuse. Replacement of nuclear components would be undertaken only if critical Stockpile Management Program goals could not otherwise be met, and if specifically authorized by the President and approved by Congress.” DoD, *Nuclear Posture Review*, April 2010, p. xiv.

Compare to the NNSA's planning assumptions in the broad 2007 timeframe, then applicable to all alternatives in the Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS) Reference Materials, 2007, *Complex 2030 SPEIS Data Call*, which assume RRW production:

3. Capability/Competency related Requirements & Assumptions

- (1) Meet current design basis threat and facility safety requirements. Through the use of two or more lines of production, assure a sustained rate of throughput (min 125 RRW pits net to the stockpile) and have the agility to change production from one pit type to production of another pit type in a short period of time, and have the ability to simultaneously produce more than one type of pit, and flexibility in the type of pit being produced.

4. Capacity/Throughput related Requirements & Assumptions

- (1) Provide a manufacturing capacity of a minimum of 125 RRW pits net to the stockpile per year single shift with a contingency of 200 pits through multiple shifts and additional equipment. Be capable of supporting the surveillance program at a rate of one pit per pit type in the stockpile per year. Assuming overlap between legacy and RRW pits, an assumption is made that a maximum of 15 pit types would need to be maintained.

As noted in the Final CTSPEIS for all alternatives “this SPEIS analyzes a manufacturing capacity operated in single shift for five days per week that produces 10-125 weapons per year. The case of producing up to approximately 200 weapons year assumes operations in multiple shifts and extended workweeks.” STSPEIS, p. 2-12.

- In 2003, NNSA did not know how the new seismic criteria would interact with the presence of a 50-foot-thick unconsolidated horizon at the site, a feature which was generally known but not considered relevant to design. Its presence now leads NNSA toward specifying a much deeper excavation than previously foreseen (125 ft) and toward replacement of this deep stratum with a very large quantity of “lean concrete.”⁶¹ These twin design decisions create large environmental impacts not previously analyzed, both at LANL and off-site, new worker safety and security risks, and are apparently among the factors leading NNSA toward segmenting the project into independently-approved stages, initiating construction prior to completing preliminary design, in violation of both common sense and its own project management regulations.
- In 2003, there was no open-ended line item construction project to upgrade PF-4, LANL’s main plutonium facility, as there is today.⁶²
- In 2003, the cost of upgrading portions of the CMR building seemed high relative to constructing CMRR-NF.⁶³ This may not be the case today,
- In 2003, the full environment impact of carbon dioxide emissions, including the large emissions generated by portland cement manufacture, was less understood than it is today.⁶⁴ Then, projected CMRR concrete usage was at least 50 times less than it is today.⁶⁵

These and many other factors bear on the adequacy of NNSA’s 2003 NEPA analysis, both as to the alternatives analyzed – which, again, did not include the project being built today or the nature and scale of all its impacts – and as to alternatives not analyzed.

Although NNSA issued a NEPA ROD supporting CMRR construction and operation, NNSA has not yet made a management decision to actually build CMRR-NF, normally called Critical Decision 3 (CD-3).⁶⁶ As a basis for agency commitment to the project, or for congressional authorization and funding, the CMRR EIS is invalid, inadequate, and obsolete.

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⁶⁶ DOE Order 413.3A, “Program and Project Management for the Acquisition of Capital Assets,” describes CDs-1, 2, and 3 as follows:

CD-1, Approve Alternative Selection and Cost Range.

CD-1 approval marks the completion of the project Definition Phase, during which time the conceptual design is developed. This is an iterative process to define, analyze, and refine project concepts and alternatives. This process uses a systems methodology that integrates requirements analysis, risk identification and analysis, acquisition strategies, and concept exploration to evolve a cost-effective, preferred solution to meet a mission need. Approval of CD-1 provides the authorization to begin the project Execution Phase and allows Project Engineering and Design funds to be used. For design-build projects, Project Engineering and Design funds may be used to develop a Statement of Work/Request for Proposal. Additionally, long-lead procurements may be approved during this phase, provided National Environmental Policy Act documentation is prepared, where applicable. [emphasis added]

CD-2, Approve Performance Baseline

We therefore believe you must conduct a *de novo* NEPA analysis of the CMRR-NF, beginning with the required scoping process (40 CFR 1501.7) and proceeding to an entirely new EIS and subsequent record of decision (ROD).

Brief Project History, Discussion

In 1952, the CMR building was completed at a total cost of \$21.2 M [check].⁶⁷ Nine laboratory wings (numbered 1-9) were originally planned plus an unnumbered administrative wing. Original construction included wings 1, 2, 3, 4, 5, 7, and the administrative wing. Each laboratory wing contains 8,000 sq. ft. of lab space and a nuclear materials storage vault; Wing 1 is about half the size of the others.⁶⁸

Thus the original unit cost of this space was \$21.2 M/40,000 or \$530/sq. ft., \$1,405/sq. ft. in 2010 dollars when inflated using the Consumer Price Index (CPI). [ENR index?]

Completion of preliminary design is the first major milestone in the project Execution Phase. Preliminary design is complete when it provides sufficient information for development of the Performance Baseline in support of CD-2. The Performance Baseline is developed based on a mature design, a well-defined and documented scope, a resource-loaded detailed schedule, a definitive cost estimate, and defined Key Performance Parameters. Approval of CD-2 authorizes submission of a budget request for the total project cost. For projects with design periods less than 18 months, a budget request may be submitted prior to CD-2 approval as part of tailoring.

CD-3, Approve Start of Construction.

With design and engineering essentially complete, a final design review performed, all environmental and safety criteria met, and all security concerns addressed, the project is ready to begin construction, implementation, procurement, or fabrication. CD-3 provides authorization to complete all procurement and construction and/or implementation activities and initiate all acceptance and turnover activities. Approval of CD-3 authorizes the project to commit all the resources necessary, within the funds provided, to execute the project.

Instead of this procedure, NNSA is managing CMRR-NF as a “design/build” project, in which decisions to build significant portions of the project precede approved overall preliminary design. Order 413.3A explains:

Design-Build is a project delivery method where a single contract is awarded for both design and construction. Design-Build can be used most successfully with projects that have well-defined requirements, are not complex, and have limited risks. This applies to projects that have few “unknowns” or new technology requirements, little to no program or system integration, and are not unique or first-of-a-kind. Projects such as road building, administrative facilities, fire stations, and/or replication of previously accomplished projects are generally the most appropriate for design-build consideration. The Design-Build approach requires the development of a functional design and clearly stated operating requirements that provide sufficient information to allow prospective contractors to prepare bids or proposals, but also allows them the flexibility to implement innovative design and construction approaches, value engineering, and other cost and time savings initiatives. This overall objective of the Design-Build approach is to reduce the total cost to the government and deliver projects more quickly than the traditional Design-Bid-Build approach. Projects for which Design-Build is an appropriate delivery method will generally have clear and well-defined requirements early in the process. Accordingly, at the time of CD-0, much of the cost and schedule information is known along with key design criteria. [emphasis added]

The underlined criteria are completely negated in the CMRR-NF project. Application of design-build to this project appears inappropriate, according to DOE’s applicable order, and is further evidence of impetuosity and poor top-level decision-making in this project. In an unprecedented project of this scale, complexity, and risk, the increased appropriations that go with final design and construction should proceed only after a complete project baseline is prepared and accepted.

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⁶⁸ DOE EA-1101, p. 9

In 1962, Wing 9, containing hot cells and high bay space, was added to the CMR building.⁶⁹

In 1978, PF-4, LANL's main plutonium facility, was completed for a total cost of \$75 M.⁷⁰ PF-4 provided 59,600 [check] net sq. ft. of HazCat II space at a total cost of \$75 M, giving a unit cost of X in 1975 dollars and a current cost of X/sq. ft. in 2010 dollars.

Rocky Flats failure

In 1983, DOE completed a safety assessment and conceptual design report (CDR) for major upgrades to CMR.⁷¹

DOE recognized need for new Rocky Flats

In October, 1988, Building 771, the plutonium-reprocessing “front end” of pit production at Rocky Flats Plant, had to be shut down, an event catalyzed when three workers inhaled plutonium dust. Building 371, which had been intended to replace Building 771, was begun in 1973 and completed in 1981 at a cost of \$225 million, but operated for only one month in 1982 before DOE realized that the technology on which it was based would not work. The repair job was to cost \$400 million and take eight years. DOE called it a “fiasco.”⁷²

In December, 1988, DOE issued its “Nuclear Weapons Complex Modernization Report,” calling for a \$250 B expenditure (\$471 B in 2010 dollars) in new weapons factories and associated production over the ensuing 22-year period. In that report, DOE called for the gradual closure of Rocky Flats, beginning in about 1995 – in other words, just as soon as a replacement facility could be built somewhere else.⁷³

In 1988, DOE proposed, and Congress funded, the Special Nuclear Materials Research and Development Laboratory (SNML) [recheck].⁷⁴

In June, 1989, the Natural Defense Council (NRDC) and 17 other environmental groups sued under NEPA, claiming that the “Nuclear Weapons Complex Modernization” plan was a “major federal action” under NEPA. In its settlement with NRDC and the other plaintiffs, DOE agreed to write a “programmatic” environmental impact statement (PEIS) prior to any reconfiguration of the complex, as well as a companion PEIS for the management of wastes and cleanup.

In June, 1989, the Rocky Flats Plant was raided by scores of EPA and FBI agents, which had the effect of permanently shutting down pit production at Rocky Flats.

⁶⁹ LANL, Preliminary Chemistry and Metallurgy Research Building Disposition Study, <http://www.doeal.gov/SWEIS/LANLDocuments/124%20LA-UR-03-1122.pdf>.

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⁷¹ *Conceptual Design Scope and Plan, Rev. 0, CMR Upgrades, Phases 2&3*, September 30, 1993. Study Group files.

⁷² Schneider, Keith, “U.S. Spent Billions on Atom Projects That Have Failed,” *New York Times*, December 11, 1988, p. A1.

⁷³ Schneider, Keith, “U.S. Pessimistic on Reactors’ Role in Atomic Arsenal,” *New York Times*, p. A-1, December 27, 1988.

⁷⁴ Line item 88-D-105.

In 1990, Senator Bingaman requested a complex-wide review of DOE plutonium facilities and missions prior to further investment in SNML. Congress did not fund SNML for FY1991 and the project died.⁷⁵ At the same time, an initial set of upgrades to the CMR building was approved and funded, addressing known safety deficiencies. These initial (“interim”) CMR upgrades were later called “Phase 1” upgrades.⁷⁶ SNML funds were reprogrammed to CMR upgrades in FY1992 (\$6.25 M) and again, remarkably, in FY1996 (\$1.00 M).⁷⁷

The upgrades included all the laboratory wings, but wings 2 & 4 were to be upgraded only to “low hazard” (i.e. HazCat IV, radiological) operations.

