Los Alamos Study Group

LANL's CMRR project - monument of folly

(updated11/22/10)

Mello Aff #1, par 4, ref 1: http://www.lasg.org/CMRR/open_page.htm

End funding for the CMRR Nuclear Facility at Los Alamos

The proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) is an unnecessary $4.2 billion (B) boon to Los Alamos National Laboratory (LANL) in New Mexico that will help keep LANL business booming well into the future -- not just business in general but nuclear weapons production in particular.

It is a real and symbolic provocation that will undermine global efforts toward disarmament and non-proliferation.

A Modern "Pit" Factory

The CMRR project is said to replace the Chemistry and Metallurgy Research (CMR) building, an old structure that the laboratory has partially abandoned. The CMR was (and is) LANL's biggest all-purpose industrial-scale chemistry laboratory, capable of pilot production and of handling radioactive materials of all kinds. It has unique facilities which will not be replaced by CMRR (e.g. hot cells for remote handling of radioactive materials).

The "replacement" part of the CMRR name is deceptive in other ways too, given that the scope of the new facility includes a storage vault for 6 metric tons (6,000 kilograms) of plutonium, which would about triple LANL's inventory. Next door, but sharing the same security perimeter, is the existing Plutonium Facility, which contains all the necessary equipment and technology for assembling large quantities of plutonium warhead cores, known as "pits." If funded, this project would fulfill George W. Bush's plan to build a "modern" pit facility, capable

Los Alamos National Laboratory (LANL) Technical Area (TA) -55, looking south, January 2009. Main Plutonium Facility (Building PF-4) in foreground. CMRR Radiological Laboratory, Utility, and Office Building (RLUOB) upper left. CMRR Nuclear Facility (CMRR-NF) site at upper center, where the construction yard is in this photo. © Los Alamos Study Group.

New this Week (Nov 14 - 20, 2010)

U.S. Plutonium "Pit" Production: Additional Facilities, Production, Restart are Unnecessary, Costly, and Provocative, Mello, paper, (pdf 242KB), published Nov 2010, (dated Mar 2, 2010)

CMRR-NF SEIS scoping comments, Nov 20, 2010

CMRR Nuclear Facility Litigation under the National Environmental Policy Act (NEPA)

Update to the National Defense Authorization Act of FY2010 Section 1251 Report, New START Treaty Framework and Nuclear Force Structure Plans, Nov 2010 (pdf 192KB)

Los Alamos' Proposed Plutonium Pit Palace, frequently asked questions, (pdf 488KB) Nov 18, 2010

Nuclear Spending Plan Up, *Albuquerque Journal,* Nov 19, 2010

Environmental concerns circle LANL project, *The New Mexican,* Nov 15, 2010

NNSA halts procurement on plutonium warhead factory, "modernization" centerpiece at Los Alamos, LASG Press Release, Nov 15, 2010

LASG letter to Senators re: CMRR-NF, Nov 15, 2010

Procurements Related to CMRR-NF Process on Hold Due to NEPA Review, *Nuclear Weapons Materials Monitor*, (pdf 160KB) Nov 15, 2010

From last Week (Nov 7 - 13, 2010)

LASG files motion to halt CMRR-NF; procurements suspended; White House promises $820 M/year more to nuke labs, plants, LASG Bulletin #102, Nov 13, 2010

LANL's Plutonium Pit Palace, What You Can Do to STOP it, 2-page flyer for your use, (pdf 2.2MB) Nov 9, 2010

Local governments, tribes, and Los Alamos residents are beginning to question the $6 billion nuclear factory proposed for Los Alamos, LASG Bulletin #101, Nov 7, 2010

of turning out large numbers of pits for new warheads in short order, at a rate NNSA documents suggest would be 125 pits/year, surging to 200 pits/year if necessary.

Construction began on the first and smaller of two buildings in the CMRR project in January 2006. It will be complete in 2013. Current projections estimate that the Nuclear Facility will be complete in 2022.

During the Bush Administration, project funding rose slowly. House members in particular were aware that the big buildup seemed to be at cross purposes with dwindling needs and international treaties, and questioned its overall rationale. House appropriators resisted and then denied administration funding requests, but the project was kept alive by the Senate, particularly by Republican Sen. Pete Domenici's influence in conference committee negotiations.

Nuclear Rearmament

When the Obama administration submitted its budget proposal this year, the funding request for CMRR-NF more than doubled to $225 million (M) from the $97 million it obtained in 2009. Another increase, to $305 M, is expected for 2012.

The overall project has been marked by escalating costs -- eightfold since the project's initiation -- and by an unsettling new seismic assessment that requires extraordinary compensatory measures. If built, CMRR would become the largest public project in New Mexico history by about a factor of ten.

To add to the folly, the additional pit manufacturing capability is no longer needed, because the existing spare pit inventory provides thousands of usable backups to the decreasing stockpile. All these pits will last until at least the last decades of the century. Without CMRR-NF, LANL already has a significant pit manufacturing capability, which has been only

RLUOB construction in the early stages, looking east. The face of the excavation shown is about 40' tall. CMRR-NF will require a pit at least three times this deep - a challenging problem on this crowded site. CMRR-NF will require many times more construction materials than the RLUOB.

More CMRR-RLUOB construction photos here

From previous weeks (Jun 14 - Nov 6, 2010)

Study Group Fights Motion to Dismiss CMRR Suit, *Nuclear Weapons and Materials Monitor,* (pdf 146KB) Nov 1, 2010

START: Arms Affirmation Treaty, *Foreign Policy in Focus,* Darwin BondGraham, article, Oct 29, 2010, also on *Common Dreams*.

Secretary of Energy Initiates Additional Review of UPF, CMRR-NF, and As New Enviro. Review of CMRR-NF Starts, Fed says NEPA Base Strong, *Nuclear Weapons and Materials Monitor,* (pdf 178KB) Oct 25, 2010

Study Group attorneys file response to DOE effort to quash lawsuit, DOE Secretary to initiate new study of LANL nuke facility, LASG Bulletin #100, Oct 22, 2010

Study Group's (plaintiff's) response to DOE/NNSA's motion to dismiss, (pdf 1MB) Oct 21, 2010

The illegitimate scoping hearings for the big new nuke weapons plant are upon us, tomorrow and Wednesday. Please go, or comment, or both – but the real action is elsewhere, LASG Bulletin #99, Oct 18, 2010

Lawmakers Back Nuclear Weapons Budget Boost, *Global Security Newswire*, article, Oct 4, 2010

Nuclear funding gets boost, *Associated Press*, article, Oct 2, 2010

Huge "emergency" funding increase for nuke labs today, LASG press release, Oct 1, 2010

NNSA promises "supplemental" EIS for massive Los Alamos facility; would bull forward on project regardless, LASG press release, Oct 1, 2010

Administration admits environmental analysis of LANL weapons facility is insufficient, LASG Bulletin #98, Sep 28, 2010

How you can Help Stop the proposed Nuclear Facility at LANL, Sep 28, 2010

Sample letter to local government officials to request a new EIS for the CMRR Nuclear Facility, (doc), Sep 27, 2010

Sample letter from local government officials to request a new EIS for the CMRR Nuclear Facility, (doc) Sep 27, 2010

NNSA plans new CMRR environmental analysis, but group won't drop suit, (pdf 179KB) *Nuclear Weapons and Materials Monitor,* Sep 27, 2010

New Study of LANL Project Planned in Light of Lawsuit, *Albuquerque Journal North*, article, Sep 23, 2010

loosely managed because there is no demand for the product. Among the sane and sensible ways to cut the federal budget, cutting the CMRR-NF is one of the best, on behalf of our country and the world.

If we do build CMRR-NF, don't ask where the money went for the schools we need, or the climate- and business-saving infrastructure, or the health and elder-care. We will have buried our hopes for a better future in a pit on a mesa in New Mexico.

Note on CMRR costs *(4/19/10): Today we realized we had been misinterpreting National Nuclear Security Administration's (NNSA's) estimated CMRR costs since February. We gave these as $5 billion (B) for the CMRR project as a whole and $4.2 B for the Nuclear Facility. NNSA's current estimates are actually $4.2 B for the project as a whole and $3.4 B for the Nuclear Facility. Our estimates for the whole project include $400 million for dismantlement and disposal of the CMR building, which is a mid-range figure escalated to today's dollars from NNSA's prior estimates. All NNSA's estimates are still preliminary and will remain so until at least 2012.*

Although our data is incomplete, it appears the current estimated cost of the CMRR project is equal to all cumulative spending at Site Y and LASL, in constant 2010 dollars, from 1943 through 1954 (11 years). During this period atomic bombs were first developed, tested, and produced (all stockpile pits were produced at Los Alamos up to 1949), three plutonium facilities were built in Los Alamos to support these activities (Building D, DP Site, and CMR), fission bombs were rapidly miniaturized, and the first hydrogen bombs were developed, tested, and deployed.

The cost of all the plutonium-related facility upgrades presently underway is somewhat more than CMRR costs and is roughly equal to all cumulative Los Alamos spending for its first 13 years, from 1943 to 1956.

In response to lawsuit, nuke agency admits huge plutonium bomb facility needs additional environmental analysis, press release, Sep 23, 2010

Lab, watchdog group spar over nuclear facility, Feds urge dismissal of environment suit, *Santa Fe New Mexican*, article, Sep 22, 2010

FY 2011 proposed continuing resolution weapons activities spending increase, (pdf 126KB) Sep 2010

Letter from the Study Group in response to the DOJ ltr addressing the lawsuit, (pdf 121KB) Sep 22, 2010

Letter from the Department of Justice in response to LASG lawsuit, (pdf 22KB) Sep 17, 2010

LANL Proposal Needs New Study, *Albuquerque Journal*, Willem Malten, op-ed, Sep 5, 2010

What's Behind the CMRR Facility & the US Nuclear Weapons Industry, (mpg 27.1MB) Darwin BondGraham, presentation, Aug 28, 2010 *(thanks to Robin Collier, Cultural Energy)*

Los Alamos Study Group files suit over LANL plutonium facility, (pdf 184 KB) *Nuclear Weapons & Materials Monitor*, article, Aug 30, 2010

"New START", the proposed CMRR Nuclear Facility and the LASG lawsuit against the DOE and NNSA, *Op-Ed News,* Malten, article, Aug 27, 2010

Shooting an Arrow at the Beating Heart of Nuclear Weapons, *The Faster Times*, blog, Aug 24, 2010 (also here: *Foreign Policy in Focus*, blog, Aug 23, 2010)

CMRR litigation: One simple thing you can do to help, LASG Bulletin #97, (pdf 51KB), Aug 22, 2010

Nuke lawsuit part of bigger battle, *Los Alamos Monitor*, article, Aug 19, 2010

Greens Sue To Stop New Plutonium Plant At Los Alamos Lab, (pdf 370KB), *Energy Daily,* article, Aug 18, 2010

Nuke Pit Facility Just Make-Work Project, *Albuquerque Journal*, Neils, op-ed, Aug 18, 2010

Sen. Udall responds as nuke group sues government, KSFR - Santa Fe Public Radio, Aug 17, 2010

Suit Targets Plutonium Lab, *Albuquerque Journal North,* also in the main *Albuquerque Journal*, article, Aug 17, 2010.

Suit filed against Los Alamos, *The Great Beyond*, blog, Aug 17, 2010

Los Alamos Study Group files lawsuit against Department of Energy, NNSA, *Taos HorseFly,* Mello, press release, Aug 16, 2010

Suit seeks to stop work on CMRR in Los Alamos, *Atomic City Underground,* blog, Aug 16, 2010

Group files suit to halt LANL nuke facility, *Santa Fe New Mexican*, article, Aug 16, 2010.

Plutonium building at Los Alamos lab needs environmental study, *San Francisco Examiner*, article, Aug 16, 2010, also here: *Global Security Newswire*.

Los Alamos Study Group's "Complaint for Declaratory Judgment and Injunctive Relief under the National Environmental Policy Act of 1969," (pdf 1.5MB), Aug 16, 2010

Los Alamos Study Group Files Suit against Department of Energy, NNSA, to Halt Design of $4 Billion Los Alamos Bomb Factory, press release, Aug 16, 2010

LASG letter to Senators Kyl, et.al., Jul 30, 2010

NNSA response to LASG letter re: proposed Nuclear Facility at LANL and necessity for new EIS, (pdf 45KB) Jul 30, 2010

It's the Pits, Los Alamos wants to spend billions for new nuke triggers, *Santa Fe Reporter*, article, Jul 21, 2010

We can and must stop LANL's proposed plutonium lab, and here's how, LASG Bulletin #96, Jul 16, 2010

Nuclear Matters: A Practical Guide, 2008 edition, (4pdf MB) Office of the Deputy Assistant to the Secretary of Defense for Nuclear Matters. (In-depth discussion of nuclear weapons written for the military.Good overview of the nuclear weapons enterprise and its terminology from the military perspective.)

