



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

December 28, 2010

Re: Collapse of value and the need for alternatives to the [Chemistry and Metallurgy Research Replacement Nuclear Facility \(CMRR-NF\)](#) at Los Alamos National Laboratory (LANL)

Dear congressional and other colleagues --

I thought you should see these [excerpts from correspondence with Secretary Chu's CMRR-NF/UPF Review Panel](#) (Dec 22, 2010).

In brief, the CMRR-NF proposed today has suffered a very steep loss in value per dollar since 2003. Using an upper estimate of \$5.8 billion today, the overall collapse in usable square footage per estimated dollar is on the order of a factor of 45. Total project cost has increased by as much as a factor of 14 since 2003, while planned useful area has decreased from 120,000 sq. ft. to 38,500 sq. ft. The comparative cost of CMRR-NF today to LANL plutonium facilities built in 1954 and 1978 is likewise huge.

It is therefore long past time to review [primary alternatives to the project](#) (pdf). This particular 4-page "Chinese menu" of what may be reasonable alternatives is hardly exhaustive, and suffers from my ignorance in many places, but I do not have the resources to do what NNSA itself should have done by now -- what Congress should be demanding.

I believe the process of political negotiation regarding New START ratification has made spending money on CMRR-NF almost an end in itself, a goal with which the LANL operating contractor, Los Alamos National Security, LLC (LANS) is only too happy to agree.

In the words of a front-page column in today's *Albuquerque Journal*, ("[Arms Treaty Rains Dollars](#)"), "reasoned governance" as regards CMRR-NF has been "focused elsewhere," a polite way of saying it has been missing in action. While Mr. Fleck's column contains major analytical errors that make the project and the National Nuclear Security Administration (NNSA) look better than they would under more objective review, the questions he raises are more than valid. They are imperative. Runaway costs are in nobody's interest. The project as currently planned may not even be buildable.

Any perusal of [National Research Council \(NRC\) reports](#) concerning DOE/NNSA project management, or any of several Government Accountability Office (GAO) reports on the same topic such as [this one from 2007](#) (pdf), should convince any reader that the Department of Energy (DOE) and the NNSA have serious project management problems. Relative cost overruns at CMRR-NF so far exceed those at all the DOE megaprojects examined in that 2007 report. Only the proposed Uranium Processing Facility (UPF) is comparable. This project is a fiasco already.

This project would illustrate a catalog of bad planning and management.

- LANL and NNSA failed to adequately describe the seismic hazard at the site, as also has happened at other DOE sites (e.g. Hanford) with the same corporate leadership (Bechtel). LANL had been studying site seismology for at least two decades prior to the CMRR-NF project and knew in 2003, prior to project design, that the 1995 Probabilistic Seismic Hazard Assessment (PHSA) upon which it was relying greatly understated seismic hazard. We knew. LANL scientists knew. Why didn't NNSA know?
- Why didn't NNSA know the site was underlain by a layer of unconsolidated volcanic ash which would amplify seismic accelerations, and possibly cause gross lateral instability of any structure above it? Site

stratigraphy and properties were fully known from site investigations decades prior, and from construction elsewhere at LANL.