On February 11, 1991, DOE announced its intent to prepare a programmatic environmental impact statement (PEIS) to reconfigure the weapons complex. With this announcement, DOE launched what was in effect its second concerted effort to build a replacement for Rocky Flats, which was a central element of the new plan.⁷⁸

In July, 1993, after several modifications to its weapons complex reconfiguration proposal, DOE put forward a new plan that was, as DOE put it at the time, “even smaller and more integrated than previously envisioned.” Nevertheless the plan involved construction of a large-scale plutonium fabrication facility (“module”) at one of five sites, or the upgrade of existing facilities at LANL to make pits in quantity.⁷⁹

⁷⁵ LANL’s version of the project history omits any congressional role. “Due to subsequent cost and scope growth, the replacement project (SNML) was put on hold by the Acquisition Executive at the ESAAB [Energy System Acquisition Advisory Board] for KD-2 [Key Decision 2]. It was further directed that an interim safety analysis report (ISAR) be performed for the CMR Building to specifically identify CMR facility deficiencies in terms of scoping a minimum upgrades project to extend the facility’s life at least another 20 years. This pre-CDR scope is the basis for the Phases 2 and 3 [CMR] Upgrades project. In the interim, it was recognized that there were deficiencies that required immediate attention. The scope of these were [sic] approved at a subsequent ESAAB and have been authorized as the Phase 1 Upgrades Project under [within] L.I. [line item] 90-D-102.” *Conceptual Design Scope and Plan, Rev. 0, CMR Upgrades, Phases 2&3*, September 30, 1993. Study Group files.

A NNSA history reads somewhat differently: “The Special Nuclear Materials Laboratory (SNML) Project was authorized (88-D-105) to replace the CMR Building at Los Alamos National Laboratory. In FY 1990, the project was put on hold pending a substantive review of the project including other potential options for providing the necessary specialized Laboratory space. As the planned completion date of the SNML continued to be pushed back, it became necessary to provide interim upgrades to CMR to allow its safe and reliable use in the interim period; \$6,250,000 was reprogrammed (91-R-14, executed in FY 1992) from the SNML line item to Project 90-D-102, Nuclear Weapons Research, Development and Testing Facilities Revitalization, Phase 3 (WRD&T Revit., 3), subproject CMR Upgrades (Phase 1). Later in FY 1991, it was decided not to proceed with the construction of SNML but provide interim upgrades, to CMR (Phase 1) and to identify further upgrades based on safety and risk assessment, for continued long-term operations. The result of these safety and risk assessments is an Interim Safety Analysis Report (ISAR). The findings of the ISAR are the basis for the scope of CMR Upgrades Phase 2, which was combined with Phase 1 to produce this stand alone line item in FY 1995.” *FY1999 CBR Weapons Stockpile Management*, CMRU project data sheet, p. 167. Study Group files.

⁷⁶ Phase 1 upgrades included continuous air monitors, stack monitors with uninterruptible power supplies, a variety of electrical upgrades, sanitary sewer upgrades, some duct upgrades, some acid vents and drains upgrades, exterior and interior electrical upgrades, and further safety assessments and studies. *CMR Upgrades Project, Project Execution Plan*, September 1995. Study Group files. Electrical improvements to support placing wings 2 & 4 into “safe standby” were included in Phase 1 activities from the beginning.

⁷⁷ *FY1999 CBR Weapons Stockpile Management*, CMRU project data sheet, p. 165. Study Group files.

⁷⁸ Department of Energy, “Notice of Intent to Prepare a Programmatic Environmental Impact Statement for Reconfiguration of the Nuclear Weapons Complex,” *Federal Register*, 56 FR 5590, February 11, 1991.

In October, 1994, DOE pulled the plug on reconfiguration, saying that because of “the significant changes in the world since January 1991, especially with regard to projected future requirements for the United States nuclear weapons stockpile, the Department has concluded that the framework described in the Reconfiguration Study does not exist today.”⁸⁰

In February 1995, DOE proposed and Congress subsequently funded the CMR Upgrades Project (CMRU, line item 95-D-102), with three phases. Phase 1 was already underway; Phase 2 began preliminary design [check].⁸¹ Total Project Cost (TPC) for CMRU Phases 1 and 2 was initially estimated to be \$204 M. The anticipated longevity of the resulting upgrades was described as “at least” 20 years and “20 to 40” years.⁸² The role of wings 2 & 4 was ambiguous; they were to be placed in safe standby but also to be upgraded sufficiently for use in low-hazard (in current nomenclature below HazCat III, i.e. radiological level) operations.⁸³

CMR operating, maintenance, and repair costs, exclusive of program activities, were given by DOE as \$12.5 M/year (\$17.9 M in 2010 dollars). We will see how this compares with comparable projected CMRR costs.

Improvements deemed necessary for future (but not present) missions were identified as Phase 3 upgrades. Planning for these hypothetical Phase 3 upgrades was suspended for lack of both mission need and funding⁸⁴ and was not included in DOE’s budget request in this or any subsequent year.

On June 14, 1995, DOE announced its intent to prepare yet another complex-wide PEIS, this time on what it called its “stockpile stewardship and management program,” (SS&M PEIS) which included pit manufacturing.⁸⁵ In the new plan, there would be no new Rocky Flats -- at least for a while. In the short run, a small pit production capability (50 pits/year, or 80 with two work shifts) would be established, preferably at a site with an existing plutonium infrastructure.

By March, 1996, DOE had resumed studies of a large-scale pit manufacturing facility.⁸⁶

In December, 1996, DOE issued its SS&M PEIS ROD. In this ROD, Los Alamos was chosen for the pit manufacturing mission, on the basis of lower capital and operating costs, lower

⁷⁹ Department of Energy, “Revised Notice of Intent to Prepare a Programmatic Environmental Impact Statement for Reconfiguration of the Nuclear Weapons Complex,” *Federal Register*, 58 FR 39528, July 23, 1993.

⁸⁰ Department of Energy, “Reconfiguration of the Nuclear Weapons Complex,” 59 FR 54175, October 28, 1994.

⁸¹ Phase 2 upgrades included seismic and tertiary confinement for wings 3, 5, 7, and 9, ventilation and confinement zone separation, standby power, communications, Wing 1 decontamination, operations center upgrades, chilled water, vault air monitors, acid drains and vents, fire protection upgrades, exhaust duct washdown recycling, putting wings 2& 4 on safe standby, and various environment, safety, and health activities.

⁸² FY1999 CBR Weapons Stockpile Management, CMRU project data sheet, pp. 167 and 180. Study Group files.

⁸³ CMR Upgrades Project, *Project Execution Plan*, September 1995, pp. 5,6. Study Group files.

⁸⁴ DOE, Environmental Assessment for the Proposed CMR Building Upgrades at Los Alamos National Laboratory, February 4, 1997, DOE/EA-1101, p. 3. Study Group files.

⁸⁵ Department of Energy, “Stockpile Stewardship and Management Programmatic Environmental Impact Statement,” Notice of Intent, 60 FR 31291, June 14, 1995.

⁸⁶ A. E. Whiteman, Office of Technology and Site Programs, Albuquerque Operations Office, “DOE Nuclear Weapons Complex Production Facilities and Technologies,” briefing charts, March 2000; memorandum from A. E. Whiteman, February 16, 1996. Study Group files.

technical risk, and lower safety risks to workers. DOE also said it would “perform development and demonstration work at its operating plutonium facilities over the next several years to study alternative facility concepts for larger capacity.”⁸⁷ By the end of 1996 a legislative mandate for such studies had been written into the FY1997 Defense Authorization Act:

The Secretary of Energy shall submit to the congressional defense committees a report on plans for achieving the capability to produce and remanufacture plutonium pits....[including] (1) The funding necessary, by fiscal year, to achieve the capability; (2) The schedule necessary to achieve the capability, including important technical and programmatic milestones; (3) Siting, *capacity for expansion*, and other issues...⁸⁸ [emphasis added]

[more in here on pit machinations?]

On February 4, 1997, DOE issued its final Environmental Assessment (EA) for the proposed CMR Upgrades project. By that time, and prior to discovery of an earthquake fault beneath them, wings 2 & 4 had been deemed unnecessary for current missions and were to be prepared for “safe standby” condition pending future decisions.⁸⁹

By February, 1999, the CMRU had been placed “on hold awaiting DOE and LANL assessment of project management deficiencies and Phase 1 cost overruns.”⁹⁰

In mid-April, 1999 Senator Jeff Bingaman announced he would seek \$5 million (M) in additional funding to begin planning for a new plutonium facility at LANL, which became CMRR. His spokesperson said “This would not be a Taj Mahal but a scaled-down, streamlined facility that would meet the needs of the lab at a lower cost than they are met now.”⁹¹ Initial CMRR project planning began sometime after this date using LANL operating (i.e. program) funding.

On or before September 30, 2001 the CMR Upgrades Project (95-D-102) was terminated. The CMR Upgrades Project had invested \$106 M between FY1992 through FY2001 (inclusive) to provide a wide variety of interim upgrades to many CMR building systems to provide safer and more reliable operations.⁹² When first presented to Congress in February 1994 the CMR Upgrades Project (Phases 1 and 2, covering existing CMR missions only) was estimated to cost \$204 M; in February 1999, prior to Senator Bingaman’s announcement, it was estimated to cost \$224 M, roughly the same in constant dollars. By February 2001 the project had been down-

⁸⁷ Department of Energy, “Record of Decision Programmatic Environmental Impact Statement for Stockpile Stewardship and Management,” 61 FR 68014, December 26, 1996.

⁸⁸ National Defense Authorization Act for Fiscal Year 1997 (H.R.3230), Sec. 3151, “Report on plutonium pit production and re-manufacturing plans.”

⁸⁹ DOE EA-1101, p. vi. Study Group files.

⁹⁰ FY1999 CBR *Weapons Stockpile Management*, CMRU project data sheet, p. 163. Study Group files.

⁹¹ Ian Hoffman, “Bingaman seeks funds for design of weapons facility,” *Albuquerque Journal*, 4/15/99; Barbara Ferry, “\$5 M requested for new LANL complex,” *New Mexican*, 4/15/99. At http://www.lasg.org/PU_Media/PU_Vol_7_1999_&_2000.pdf.

⁹² DOE FY2002 CBR, Weapons Activities, Readiness in Technical Base and Facilities, no printed pagination, e-page 39.

scoped to \$106 M and no funds at all were requested for FY2002. Instead, “\$7 M was added for planning for the replacement of the CMR facility.”⁹³

The CMR Upgrades Project did not address wings 2 and 4, which were “not required for current missions.”⁹⁴ These wings are also underlain by an active earthquake fault.⁹⁵ Seismic upgrades of the southern four laboratory wings and the administrative wing were designed to achieve Performance Category (PC) 3 protection.⁹⁶ These seismic upgrades were never executed.