Activist Group Calls for "Hard Look" at CMRR-NF, *Nuclear Weapons & Materials Monitor*, article, Jul 5, 2010

Lab Watchdog Threatening Suit, *Albuquerque Journal*, article, Jul 2, 2010

Group urges case against new facility at LANL, *The New Mexican*, article, Jul 1, 2010

NM Group Wants Another Look At Los Alamos Building, *NewsWest9.com*, *Associated Press*, article, Jul 1, 2010

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), LASG letter of intent, Jul 1, 2010, (pdf 1.5MB)

Citizens call on nuclear agency to abide by environmental laws, analyze impacts of proposed warhead factory and alternatives, press release, Jul 1, 2010

Study: CMRR is especially dispensable, *Rio Grande Tribune*, Snodgrass, article, Jun 30, 2010

Congress Chafes Over Nuke Costs, *Albuquerque Journal*, Fleck, Jun 29, 2010

Nuclear weapons accounts don't add up, *Santa Fe New Mexican*, article, Jun 26, 2010

LANL management is lying about CMRR. Enough is enough. Throw the bums out, *Santa Fe New Mexican*, Mello, letter to the editor, Jun 25, 2010

GAO report: Nuclear Weapons - Actions Needed to Identify Total Costs of Weapons Complex Infrastructure and Research and Production Capabilities, Jun 2010 (pdf 1.5MB)

LANL construction forum, Española, Jun 16, 2010: John Bretzke - presentation, (pdf 1.29MB) Tom McKinney - presentation, (pdf 1.29MB)

LANL's construction website unveiled at the Española construction forum, Jun 16, 2010

LANL to unveil proposed plutonium project to Española business community Wednesday, press release, Jun 15, 2010

Large portions of Recovery Act spending fail to stimulate New Mexico's economy, press release, Jun 15, 2010 (also published in the *Rio Grande Tribune*.)

Nuclear and Military Maldistribution and Inefficient Use of Recovery Act Funds in New Mexico, (pdf 1MB), Jun 15, 2010

Articles, bulletins, press releases, interviews and other information

2010

- Presentation by Rick Holmes, LANL CMRR Division Leader to ETEBA, Energy Technology and Environmental Association, Jun 10, 2010
- LANL's latest needs closer look, *Santa Fe New Mexican*, Malten, Letter, Jun 9, 2010
- Please RSVP and attend LANL's public discussion of its proposed plutonium warhead core

("pit") factory annex, Bulletin #95, Jun 7, 2010

- A Hole Lot of Nothing, *Environmental News for New Mexicans*, Snodgrass, guest blog entry, Jun 7, 2010
- Mello comment on *Santa Fe New Mexican*, NNSA/Winchell op-ed, Jun 7, 2010
- Senate Armed Services Committee questions CMRR size, cart-before-horse approach; wants "truly independent" cost review.

  > 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.
  >
  > FY2011 Defense Authorization Act Senate Report (pdf 2.3MB) pg. 274, May 27, 2010. This is report language, not law. Stay tuned.

- Bunker mentality: Is NNSA digging itself into a hole at Los Alamos?, *Bulletin of the Atomic Scientists*, Mello, article, May 26, 2010
- Rep. Ben Ray Lujan answers a question on the CMRR at a public meeting in Taos, MP3 1.6MB, courtesy of *Cultural Energy*, (transcript in Word 14KB) May 22, 2010
- The US-Russia START Treaty: Just What Does "Arms Control" Really Mean?, *MRZine,* BondGraham, article, May 20, 2010
- CMRR Executive Summary, May 11, 2010, LASG paper, (pdf 988KB)
- Bad Faith, *NPT News in Review*, pg 10 (pdf 1.3MB) Ray Acheson, article, May 11, 2010
- If you Love this Planet, weekly radio show with Helen Caldicott, Mello, (MP3, 54MB) May 10, 2010
- Obama Administration Requests Funding to Upgrade Several Types of Nuclear Bombs, press remarks, May 7, 2010
- Meditations for managers of the warhead complex, with emphasis on CMRR (2009), Mello, posted Apr 30.
- Against Treaties, Against All Postures, BondGraham, blog, Apr 29, (see also: Deepshit Horizon: Earth Day began with a blow-out, will it end with one?, *Energy Bulletin,* BondGraham, blog, Apr 23)
- LANL Rebuild More Than U.S. Nuke System Needs, *ABQ Journal*, Mello, Op-Ed, Apr 21, 2010
- Feds should stop "Taj Majal," *Los Alamos Monitor,* Mello, Gessing, Op-Ed, Apr 18, 2010
- Los Alamos Lab's CMRR-NF project would send wrong message to world, *Santa Fe New Mexican,* Willem Malten, Op-Ed, Apr 17, 2010
- End funding for the nuclear facility at Los Alamos, information sheet on CMRR, (pdf 62KB) Apr 16, 2010
  - The National Nuclear Security Administration (NNSA) plows ahead with a more or less $4.7B program of replacement and expansion of plutonium facilities at Los Alamos National Laboratory. Why it must be stopped.

New Mexico's Largest Public Infrastructure Investments
in Relation to Estimated CMRR Costs
(Costs are best available; dates mostly at completion; CMRR assumed to cost $4.2B)

Project	Year	Cost Then ($M)	Cost in 2010 ($M)1	Percent CMRR
Elephant Butte Dam, NM	1916	5.2	222	5%
Golden Gate Bridge, CA	1937	35	850	20%
San Juan Chama Diversion	1964	>35	>272	>6%
Cochiti Dam, NM	1975	94.4	344	8%
LANL TA-55 PF-4	1978	75	213	5%
I-40 + I-25 highways, NM (treated here as one project)	1956-1995	~7.4 M/mile, 2006 dollars	Ballpark 6,666	159%
Big I Interchange, Albuquerque	2001	290	386	9%
San Juan Chama drinking water project, Albuquerque	2008	280	283	7%
Railrunner Heavy Rail Extension to Santa Fe (incl. track lease)	2008	~400	~404	10%
LANL DARHT (very approximate)	~2008	~400	~404	~10%
SNL MESA Complex	2008	516.5	522	12%

[1] Costs inflated to 2008 using the "Building Cost Index," from Engineering News-Record, Which began in 1923. Elephant Butte Dam costs were inflated from 1916 to 1923 using the Consumer Price Index (CPI). CPI used from 2008 to 2010. References are omitted here; inquire for details.

- KPFA, 94.1, hard-hitting Bay area radio interview, Mello, (MP3, 5.1MB) Apr 11, 2010
- Jim Bohannon radio show, Mello, (MP3, 28.7MB) Apr 7, 2010
- Thom Hartmann radio show, Mello, (MP3, 18.7MB), Apr 4, 2010
- Letter from Representatives Pete Stark, Edward Markey, et.al. about cutting the CMRR and the Uranium Processing Facility (UPF) at Y-12 in favor of dismantlement, (pdf 38KB) Mar 31, 2010
- Rethinking Obama's Nuclear Policy, Chicago Public Radio, WBEZ, Mello, (MP3, 11.6MB) Mar 3, 2010

This was the groundbreaking for the RLUOB which when completed will account for less than 10% of the total CMRR cost. Neither NNSA nor Congress have approved CMRR-NF construction.

LASG archive on plutonium pit production and related issues - A print media history of the public debate about plutonium pit production at Los Alamos National Laboratory, Nov 1989 - Dec 2006.

LANL links

- CMRR project main site
- CMRR historical overview
- CMRR Environmental Impact Statement (EIS) & related documents
- CMRR public meetings

LANL semi-annual CMRR Public Meetings (pdf)

CMRR_Public_Mtg_Mar 3, 2010 audio files - (courtesy Robin Collier, Cultural Energy).

2009

- Chemistry Metallurgy Research Replacement (CMRR) Project Primer (pdf 388KB), Dec 21, 2009 updated edition. This is the single most complete resource on CMRR we have.
- Defense Safety Board Strongly Criticizes Seismic Safety at Los Alamos Plutonium Facility, LASG press release, Oct 27, 2009
- Don't Build a Plutonium "Bridge to Nowhere," *Albuquerque Journal*, Mello, Op-Ed, May 17, 2009
- Administration to Slow LANL Plutonium "Pit" Factory, Cut Nuke Weapons Budget at LANL, LASG press release, May 7, 2009
- Obama Administration to Release First Nuclear Weapons Budget, LASG press release, May 7, 2009
- Nuclear “Consolidation” Network Proposes Southwest Nuclear Weapons Complex, LASG press release, Apr 7, 2009
- Brief Partial Update on the Chemistry and Metallurgy Research Replacement (CMRR) Project at LANL, Mello, paper, Jan 28,2009

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- Administration Signals Nuclear Weapons Complex Preferences; Plan Calls for Billions in Weapons Plant Construction, LASG press release, Oct 9, 2008
- House, Senate Largely Endorse Bush Nuke Plans in Defense Authorization Bill, LASG press release, Sep 24, 2008
- Senate energy and water panel faces today's national security and economic emergencies largely on autopilot, LASG press release, Jul 8, 2008
- House Committee Weighs Future of LANL Plutonium Expansion; Udall, Lujan Silent, LASG press backgrounder, Jun 20, 2008
- House Appropriations Subcommittee to Mark Up Energy and Water Bill, LASG press advisory, Jun 17, 2008
- LASG letter to key congressional and executive branch individuals re: CMRR, Jun 11, 2008
- Short precis on pit production operating and capital project issues, Mello, paper, Jun 10, 2008
- GAO: NNSA has *changing*, *contradictory* plutonium warhead core ("pit") production goals and has "low-balled" pit production costs, LASG press release, Jun 2, 2008
- LASG letter to Congressman Udall staff re CMRR, pit production, and Desert Rock, Mar 28, 2008
- Build Warhead Factories Now, Worry about Weapons Policy Later -- Will Congress Take Back the Reins?, Mello, paper, Feb 12, 2008
- Last Bush nuclear weapons budget seeks end-run on weapons programs, ignores congressional direction, LASG press release, Feb 4, 2008

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- Los Alamos makes plutonium warhead core ("pit"), resuming U.S. warhead manufacture after 18 years, LASG press release, Jul 2, 2007
- It is critical to stop warhead core (“pit”) production, and we can, LASG flyer, May 1, 2007
- Informal pit production talking points, LASG, Feb 24, 2007

- introductions
- Q&A #1
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- Rick Holmes presentation
- rules
- Steve Fong presentation
- other presentations

LA-UR-10-01115, Mar 2010, Vol-9

LA-UR-10-00676, Sep 2009, Vol-8

LA-UR-09-02749, Mar 2009, Vol-7

LA-UR-09-00620, Sep 2008, Vol-6

LA-UR-08-04500, Mar 2008, Vol-5

LA-UR-08-0357, Sep 2007, Vol-4

LA-UR-07-3583, Mar 2007, Vol-3

LA-UR-07-0684, Sep 2006, Vol-2

LA-UR-06-6199, Mar 2006, Vol-1

Nuclear Matters: A Practical Guide, 2008 edition, Office of the Deputy Assistant to the Secretary of Defense for Nuclear Matters. (In-depth discussion of nuclear weapons written for the military.Good overview of the nuclear weapons enterprise and its terminology from the military perspective.)