- The same management and operating contractor that will profit from managing the project is doing most of the work in writing the purpose, need, and detailed requirements for the project.
- There was no intention of providing safety-class ventilation and monitoring and other nuclear safety features at the beginning of this project. As originally conceived CMRR-NF would not have met commercial nuclear industry standards. After the plutonium storage facility debacle, also at TA-55, why didn't managers learn?
- Despite major seismic and cost implications, NNSA has clung to a wide-span "hotel concept" for this facility that avoids committing to any particular set of missions.
- What indications do we have that the technologies and equipment planned for CMRR-NF are mature? At UPF they are not. What about here? According to NNSA's legal submittals, no such design is under way.
- The [JASON pit aging study](#) (pdf) and the [JASON LEP study](#) (pdf) have, despite NNSA protestations, removed most if not all the original purpose and need for this particular facility.
- NNSA insists on a "design-build" approach to this project despite the fact that it is particularly ill-suited for such a streamlined approach. It has *already* changed markedly from its initial concept. The real purpose of design-build is not to save money in this case -- and it demonstrably hasn't so far -- but rather to vest Congress as deeply as possible in the project, as quickly as possible, i.e. to set up an unstoppable stream of appropriations as soon as possible.
- NNSA has split the project into five separate phases, each of which it intends to pursue separately with its own critical decisions, baseline, and so on. The purpose this is to not to meet some artificial capacity deadline but to vest Congress as deeply as possible in the project as fast as possible -- to get the money flowing.
- NNSA may pursue front-funding for the project. This too is not to save money but rather to dull, or to end, any oversight capable of bringing the project to an halt, no matter what outrageous problems subsequently develop.
- NNSA dropped relatively inexpensive seismic and other upgrades to its existing Chemistry and Metallurgy Research (CMR) building in favor of this project, thus exposing about 300 workers to excessive seismic dangers for what will be a whole generation (i.e. about 25 years), based on what turned out to be fallacious planning and design. If someone tells you CMR upgrades are impractical or too expensive, ask them to show you the analysis upon which that judgment is based, *in detail*. As far as I know there isn't any. Surely NNSA could spend a billion dollars on each of four wings at CMR and still come out ahead, relative to CMRR-NF. I believe the southern four wings of CMR could be rebuilt, or built *de novo*, adequately, many times over with \$5.8 billion. Why is NNSA being allowed to run CMR to failure or replacement?
- Where is the life-cycle cost analysis underpinning this project? Is there any? We have not been able to find any applicable for the project today. A business case analysis, comparing CMRR-NF to alternatives? Missing.
- There is no applicable, objective environmental impact statement (EIS) under the National Environmental Policy Act (NEPA) for the project. An EIS must examine all reasonable alternatives and NNSA cannot continue detailed design of a single particular alternative while that EIS is being prepared. We are litigating to enforce this law. DOE project management orders require completion of NEPA analyses long before the present stage, and NEPA requires integration of business case analyses with NEPA analyses. Both are missing.
- Project design has proceeded thus far as if the environment were expendable. Concrete requirements have increased by a factor of 116, steel by a factor of 69, and so on.

- No baseline is expected until 2014, or 2013 at the earliest, even though construction and site work are expected to begin this coming year. Shouldn't a baseline be completed at the 20-30% design stage, as the NRC has recommended? Why is Congress providing such large sums, and allowing the initiation of construction, prior to completion of a baseline?

It would be a mistake to think that these cost overruns and the above capricious disregard of common sense, DOE orders, and applicable law were merely things that "happened," which nobody could have foreseen and for which nobody was, or should be held, responsible. Quite the opposite. The project's problems are the fully-determined outcomes of attitudes and practices that were and still are directly aimed at circumventing good management practices, sidelining responsible and constructive criticism, and preventing objective external review except within the narrowest of mandates, such as the narrow mandate of the Defense Nuclear Facilities Safety Board (DNFSB). These problems didn't just happen. They were caused -- by intentional efforts to push this project forward as fast as possible, with as little review as possible. [Design by deception](#) (pdf) works the same the world over.

Many parties inside government and out now have profound questions about this facility. For example, I know of one president of a NNSA site management and operating contractor who is aghast at the price tag of what was originally supposed to be a relatively inexpensive facility. I am sure there are others.

This project is begging for reconsideration, not just of the project itself but also of the missions it is designed to meet. For example, [pit production is neither needed nor wise](#) (pdf). NNSA is required under NEPA to take a hard look at "all" alternatives. NNSA hasn't.

Yes, everything at LANL costs much more than it should, from simple monitoring wells to managerial salaries and bonuses. Norris Bradbury, who ran LANL from 1945 to 1970, drove an old jalopy and eventually donated it to the high school auto shop. Dr. Anastasio drives a sports car, paid for with a special taxpayer-funded allowance, over and above his huge salary. In symbolic terms, there's the problem right there. The "public interest," "government service," or even "national security," are hardly the dominant motivating factors at LANL these days. Let's not be naive, or pretend we are. LANL, and NNSA, cannot provide their own oversight. Congress, and the White House, must do that.

Greg Mello