Even after the demise of the CMR Upgrades Project, other significant direct and indirect funding streams were and are available for selected equipment replacement, maintenance, and upgrades for those portions of the CMR building which remain in use. Funding for building operations and maintenance is drawn from a combination of funding sources at LANL and is much greater than line item funding alone would indicate.⁹⁷

Only three CMR laboratory wings (5, 7, and 9, out of six) are still operating.⁹⁸ LANL has stated that one of these (Wing 5) may close, apparently long prior to prospective completion of CMRR-NF.⁹⁹ Should this occur only wings 7 and 9 would remain in use. Wing 9 may remain in use indefinitely for two reasons: some of its special capabilities (hot cells) will not be duplicated in the CMRR project; and this wing is seismically stronger than the other wings.^{100,101}

⁹³ Ibid.

⁹⁴ “Environmental Assessment for the Proposed CMR Building Upgrades at the Los Alamos National Laboratory,” February 4, 1997, DOE/EA-1101, pp. vi, 13.

⁹⁵ Krier, Caporuscio, Lavine, and Gardner, “Stratigraphy and Geologic Structure at the Chemical [sic] and Metallurgy Building, Technical Area 3, Los Alamos National Laboratory, New Mexico” October, 1998, LA-13522-MS. Study Group files.

⁹⁶ CMR Upgrades EA, p. 17:

This proposed upgrade project would involve structural modifications to Wings 3, 5, 7, and 9, to meet seismic criteria for a Hazard Category 2 facility with Performance Category 2 and 3 subregions, in accordance with DOE-STD-I020. STD-I020 establishes current design and evaluation criteria for natural phenomena hazards. Modifications to existing exterior structural openings would be performed to create a final confinement barrier. The Administration Wing would also be strengthened to meet seismic criteria for worker safety.

To bring these wings into compliance with the criteria, upgrades, including construction of diagonal braces at the roof diaphragm, exterior bracing from the second floor to ground at the exterior columns, internal vertical bracing from the second floor to the roof, strengthening the exterior columns and adding extra concrete over selected beams on the second floor, and filling in of selected window openings would take place. Wing 9 upgrades would also include strengthening and bracing the hot cell support structures for additional confinement protection in case of a seismic event (earthquake).

⁹⁷ Jonathan Gill, Assistant Director, Governmental Accountability Office, personal communication, May 6, 2010.

⁹⁸ March 10, 2009 public presentation by Steven Fong, NNSA CMRR Project Manager and Rick Holmes, LANS CMRR Division Leader (Study Group notes and recording).

⁹⁹ LANL, *Ten-Year Site Plan FY2008-FY2017*, January 9, 2007, LA-CP-07-0039, p. 62. Study Group files, FOIA.

¹⁰⁰ Discussion with DNFSB board and senior staff, May 7, 2010. “Until replacement facilities can be developed, Wing 9 of CMR will need to remain in operation to support NE [Nuclear Energy] as well as environmental, NNSA, and other activities.” LANL, *Ten-Year Site Plan FY09-FY18*, September 2008, LA-UR-08-0654, p. 41.

¹⁰¹ There is now a NNSA or LANL “Wing 9 stand-alone study.” Conversation with Brett Broderick, DNFSB LANL site representative, June 1, 2010.

CMR wings 5 and 7 each contain 8,000 ft² of laboratory space. These wings may, or may not, remain in use until sometime after CMRR-NF project is completed, i.e. sometime after 2022. It is likely to take at least a year, if not considerably longer, to conduct start-up testing, validation, operational readiness reviews, and finally certify CMRR-NF and all its subsystems prior to full beneficial use, i.e. before missions can be fully transferred from CMR to CMRR-NF.¹⁰² This might not occur until the 2025 timeframe, provided design, construction, outfitting, and readiness testing all go smoothly. Thus CMR will remain in use until at least the 2025 timeframe even if CMRR-NF were built.

NNSA now admits retention of Wing 9 is a reasonable idea. In 2000, well after discovery of the fault running beneath the northernmost portion of the building, NNSA believed retention of the southern four wings (3, 5, 7, and 9) was reasonable and there was a funded project to stabilize these wings to PC3-level seismic protection. We believe it is reasonable to consider re-opening the question of retaining and upgrading not just Wing 9 but also wing 7, if necessary wing 5, and even wing 3, which lacks HEPA exhaust filtration and is therefore more limited in its uses, in lieu of constructing CMRR-NF. There are nuclear materials storage vaults in wings 3, 5, and 7 and floor vaults in wing 9.

It is important to note that

On February 4, 2002 the CMRR Project was first submitted to Congress for capital project funding, as a subproject within the FY2003 Project Engineering and Design (PED) line item, Project 03-D-103.¹⁰³ At that time, Total Estimated Cost (TEC) for both buildings (RLUOB and CMRR-NF) was estimated to be \$350-500 M (midpoint: \$425 M).¹⁰⁴ No estimates of square footage were included. Construction was to begin in the second quarter of FY2005.

On July 16, 2002 NNSA issued a Critical Decision 0 (CD-0) (“Approval of Mission Need”) for the CMRR project, formally initiating Conceptual Design.

On July 23, 2002, one week later, NNSA filed a Notice of Intent (NOI) to prepare an environmental impact statement (EIS) for the CMRR project.¹⁰⁵ Hearings were subsequently held on the scope of the CMRR EIS and scoping comments were accepted, including comments from the Los Alamos Study Group.

On February 3, 2003 NNSA created a free-standing line item for the CMRR project (04-D-125) and submitted a new, higher cost estimate for both CMRR buildings: \$500 M (TEC) and \$600 M (Total Project Cost, TPC, which includes project administrative costs). At this time the CMRR-NF building was described as providing 60,000 gross square feet of so-called Hazard Category II space.¹⁰⁶

Physical construction was to begin in the second quarter of FY2004 (nine months earlier than estimated the previous year) and was to be completed in the first quarter of FY2011.

¹⁰² Ref.

¹⁰³ DOE FY2003 CBR, Weapons Activities, Readiness in Technical Base and Facilities, e-page 42, at <http://www.cfo.doe.gov/budget/03budget/content/weapons/rbf.pdf>.

¹⁰⁴ At that time, there was no congressional requirement to include demolition and disposal (D&D) of the Chemistry and Metallurgy Research (CMR) building in the CMRR project. This first estimated cost did not include CMR D&D.

¹⁰⁵ At <http://www.epa.gov/EPA-IMPACT/2002/July/Day-23/i18552.htm>.

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The two CMRR buildings were initially to have 60,000 sq. ft. of HazCat II space, 60,000 sq. ft. of HazCat II/IV space, and 90,000 sq. ft. of radiological laboratories and offices.¹⁰⁷

As the project developed over the following seven years, costs were to increase dramatically while the Hazard Category II floor space to be provided – the purpose of the CMRR-NF building – would be cut in less than half. This has contributed to an increase by a factor of approximately 20 in the unit cost of Hazard Category II space to be provided in the CMRR project over the 2002 to 2010 period. This dramatic increase signals a need to re-open a study of project alternatives.

On May 15, 2003 NNSA published its Draft CMRR EIS.¹⁰⁸ Since the CMRR project was in the earliest stages of conceptual design and thus largely unformed, NNSA used a “bounding analysis” approach to impacts and a “Chinese menu” approach for project alternatives. This approach involved two possible locations at LANL, three distinct overall project concepts, four construction alternatives, three options for disposition of the existing CMR building, and a status-quo “No Action Alternative” for bewildering total of 33 poorly-described alternatives. All but the No Action Alternative involved building both CMRR-NF and RLUOB in one of two nearby mesa-top locations.

With a “bounding analysis” approach, an alternative is deemed environmentally acceptable if its impacts are estimated to be less than or equal to the impacts of what is judged to be the most environmental impactful alternative, provided that bounding impact is acceptable. It is not terribly important to distinguish relative impacts using

The alternative that provided an upper bound for all impacts was the “above-ground” construction concept. The “below-ground” construction options analyzed in the CMRR FEIS

¹⁰⁷ The scope for this project was developed through joint LANL/NNSA Integrated Nuclear Planning (INP) activities and workshops. The major CMRR scope elements resulting from INP activities are:

- Relocate existing CMR analytical chemistry and material characterization (AC/MC) capabilities at LANL.
- Special nuclear material storage for CMR AC/MC working inventory and overflow capacity for PF-4.

In addition to these two major elements, the following elements will be evaluated during conceptual design through the completion of option studies:

- Contingency space to accommodate future mission requirements.
- Large vessel containment and processing capabilities.
- Non-LANL user space requirements.
- Consolidation of LANL PF-4 AC/MC capabilities.

Net space requirements for the above listed scope elements within CMRR were developed through a LANL/NNSA INP workshop conducted in July 2001. The following space requirements were identified:

- 60,000 gross square feet of Hazard Category II space for AC/MC, large vessel containment and processing, material storage, and contingency space.
- 60,000 gross square feet of Hazard Category III/IV space for AC/MC and contingency space.
- 90,000 gross square feet for a light laboratory/office building.

NNSA, FY 2004 CBR, p. 349.

¹⁰⁸ At http://gc.energy.gov/NEPA/nepa_documents/na/26296.pdf.

considered depths of up to only 75 feet and did not consider the possibility of replacing a deep geological stratum beneath the site.

On November 14, 2003, NNSA published its Final CMRR EIS (CMRR FEIS).¹⁰⁹

On February 2, 2004, NNSA told Congress the CMRR project was being “re-evaluated and revised,” which would result in “changes” in the following year’s budget request for the project. “As part of the re-evaluation of this project, [NNSA] will conduct an analysis of [project cost]… to validate early estimates that [costs] are higher than the estimate [provided here].”¹¹⁰ This re-evaluation was apparently significant enough to cause a year’s delay in the project.¹¹¹

By this time, the useful space to be provided by the project had contracted to: 1) an RLUOB containing “approximately 20,000 sq. ft.” of radiological laboratories, offices, and utilities; and 2) a “Nuclear Laboratory” with approximately 22,000 sq. ft. of HazCat II space and approximately 23,000 sq. ft. of HazCat III space.

On February 18, 2004, the CMRR Record of Decision (ROD) was published.¹¹² In the CMRR ROD NNSA chose to proceed with design, construction, and operation of a RLUOB and CMRR-NF. NNSA chose above-ground construction options for both buildings (i.e. no greater than 50 feet in total depth). The RLUOB was eventually built above-ground, by this definition.

Among the key decision factors that led NNSA to choose CMRR construction over other alternatives, according to the CMRR ROD, was the relatively low construction cost for the CMRR buildings, both of which were to be built above-ground. At the time of that cost comparison NNSA’s estimated CMRR-NF construction costs were approximately 8-10 times smaller than they are today. Resource commitments and construction impacts have increased even more dramatically.

In January, 2005 NNSA analyzed whether minor adjustments in proposed building locations would increase estimated impacts beyond those estimated within the CMRR EIS bounding analysis. The answer was no.¹¹³

Although NNSA would later claim that subsequent EISs updated the impact analysis provided in the November 2003 CMRR FEIS, we will show this is not true. NNSA’s subsequent environmental impact analysis of CMRR-NF alternatives, to the extent there is any, is based entirely on its obsolete 2003 CMRR EIS.