NNSA FY2011 Budget Request, Project Data Sheet (PDS) for CMRR. (pdf 270 KB)
PDS and rest of budget here, (Vol 1, pgs 215-229)

- Pit production: no value added, *Los Alamos Monitor*, Mello, guest column, Jan 7, 2007

2006

- Pit Lifetime, JASON, JSR-06-335, The Mitre Corporation, report, Nov 20, 2006 (506KB pdf)
- Why the Chemistry and Metallurgy Research Replacement (CMRR) facility at Los Alamos should not be funded, LASG letter to Senator Reid, Oct 29, 2006
- Pit production will change Los Alamos, *Los Alamos Monitor*, Mello, guest column, Oct 6, 2006
- Pit production: once begun, hard to control, *Los Alamos Monitor*, Mello, guest column, Sep 14, 2006
- Plutonium Pit Production — LANL's Pivotal New Mission, LASG paper, July 2006
- Sweeping Plans to Build New Warheads to be Part of Bush Nuclear Budget; Los Alamos is Pivotal Site, LASG press release, Feb 6, 2006

Steve Fong, NNSA CMRR project mgr, Mar. 3, 2010
(photo courtesy Robin Collier, Cultural Energy)

Mello Aff #1, par 4, ref 2: http://www.lasg.org/Pit_Prod.htm

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Plutonium pit production and related issues

Portions of the print media record of the public debate about plutonium pit production at Los Alamos National Laboratory 1989 - 2006, (pdf).

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Mello Aff #1, par 4, ref 3: http://www.lasg.org/CMRR_Dec_09.pdf

Chemistry and Metallurgy Research Replacement (CMRR) Project Primer:

Introduction, Overview, and Some Key Issues

Greg Mello, gmello@lasg.org, with help from Trish Williams-Mello, twm@lasg.org

September 7, 2009 (partially updated to December 21, 2009).

Further updates and several additional sections are pending.
Updates will be indicated by red text in future editions.

See prior analyses in Appendix A below (p. 29)

FY2010 congressional markups are in Appendix B (p. 62)

Final FY2010 congressional action will be added in the next edition

1. Introduction and overview of CMRR issues

The National Nuclear Security Administration (NNSA) and Congress are currently weighing *whether*, and if so *at what scale, with what capabilities, and in what order*, to build two proposed large new warhead production facilities, one at the Los Alamos National Laboratory (LANL) in New Mexico and the other at the Y-12 National Security Complex (Y-12) in Tennessee.

The Los Alamos facility is actually two buildings, together called the "Chemistry and Metallurgy Research Replacement (CMRR) Project," at LANL's Technical Area (TA) 55. The first of these, called the Radiological Laboratory, Utility, and Office Building (RLUOB), is nearly built, as far the physical structure goes. Fitting the building with special equipment is expected to cost more than the building itself and will not be completed until the end of fiscal year (FY) 2013.

The second CMRR building, the CMRR Nuclear Facility (NF), is estimated to cost very roughly ten times as much as the RLUOB.[1] It remains in preliminary design. As we shall see, no decision about whether to build it will be made by either the Administration or Congress prior to

[1] At this point in time, without firm estimates for either building, one can only say the second building is likely to cost anywhere from 5 to 15 times as much as the first, assuming all goes reasonably well, depending on which set of estimates one uses.

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DOE/EIS-0350; Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico
(November 2003)

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how be consistent with the approach currently used for applications for certification of natural gas facilities. The attached document provides an overview for starting the process. Additional information is available on the Commission's Web site at *http://www.ferc.gov/industries/hydropower/enviro/third-party/tpc.asp.*

Magalie R. Salas,

Secretary.

Office of Energy Projects; Third-Party Contracting Program

The Office of Energy Project's voluntary ''third-party contracting'' (3–PC) program enables applicants seeking certificates for natural gas facilities or licenses for hydroelectric power projects to fund a third-party contractor to assist the Commission in meeting its responsibilities under the National Environmental Policy Act of 1969.

The 3–PC program involves the use of independent contractors to assist Commission staff in its environmental review and preparation of environmental documents. A third-party contractor is selected by, and works under the direct supervision and control of Commission staff, and is paid for by the applicant. Prospective applicants considering participation in this 3–PC program should meet with Commission staff to discuss their proposals, and to answer any questions they might have relative to the program itself.

Applicants electing to participate in the 3–PC program will be required to prepare a draft Request for Proposal (RFP) for review and approval by the Commission staff before it is issued. The RFP will be required to include screening criteria, and an explanation of how the criteria will be used to select among the contractors who respond to the RFP. Subsequently, applicants would issue the approved RFP and screen all proposals received for technical adequacy and Organizational Conflict of Interest (OCI). The applicant is responsible for reviewing carefully all OCI materials (submitted for the prime and each proposed subcontractor as part of each proposal) to determine whether the candidate is capable of impartially performing the environmental services required under the third-party contract. The applicant will then submit to Commission staff the technical and cost proposals and OCI statements of their three best qualified candidates.

Final contractor selection will be made by Commission staff based on an evaluation of the technical, managerial, and personnel aspects of the candidates' proposals as well as OCI considerations. While bid fees will not necessarily be the controlling factor in the selection of the third-party contractor, relative cost levels will be considered. Commission staff will send the applicant an approval letter clarifying any details and/or resolving any issues that remain outstanding following review of the selected third-party contractor's proposal.

As soon as practical, the applicant will award a contract to the third-party contractor [illegible] determine the appropriate form of agreement for payment of the contractor by the applicant. Because the applicant will actually award the contract to the third-party contractor, it will be the applicant's responsibility to answer questions from candidates not selected.

The information provided above is intended to give a quick overview of the 3–PC program and how to get started. Detailed guidance specific to the gas and hydro process will be available soon. In the interim, applicants with specific questions about the 3–PC program can contact the following Commission staff:

Gas Certificate 3–PC program: Richard R. Hoffmann, Director, Division of Gas—Environment and Engineering, telephone (202) 502–8066, Office of Energy Projects, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426; *http://www.ferc.gov/industries/gas/enviro/third-party/tpc.asp.*

Hydropower Licensing 3–PC program: Ann F. Miles, Director, Division of Hydropower—Environment and Engineering, telephone (202) 502–6769, Office of Energy Projects, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426; *http://www.ferc.gov/industries/hydropower/enviro/third-party/tpc.asp.*

Inquiries regarding OCI should be directed to: David R. Dickey, Staff Attorney, General and Administrative Law (GC–13), telephone (202) 502–8527, Office of General Counsel, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426.

Inquiries regarding ex parte *should be directed to:* Carol C. Johnson, Staff Attorney, General and Administrative Law (GC–13), telephone (202) 502–8521, Office of General Counsel, Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426.

[FR Doc. E4–257 Filed 2–11–04; 8:45 am]

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DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. RP04–51–000]

Paiute Pipeline Company; Notice of Rescheduling of Technical Conference

February 4, 2004.

In its Order issued December 4, 2003,[1] the Commission directed that a technical conference be held to better understand several aspects of Paiute Pipeline Company's November 7, 2003 tariff filing pertaining to segmentation and backhaul transportation.

Take notice that the technical conference has been rescheduled for Wednesday, February 25, 2004 at 10 a.m., in a room to be designated at the [illegible]eral Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426.

All interested persons and staff are permitted to attend. Parties that wish to participate by phone should contact Sharon Dameron at (202) 502–8410 or at *sharon.dameron@ferc.gov* no later than Wednesday, February 18, 2004.

Magalie R. Salas,

Secretary.

[FR Doc. E4–261 Filed 2–11–04; 8:45 am]

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[1] Paiute Pipeline Company, 105 FERC ¶ 61,271

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Record of Decision: Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, Department of Energy.

ACTION: Record of decision.

SUMMARY: The U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) is issuing this record of decision on the proposed replacement of the existing Chemistry and Metallurgy (CMR) Building at Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. This record of decision is based upon the information contained in the ''Environmental Impact Statement for the Proposed Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory, Los Alamos, New Mexico'', DOE/EIS–0350 (CMRR EIS), and other factors, including the programmatic and technical risk, construction requirements, and cost. NNSA has decided to implement the preferred alternative, alternative 1, which is the construction of a new CMR Replacement (CMRR) facility at LANL's Technical Area 55 (TA–55). The new CMRR facility would include a single, above-ground, consolidated special nuclear material-capable, Hazard Category 2 laboratory building (construction option 3) with a separate administrative office and support functions building. The existing CMR building at LANL would be decontaminated, decommissioned, and demolished in its entirety (disposition option 3). The preferred alternative includes the construction of the new CMRR facility, and the movement of operations from the existing CMR

building into the new CMRR facility, with operations expected to continue in the new facility over the next 50 years.

FOR FURTHER INFORMATION CONTACT: For further information on the CMRR EIS or record of decision, or to receive a copy of this EIS or record of decision, contact: Elizabeth Withers, Document Manager, U.S. Department of Energy, Los Alamos Site Office, 528 35th Street, Los Alamos, NM 87544, (505) 667–8690. For information on the DOE National Environmental Policy Act (NEPA) process, contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (EH–42), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–4600, or leave a message at (800) 472–2756.

SUPPLEMENTARY INFORMATION:

Background

The NNSA prepared this record of decision pursuant to the regulations of the Council on Environmental Quality for implementing NEPA (40 CFR parts 1500–1508) and DOE's NEPA implementing procedures (10 CFR part 1021). This record of decision is based, in part, on information provided in the CMRR EIS.

LANL is located in north-central New Mexico, about 60 miles (97 kilometers) north-northeast of Albuquerque, and about 25 miles (40 kilometers) northwest of Santa Fe. LANL occupies an area of approximately 25,600 acres (10,360 hectares), or approximately 40 square miles (104 square kilometers). NNSA is responsible for the administration of LANL as one of three National Security Laboratories. LANL provides both the NNSA and DOE with mission support capabilities through its activities and operations, particularly in the area of national security.

Work at LANL includes operations that focus on the safety and reliability of the nation's nuclear weapons stockpile and on programs that reduce global nuclear proliferation. LANL's main role in NNSA mission objectives includes a wide range of scientific and technological capabilities that support nuclear materials handling, processing and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities. LANL supports actinide (any of a series of elements with atomic numbers ranging from actinium-89 through lawrencium-103) science missions ranging from the plutonium-238 heat source program undertaken for the National Aeronautics and Space Administration (NASA) to arms control and technology development.

The capabilities needed to execute NNSA mission activities require facilities at LANL that can be used to handle actinide and other radioactive materials in a safe and secure manner. Of primary importance are the facilities located within the CMR building and the plutonium facility (located in TAs 3 and 55, respectively). Most of the LANL mission support functions require analytical chemistry (AC) and materials characterization (MC), and actinide research and development support capabilities and capacities that currently exist within facilities at the CMR building and that are not available elsewhere. Other unique capabilities are located within the plutonium facility. Work is sometimes moved between the CMR building and the plutonium facility to make use of the full suite of capabilities they provide.

The CMR building is over 50 years old and many of its utility systems and structural components are deteriorating. Studies conducted in the late 1990s identified a seismic fault trace located beneath one of the wings of the CMR building that increases the level of structural integrity required to meet current structural seismic code requirements for a Hazard Category 2 nuclear facility (a Hazard Category 2 nuclear facility is one in which the hazard analysis identifies the potential for significant onsite consequences). Correcting the CMR building's defects by performing repairs and upgrades would be difficult and costly. NNSA cannot continue to operate the assigned LANL mission-critical CMR support capabilities in the existing CMR building at an acceptable level of risk to public and worker health and safety without operational restrictions. These operational restrictions preclude the full implementation of the level of operation DOE decided upon through its 1999 record of decision for the ''Site-wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory'' (DOE/EIS–0238) (LANL SWEIS). Mission-critical CMR capabilities at LANL support NNSA's stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities conducted at LANL. The CMR building is near the end of its useful life and action is required now by NNSA to assess alternatives for continuing these activities for the next 50 years. 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.

Alternatives Considered

NNSA evaluated the environmental impacts associated with the proposed relocation of LANL AC and MC, and associated research and development capabilities that currently exist primarily at the CMR building, to a newly constructed facility, and the continued performance of those operations and activities at the new facility for the next 50 years. The CMRR EIS analyzed four action alternatives: (1) The construction and operation of a complete new CMRR facility at TA–55; (2) the construction of the same at a ''greenfield'' location within TA–6; (3) and a ''hybrid'' alternative maintaining administrative offices and support functions at the existing CMR building with a new Hazard Category 2 laboratory facility built at TA–55, and, (4) a ''hybrid'' alternative with the laboratory facility being constructed at TA–6. The CMRR EIS also analyzed the no action alternative. These alternatives are described in greater detail below.