Even if NNSA had produced updated and more accurate environmental impact analysis that took into account the nature of the CMRR-NF being planned today rather than the one being planned in 2003, those analyses could have no practical effect on agency decisions and NEPA’s purpose would not be served by them. NEPA’s purpose is not to provide post-decision analysis. The

¹⁰⁹ At <http://www.gc.energy.gov/NEPA/finalEIS-0350.htm>. Notice of Availability at <http://www.gc.energy.gov/NEPA/finalEIS-0350.htm>.

¹¹⁰ DOE, FY2005 CBR, Vol. 1, p. 219.

¹¹¹ “The A-E [architectural-engineering] Work Start date has slipped a year due to the re-evaluation of the Chemistry and Metallurgy Research Facility Replacement (CMRR) Project.” Ibid., p. 249.

¹¹² At http://www.lanl.gov/orgs/cmrr/eis/documents/cmrr_rod_20040218.pdf.

¹¹³ See <http://www.doeal.gov/opa/docs/RR0022.pdf>.

purpose of NEPA is to produce better federal decisions, not analysis for its own sake. The decision to build CMRR-NF was made in February, 2004 in the CMRR ROD and many years of deepening federal commitment to the project followed.

From February 2004 until the present time NNSA has, each year, sought funds and conducted project activities on both CMRR buildings using the explicit justification of the CMRR ROD alone. Congressional budget requests (CBRs) submitted in February of 2005, 2006, 2007, 2008, 2009, and 2010 for CMRR all contain a single sentence describing the project's NEPA pedigree:

Justification: ...The CMRR project will relocate mission-critical CMR capabilities...as described in the November 2003 Final Environmental Impact Statement for CMRR and approved in the February 2004 Record of Decision.¹¹⁴

The original CMRR EIS and its ROD are the only NEPA justification NNSA cited as justification for the deepening federal commitment to the CMRR project that occurred from February 2004 to February 2007.

In early February, 2005, NNSA requested funds for CMRR, dropping or omitting mention of HazCat III space requirement while mentioning a vault and large vessel handling capability.

For the first time, NNSA included costs for deactivation and decommissioning of CMR in its CMRR budget, estimated to cost \$200 to 350 M in FY2004 dollars, or, in NNSA's estimate, \$350 to \$500 M in FY2012 dollars.¹¹⁵

On October 19, 2006 NNSA announced its Notice of Intent (NOI) to prepare a Supplement to the Stockpile Stewardship and Management Programmatic Environmental Impact Statement, subsequently renamed the Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS).¹¹⁶

On February 5, 2007 NNSA submitted its FY2008 budget request to Congress. There, NNSA stated it was conducting a "reassessment" of the CMRR project scope in the current fiscal year (FY2007). As NNSA wrote:

In April 2006, the Administration presented its vision for the nuclear weapons complex of the future, "Complex 2030." The originally approved scope for CMRR predates the Complex 2030 vision. The new vision requires that the CMRR Project be reassessed to assure that the proposed scope is still valid. The reassessment is being performed in FY 2007. Pending completion of this reassessment, the following strategies will be followed to maintain requisite forward momentum on the CMRR Project [emphasis added] without making unnecessary funding commitments for construction:

The CMRR...RLUOB...will proceed as planned.

The CMRR - Nuclear Facility...will not proceed into construction in FY 2008; however, design efforts and associated safety document development will continue...Proceeding with the design and safety efforts represents a modest

¹¹⁴ DOE CBRS for these fiscal years, on pp. 273, 281, 294, 300, 217, and 217, respectively.

¹¹⁵ DOE, FY2006 CBR, Vol. 1, p. 276.

¹¹⁶ <http://edocket.access.gpo.gov/2006/pdf/E6-17508.pdf>.

investment in maintaining the Nuclear Facility schedule by mitigating unrecoverable schedule delays...

Based on the strategy to not proceed into construction of the Nuclear Facility in 2008, the FY 2008 request for construction funding is being reduced by \$65,000,000, relative to the FY 2007 planning basis.¹¹⁷

Contemporary events and subsequent history show that CMRR-NF was at least three years from the “construction phase” at that time. How NNSA proposed to maintain “forward momentum” in the project and also defer commitment to it was not stated.

NNSA envisioned changing the scope of the CMRR project as a result of the Complex 2030 planning.

The request for construction funding as reflected above, includes the Radioactive Laboratory and the Nuclear Facility. As a result of the ongoing Complex 2030 planning, NNSA will conduct a revalidation of how the Nuclear Facility will fit in the Complex 2030. The TEC and TPC will be adjusted based on the results of that evaluation.¹¹⁸

On January 11, 2008, the Draft CTSPEIS was made available.¹¹⁹

On February 4, 2008, NNSA’s congressional budget request gave an estimated TPC for CMRR-NF at “above” \$2 B, and estimated that a baseline for CMRR-NF, with a “final cost estimate,” would be ready during FY2010.

NNSA also remarked in its request that its current construction plans for CMRR-NF plans were merely a “placeholder” for decisions that would be made pursuant to the “NEPA and PEIS process the NNSA is currently conducting.”¹²⁰ Those decisions included decisions concerning the “types and mix” of warheads in the stockpile and the possibility of “transitioning” to Reliable Replacement Warheads (RRWs).

Operating in an integrated fashion with the existing PF-4 facility, the CMRR NF will provide the capability to produce plutonium pits for the nuclear weapon stockpile. The capability to manufacture pits is needed regardless of whether the nation decides to continue with the legacy stockpile or to transition to a Reliable Replacement Warhead. This combined capability of the CMRR-NF and PF-4 would be include flexibility to produce plutonium pits for some (but not all) legacy warheads as well as preserving the option to produce a new pit type in the event production of a Reliable Replacement Warhead is approved in the future. The facility will be sized to support a limited production capacity. The capacity will depend on the types and mix of systems to be supported. Because an RRW would require fewer process steps, the number of units which could be produced

¹¹⁷ DOE, FY2008 CBR, Vol. 1, p. 292.

¹¹⁸ NNSA, FY2008 CBR, Vol. 1, p. 297.

¹¹⁹ <http://www.epa.gov/EPA-IMPACT/2008/January/Day-11/i365.htm>.

¹²⁰ DOE FY2009 CBR, Vol. 1, p. 298.

in a facility of a given square footage would be somewhat higher in comparison to the number of legacy units which could be produced in the same facility.¹²¹

On April 4, 2008, NNSA announced the availability of the LANL Site-Wide Environmental Impact Statement (LANL SWEIS). In the SWEIS NNSA quietly claimed to reverse its prior decision to complete design and construction of a CMRR-NF, deferring that decision until the CTSPEIS ROD.

Specifically, NNSA will decide whether to construct the nuclear facility portion of the Chemistry and Metallurgy Research Replacement Facility at LANL or incorporate the capabilities into a consolidated plutonium center or a consolidated nuclear production center either at LANL or another DOE site.... NNSA is continuing design efforts for the nuclear facility portion of the Chemistry and Metallurgy Research Replacement Facility, but actions to proceed beyond the design stage will not occur until programmatic decisions regarding Complex Transformation are made.¹²²

At that time NNSA was some years from beginning final design and construction of the CMRR-NF.

The findings of the CMRR EIS were incorporated unchanged into the SWEIS.¹²³

On September 26, 2008, the first SWEIS ROD was issued. No decisions regarding CMRR were made, but the September 2008 SWEIS ROD included this relevant remark:

New information about seismic risks at LANL...may change how...facilities are constructed or renovated.

Indeed. The problem we are presenting is that new information about seismic risks, and other greatly circumstances, have led to dramatic changes in expected environmental impacts which were never analyzed or presented to the public during the NEPA decision-making process. This new information and these new circumstances have also opened (both directly and indirectly, through increased costs, risks, and uncertainties) a wide field of reasonable alternatives, some of which have been suggested by Congress or, upon information and belief, are already under study by NNSA and its contractors.

On October 24, 2008 NNSA announced the availability of the Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS).¹²⁴ The CTSPEIS analyzed variations on the CMRR theme but did not attempt a *de novo* analysis.

On December 19, 2008, NNSA issued two RODs pursuant to the CTSPEIS, the only ones issued to date.¹²⁵ The first CTSPEIS ROD included a “decision” to proceed with design, construction, and operation of the CMRR-NF.

By the end of the immediately-preceding fiscal year (FY2008, ending September 30, 2008), two and half months previous to this “decision,” NNSA had already spent \$110.5 M and obligated

¹²¹ DOE FY2009 CBR, Vol. 1, p. 301.

¹²² SWEIS, page 1-30.

¹²³ <http://www.doeal.gov/laos/NEPASWEIS.aspx>.

¹²⁴ <http://www.complextransformationspeis.com/>.

¹²⁵ At <http://www.lanl.gov/environment/nepa/sweis.shtml> and respectively.

\$139.0 M on CMRR-NF, including \$15.5 M spent and \$39.4 M obligated for final design. By that date, supposedly prior to any decision to build CMRR-NF, NNSA was spending at least \$3 M/month on the CMRR-NF. By the same date NNSA had spent \$108.9 M – slightly less than it had spent on CMRR-NF to that date – and obligated \$192.2 M on the RLUOB.¹²⁶ NNSA's commitment to CMRR-NF was no less

There is

On March 17, 2009 the House Appropriations Subcommittee for Energy and Water Development held a hearing on the future of the nuclear weapons complex. Dr. Everett Beckner's written testimony included this passage.

To reduce its budget requirements, and in response to the smaller stockpile anticipated with the new NPR, NNSA should re-plan the production requirements for the plants and the lab support (this should specifically include CMRR/NF and UPF). The operational requirements and the major facilities requirements presently being planned by NNSA and its contractors (both nuclear and non-nuclear facilities) have probably not been reduced in size and scope to fully reflect the NPR presently being developed by the Administration.¹²⁷ (emphasis in original)

On May 7, 2009 NNSA's budget request for the CMRR project contained the following statements.

It is recognized that many of the prior [CMRR project] planning assumptions have changed. Further discussion below addresses these changes impacting the estimate....

A revised estimate to complete assessment will be performed by the project prior to authorization for NF final design. The estimate for construction of the NF is now viewed to be significantly higher (TPC above \$2,000,000,000) than studied earlier during conceptual design. The funding profile reflected in Section 5 for the inclusive period of FY 2011 to FY 2014 is a funding placeholder for the NF final design only. No funding placeholder for construction of the Nuclear Facility is included in this data sheet. *The decision about how far to proceed into final design will be based on numerous ongoing technical reviews and other ancillary decisions NNSA management will be making during the period of FY 2009 - 2010. A future decision to proceed with construction of the Nuclear Facility and associated equipment has been deferred pending the outcome of the current ongoing Nuclear Posture Review and other strategic decision making.*¹²⁸ (emphasis added)

On July 10, 2009 the second of the two SWEIS RODs issued to date was released.

Some time before August 11, 2009 concrete requirements for both CMRR buildings had increased to an estimated 138,000 yd³, up from 6,255 yd³ in the CMRR EIS, a factor of 22.

¹²⁶ CMRR spending and obligation by fiscal year, line item, and subproject are available for the first time in the CMRR Project Data Sheet submitted with the DOE FY2011 Congressional Budget Request, Vol. 1, pp. 215-229.

¹²⁷ (http://appropriations.house.gov/Witness_testimony/EW/Everet_Beckner_03_17_09.pdf.)

¹²⁸ NNSA FY2010 CBR Vol. 1, p. 215.

Steel requirements for both buildings, not including structural steel for the CMRR-NF (an estimate for which was not available) had increased to 15,000 U.S. tons, up from 558 tons in the CMRR EIS, a factor of greater than 27.¹²⁹

On February 1, 2010 NNSA submitted its annual budget request to Congress, containing the highest rough total project cost estimates to date for the CMRR-NF (\$3.4 billion). For the first time NNSA presented a breakdown of historic annual spending for each CMRR building and prospective future spending for each building. NNSA for the first time said it was “exploring” segmenting CMRR-NF into “smaller, more manageable, projects,” some of could proceed prior to completing the CMRR-NF preliminary design, cost estimates, and schedule (“project baseline”).

In its request, NNSA listed some of the changed circumstances that had so impacted the project up to that point:

After advancement of the design effort, changes in the assumptions for site seismic data, incorporation of lessons learned from previous nuclear projects in nuclear quality assurance construction, resolution of safety concerns identified by the Defense Nuclear Facilities Safety Board, and incorporation of commercial data on material costs and estimated escalation assumptions, the current preliminary cost estimate is over \$2,000,000,000 and estimated start of operations by FY 2022.¹³⁰

Here, and for the first time in its congressional budget requests, NNSA openly speaks about partitioning the CMRR-NF into phased segments in order to proceed with construction of the initial segments prior to completing an overall CMRR-NF baseline.

Since the NF requires such a large effort, in FY 2011 within this Project Data Sheet, the project team is exploring options of segmenting some of the work into smaller, more manageable, projects with their own CD-2, TPC and CD-4 dates. These activities may include procurement/modification of site utilities, construction support infrastructure, and soil improvement work. No funding will be used for these purposes until a project performance baseline has been validated and the appropriate milestone in accordance with DOE O 413.3A has been approved for these smaller projects.¹³¹

Even at this late date, “[t]he gross square feet of the CMRR-NF is a preliminary estimate and will be updated as the design develops.”¹³²

Here also for the first time NNSA tells Congress not just that it may pursue CMR D&D as a separate project, but that it “may elect to...execute it as an element of a sider project or program for a portfolio of D&D activities at LANL, or bundle it with other, yet undefined activities.”¹³³

At a March 3, 2010 CMRR public meeting NNSA revealed that:

¹²⁹ Telephone conversations with members of the NNSA CMRR project team, August 11, 2009, and CMRR EIS, op. cit., Table 2-1, p. 2-21.

¹³⁰ NNSA FY2011 CBR Vol.1, p. 215.

¹³¹ Ibid, p. 219.

¹³² Ibid. p. 229.

¹³³ Ibid. p. 228.

- The CMRR-NF excavation would need to be some 125 feet deep;
- Total CMRR-NF concrete requirements, including 225,000 yd³ of “lean concrete” for a 50-foot slab to be emplaced beneath the building proper, had risen to a total of 355,000 yd³;
- No source of gravel for concrete was available on the Pajarito Plateau; sand might be an issue also;
- CMRR-NF construction would require not just one but three construction areas along Pajarito Road.

These requirements and realities, and others that flow from them, imply significantly greater environmental impacts and other problems during the multi-year construction process.

On May 28, 2010, the Senate Armed Services Committee issued its markup of the FY2011 Defense Authorization bill, which contained the following language pertaining to CMRR-NF.

The committee continues to believe that replacing the existing Chemical and Metallurgical Research facility is essential but that the new Chemical and Metallurgical Research Replacement (CMRR) facility has many unresolved issues including the appropriate size of the facility. CMRR will be a category I facility supporting pit operations in building PF-4. Now that the Nuclear Posture Review is completed the NNSA and the Department of Defense (DOD) are in a better position to ensure that the facility is appropriately sized. Elsewhere in this act the committee has recommended a provision to require construction project baselines and to track cost and schedule issues. The committee is very concerned that the NNSA follow the DOE 413 order series and project management and guidance. The NNSA is also directed to conduct a true independent cost estimate for the CMRR Nuclear Facility [CMRR-NF], phase III of the CMRR project. The committee is concerned that the phase III project [CMRR-NF] is being divided into multiple sub-projects. Notwithstanding this management approach the committee directs the CMRR baseline to reflect all phases and subprojects for the purposes of the cost and schedule baseline provision and to be accounted for as a single project.¹³⁴

In other words, the Committee: 1) states CMRR-NF has “many unresolved issues,” including choosing between alternative sizes for the facility; 2) wants those size alternatives re-evaluated in the light of the recent Nuclear Posture Review; 3) is concerned that NNSA may not be following its own project management orders (which were written to overcome the history of poor project management at DOE and NNSA); 4) directs NNSA to conduct a “true independent cost estimate” for CMRR-NF; 5) is concerned about project segmentation; and 6) directs NNSA to prepare a baseline for the *entire* project. Since NNSA’s project management orders require a project before construction, with a clearly-defined exception for design-build projects which

¹³⁴ [FY2011 Defense Authorization Act Senate Report](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_reports&docid=f:fr201.111.pdf), pg. 274, at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_reports&docid=f:fr201.111.pdf.

does not apply to the CMRR-NF,¹³⁵ the Committee is in effect asking NNSA to prepare a complete project baseline prior to proceeding with final CMRR-NF design.

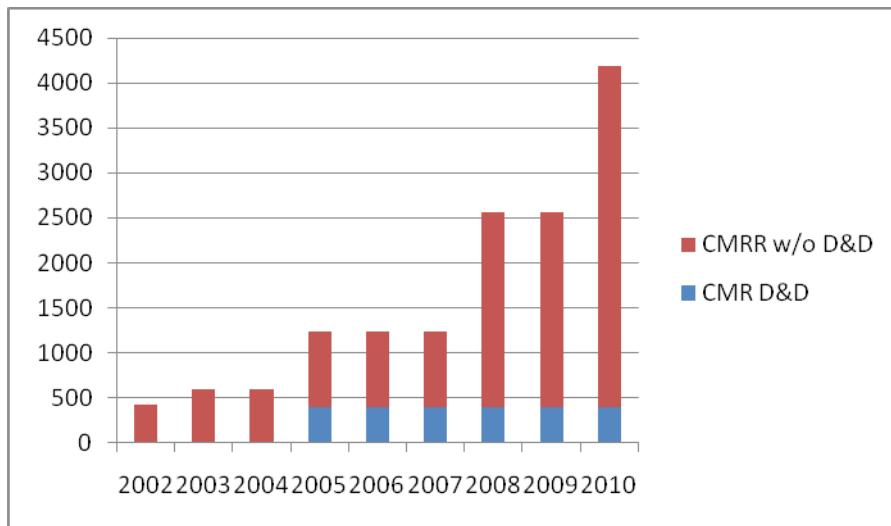


Figure X: NNSA estimates of CMRR Total Project Cost (TPC, both buildings) submitted to Congress in its annual funding requests, in millions of dollars.

Doubts

In its markup of NNSA's FY2004 budget request, the House Appropriations Committee had this to say about the proposed CMRR project, then a new stand-alone project:

The Committee recommends no funding for [the CMRR project] in fiscal year 2004. Due to the complexity of this project, the Committee directs the completion of the project management decision process for the CMR-R in fiscal year 2004...The Committee notes the Department has not completed the project engineering steps concerning the CMR-R, including reaching critical decision one (CD-1) to commence the acquisition strategy or any baseline cost validation. The current cost estimate is based on pre-conceptual planning...the Committee must question the actual commitment of the Department to its own process by allowing this project to go forward in the fiscal year 2004 budget request.

¹³⁵ See note above. "Design-Build is a project delivery method where a single contract is awarded for both design and construction. Design-Build can be used most successfully with projects that have well-defined requirements, are not complex, and have limited risks. This applies to projects that have few "unknowns" or new technology requirements, little to no program or system integration, and are not unique or first-of-a-kind. Projects such as road building, administrative facilities, fire stations, and/or replication of previously accomplished projects are generally the most appropriate for design-build consideration. The Design-Build approach requires the development of a functional design and clearly stated operating requirements that provide sufficient information to allow prospective contractors to prepare bids or proposals, but also allows them the flexibility to implement innovative design and construction approaches, value engineering, and other cost and time savings initiatives. This overall objective of the Design-Build approach is to reduce the total cost to the government and deliver projects more quickly than the traditional Design-Bid-Build approach. Projects for which Design-Build is an appropriate delivery method will generally have clear and well-defined requirements early in the process. Accordingly, at the time of CD-0, much of the cost and schedule information is known along with key design criteria." [emphasis added] DOE Order 413.3A.

House appropriators were critical again regarding FY2005 appropriations, but they opened the door just a little:

The Committee recommends \$10,000,000 for the CMRR project, a decrease of \$14,000,000 [58%] from the budget request....The NNSA concludes in its budget justification that additional analysis is required to validate cost estimates that are coming in at the high end of the pre-conceptual baseline range. Due to the complexity of the project and the uncertainty of the current estimates, the Committee directs the NNSA to complete its pre-conceptual baseline cost estimating and include in the fiscal year 2006 budget request the revised schedule and cost estimates.

By the following year (2005, in deliberations for FY2006 appropriations) the CMRR began to be overtaken by NNSA's competing ambitious priorities. House appropriators:

The Committee recommends no funding for the CMRR project, a decrease of \$55 million from the budget request. Construction at the CMRR facility should be delayed until the Department determines the long-term plan for developing the responsive infrastructure required to maintain the nation's existing nuclear stockpile and support replacement production anticipated for the RRW initiative...the production capabilities proposed in the CMRR will be best located at whatever future production complex configuration the Department determines necessary to support the long-term stockpile program.

By the time discussion of FY2007 appropriations came around, the House was clearly losing patience.

The Committee provides \$12,400,000 for the CMRR project, a decrease of \$100,000,000 million [89%] from the budget request. Construction at the CMRR facility should be terminated and the Department should revise its long-term plan for developing the responsive infrastructure required to maintain the nation's existing nuclear stockpile and support replacement production for the reliable replacement warheads (RRW). Production capabilities proposed in the CMRR should be located at the future production site that supports the RRW and long-term stockpile requirements.

But still the project continued. Congress never completed an appropriations bill for Energy and Water Development for FY2007. The CMRR was continued that year by extending the FY2006 funding level.