Alternative 1 is to construct a new CMRR facility consisting of two or three new buildings within TA–55 at LANL to house AC and MC capabilities and their attendant support capabilities that currently reside primarily in the existing CMR building, at the operational level identified by the expanded operations alternative for LANL operations in the 1999 LANL SWEIS. Alternative 1 would also involve construction of a parking areas(s), tunnels, vault area(s), and other infrastructure support needs. AC and MC activities would be conducted in either two separate laboratories (constructed either both above ground (construction option 1) or one above and one below ground (construction option 2)) or in one new laboratory (constructed either above ground (construction option 3) or below ground (construction option 4)). An administrative office and support functions building would be constructed separately.

Alternative 2 would construct the same new CMRR facility within TA–6; the TA–6 site is a relatively undeveloped, forested area with some prior disturbance in limited areas that is referred to as a ''greenfield'' site.

Alternatives 3 and 4 are ''hybrid'' alternatives in which the existing CMR building would continue to house administrative offices and support functions for AC and MC capabilities (including research and development) and no new administrative support

building would be constructed. Structural and systems upgrades and repairs to portions of the existing CMR building would need to be performed and some portions of the building might be dispositioned. New laboratory facilities (as described for alternative 1) would be constructed either at TA–55 (alternative 3) or at TA–6 (alternative 4).

Under any of the alternatives, disposition of the existing CMR building could include a range of options from no demolition (disposition option 1), to partial demolition (disposition option 2), to demolition of the entire building (disposition option 3).

The no action alternative would involve the continued use of the existing CMR building with some minimal necessary structural and systems upgrades and repairs. Under this alternative, AC and MC capabilities (including research and development), as well as administrative offices and support activities, would remain in the existing CMR building. No new building construction would be undertaken. AC and MC operational levels would continue to be restricted and would not meet the level of operations determined necessary for the foreseeable future at LANL in the 1999 SWEIS record of decision.

Preferred Alternative

In both the draft and the final CMRR EIS, the preferred alternative for the replacement of the existing CMR building is identified as alternative 1 (construct a new CMRR facility at TA–55). The preferred construction option would be the construction of a single consolidated special nuclear material (SNM) capable, Hazard Category 2 laboratory with a separate administrative offices and support functions building (construction option 3). (Special nuclear materials include actinides such as plutonium, uranium enriched in the isotope 233 or 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material.) NNSA's preferred option for the disposition of the existing CMR building is to decontaminate, decommission and demolish the entire structure (disposition option 3). Based on the CMRR EIS, the environmental impacts of the preferred alternative, although minimal, would be expected to be greater than those of the no action alternative. Construction option 3 would have less impact on the environment that implementing construction options 1 or 2; and disposition option 3 would have the greatest environmental impact of the disposition options analyzed.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ), in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026, 2/23/81) with regard to 40 CFR 1505.2, defined the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy as expressed in NEPA's section 101''. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. The CMRR EIS impact analysis indicates that there would be very little difference in the environmental impacts among the action alternatives analyzed and also that the impacts of these action alternatives would be small. After considering impacts to each resource area by alternative, NNSA has identified the no action alternative as the environmentally preferable alternative. The no action alternative was identified as having the fewest direct impacts to the physical environment and to cultural and historic resources. This is because no construction-related disturbances would exist and none of the CMR building would be demolished, as would be the case under any of the action alternatives analyzed for the proposed action, including the preferred alternative. Therefore, the no action alternative would have the fewest impacts.

Environmental Impacts of Alternatives

NNSA analyzed the potential impacts that might occur if any of the four action alternatives or the no action alternative were implemented for land use and visual resources; site infrastructure; air quality and noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; waste management and pollution prevention. NNSA considered the impacts that might occur from potential accidents associated with the four action alternatives, and the no action alternative as well, on LANL worker and area residential populations. NNSA considered the impacts of each alternative regarding the irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. The CMRR EIS analyses identified minor differences in potential environmental impacts among the action alternatives including: Differences in the amount of land disturbed long term for construction and operations, ranging between about 27 and 23 acres disturbed during construction and between 10 and 15 acres disturbed permanently during operations; and differences in the potential to indirectly affect (but not adversely affect) potential habitat for a federally-listed threatened species and the potential to have no affect on sensitive habitat areas; differences in the potential to affect human health during normal operations and during accident events; differences in waste volumes generated and managed; and differences in transportation accident dose possibilities. A comparison of impacts is discussed in the following paragraphs.

Construction Impacts

Alternative 1 (Construct New CMRR Facility at TA–55; Preferred Alternative): The construction of a new SNM-capable Hazard Category 2 laboratory, an administrative offices and support functions building, SNM vaults and other utility and security structures, and a parking lot at TA–55 would affect 26.75 acres (10.8 hectares) of mostly disturbed land, but would not change the area's current land use designation. The existing infrastructure resources (natural gas, water, electricity) would adequately support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. Construction activities would not impact water, visual resources, geology and soils, or cultural and paleontological resources. Minor indirect effects on potential Mexican spotted owl habitat could result from the removal of a small amount of habitat area, increased site activities, and night-time lighting near the remaining Mexican spotted owl habitat areas. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL management and disposal capabilities.

Alternative 2 (TA–6 Greenfield Alternative): The construction of new SNM-capable Hazard Category 2 and 3 buildings, the construction of an administrative offices and support functions facility, SNM vaults and other utility and security structures, and a parking lot at TA–6 would affect 26.75 acres (10.8 hectares) of undisturbed

land, and would change the area's current land use designation to nuclear material research and development, similar to that of TA–55. Infrastructure resources (natural gas, water, electricity) would need to be extended or expanded to TA–6 to support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. It would alter the existing visual character of the central portion of TA–6 from that of a largely natural woodland to an industrial site. Once completed, the new CMRR facility would result in a change in the visual resource contrast rating of TA–6 from Class III (undeveloped land where management activities do not dominate the view) to Class IV (developed land where management activities dominate the view). Construction activities would not impact water, biotic resources (including threatened and endangered species), geology and soils, or cultural and paleontological resources. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste. In addition, a radioactive liquid waste pipeline might also be constructed across Two Mile Canyon to tie in with an existing pipeline to the Radioactive Liquid Waste Treatment Facility (RLWTF) in TA–50.

Alternative 3 (Hybrid Alternative at TA–55): The construction of new Hazard Category 2 and 3 buildings, the construction of SNM vaults and utility and security structures, and the construction of a parking lot at TA–55 would affect 22.75 acres (9.2 hectares) of mostly disturbed land, but would not change the area's current land use designation. The existing infrastructure would adequately support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. Construction activities would not impact water, visual resources, geology and soils, or cultural and paleontological resources. Minor indirect effects on Mexican spotted owl habitat could result from the removal of a small amount of habitat area, increased site activities, and night-time lighting near the remaining Mexican spotted owl habitat areas. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste.

Alternative 4 (Hybrid Alternative at TA–6): The construction of new Hazard Category 2 and 3 buildings, the construction of SNM vaults and utility and security structures, and the construction of a parking lot at TA–6 would affect 22.75 acres (9.2 hectares) of undisturbed land, and would change the area's current land use designation to nuclear material research and development, similar to that of TA–55. Infrastructure resources (natural gas, water, electricity) would need to be extended or expanded at TA–6 to support construction activities. Construction activities would result in temporary increases in air quality impacts, but would be below ambient air quality standards. The existing visual character of the central portion of TA–6 would be altered from that of a largely natural woodland to that of an industrial site. Once completed, the new CMRR facility would result in a change in the visual resource contrast rating of TA–6 from Class III to Class IV. Construction activities would not impact water, visual resources, biotic resources (including threatened and endangered species), geology and soils, or cultural and paleontological resources. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the socioeconomic region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste. In addition, a radioactive liquid waste pipeline may also be constructed across Two Mile Canyon to tie in with an existing pipeline to the RLWTF at TA–50.

Impacts During the Transition From the CMR Building to the New CMRR Facility Under the Action Alternatives

During a 4-year transition period, CMR operations at the existing CMR building would be moved to the new CMRR facility. During this time, both CMR facilities would be operating, although at reduced levels. At the existing CMR building, where restrictions would remain in effect, operations would decrease as CMR operations move to the new CMRR facility. At the new CMRR facility, levels of CMR operations would increase as the facility becomes fully operational. In addition, the transport of routine onsite shipment of AC and MC samples would continue to take place while both facilities are operating. With both facilities operating at reduced levels at the same time, the combined demand for electricity, and manpower to support transition activities during this period might be higher than would be required by the separate facilities. Nevertheless, the combined total impacts during this transition phase from both these facilities would be expected to be less than the impacts attributed to the expanded operations alternative and the level of CMR operations analyzed in the LANL SWEIS.

Also during the transition phase, the risk of accidents would be changing at both the existing CMR building and the new CMRR facility. At the existing CMR building, the radiological material at risk and associated operations and storage would decline as material and equipment are transferred to the new CMRR facility. This material movement would have the positive effect of reducing the risk of accidents at the CMR building. Conversely, at the new CMRR facility, as the amount of radioactive material at risk and associated operations increases to full operations, the risk of accidents would also increase. However, the improvements in design and technology at the new CMRR facility would also have a positive effect of reducing overall accident risks when compared to the accident risks at the existing CMR building. The expected net effect of both of these facilities operating at the same time during the transition period would be for the risk of accidents to be lower than the accident risks at either the existing CMR building or the fully operational new CMRR facility.

Action Alternatives—Operations Impacts

Relocating CMR operations to a new CMRR facility located at either TA–55 or TA–6 within LANL would require similar facilities, infrastructure support procedures, resources, and numbers of workers during operations. For most environmental areas of concern, operational differences would be minor. There would not be any perceivable differences in impact between the action alternatives for land use and visual resources, air and water quality, biotic resources (including threatened and endangered species), geology and soils, cultural and paleontological resources, power usage, and socioeconomics. Additionally, the new CMRR facility would use existing waste management

facilities to treat, store, and dispose of waste materials generated by CMR operations. All impacts would be within regulated limits and would comply with Federal, State, and local laws and regulations. Any transuranic (TRU) waste generated by CMRR facility operations would be treated and packaged in accordance with the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria and transported to WIPP or a similar type facility for disposition by DOE.

Routine operations for each of the action alternatives would increase the amount of radiological releases as compared to current restricted CMR building operations. Current operations at the CMR building do not support the levels of activity described for the expanded operations alternative in the LANL SWEIS. There would be small differences in potential radiological impacts to the public, depending on the location of the new CMRR facility. However, radiation exposure to the public would be small and well below regulatory limits and limits imposed by DOE Orders. The maximally exposed offsite individual would receive a dose of less than or equal to 0.35 millirem per year, which translates to 2.1×10^{-7} latent cancer fatalities per year from routine operational activities at the new CMRR facility. Statistically, this translates into a risk of one chance in 5 million of a fatal cancer for the maximally exposed offsite individual due to these operations. The total dose to the population within 50 miles (80 kilometers) would be a maximum of 2.0 person-rem per year, which translates to 0.0012 latent cancer fatalities per year in the entire population from routine operations at the new CMRR facility. Statistically, this would equate to a chance of one additional fatal cancer among the exposed population every 1,000 years.

Using DOE-approved computer models and analysis techniques, estimates were made of worker and public health and safety risks that could result from potential accidents for each alternative. For all CMRR facility alternatives, the results indicate that statistically there would be no chance of a latent cancer fatality for a worker or member of the public. The CMRR facility accident with the highest risk is a facility-wide spill of radioactive material caused by a severe earthquake that exceeds the design capability of the CMRR facility under Alternative 1. The risk for the entire population for this accident was estimated to be 0.0005 latent cancer fatalities per year.

This value is statistically equivalent to stating that there would be no chance of a latent cancer fatality for an average individual in the population during the lifetime of the facility. Continued operation of the CMR building under the no action alternative would carry a higher risk because of the building's location and greater vulnerability to earthquakes. The risk for the entire population associated with an earthquake at the CMR building would be 0.0024 latent cancer fatalities per year, which is also statistically equivalent to no chance of a latent cancer fatality for an average individual during the lifetime of the facility.