In its markup of the proposed FY2008 appropriation, the House said this:

Proceeding with the CMRR project as currently designed will strongly prejudice any nuclear complex transformation plan. The CMRR facility has no coherent mission to justify it unless the decision is made to begin an aggressive new nuclear warhead design and pit production mission at Los Alamos National Laboratory. The NNSA is directed to develop a long-term plan to maintain the nation's nuclear stockpile requirements that does not assume an a priori case for the current program. Production capabilities proposed in the CMRR should be located at the future production sites identified in a detailed complex transformation plan that supports the long-term stockpile requirements. The

Committee is concerned the NNSA is proceeding with large expenditures for this project while there are significant unresolved issues, and recommends the fiscal year 2007 funding be held in reserve. Although the NNSA claims the Nuclear Facility Phase 3 of the project is under review, the Committee notes the Laboratory excavated 90,000 cubic yards of soil at the construction site where the CMRR Phase 3 Nuclear Facility is proposed to be built. The Committee also notes the Department's CMRR acquisition strategy combines Critical Decision 2 (approval of performance baseline) and Critical Decision 3 (approval to start construction) under DOE Order 413.3A on project management. The Committee does not support construction projects that fail to strictly adhere to DOE Order 413.3 requirements by abbreviating the process.¹³⁶

Given the absence of such a sweeping new mission the Committee proposed zero funding for the CMRR project for FY2008, as they also had done for FYs 2004 and 2006. (For FYs 2005 and 2007 the Committee proposed cuts of 58% and 89% from budget requests, respectively, recommending only pre-conceptual cost estimating and long-term planning.)

Again Senate appropriators fully funded the project, though the full Senate failed to act. When the dust finally settled on the omnibus appropriations bill passed in mid-December 2007, the CMRR was funded at \$75 million for FY2008, about 86% of the president's request.

In 2009 House appropriators recommended FY2010 funding for the CMRR at the requested level for the very first time, although that request (\$55 M) was itself just 57% of FY2009 appropriations (\$97.2 M) and just 32% of the \$172 M estimated for CMRR for FY2010 in the last Bush Administration budget request.¹³⁷

In its November 2007 budget “passback” guidance to NNSA, the White House Office of Management and Budget (OMB) wrote unambiguously regarding CMRR’s purpose:

NNSA Funding for Nuclear Weapons’ Cores: The DOE/NNSA is requesting funding in FY 2009 for the Chemistry and Metallurgy Research Replacement Project. *This facility will be used to manufacture the central core of nuclear weapons, known as the "pit."* The DOE/NNSA has assumed a future production rate of 50 – 80 pits per year at Los Alamos National Laboratory, New Mexico, consistent with their preferred alternative for complex transformation. *Currently there is no formal agreement between DOE and DOD on production requirements, and thus no firm basis for setting a facility production capacity requirement. This requirement is the major cost driver for the facility.*

Therefore, DOD and DOE should collaborate on an analysis that determines what level of production will be sufficient to meet requirements for pit replacement in the stockpile, whether for existing designs or for the future Reliable Replacement Warhead (RRW). This analysis should also clarify the number of RRW variants that will be produced. DOD and DOE should provide this analysis to OMB not later than July 2008.¹³⁸ (emphasis added)

¹³⁶ House Report 110-185, June 11, 2007, p. 105, <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:H.R.2641>:

¹³⁷ DOE FY2009 CBR Vol. 1., p. 230. At
<http://www.cfo.doe.gov/budget/09budget/Content/Volumes/Volume1a.pdf>.

¹³⁸ OMB, passback guidance to NNSA for its FY2009 budget request, Study Group files.

A cognizant House staffer remarked to an industry reporter on that chamber's choice to double the requested amount of appropriations for UPF design in FY2010 while giving the Administration the design funds it requested for CMRR-NF:

We know we're going to need a UPF, let's make sure we get it designed. CMRR, there is not complete consensus that we're going to need a nuclear facility of the same size, complexity and capability that they keep pushing for. We don't want to move forward on that very quickly, but there really is no debate that we're going to need a UPF of a certain size.¹³⁹ (emphasis added)

This summer (2009) the House Appropriations Committee spoke even more plainly, flatly stating that NNSA just cannot build the CMRR-NF and UPF simultaneously under current budgets.¹⁴⁰

The Administration has described the need for two major new facilities in the weapons complex...The tightly constrained budget does not permit construction of both [UPF and CMRR] simultaneously, and the [Administration's budget] request funds both programs at sustainment levels pending a decision on prioritization.

In its most recent markup (for the fiscal year 2008 appropriation), the House Appropriations Committee zeroed out the project and wrote:

Proceeding with the CMRR project as currently designed will strongly prejudice any nuclear complex transformation plan. The CMRR facility has no coherent mission to justify it unless the decision is made to begin an aggressive new nuclear warhead design and pit production mission at Los Alamos National Laboratory.

The House as a whole agreed with this assessment by a wide margin, rebuffing an amendment introduced by New Mexico Democratic Rep. Tom Udall to restore funding for the CMRR, pit production operations, and nuclear weapons overall.

1. NNSA has prepared or is preparing a backup plan for TA-55 without the CMRR Nuclear Facility, in the event the latter is not funded. This plan involves changes to PF-4 and RLUOB. The plan is not complete and its mission assumptions are unknown probably even to its authors, and as of last month there was no associated cost estimate or any commitment to one.
2. Dr. Richard Garwin and Mr. Phil Coyle recently testified ([here](#) and [here](#), pdfs) before the [House Energy and Water Development Appropriations Subcommittee](#) regarding the need to re-think NNSA's weapons complex infrastructure plans. A video of the hearing is available in its entirety [here](#) (requires RealPlayer). In different ways, both questioned the need for the CMRR Nuclear Facility.
3. The CMRR has been strenuously opposed by House appropriators for the past five years. Only one visible attempt was made during this period to restore CMRR, RRW, and related nuclear weapons funding to the Energy and Water Appropriations bill in the House -- by the

¹³⁹ Todd Jacobsen, "House, Senate At Odds Over Funding For NNSA Weapons Program," *Nuclear Weapons & Materials Monitor*, July 13, 2009.

¹⁴⁰ House Report 111-203, July 13, 2009, <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:h.3183>: p. 131.

congressman in whose district it would be spent. This amendment failed by a wide margin. It did not attract a majority of Republicans and received very few Democratic votes.

Neither the CMRR EIS, nor the LANL SWEIS, nor yet the CTSPEIS, nor any other NEPA analysis has analyzed the environmental impacts of the actual CMRR project being proposed today. Nor have they analyzed the project, building design, and construction alternatives which are now reasonable due to dramatically changed project circumstances.

Since the CMRR EIS analysis was completed in 2003 there have been some big changes in project scope. The EIS estimated the CMRR would emplace 4,782 m³(6,255 yd³) of concrete and use 507 metric tons (558 U.S. tons) of steel. Today both CMRR buildings are estimated to require, taken together, roughly 138,000 yd³ of concrete and 15,000 U.S. tons of steel, not counting structural steel for the CMRR-NF, an estimate for which is not yet available.¹⁴¹ Estimated concrete requirements have thus increased 29-fold and steel likely even more. If assumed delivered via standard 8 yd³ trucks, this much concrete would require over 17,000 round trips from the Los Alamos batch plant. These two changes in proposed resource commitments suggest there could be others and invite a more thorough review.

The CMRR project is now a bigger and more difficult project than envisioned 7 years ago. The original environmental impact statement, which will be at least 8 years old by the time construction begins, assuming it does begin, describes a simpler *construction* project in particular. Such large quantitative differences may also bespeak legal deficiencies in public notice and involvement.

The CMRR represents a large and irreversible commitment of society's and nature's resources, most of which the CMRR EIS does not address. To understand this further, first look at the scale of investment in the project in relation to the largest public works projects in the history of our state, and also in relation to the iconic Golden Gate Bridge in California.

- a. Possible reasonable alternatives to CMRR-NF that were not considered or analyzed under NEPA
 - a. Not building CMRR-NF
 - i. Building RLUOB only (since this is nearly done, this option is a kind of new "no action alternative")
 - ii. Building RLUOB only, and modify PF-4 in the TA-55 Reinvestment Project (TRP), developed subsequent to and absent from the CMRR EIS [recheck] though possibly included in the LANL SWEIS and CTSPEIS [recheck]
 - i. By changing the building *physically*
 - ii. By changing the *mission mix and internal equipment* in PF-4, for example by moving the entire Pu-238 operation to INL, as previously planned,

¹⁴¹ Per Steve Fong and Tom Whitacre, NNSA CMRR project team, 8/11/09.

creating a more contingent-pit-production-dedicated profile of missions for PF-4. Moving Pu-238 activities from PF-4 to INL would liberate about 15,000 ft² in PF-4, almost as much as CMRR-NF would provide. (The Pu-238 EIS is or should be connected to this one.)

- iii. Using or maintaining Superblock at LLNL as a Hazard Category II facility instead of downgrading it to a radiological facility, for some CMRR-NF purposes (e.g. nuclear forensics)
 - iv. Using elements of the Pu infrastructure at SRS, especially in a contingency mode
 - v. Using elements of the Pu infrastructure at INL, especially in a contingency mode (I had almost completely forgotten about INL).
 - vi. CMR is now going to be kept until 2022. Why not keep part of it longer than that, focusing upgrades on *part* of the facility? This option was mentioned by two people in government to me, one of whom sourced it back to DOE. \$3.4 B buys a lot of remodeling.
 - vii. Combinations of the above.
- b. Building CMRR-NF in a different way

- i. The present CMRR-NF is 300 ft x 300 ft x about 75 ft tall, protruding about 15 ft above ground. It has a gross square footage of 270,000 ft², meaning there are nominally 3 (counted) floors in the building. This design requires that the building bottom be 75 ft below grade, requiring an additional 50 feet of concrete below that, to a total depth of 125 ft. This is very costly, has risks of all sorts, and has great environmental impacts.

The lab space in the building is evidently about 150 ft by 150 ft in size on the middle of these three floors, or 22,500 ft². It is surrounded by a 75 ft buffer of other building space on all sides – it is in the geometric center of the building, which is to be square, according to project staff.

Could the building be built 35 or 40 feet less deep, which would save the extra 50 ft x 300 ft x 300 ft (i.e. more than 167,000 yd³) of concrete as well?

Why couldn't the CMRR-NF be built less deep but wider, e.g. 300 ft x 400 ft? To avoid the great depth. Is it true that NNSA is preserving the area to the W of CMRR-NF for another possible facility? Isn't 35-40 ft deep deep enough?

- ii. Could the CMRR-NF be built in just the same way and shape, but higher and bermed, or fitted with blast protection via double walls, possibly with earth between? In this way, the cost, risks (to workers, management) and impacts of deep excavation could be avoided.
- iii. It appears that the CMRR-NF could be built with more useful space, perhaps. If it has to be built 50 ft. deeper than the actual building foundation, why is not lowering the foundation an extra 50 ft and perhaps approximately doubling the lab space for a modest increase in cost not a reasonable alternative?
- iv. Is it necessary to build the CMRR-NF vault in the same building? Could the depth be lessened by putting the vault elsewhere nearby, connected by tunnel?