As previously noted, overall CMR operational characteristics at LANL would not change regardless of the ultimate location of the replacement facility and the action alternative implemented. Sampling methods and mission operations in support of AC and MC would not change and, therefore, would not result in any additional environmental or health and safety impacts to LANL. Each of the action alternatives would generally have the same amount of operational impacts. All of the action alternatives would produce equivalent amounts of emissions and radioactive releases into the environment, infrastructure requirements would be the same, and each action alternative would generate the same amount of radioactive and non-radioactive waste, regardless of the ultimate location of the new CMRR facility at LANL. Other impacts that would be common to each of the action alternatives include transportation impacts and CMR building and CMRR facility disposition impacts. Transportation impacts could result from: (1) The one-time movement of SNM, equipment, and other materials during the transition from the existing CMR building to the new CMRR facility; and (2) the routine onsite shipment of AC and MC samples between the plutonium facility at TA–55 and the new CMRR facility. Impacts from the disposition of the existing CMR building and the CMRR facility would result from the decontamination and demolition of the buildings and the transport and disposal of radiological and non-radiological waste materials. All action alternatives would require the relocation and one-time transport of SNM equipment and materials. Transport of SNM, equipment, and other materials currently located at the CMR building to the new CMRR facility at TA–55 or TA–6 would occur over a period of two to four years. The public would not be expected to receive any measurable exposure from the one-time movement of radiological materials associated with this action. Impacts of potential handling and transport accidents during the one-time movement of SNM, equipment, and other materials during the transition from the existing CMR building to the new CMRR facility would be bounded by other facility accidents for each alternative. For all alternatives, the environmental impacts and potential risks of transportation would be small.

Under each action alternative, routine onsite shipments of AC and MC samples consisting of small quantities of radioactive materials and SNM samples would be shipped from the plutonium facility at TA–55 to the new CMRR facility at either TA–55 or TA–6. The public would not be expected to receive any additional measurable exposure from the normal movement of small quantities of radioactive materials and SNM samples between these facilities. The potential risk to a maximally exposed individual (MEI) member of the public from a transportation accident involving routine onsite shipments of AC and MC samples between the plutonium facility and CMRR facility was estimated to be very small (3.7x10–10), or approximately 1 chance in 3 billion. For all action alternatives, the overall environmental impacts and potential risks of transporting AC and MC samples would be small.

Action Alternatives—CMR Building and CMRR Facility Disposition Impacts

All action alternatives would require some level of decontamination and demolition of the existing CMR building. Operations experience at the CMR building indicates some surface contamination has resulted from the conduct of various activities over the last 50 years. Impacts associated with decontamination and demolition of the CMR building are expected to be limited to the creation of waste within LANL site waste management capabilities. This would not be a discriminating factor among the alternatives.

Decontamination, and demolition of the new CMRR facility would also be considered at the end of its designed lifetime operation of at least 50 years. Impacts from the disposition of the CMRR facility would be expected to be similar to those for the existing CMR building.

No Action Alternative: Under the no action alternative there would be no new construction and minimal necessary structural and systems upgrades and repairs. Accordingly, there would be no potential environmental impacts resulting from new construction for this alternative. Operational impacts of continuing CMR

operations at the CMR building would be less than those identified under the expanded operations alterative analyzed in the 1999 LANL SWEIS due to the operating constraints imposed on radiological operations at the CMR building.

Comments on the Final Environmental Impact Statement

NNSA distributed approximately 400 copies of the final EIS to Congressional members and committees, the State of New Mexico, various American Indian tribal governments and organizations, local governments, other Federal agencies, and the general public. NNSA received one comment letter from the Pueblo of San Ildefonso regarding NNSA's responses to Pueblo concerns related to the draft CMRR EIS that focused primarily on the spread of contamination present in the canyons around LANL onto land owned by the Pueblo. This issue is beyond the scope of the CMRR EIS but will be addressed by NNSA through other means already established for LANL, such as the environmental restoration project, rather than through the NEPA compliance process.

Decision Factors

NNSA's decisions are based on its mission responsibilities and the ability to continue to perform mission-critical AC and MC operations at LANL in an environmentally sound, timely and fiscally prudent manner. Other key factors in the decision-making process include programmatic impacts and overall program risk, and construction and operational costs.

LANL's CMR operations support a wide range of scientific and technological capabilities that support, in turn, NNSA's national security mission assignments. Most of the LANL mission support functions require AC and MC, and actinide research and development support capabilities and capacities that currently exist within the CMR building. NNSA will continue to need CMR capabilities now and into the foreseeable future, much as these capabilities have been needed at LANL over the past 60 years. Programmatic risks are high if LANL CMR operations continue at the curtailed operational level now appropriate at the aging CMR building. CMR operations at LANL need to continue seamlessly in an uninterrupted fashion, and the level of overall CMR operations needs to be flexible enough to accommodate the work load variations inherent in NNSA's mission support assignments and the general increase in the level of operations currently seen as necessary to support future national security requirements.

The CMR building was initially designed and constructed to comply with the Uniform Buildings Codes in effect at the time. The CMR building's wing 4 location over a seismic trace would require very extensive and costly structural changes that would be of marginal operational return. Construction costs are estimated to be less for building and operating a new CMRR facility over the long term than the cost estimated for making changes to the aging CMR building so that the building could be operated as a nuclear facility at the level of operations required by the expanded operations alternative selected for LANL in the 1999 LANL SWEIS ROD over the next 50 years. Life cycle costs of operating a new CMRR facility at TA–55 are less than the costs would be of operating a totally upgraded CMR building over the next 50 years. Reduced general occupation costs of maintaining the new CMRR facility (such as heating and cooling the building to maintain comfortable personnel working conditions) given the reduction in occupied building square footage over that of the existing CMR building, and reduced security costs (for maintaining Perimeter Intrusion Detection Alarm Systems (PIDAS) and guard personnel) due to the co-location of the CMRR facility within the existing security perimeter of the plutonium facility thereby eliminating the need for maintaining a separate duplicative security system at the CMR building both would significantly reduce general operating costs for the new facility.

Mitigation Measures

Based on the analyses of impacts provided in the CMRR EIS, no mitigation measures were identified as being necessary since all potential environmental impacts would be substantially below acceptable levels of promulgated standards. Activities associated with the proposed construction of the new CMRR facility would follow standard procedures for minimizing construction impacts, as would demolition activities.

Decisions

NNSA has decided to implement the preferred alternative, alternative 1, which is the construction and operation of a new CMRR facility within TA–55 at LANL. The new CMRR facility would include two buildings (one building for administrative and support functions, and one building for Hazard Category 2 SNM laboratory operations), both of which would be constructed at above ground locations (construction option 3). The existing CMR building would be decontaminated, decommissioned and demolished in its entirety (disposition option 3). However, the actual implementation of these decisions is dependent on DOE funding levels and allocations of the DOE budget across competing priorities.

Issued in Washington, DC, this 3rd day of February, 2004.

Linton Brooks,

Administrator, National Nuclear Security Administration.

[FR Doc. 04–3096 Filed 2–11–04; 8:45 am]

BILLING CODE 6450–01–P

ENVIRONMENTAL PROTECTION AGENCY

[OAR–2003–0059; FRL–7621–6]

Agency Information Collection Activities; Submission to OMB for Review and Approval; Comment Request; Emission Defect Information Reports and Voluntary Emission Recall Reports (Renewal), EPA ICR Number 0282.13, OMB Control Number 2060–0048

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this document announces that an Information Collection Request (ICR) has been forwarded to the Office of Management and Budget (OMB) for review and approval. This is a request to renew an existing approved collection. This ICR is scheduled to expire on 1/31/2004. Under OMB regulations, the Agency may continue to conduct or sponsor the collection of information while this submission is pending at OMB. This ICR describes the nature of the information collection and its estimated burden and cost.

DATES: Additional comments may be submitted on or before March 15, 2004.

ADDRESSES: Submit your comments, referencing docket ID number OAR–2003–0059, to (1) EPA online using EDOCKET (our preferred method), by e-mail to *a-and-r-Docket@epa.gov,* or by mail to: EPA Docket Center, Environmental Protection Agency, Air and Radiation Docket and Information Center, Mail Code 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, and (2) OMB at: Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attention: Desk Officer for EPA,

03-D-103, National Nuclear Security Administration
Project Engineering and Design (PED),
Various Locations

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2003 Budget Request (*A-E and technical design only*)	1Q 2003	4Q 2006	TBD	TBD	63,709 [a]

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	15,539	15,539	11,640
2004	28,170	28,170	28,584
2005	20,000	20,000	21,485
2006	0	0	2,000

3. Project Description, Justification and Scope

This project provides for Architect-Engineering (A-E) services (Title I and Title II) for several National Nuclear Security Administration (NNSA) construction projects, allowing designated projects to proceed from conceptual design into preliminary design (Title I) and definitive design (Title II). The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide construction schedules, including procurements. The designs will be extensive enough to establish performance baselines and to support construction or long-lead procurements in the fiscal year in which line item construction funding is requested and appropriated.

Conceptual design studies are prepared for each project using Operations and Maintenance funds prior to receiving design funding under a PED line item. These conceptual design studies define the scope of the project and produce a rough cost estimate and schedule.

---

[a] The TEC estimate is for design only for the subprojects currently included in this data sheet.

FY 2003 PED design projects are described below. While not anticipated, some changes may occur due to continuing conceptual design studies or developments occurring after submission of this data sheet. These changes will be reflected in subsequent years. Preliminary estimates for the cost of Title I and II design and engineering efforts for each subproject are provided, as well as very preliminary estimates of the Total Estimated Cost (including physical construction) of each subproject.

FY 2003 Proposed Design Projects

03-01: Chemistry and Metallurgy Research Building Replacement (CMRR) Project, LANL

Fiscal Quarter				Total Estimated Cost (Design Only ($000))	Preliminary Full Total Estimated Cost Projection ($000)
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
3Q 2003	4Q 2006	2Q 2005	TBD	55,000	350,000-500,000

Fiscal Year	Appropriations	Obligations	Costs
2003	10,000	10,000	8,000
2004	25,000	25,000	24,500
2005	20,000	20,000	20,500
2006	0	0	2,000

This subproject includes the preliminary and final (Title I and Title II) design for the proposed Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory. The existing Chemistry and Metallurgy Research (CMR) Building is a Hazard Category 2 nuclear facility that is over fifty years old. CMR actinide chemistry research capabilities are vital to fulfil several critical LANL missions, including but not limited to, pit rebuild, pit surveillance and pit certification. In January 1999, DOE approved a strategy for managing risks at the CMR facility. This approval committed DOE and LANL on a course to upgrade and temporarily continue to operate the CMR facility through approximately 2010 with operational limitations. This approval also committed DOE and LANL to develop long-term facility and site plans to ensure continuous mission support beyond the year 2010. It was acknowledged that mission support beyond 2010 may require new facilities. The design project includes the preliminary and final (Title I and Title II) design for the proposed Chemistry and Metallurgy Research Building Replacement (CMRR) Project.

04-D-125, Chemistry and Metallurgy Research Facility Replacement, Los Alamos National Laboratory Los Alamos, New Mexico

The Total Estimated Cost for design of the Chemistry and Metallurgy Research Facility Replacement (CMRR) project has been decreased by $40,500,000 from the original Project Engineering and Design (PED) estimate (03-D-103) due to a revised acquisition strategy, whereby a design-build approach will be utilized. Under this approach, the design funding decrement has been moved out of PED and is requested within the construction part of this line item project.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2004 Budget Request *(Preliminary Estimate)*	1Q 2004	3Q 2006	2Q 2004 [a]	1Q 2011	500,000 [b]	600,000

[a] Physical Construction Start: 2Q 2004 for light lab/office buildings and 3Q 2006 for Hazard Category II and III/IV buildings.

[b] The TEC includes the cost of design activities ($14,500,000) appropriated in 03-D-103, Project Engineering and Design (PED) to support design-build acqusition. This is a preliminary baseline estimate. The performance baseline will be established following completion of preliminary design and Critical Decision 2.

Mello Aff #1, par 10, ref 3: http://nepa.energy.gov/nepa_documents/EIS/EIS0350/Summary.pdf

Construction methods and materials employed on the CMRR Project would be typical conventional light[6] industrial for the administrative offices and support functions building, and heavy-industrial, nuclear facility construction for the CMRR nuclear laboratory elements. **Table S–1** provides a summary of construction requirements.

Table S–1 Summary of CMRR Construction Requirements

Building/Material Usage	*Hazard Category 2 Building*	*Hazard Category 3 Building*	*Administrative Offices and Support Functions Building*	*Other Construction Elements*
Land (acres)	2.5	2.25	4.0	18 [a]
Water (gallons)	757,300	670,500	1,354,500	963,000
Electricity (megawatt-hours)	88.75	88.75	135	Not applicable
Concrete (cubic meters)	1,375	1,067	2,340	Not applicable
Steel (metric tons)	136	106	265	Not applicable
Peak construction workers	300			
Waste (non-hazardous) (metric tons)	130	99	295	10
Construction period (months)	17	17	26	6

[a] The land affected by other construction elements would include: parking (5 acres), laydown area (2 acres), concrete batch plant (5 acres) at either TA-55 or TA-6. Additionally 6 acres of land would be affected at TA-55 due to road realignment. An equal area (6 acres) at TA-6 would be affected for extensive trenching for utilities (1.5 acres), radioactive liquid waste pipeline (3 acres), and new road (1.5 acres).

Project Schedule: For the purpose of the analysis in the *CMRR EIS*, it was estimated that construction under any of the alternatives would start late in 2004 and would last approximately 5 years. The new facilities would be designed for a lifetime performance of 50 years; therefore, operations are projected to range from 2010 to 2060. It is also anticipated that simultaneous operation of the existing CMR Building and the new CMRR Facility would last a maximum of 4 years, between about 2010 and 2014.

Operational Characteristics: The operational characteristics of the CMRR Facility are based on the level of operations identified by the Expanded Operations Alternative in the 1999 *LANL SWEIS* and are presented in **Table S–2**.

Transportation: Radioactive and SNM shipments would be conducted within the LANL site. Transport distances would vary across alternatives, from a very short distance [about 100 to 300 feet (30 to 90 meters)] in Alternative 1, at TA-55, to about 3 to 5 miles (5 to 8 kilometers) in Alternative 2, at TA-6. Movement of materials would occur on DOE-controlled roads. DOE procedures and U.S. Nuclear Regulatory Commission regulations would not require the use of certified Type B casks within DOE sites. However, DOE procedures require closing the roads and stopping traffic for shipment of material (fissile or SNM) in noncertified packages. Shipment using certified packages, or smaller quantities of radioactive materials and SNM, could be performed while site roads are open. As part of current security implementation procedures at LANL, the roads used to transport radioactive and SNM materials under the *CMRR EIS* would have limited public access. The proposed action would include a one-time transport of some or all of the equipment at the CMR Building to the new CMRR Facility at TA-55 or TA-6. This movement would occur over a period of 2 to 4 years on open or closed roads.

[6] *Light industry refers to the use of small-scale construction machinery.*

Project Engineering and Design funding provided in FY 2003 ($10,000,000) and FY 2004 ($4,500,000) will be used for preliminary design activities for both the Light Laboratory/Office Building and Nuclear Laboratory(s) elements of the project. FY 2004 construction funding requested in this line item will be used for initiation of design and construction for the light laboratory/office building component of CMRR and initiation of design activities for nuclear laboratory(s).

Scope

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.

Project Milestones

Light Lab/Office Building (design-build)

FY 2004	Initiate Design	1Q
FY 2004	Initiate Construction	2Q

Nuclear Laboratory(s)

FY 2004	Complete Conceptual Design	4Q
FY 2005	Complete Title I – Preliminary Design	1Q
FY 2006	Complete Title II – Final Design	3Q
FY 2011	Complete Title III – Construction	1Q
FY 2012	Complete Transition/Closeout	1Q

Construction Option 2: This construction option includes the same building elements as Construction Option 1, with the exception that the SNM-Capable Hazard Category 2 building would be constructed below grade. For the Hazard Category 2 building, the maximum depth of excavation would increase to approximately 75 feet (23 meters). Excavated materials would be stockpiled onsite and would be used for regrading and constructing berms for the PIDAS around the facility. All other assumptions for the Hazard Category 3 and the administrative offices and support functions building would be the same as described in Construction Option 1.

Construction Option 3: This construction option includes a single consolidated SNM-capable Hazard Category 2 laboratory and a separate administrative offices and support functions building.

In this option, all Hazard Category 2 and 3 operations would be housed in the single Hazard Category 2 laboratory. The Hazard Category 2 building would contain a total of approximately 200,000 square feet (18,580 square meters) and be constructed with one floor below grade containing the Hazard Category 2 operations, and one floor above grade containing Hazard Category 3 operations. All assumptions for the administrative offices and support functions building would be the same as described in Construction Option 1.

In implementing this construction option with Alternatives 1 and 3 (at TA-55), connecting tunnels between the CMRR Facility and the Plutonium Facility would be excavated to a maximum depth of 50 feet (15 meters), with the estimated total length of tunnels approximately 1,200 feet (366 meters) for Alternative 1, and 500 feet (152 meters) for Alternative 3.

Construction Option 4: This option includes a single consolidated SNM-capable Hazard Category 2 laboratory constructed below grade and a separate administrative offices and support functions building.

As with Construction Option 3, all Hazard Category 2 and 3 operations would be housed in the single Hazard Category 2 laboratory constructed below grade. Maximum depth of excavation would be 75 feet (23 meters). All assumptions for the administrative offices and support functions building would be the same as described in Construction Option 1. Assumptions with respect to the connecting tunnels between facility elements would the same as Construction Option 3.

General Construction Requirements for All Construction Options: Construction methods and materials employed on the CMRR project would be typical conventional light[3]-industrial for the administrative offices and support functions building and heavy-industrial, nuclear facility construction for the CMRR project nuclear laboratory elements. Information that is common to all the construction activities encompassed by the four construction options and four action alternatives is presented in the following paragraphs. A summary of construction requirements is presented in **Table 2–1**.

[3]*Light industry refers to the use of small-scale construction machinery.*

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May 2008

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DOE/EIS-0236-S4F Complex Transformation Final Supplemental Programmatic Environmental Impact Statement
October 2008

Summary

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resources, geology and soils, biological, cultural and archeological, socioeconomic, environmental justice, health and safety, accidents, and waste management. (See Section 5.1 of the SPEIS) See also comment-response 14 for related discussion of resource issues.

5.C.6

The following comments were received relative to pit production at LANL:

- Given the central importance of the CMRR-NF to NNSA's preferred 50/80 pit production alternative, NNSA must clearly state the facility's ultimate proposed size;
- If the footprint of the CMRR-NF would be over 200,000 ft^2, the Complex Transformation SPEIS must conduct adequate NEPA analysis for additional square footage over that analyzed in the CMRR EIS;
- NNSA would need to specify whether additional facility-specific NEPA analysis might be necessary;
- NNSA needs to explain the additional 9,000 ft^2 needed for the CMRR for the preferred 50/80 plutonium pit production alternative; and
- The SPEIS is confusing as to whether an additional 9,000 ft^2 for CMRR is needed.

Response: *No footprint additions are planned beyond that already analyzed within the CMRR EIS; therefore, because there will be no change to what has already been analyzed, no further facility NEPA analysis is planned. An additional 9,000 square feet was assessed as a means to support consolidation of plutonium operations at LANL from LLNL, provide increased analytical chemistry support for increased pit production capacity, and ensure sufficient nuclear space as a contingency. Subsequent to the issuance of the Draft SPEIS, NNSA has concluded that the 9,000 additional square feet is unnecessary to support the proposed consolidation of plutonium activities and the increase in pit production capacity to 50/80 pits per year as assumed for the Preferred Alternative. Therefore, an addition of 9,000 square feet to the CMRR-NF is not being pursued. The Final SPEIS has been revised to reflect this.*

5.D CONSOLIDATED NUCLEAR PRODUCTION CENTER

The following comments were received relative to a Consolidated Nuclear Production Center (CNPC):

- Support for the CNPC at Pantex or Y-12;
- Opposition to the CNPC at either Pantex, Y-12, or both; and
- Support for facility consolidation where appropriate.

Response: *NNSA notes the support as well as the opposition for a CNPC at Pantex and Y-12, and the support for consolidation where appropriate. See also comment-response sections 15 and 16 for related discussion.*

APPENDIX 3
GOALS, OBJECTIVES, & MEASURES

Mello Aff #1, par 12, ref 3: http://edocket.access.gpo.gov/2008/pdf/E8-30193.pdf

qualified to test voting systems to Federal standards.	procedures by at least 50 percent of accredited laboratories annually.
3. Administer the testing, certification, decertification, and recertification of voting system hardware and software by accredited laboratories.	▪ Test 100 percent of systems presented for testing. ▪ Conduct at least one review of a manufacturing facility of a registered manufacturer a least once every 4 years. ▪ Conduct field reviews for at least 50 percent of jurisdictions that volunteer for reviews. ▪ Respond to requests for interpretations of voting system standards with 45 days.
GOAL 5: Manage - Achieve organizational and management excellence.	
Objectives	**Measures**
1. Implement a high performance organization	▪ Meet annual performance measures. ▪ Obtain a clean audit opinion on agency financial statements within 2 years. ▪ Institute an internal integrated budget and financial management system within 6 months. ▪ Implement 90 percent of OIG audit recommendations within agreed upon timeframes.

Thomas R. Wilkey,
Executive Director, U.S. Election Assistance Commission.

[FR Doc. E8–30195 Filed 12–18–08; 8:45 am]
BILLING CODE 6820–KF–C

DEPARTMENT OF ENERGY

Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Operations Involving Plutonium, Uranium, and the Assembly and Disassembly of Nuclear Weapons

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Record of decision.

SUMMARY: The National Nuclear Security Administration (NNSA), a separately organized agency within the U.S. Department of Energy (DOE), is issuing this Record of Decision (ROD) for the continued transformation of the nuclear weapons complex (Complex). This ROD is based on information and analyses contained in the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) (DOE/EIS–0236–S4) issued on October 24, 2008 (73 FR 63460); comments received on the SPEIS; other NEPA analyses as noted; and other factors, including cost, technical and security considerations, and the missions of NNSA. The SPEIS analyzes the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more efficient enterprise that can respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile.

The alternatives analyzed in the SPEIS are divided into two categories: programmatic and project-specific. Programmatic alternatives involve the restructuring of facilities that use or store significant (i.e., Category I/II) quantities of special nuclear material (SNM).[1] These facilities produce plutonium components (commonly called pits[2]), produce highly enriched uranium (HEU) components (including secondaries[3]), fabricate high explosives (HE) components, and assemble and disassemble nuclear weapons. The decisions announced in this ROD relate to the programmatic alternatives analyzed in the SPEIS. NNSA is issuing a separate ROD relating to the project-specific alternatives.

NNSA has decided to implement its preferred programmatic alternative as described in the SPEIS and summarized in this ROD. This decision will transform the plutonium and uranium manufacturing aspects of the complex into smaller and more efficient operations while maintaining the capabilities NNSA needs to perform its national security missions. The three major elements of the decisions announced in this ROD are:

(1) Manufacturing and research and development (R&D) involving plutonium will remain at the Los Alamos National Laboratory (LANL) in New Mexico. To support these activities, NNSA will construct and operate the Chemistry and Metallurgy Research Replacement–Nuclear Facility (CMRR–NF) at LANL as a replacement for portions of the Chemistry and Metallurgy Research (CMR) facility, a structure that is more than 50 years old

[1] As defined in section 11 of the *Atomic Energy Act of 1954*, special nuclear material is: (1) Plutonium, uranium enriched in the isotope 233 or in the isotope 235 and any other material which the U.S. Nuclear Regulatory Commission determines to be special nuclear material; or (2) any material artificially enriched by any of the foregoing. Special nuclear material is separated into Security Categories I, II, III, and IV based on the type, attractiveness level, and quantity of the material. Categories I and II require the highest level of security.

[2] A pit is the central core of a nuclear weapon, principally made of plutonium or enriched uranium.

[3] A secondary is the component of a nuclear weapon that contains elements needed to initiate the fusion reaction in a thermonuclear explosion.

and faces significant safety and seismic challenges to its continued operation.

(2) Manufacturing and R&D involving uranium will remain at the Y–12 National Security Complex in Tennessee. NNSA will construct and operate a Uranium Processing Facility (UPF) at Y–12 as a replacement for existing facilities that are more than 50 years old and face significant safety and maintenance challenges to their continued operation.

(3) Assembly and disassembly of nuclear weapons and high explosives production and manufacturing will remain at the Pantex Plant in Texas.

These decisions will best enable NNSA to meet its statutory mission while minimizing technical risks, risks to mission objectives, costs, and environmental impacts. These decisions continue the transformation begun following the end of the Cold War and the cessation of nuclear weapons testing, particularly decisions announced in the 1996 ROD for the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS–0236) (61 FR 68014; Dec. 26, 1996). This ROD explains why NNSA is making these programmatic decisions, why it is appropriate to make them at this time, and the flexibility NNSA has to adapt these decisions as needed in response to any changes in national security requirements that may occur in the near term.