- b. What does NNSA mean when it says CMRR-NF is being built in a modular, expandible manner? In other words, what is the actual decision being made? This may connect with the preservation of the space to the west of CMRR-NF as a possible expansion space.
- c. Various alternatives with differing impacts arise *during* the construction process
 - i. Alternative locations for the source of aggregate; these sources affect trucking impacts in a big way
 - ii. There are alternative routes and schedules for trucks for this project which will affect the environmental, social, and security impacts. These schedules and routes affect and are affected by the size and locations of the storage areas on site, work schedule, facility design, and so on.
 - iii. Isn't grouting the QTB31 layer possible after all, vs. total replacement, greatly affecting volume of concrete, trucking, etc.?
 - iv. Are there reasonable alternative locations for the batch plant, lay-down site, dumping of extra crushed tuff from excavation? In the last case at least, the answer is yes
 - v. Is it possible to specify a sprung foundation and annular gap for whole building, improving seismic performance?
- d. "RRW vs. no RRW" alternative, i.e. "new-made pits vs. no new-made pits" – has big political advantage of asserting this should be a legal NEPA forum to debate RRW and new-made pits
- e. Alternatives for D&D of CMRR
 - i. Grout in place
 - ii. Remove and dispose
- f. More.

Some Core Arguments for the Letter of Intent and Initial Court Filings

Some footnotes are included; others are elsewhere. Tables are being prepared.

We believe the November 14, 2003 Environmental Impact Statement (EIS)¹⁴² and the February 18, 2004 Record of Decision (ROD)¹⁴³ for the CMRR-NF at LANL do not meet the requirements of the NEPA (42 U.S.C. 4321-4347), and it's implementing regulations at 40 CFR 1500-1508 and 10 CFR 1021.

In a nutshell:

NNSA's proposed CMRR-NF, as greatly aggrandized in key respects from NNSA's original CMRR proposal and including a suite of new project elements, has never been the subject of any NEPA analysis.

¹⁴² <http://www.gc.energy.gov/NEPA/finalEIS-0350.htm>

¹⁴³ http://www.lanl.gov/orgs/cmrr/eis/documents/cmrr_rod_20040218.pdf

This is all the more true if CMRR-NF is considered in the context of NNSA’s “Integrated Nuclear Planning” and its integrated “Pajarito Construction Corridor” plans, which include a number of connected (i.e. functionally related, geographically proximate, and contemporaneous) infrastructure plans, decisions, and projects, alternatives to which, and the cumulative environmental impacts of which, have never been subject to any NEPA analysis.

Without further disclosure of the project alternatives that have been (and, upon information and belief, are still being) considered, and without any NEPA analysis of the resulting environmental impacts, it is not clear whether NNSA’s overall Pajarito Road project is tantamount to a “Modern Pit Facility,” for which no EIS was ever completed, or is really a “Pajarito Corridor Construction Project,”¹⁴⁴ for which no EIS has been initiated, or simply a quite different and new CMRR-NF, for which no applicable EIS was ever produced.

In any of these cases an EIS is now needed, beginning with the establishment of the appropriate scope of analysis.

NNSA should not be allowed to violate NEPA by initiating detailed design, or any construction, of its currently-preferred suite of alternatives without NEPA analysis.

Tool-kit of arguments, repetitive with variations, summarized from prior drafts, with occasional footnotes:

1. Subsequent events have made it clear that the CMRR EIS was a) premature, b) did not analyze what NNSA now believes to be the most reasonable alternatives, c) correctly anticipate the general magnitude of important environmental impacts, d) acknowledge or predict even the existence of other environmental impacts.

It is now apparent that the CMR EIS was written before NNSA knew many of the basic construction and operational parameters of the facilities it intended to build, such as how many buildings should be built, how much laboratory space of which kinds was needed, where the buildings should be built, how deep they should be built, what nuclear quality standards should apply to them, and so on. Given these uncertainties, the full range of environmental impacts was impossible to predict, as is now apparent.

In other words, the EIS written in 2003 was based on a matrix of assumptions about CMRR which were, or became, false.

The project has changed gradually but markedly, and the cumulative effect of these changes on the project and its impacts has been dramatic. We have had only very imperfect contemporaneous access to the project’s evolution. By March of 2010 what we knew of these changes had become extreme. In June 2010 NNSA divulged further dramatic information about the scope of the project and its projected impacts.

For example, we learned only on August 11, 2009 that the concrete and grout requirements of the project, originally described as 6,255 yd³ (for both buildings), had reached 138,000 yd.³ By March 3, 2010, the requirement for concrete and grout of all types had more than doubled again to became 355,000 yd.³ By June 16, 2010 the concrete and grout requirement of various kinds totaled 347,000 yd³.

¹⁴⁴ As presented in the LANL June 16, 2010 forum.

Post-EIS changes to the CMRR-NF project, and to its environmental impacts, have made it abundantly clear that the original CMRR EIS, and the vetting of alternatives went into it, were premature. As NNSA's subsequent actions and statements show, NNSA did not understand the project, reasonable alternatives to the project, or the project's environmental impacts.

Changes in the project and its environmental impacts, and great new differences in the environmental impacts within the broadened scope of reasonable alternatives, are altogether so dramatic as to require a new EIS, beginning with the required scoping process, and a new ROD.

External review of the proposed scope of EIS analysis is particularly important given years of apparent government commitment to one alternative, chosen too soon from a prematurely-narrowed and, as events have shown, naïve field of alternatives. NNSA has itself quietly rejected its chosen alternative in favor of a different, gradually-evolving, larger project.

2. NNSA did not build, and does not want to build, any of the alternatives analyzed in the CMRR EIS or the one selected in the CMRR ROD.

Changes in project circumstances as well as related decisions subsequently made by NNSA have contributed to a situation in which NNSA did not build, and now does not want to build, any of the project alternatives it analyzed in its EIS. NNSA did not build, nor does it plan to build, the alternative it chose in its CMRR ROD.

NNSA now intends to build what amounts to a different project, with far greater environmental impacts, than was analyzed in the CMRR or in any other EIS. NNSA has never, either in 2003 or at any other time, conducted a NEPA analysis for the project it now proposes to build.

3. CMRR-NF is not only a different project than previously analyzed but also a *separate* project, lagging RLUOB by approximately six years. The completion of RLUOB together with a host of new circumstances lead to the necessity of de novo business case and environmental impact analysis for CMRR-NF alternatives.

Of the two projects, RLUOB and CMRR-NF, CMRR-NF has experienced by far the greater design problems, changes in the nature of the project, and cost increases. CMRR-NF construction lags far behind that of the RLUOB – its construction start is currently estimated to be about six years behind RLUOB. CMRR-NF has become a separate project.

In its CMRR EIS or at any other time, there has never been any NEPA analysis of any version of CMRR-NF by itself, disaggregated from RLUOB. There has never been an alternative that examined building RLUOB, or what became RLUOB, without also building CMRR-NF.

Neither did NNSA examine, in its CMRR EIS or at other times, alternative sizes for CMRR-NF. [check]

By “bundling” the relatively benign, relatively easily-built, and relatively quick RLUOB with the far more impactful, problematic, and long-term CMRR-NF project, the separate environmental impacts of the latter were obscured and diluted relative to the primary

program benefit (laboratory space) provided by both projects. CMRR-NF has evolved to comprise an estimated 90% of the total, aggrandized CMRR project cost and it will have a very large fraction of the total (but as yet unanalyzed and unknown) environmental impacts. Because it is now a separate, and far weightier, federal decision than previously conceived, and because the previous analysis was based on assumptions which were not true and produced results which are not true, CMRR-NF requires its own de novo NEPA analysis.

4. There have been dramatic changes in project circumstances over the past seven years which have changed the project and it impacts profoundly.

Dramatic changes in project circumstances over the past seven years (not limited to new scientific knowledge about the construction site and new safety requirements in building design), together with completion of the RLUOB building in the interim and the initiation of the funded, multi-phased TA-55 Renovation Project (TRP), expand the range of reasonable alternatives to CMRR-NF.

By virtue of its long delay, its dramatically changed circumstances, its unforeseen large scale, and its greatly expanded cost, the decision to build CMRR-NF has evolved to be a quite separate decision from building RLUOB, one that entails unique, separate, and avoidable environmental impacts and is separate in every other way as well. NNSA itself is now analyzing it as such in internal reviews. In late May 2010, the Senate Armed Services has requested analysis of alternative sizes for CMRR-NF. The RLUOB, in contrast to the CMRR-NF, was not much changed, delayed, or made more expensive by events and changes in circumstance over the last seven years.

5. NNSA has been doing NEPA analyses without any consultation with agencies, tribes, and the public.

NNSA has been analyzing alternatives to CMRR-NF, and to means of constructing CMRR-NF, with differing environmental impacts, but has not made these analyses part of any legally-required NEPA analysis, nor has it contemporaneously informed the public, agencies, or tribes of these alternatives or their impacts.

6. NNSA is pursuing CMRR as part of an integrated “Pajarito Construction Corridor” (PCC) project, which contains a total of 9 projects, many of which have not been the subject of any NEPA analysis. Also, the cumulative impacts of these admittedly connected projects have not been the subject of NEPA analysis.

The CMRR-NF is closely related in its functions and in time to other plutonium and related waste infrastructure projects underway and planned at LANL. These actions are especially connected and, as has only recently become clear, have dramatic cumulative impacts.

In principle NNSA was supposed to analyze these projects and their impacts in the SWEIS. NNSA didn’t. Check.

The environmental impacts of some of these other projects will depend upon alternatives chosen in other NNSA decision-making processes and reviews and other environmental impact assessments or EISs, not all of which are complete or even begun. For example, the final remedies at Material Disposal Area (MDA) C and MDA G have not been determined.

7. The CMRR-NF, taken in context, more closely resembles NNSA's abandoned Modern Pit Facility (MPF), for which no EIS was produced, than the original CMRR project.

The CMRR-NF is closely related in its functions and in time to other plutonium infrastructure projects underway and planned at LANL. Sometimes even taken by itself, and more so when considered with these other connected actions, CMRR-NF and its projected impacts have grown to more closely resemble NNSA's abandoned Modern Pit Facility (MPF) project, for which no final EIS was produced, than the original CMRR project from which current plans have in part evolved.

The CMRR-NF, in combination with other plutonium infrastructure elements being built, upgraded, or maintained at LANL's Technical Area (TA-) 55 via other line item projects and by other means, is comparable in physical scale, production capacity, cost, required resources, and environmental impacts to one or more alternatives within NNSA's Modern Pit Facility (MPF) project. A draft, but no final, EIS for the MPF was produced; no ROD was issued.¹⁴⁵ It is difficult to distinguish NNSA's expanded CMRR-NF, in its context of LANL "Integrated Nuclear Planning," from a phased, segmented MPF.

8. Many aspects of the CMRR-NF project have changed dramatically since 2003. The CMRR analyzed in the CMRR EIS has changed dramatically in physical aspects that greatly affect its environmental impact, both on-site at LANL and in nearby communities: NNSA's projected requirements for concrete in the CMRR-NF are now 57 times as much as analyzed in the EIS; the amount of steel needed has risen at least 30 times; tens of thousands of heavy truck trips are now required; hundreds of thousands of cubic yards of concrete ingredients may be needed from off-site mines and plants; and so on.
9. The proposed expanded project and a draft analysis of its proposed impacts have never been presented to the public, government agencies, and tribes for review and comment at any time, let alone early in the NEPA decision-making process as NEPA requires. The new project's expanded environmental impacts are now unknown and inaccessible to government decisionmakers as well as to everyone else, yet NNSA is secretly choosing between project alternatives which will have widely-differential impacts on these communities.
10. The range of reasonable alternatives to CMRR-NF has expanded, including reasonable alternatives in each of the following categories.
 - a. CMRR-NF itself, i.e. alternatives to building any CMRR-NF;
 - b. The timing of CMRR-NF;
 - c. CMRR-NF's overall concept, e.g. its scale, vault capacity, and depth of burial;
 - d. Certain construction methods affecting, e.g. the quantity and sources of the large quantities of raw materials for concrete and grout which are currently foreseen;

¹⁴⁵ NNSA, *Draft Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility*, May 2003, DOE/EIS-0236-S2, http://nepa.energy.gov/nepa_documents/docs/deis/deis0236S2/deis0236.htm. Project abandonment was announced here: <http://www.nnsa.energy.gov/mediaroom/pressreleases/nnsa-delays-modern-pit-facility-environmental-impact-statement-and-selection>.

- e. Decontamination, decommissioning, demolition, and disposal of the Chemistry and Metallurgy Research (CMR) Building; and
- f. Ancillary projects with significant environmental impacts which are required by, and are a part of, CMRR-NF.

In some cases NNSA has reviewed, or is reviewing, these alternatives, establishing their reasonableness and need for NEPA analysis.

This expansion of reasonable alternatives has been caused by:

- a. CMRR-NF's circa 10-fold cost escalation;
- b. Its circa 11-year delay, which has for example created a need for new, parallel mid- or long-term investments in other infrastructure with comparable purposes if safety is not to be degraded;
- c. New design challenges, and new safety, security, and logistical challenges during construction, which arise from facts not available in 2003;
- d. New government actions, changed government policies, and new scientific information, all of which affect purpose and need, especially when considered in the light of increased costs and delays;
- e. Cost increases in related projects,¹⁴⁶ and recognition of operating cost increases, projected and current, in CMRR-NF and related facilities¹⁴⁷; and as noted above,
- f. Completion of the RLUOB.

Some of these newly-reasonable alternatives differ greatly in environmental impact as well as cost. There has been no NEPA process or analysis whatsoever concerning most of these newly-reasonable alternatives.

NNSA in the past has considered some of these alternatives reasonable. Some have been considered reasonable by other authorities in government and by government advisors. We believe other alternatives also would be found to be reasonable subjects for NEPA and business case analysis if they were actively considered as part of a decision-making process, given the new factual context in which we find ourselves today.

11. Scientific understanding of some environmental impacts has changed dramatically since 2003, greenhouse gas emissions being a prime example. The looming climate catastrophe has raised the importance of NEPA's original call to "recognize the worldwide and long-range character of environmental problems," a purpose which informs the Council on Environmental Quality's (CEQ's) draft guidance for analyzing greenhouse gas emissions under NEPA.¹⁴⁸ The greenhouse gas emissions to be expected from the current CMRR-NF project, but not its reasonable alternatives, greatly exceed

¹⁴⁶ PF-4 glovebox seismic upgrades project, factor of 20 cost increase.

http://www.dnfsb.gov/pub_docs/weekly_reports/lanl/wr_20100604_la.pdf

¹⁴⁷ **Nuclear Weapons:** Actions Needed to Identify Total Costs of Weapons Complex Infrastructure and Research and Production Capabilities, [GAO-10-582](#) June 21, 2010, [Summary](#) (HTML) [Highlights Page](#) (PDF) [Full Report](#) (PDF, 54 pages) [Accessible Text](#)

¹⁴⁸ <http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf>.

CEQ's draft threshold for NEPA analysis, exceeding 100,000 metric tons of CO₂ for producing and delivering concrete alone.

12. NNSA itself doubts the adequacy or validity of its existing NEPA analysis, as evidenced by its internal NEPA reviews of aspects of the project, which have not been made available to the public, agencies, or tribes.

Internal NEPA supplement analysis or any other form of post-decision NEPA analysis and subsequent public, agency, and tribal discussion, cannot NEPA's fulfill requirement for prior consultation and comment, which must begin with a full and open scoping process. The diverse standpoints of affected parties, and the independent expertise of other government agencies, are particularly important in establishing the relevance of specific environmental impacts.

13. The CMRR-NF will play a central role in a program involving explosions with plutonium in confinement vessels. Where are the impacts and risks of this program analyzed? [check]
14. The CMRR EIS did not fully analyze intentional malevolent acts, including intentional sabotage and attacks from outside (with and without some cooperation from within).
15. CMRR EIS did not contain an adequate analysis of nuclear waste disposal. CMRR assumes disposal of “low-level” nuclear waste (LLW) on Mesita del Buey, a convenient nearby location on an extension of the mesa on which the CMRR-NF is to be built. Disposal of LLW on Mesita del Buey has not been subject to a favorable internal Performance Assessment per DOE waste disposal orders (check).
16. NNSA has not complied with Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (59 CFR 7629). The Order states:

[E]ach Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.¹⁴⁹
17. CMRR-NF has become encrusted with ancillary sub-projects essential to execution of the aggrandized CMRR, some of which normally require an Environmental Assessment or EIS in themselves – especially if considered together as they must be.

¹⁴⁹ From Council on Environmental Quality, *Environmental Justice: Guidance under the National Environmental Policy Act*, <http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf>:

In the memorandum to heads of departments and agencies that accompanied Executive Order 12898, the President specifically recognized the importance of procedures under the National Environmental Policy Act (NEPA) for identifying and addressing environmental justice concerns. The memorandum states that “each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA].” The memorandum particularly emphasizes the importance of NEPA’s public participation process, directing that “each Federal agency shall provide opportunities for community input in the NEPA process.” Agencies are further directed to “identify potential effects and mitigation measures in consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices.

Considering these facts and pursuant to the above laws, we request that you halt all CMRR-NF activities and make no further contractual obligations to it except as necessary to a) accomplish the decision-making goals of NEPA and b) the business case analyses required to vet reasonable NEPA alternatives. We request that you seek no further CMRR-NF funding from Congress until a new EIS is written and a new ROD filed.

We are very reasonably asking NNSA to write a new EIS now, many months prior to the expected date of first construction. Construction need not be much delayed if at all to write this EIS, assuming NNSA begun writing it today, using its NEPA standing contracts. Various causes, including NNSA's own poor judgment, have delayed completion of this project by approximately 11 years so far. Our request could save, not incur, time and money.

The Los Alamos Study Group has spared no effort in informing your staff and others in government and at LANL of our ongoing analysis and concerns about this project, beginning in 1999 when the CMRR project was first announced and continuing up to the present. Within the financial limitations that affect us all, and which especially constrain voluntary citizen associations, we have devoted thousands of hours in good-faith efforts to engage in principled, factual dialogue with your agencies and others in government. We have assiduously sought every piece of information which could assist that dialogue. We have made dozens of trips to Washington, DC to meet with NNSA, other agencies, and Congress regarding this matter. We have more than exhausted any possible informal remedies.

If we do not hear favorably from you within 20 days we expect to promptly file for judicial relief in federal district court.

review the project in the light of changed circumstances, some of which are mentioned above.

Within Project 04-D-125, NNSA spent \$15.5 M in FY2008, \$46.0 M in FY2009, and expects to spend \$75M in FY2010 on CMRR-NF Final Design. For FY2011, NNSA is requesting \$105 M for CMR-NF Final Design. We request you stop all CMRR-NF project commitments not directly relevant to producing a new EIS and ROD. NNSA must not proceed further with CMRR-NF, prejudicing future choices, in the absence of a truthful and legitimate NEPA analysis of the project to be built and its reasonable alternatives.

It will not be possible to objectively vet alternatives to CMRR-NF as currently designed – before, during, or after a new EIS – without conducting a fresh business case analysis, including an analysis of existing and foreseen facilities, and detailed mission requirements. There is no public record of any such an analysis prior to fixing CMRR project requirements, although the

Los Alamos Study Group requested one at the beginning of the NEPA scoping process.¹⁵⁰ None is referenced in the CMRR EIS.

NNSA has been working on CMRR-NF for a full decade and will have spent about \$110 million (M) on it by September 30 of this year. A significant federal commitment has already been made. Yet sunk costs to date are only 3% of the estimated \$3.4 B CMRR-NF total project cost, and no administrative commitment to initiate final design (CD-2) or to build (CD-3) has been made. It is an ideal time to review the project in the light of changed circumstances, some of which are mentioned above.

We believe tunnel vision and internal bureaucratic inertia are blocking this reassessment.¹⁵¹ We seek to overcome these, to foster better federal decisions, by Congress as well as the executive branch. This is the purpose of NEPA.

NEPA's purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” (40 CFR 1500.1)

¹⁵⁰ “What is missing [from the proposed CMRR EIS scope] is a very careful inventory of exactly what missions now take place in the CMR Building. You should prepare a list of such missions by space usage for various kinds of space. You can even say, “classified mission A, x square feet of Category Y space” if it is truly necessary to hide the nature of a particular mission (we doubt that it is). But we should know what is being replaced. Likewise, we need to see the detailed mission need for the new facility, and for the particular SCALE of the new facility, which is partly what concerns us. It may be that the new facility could be built in stages, which might be more prudent for any number of reasons, especially if you don’t have a clear idea of exactly what you need to do in this building and why you need to do it here and now. Please understand that failure to provide a detailed justification probably means you don’t have one. Poor vetting of mission need is typically an extremely weak part of DOE EIS analysis, and of the analysis that precedes these documents, and it is substantially why DOE actually finishes and ends up using less than half of its major system acquisitions.” Letter from Greg Mello, Los Alamos Study Group, to Elizabeth Withers, CMRR EIS Document Manager, re CMRR EIS scope, August 14, 2002.

¹⁵¹ For more on this theme see Greg Mello, “Bunker mentality: Is NNSA digging itself into a hole at Los Alamos?”, *Bulletin of the Atomic Scientists*, May 26, 2010, <http://www.thebulletin.org/web-edition/features/bunker-mentality-nnsa-digging-itself-hole-los-alamos>.