FOR FURTHER INFORMATION CONTACT: For further information on the Complex Transformation SPEIS or this ROD, or to receive copies of these, contact: Ms. Mary E. Martin, NNSA NEPA Compliance Officer, Office of Environmental Projects and Operations, NA–56, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, toll free 1–800–832–0885 ext. 69438. A request for a copy of the SPEIS or this ROD may be sent by facsimile to 1–703–931–9222, or by e-mail to *complextransformation@nnsa.doe.gov*. The SPEIS, this ROD, the project-specific ROD, and additional information regarding complex transformation are available at *http://www.ComplexTransformationSPEIS.com* and *http://www.nnsa.doe.gov*.

For information on DOE's NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–20), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, 202–586–4600, or leave a message at 800–472–2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available through the DOE NEPA Web site at: *http://www.gc.energy.gov/NEPA*.

SUPPLEMENTARY INFORMATION:

Background

NNSA prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing the *National Environmental Policy Act* (NEPA) (40 CFR Parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This ROD is based on information and analyses contained in the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) (DOE/EIS–0236-S4) issued on October 24, 2008 (73 FR 63460); comments received on the SPEIS; other NEPA analyses as noted; other factors, including cost, technical and security considerations, and the missions of NNSA. NNSA received approximately 100,000 comment documents on the Draft SPEIS from Federal agencies; state, local, and tribal governments; public and private organizations; and individuals. In addition, during the 20 public hearings that NNSA held, more than 600 speakers made oral comments.

National security policies require DOE, through NNSA, to maintain the United States' nuclear weapons stockpile, as well as the nation's core competencies in nuclear weapons. Since completing the SSM PEIS and associated ROD in 1996, DOE has pursued these objectives through the Stockpile Stewardship Program. This program emphasizes development and application of greatly improved scientific and technical capabilities to assess the safety, security, and reliability of existing nuclear warheads without nuclear testing. Throughout the 1990s, DOE also took steps to consolidate the Complex to its current configuration of three national laboratories (and a flight test range operated by Sandia National Laboratories), four industrial plants, and a nuclear test site. This Complex enables NNSA to design, develop, manufacture, maintain, and repair nuclear weapons; certify their safety, security, and reliability; conduct surveillance on weapons in the stockpile; store Category I/II SNM; and dismantle and disposition retired weapons. Sites within the Complex and their current weapons program missions are described in the following paragraphs.

Lawrence Livermore National Laboratory (LLNL), Livermore, California—LLNL conducts research, design, and development of nuclear weapons; designs and tests advanced technology concepts; provides safety, security, and reliability assessments and certification of stockpile weapons; conducts plutonium and tritium R&D, hydrotesting, HE R&D and environmental testing; and stores Category I/II quantities of SNM. LLNL also conducts destructive and nondestructive surveillance evaluations on pits to evaluate their reliability. NNSA is currently removing Category I/II SNM from the site and by 2012 LLNL will not maintain these categories of SNM. NNSA is constructing the National Ignition Facility (NIF) at LLNL, which will allow a wide variety of high-energy-density investigations. NIF is scheduled to begin operations in 2009.

Los Alamos National Laboratory (LANL), Los Alamos, New Mexico—LANL conducts research, design, and development of nuclear weapons; designs and tests advanced technology concepts; provides safety, security, and reliability assessments and certification of stockpile weapons; maintains production capabilities for limited quantities of plutonium components (i.e., pits) for delivery to the stockpile; manufactures nuclear weapon detonators for the stockpile; conducts plutonium and tritium R&D, hydrotesting, HE R&D and environmental testing; and stores Category I/II quantities of SNM. LANL also conducts destructive and nondestructive surveillance evaluations on pits to assess their reliability.

Nevada Test Site (NTS), 65 miles northwest of Las Vegas, Nevada—NTS maintains the capability to conduct underground nuclear testing; conducts high hazard experiments involving nuclear material and high explosives; provides the capability to process and dispose of a damaged nuclear weapon or improvised nuclear device; conducts non-nuclear experiments; conducts hydrodynamic testing and HE testing; conducts research and training on nuclear safeguards, criticality safety, and emergency response; and stores Category I/II quantities of SNM.

Pantex Plant (Pantex), Amarillo, Texas—Pantex dismantles retired weapons; fabricates HE components, and performs HE R&D; assembles HE, nuclear, and non-nuclear components into nuclear weapons; repairs and modifies weapons; performs nonintrusive pit modification;[4] and evaluates and performs surveillance of weapons. Pantex stores Category I/II

[4] Nonintrusive pit modification involves changes to the external surfaces and features of a pit.

quantities of SNM for the weapons program and stores other SNM in the form of surplus plutonium pits pending transfer to SRS for disposition.

Savannah River Site (SRS), Aiken, South Carolina—SRS extracts tritium and performs loading, unloading, and surveillance of tritium reservoirs, and conducts tritium R&D. SRS does not store Category I/II quantities of SNM for NNSA's weapons activities, but does store Category I/II quantities for other DOE activities. SRS is currently receiving Category I/II surplus, non-pit plutonium from LLNL for storage pending its disposition.

Y–12 National Security Complex (Y–12), Oak Ridge, Tennessee—Y–12 manufactures uranium components for nuclear weapons, cases, and other nuclear weapons components; evaluates and tests these components; stores Category I/II quantities of HEU; conducts dismantlement, storage, and disposition of HEU; and supplies HEU for use in naval reactors.

The following two sites are part of the Complex but would not be affected by decisions announced in this ROD.

Kansas City Plant (KCP), Kansas City, Missouri—KCP manufactures and procures non-nuclear components for nuclear weapons and evaluates and tests these components. KCP has no SNM. The General Services Administration, as the lead agency, and NNSA, as a cooperating agency, prepared an Environmental Assessment (DOE/EA–1592, Apr. 2008) regarding the potential environmental impacts of modernizing the facilities and infrastructure for the non-nuclear production activities conducted by the KCP as well as moving these activities to other locations. The agencies issued a Finding of No Significant Impact (73 FR 23244; Apr. 29, 2008) regarding an alternative site in the Kansas City area. The SPEIS does not assess alternatives for the activities conducted at the KCP.

Sandia National Laboratories (SNL), Albuquerque, New Mexico; Livermore, California; and other locations—SNL conducts systems engineering of nuclear weapons; conducts research, design, and development of non-nuclear components; manufactures non-nuclear components, including neutron generators, for the stockpile; provides safety, security, and reliability assessments of stockpile weapons; and conducts HE R&D, tritium R&D, and environmental testing. The principal laboratory is located in Albuquerque, New Mexico (SNL/NM); a division of the laboratory (SNL/CA) is located in Livermore, California. SNL also operates the Tonopah Test Range (TTR) near Tonopah, Nevada, for flight testing of gravity weapons (including R&D and testing of nuclear weapons components and delivery systems). In 2008, NNSA completed the removal of SNL/NM's Category I/II SNM. SNL/NM no longer stores or uses these categories of SNM on an ongoing basis, although it may use Category I/II SNM for limited periods in the future. No SNM is stored at TTR, although some test operations have involved SNM.

Alternatives Considered

NNSA has been considering how to continue the transformation of the Complex since the Nuclear Posture Review [5] was transmitted to Congress by the Department of Defense in early 2002. NNSA considered the Stockpile Stewardship Conference in 2003, the Department of Defense Strategic Capabilities Assessment in 2004, the recommendations of the Secretary of Energy Advisory Board Task Force on the Nuclear Weapons Complex Infrastructure in 2005, and the Defense Science Board Task Force on Nuclear Capabilities in 2006 as to how transformation should continue. Based on these studies and other information, NNSA developed the range of reasonable alternatives for the Complex that could reduce its size, reduce the number of sites with Category I/II SNM (and storage locations for these categories of SNM within sites), eliminate redundant activities, and improve the responsiveness of the Complex. The following programmatic capabilities involving SNM are evaluated in the SPEIS:

- Plutonium operations, including pit manufacturing; Category I/II SNM storage; and related R&D;
- Enriched uranium operations, including canned subassembly manufacturing, assembly, and disassembly; Category I/II SNM storage; and related R&D; and
- Weapons assembly and disassembly and HE production (collectively, A/D/HE).

The programmatic alternatives analyzed in the SPEIS are discussed in the following paragraphs.

No Action Alternative. NNSA evaluated a No Action Alternative, which represents continuation of the status quo including implementation of past decisions. Under the No Action Alternative, NNSA would not make additional major changes to the SNM missions now assigned to its sites.

Programmatic Alternative 1: Distributed Centers of Excellence. This alternative would locate the three major SNM functional capabilities (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM at two or three separate sites. This alternative would create a consolidated plutonium center (CPC) for R&D, storage, processing, and manufacture of pits. Production rates of up to 125 pits per year for single shift operations and up to 200 pits annually for multiple shifts and extended work weeks are assessed for a CPC in this alternative. A CPC could consist of new facilities, or modifications to existing facilities at LANL, NTS, Pantex, SRS, or Y–12. The SPEIS also evaluated an option under this alternative that would upgrade facilities at LANL to produce up to 80 pits per year. This option would involve the construction and operation of the CMRR-NF. Highly-enriched uranium storage and uranium operations would continue at Y–12. Under this alternative, NNSA analyzed two options—construction of a new UPF and an upgrade of existing facilities at Y–12. The weapons A/D/HE mission would remain at Pantex under this programmatic alternative.

Programmatic Alternative 2: Consolidated Centers of Excellence. NNSA would consolidate the three major SNM functions (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM at one or two sites under this alternative. Two options were assessed: (1) The single site option (referred to as the consolidated nuclear production center [CNPC] option); and (2) the two-site option (referred to as the consolidated nuclear centers [CNC] option). Under the CNPC option, a new CNPC could be established at LANL, NTS, Pantex, SRS, or Y–12. Under the CNC option, the plutonium and uranium component manufacturing missions would be separate from the A/D/HE mission. The Consolidated Centers of Excellence Alternative assumed production rates of up to 125 weapons per year for single shift operations and up to 200 weapons annually for multiple shifts and extended work weeks.

Programmatic Alternative 3: Capability-Based Alternative. Under this alternative, NNSA would maintain a basic capability for manufacturing components for all stockpile weapons, as well as laboratory and experimental capabilities to support stockpile stewardship, but would reduce production facilities in-place such that NNSA would produce only a nominal level of replacement components (approximately 50 components per year). Within this alternative, NNSA

[5] The Nuclear Posture Review is a comprehensive analysis that lays out the direction for the United States' nuclear forces.

also evaluated a No Net Production/Capability-Based Alternative, in which NNSA would maintain capabilities to continue surveillance of the weapons stockpile, produce limited life components, and dismantle weapons, but would not add new types or increased numbers of weapons to the stockpile. This alternative involves minimum production (i.e., production of 10 sets of components or assembly of 10 weapons per year) within facilities with a larger manufacturing capability. Both options of this alternative would involve the construction and operation of a CMRR–NF.

Preferred Alternative

The Final SPEIS identified the following preferred alternatives for restructuring facilities that use significant quantities of SNM:

• Plutonium R&D and manufacturing: LANL would provide a consolidated plutonium research, development, and manufacturing capability within TA–55 (the Technical Area at LANL containing plutonium processing facilities) enabled by construction and operation of the CMRR-NF. The CMRR-NF would replace the existing CMR facility (a 50-year-old facility that has significant safety issues that cannot be addressed in the existing structure), to support transfer of plutonium R&D and Category I/II quantities of SNM from LLNL, and consolidation of weapons-related plutonium operations, including plutonium R&D and storage of Category I/II quantities of SNM, at LANL. Until completion of a new Nuclear Posture Review in 2009 or later, the net production at LANL would be limited to a maximum of 20 pits per year. Other national security actinide missions (e.g., emergency response, material disposition, nuclear energy) would continue at TA–55.

• Uranium manufacturing and R&D: Y–12 would continue as the uranium center, producing components and canned subassemblies, and conducting surveillance and dismantlement. NNSA completed construction of the Highly Enriched Uranium Materials Facility (HEUMF) in 2008 and will consolidate HEU storage in that facility.[6] NNSA would build a UPF at Y–12 to provide a smaller and modern highly-enriched uranium production capability, replacing 50-year-old facilities.

• Assembly/disassembly/high explosives production and manufacturing: Pantex would remain the assembly/disassembly/high explosives production and manufacturing center. NNSA would consolidate non-destructive weapons surveillance operations at Pantex.

• Consolidation of Category I/II SNM: NNSA would continue ongoing actions to transfer Category I/II SNM from LLNL under the No Action Alternative and phase out Category I/II operations at LLNL by the end of 2012.

Environmentally Preferable Alternative

Section 101 of NEPA (42 U.S.C. 4331) establishes a policy of federal agencies having a continuing responsibility to improve and coordinate their plans, functions, programs, and resources so that, among other goals, the nation may fulfill its responsibilities as a trustee of the environment for succeeding generations. The CEQ, in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026; Mar. 23, 1981), defines the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy expressed in NEPA's Section 101.''

The analyses in the SPEIS of the environmental impacts associated with the programmatic alternatives indicated that the No Net Production/Capability-Based Alternative is environmentally preferable. This alternative would result in the minimum infrastructure demands (e.g., electricity and water use would be reduced by almost 50 percent at some sites); produce the least amount of wastes (radioactive wastes would be reduced by approximately 33–50 percent compared to the No Action Alternative); reduce worker radiation doses (by approximately 33–50 percent compared to the No Action Alternative); and require the fewest employees (up to 40 percent fewer at some sites). Almost all of these reductions in potential impacts result from the reduced production levels assumed for this alternative.

Alternatives Considered but Eliminated From Detailed Study

NNSA considered programmatic alternatives other than those described above, but concluded that these alternatives were not reasonable and eliminated them from detailed analysis. As discussed in the SPEIS, the following alternatives were considered but eliminated from detailed study: (1) Consolidate the Three Nuclear Weapons Laboratories (LLNL, LANL and SNL); (2) Curatorship Alternative; (3) Smaller CNPC Alternative; (4) New CPC with a Smaller Capacity; (5) Purchase Pits; (6) Upgrade Building 332 at LLNL to enable pit production; (7) Consider Other Sites for the CPC; (8) Redesign Weapons to Require Less or No Plutonium; and (9) Do Not Produce New Pits (see Section 3.15, Volume I of the SPEIS).

Decisions

With respect to the three major SNM functional capabilities (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM, NNSA has decided to keep these functional capabilities at three separate sites:

• Plutonium manufacturing and R&D will remain at LANL, and NNSA will construct and operate the CMRR-NF there to support these activities;

• Uranium manufacturing and R&D will remain at Y–12 and NNSA will construct and operate a UPF there to support these activities;

• Assembly/disassembly/high explosives production and manufacturing will remain at Pantex.

With respect to SNM consolidation, NNSA will continue ongoing activities[7] to transfer Category I/II SNM from LLNL under the No Action Alternative and phase out Category I/II operations at LLNL by the end of 2012.

Bases for Decisions

Overview

NNSA's decision locates the three major functional capabilities involving Category I/II quantities of SNM at three separate sites where these missions are currently performed. The selected alternative, which is a combination of the Distributed Centers of Excellence and Capability-Based Alternatives, has the least cost and lowest risk. Consolidation or transfer of uranium and plutonium operations to other sites (as analyzed in several options under the Distributed and Consolidated Centers of Excellence Alternatives) could result in lower operational costs and other benefits if and when such an alternative were fully implemented. However, movement of any of these three major capabilities to another site poses unacceptable programmatic risks and would cost far more than the selected alternative for an extended period of time. Moving one or more of these capabilities would take years to achieve and might be unsuccessful; in the interim, NNSA would need to build some new facilities at the sites where these capabilities are currently located

[6] The environmental impacts of HEUMF and its alternatives are analyzed in the *Site-wide Environmental Impact Statement for the Y–12 National Security Complex* (DOE/EIS–0309, 2001); NNSA announced its decision to construct and operate HEUMF on March 13, 2002 (67 FR 11296).

[7] In regard to surplus, non-pit, weapons-usable plutonium currently at LLNL, transfer to SRS for storage pending disposition is being undertaken consistent with decisions announced on September 11, 2007, in an Amended ROD (72 FR 51807) based on the *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS.*

simply to maintain those capabilities during the relocation process.

Similarly, the No Action Alternative is unacceptable because it would require NNSA to continue operations in facilities that are outdated, too costly to operate, and not capable of meeting modern environment, health and safety (ES&H) or security standards. These facilities cannot be relied upon much longer, and must be replaced or closed.

Under NNSA's decision, plutonium operations remain at LANL. It will not construct a new pit manufacturing facility such as a CPC or a CNPC because it appears unlikely there will be a need to produce more than 10–80 pits per year in the future and because constructing these facilities would be very expensive. Instead, NNSA will upgrade the existing plutonium facilities at the laboratory and will construct a CMRR–NF.[8] Construction of this facility is a needed modernization of LANL's plutonium capabilities—continued use of the existing CMR facility is inefficient and poses ES&H and security issues that cannot be addressed by modifying the CMR. Uranium operations remain at Y–12, and NNSA will construct a UPF because the existing uranium production facilities are also beyond their useful lives, inefficient, and present ES&H and security issues similar to those at CMR. CMRR–NF and UPF will be safer, seismically robust, and easier to defend from potential terrorist attacks. Their size will support production rates appropriate for a reasonable range of future stockpile sizes, and would not be much smaller if future production rates were much lower than currently anticipated.[9]

[8] NNSA prepared an *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR EIS) (DOE/EIS–0350). The CMRR EIS evaluates potential impacts of the proposed relocation of analytical chemistry and materials characterization activities and associated R&D to a new CMRR. The proposed CMRR consists of a nuclear facility—CMRR–NF—and a separate radiological laboratory, administrative office, and support building. See also the 2008 *Site-Wide Environmental Impact Statement for Los Alamos National Laboratory* (2008 LANL SWEIS, DOE/EIS–0380). In deciding to construct the CMRR–NF at LANL, NNSA considered the analyses in the CMRR EIS and the 2008 LANL SWEIS, as well as those in the SPEIS.

[9] NNSA evaluated various sizes for facilities analyzed in the SPEIS to determine if smaller facilities should be considered in detail for the Distributed and Consolidated Centers of Excellence Alternatives. NNSA evaluated the programmatic risk, cost effectiveness, and environmental impacts of smaller facilities and concluded that smaller facilities were not reasonable for some of these alternatives (see Section 3.15 of the SPEIS). Smaller facilities were considered for the Capability-Based Alternative.

Plutonium Operations

With respect to plutonium manufacturing, NNSA is not making any new decisions regarding production capacity until completion of a new Nuclear Posture Review in 2009 or later. NNSA does not foresee an imminent need to produce more than 20 pits per year to meet national security requirements. This production level was established almost 10 years ago in the ROD (64 FR 50797, Sept. 20, 1999) based on the *Site-wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory* (1999 LANL SWEIS; DOE/EIS–0238). The ROD based on the 2008 LANL SWEIS (DOE/EIS–0380) continued this limit on production (73 FR 55833; Sept. 26, 2008). NNSA will continue design of a CMRR–NF that would support a potential annual production (in LANL's TA–55 facilities) of 20–80 pits. The design activities are sufficiently flexible to account for changing national security requirements that could result from a new Nuclear Posture Review, further changes to the size of stockpile, or future Federal budgets. Furthermore, because NNSA's sensitivity analyses have shown that there is little difference in the size of a facility needed to support production rates between 1 and 80 components per year, the future production capacity is not anticipated to have a significant impact on the size of the CMRR–NF.[10] With a new CMRR–NF providing support, the existing plutonium facility at LANL will have sufficient capability to produce between 1 and 80 pits per year. A new CMRR–NF will also allow NNSA to better support national security missions involving plutonium and other actinides (including, e.g., the plutonium-238 heat source program undertaken for the National Aeronautics and Space Administration (NASA); non-proliferation programs, including the sealed source recovery program; emergency response; nuclear counter-terrorism; nuclear forensics; render safe program (program to disable improvised nuclear devices); material disposition; and nuclear fuel research and development).

Uranium Operations

With respect to uranium manufacturing, NNSA will maintain the current capacity in existing facilities at Y–12 as discussed in Section 3.5 of the SPEIS and within the planning basis discussed in Section 3.1.2 of the 2001 *Site-wide Environmental Impact Statement for the Y–12 National Security Complex* (2001 Y–12 SWEIS; DOE/EIS–0309). NNSA is preparing a new SWEIS for Y–12 (*Site-wide Environmental Impact Statement for the Y–12 National Security Complex, Oak Ridge, Tennessee* (Y–12 SWEIS; DOE/EIS–0387)), which will evaluate site-specific issues associated with continued production operations at Y–12, including issues related to construction and operation of a UPF such as its location and size. The Y–12 SWEIS will consider any new information (such as a new Nuclear Posture Review or further changes to the stockpile) that becomes available during the preparation of that document.

[10] *See* note 9 *supra.*

Assembly and Disassembly of Weapons and High Explosives Production

NNSA will continue to conduct these operations at Pantex as announced in the ROD (62 FR 3880; Jan. 27, 1997) for the *Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS–0225, 1996).

Production Rates and New Facilities

While NNSA is not making any new decisions regarding the production rates of plutonium or uranium components, it has decided that a CMRR–NF and UPF are essential to its ability to meet national security requirements regarding the nation's nuclear deterrent. The existing facilities where these operations are now conducted cannot be used much longer and cannot be renovated in a manner that is either affordable or acceptable (from ES&H, security, and production perspectives). As NNSA continues the design and, in the case of a UPF, NEPA analysis of these facilities, it can modify them to reflect changing requirements such as those resulting from a new Nuclear Posture Review, further changes to stockpile size, and future federal budgets. In short, a CMRR–NF and UPF are needed for NNSA to maintain its basic nuclear weapons capabilities because they would replace outdated and deteriorating facilities. These facilities are needed regardless of how many or what types of weapons may be called for in the future.

National Security Requirements and Stockpile Size

In making these decisions, NNSA considered its statutory responsibilities to support the nuclear weapons stockpile as determined by the President and the Congress. President Bush's goal is to achieve a credible nuclear deterrent with the lowest possible number of nuclear warheads consistent with

national security needs. In 2002, he and Russia's President Putin signed the Moscow Treaty, under which the United States and Russia will each reduce the number of operationally deployed strategic nuclear weapons to 1,700–2,200 by 2012. In 2004, President Bush issued a directive to cut the entire U.S. stockpile—both deployed and reserve warheads—in half by 2012. This goal was later accelerated and achieved in 2007, five years ahead of schedule. At the end of 2007, the total stockpile was almost 50 percent below what it was in 2001. On December 18, 2007, the White House announced the President's decision to reduce the entire nuclear weapons stockpile by another 15 percent by 2012. This means the U.S. nuclear stockpile will be less than one-quarter its size at the end of the Cold War—the smallest stockpile since the Eisenhower Administration.

NNSA's analyses in the SPEIS are based on current national policy regarding stockpile size (1,700–2,200 operationally deployed strategic nuclear warheads by 2012) with flexibility to respond to future Presidential direction to make further changes in the numbers of weapons. Maintaining a stockpile requires the ability to detect aging effects and other changes in weapons (a surveillance program), the ability to fix identified problems without nuclear testing (the stockpile stewardship program), and the ability to produce replacement components and reassemble weapons (a fully capable set of production facilities).

NNSA understands that at least two major reviews of the requirements for the future nuclear weapons program are expected during the next year. These reviews may influence the size and composition of the future nuclear weapons stockpile, and the nuclear infrastructure required to support that stockpile. First, the Congress has established the Congressional Commission on the Strategic Posture of the United States. This commission is to conduct a review of the strategic posture of the United States, including a strategic threat assessment and a detailed review of nuclear weapons policy, strategy, and force structure. Its recommendations, currently scheduled for completion in the spring of 2009, are expected to address the size and nature of the future nuclear weapons stockpile, and the capabilities required to support that stockpile. Second, Congress has directed the Administration to conduct another Nuclear Posture Review in 2009 to clarify the United States' nuclear deterrence policy and strategy for the near term (i.e., the next 5–10 years). A report on this Nuclear Posture Review is due on December 1, 2009.

NNSA has structured its programs and plans in a manner that allows it to continue transforming the complex and to replace antiquated facilities while retaining the flexibility to respond to evolving national security requirements, which is essential for a truly responsive infrastructure. The decisions in this ROD allow NNSA to continue to rely on LANL facilities (with a new CMRR–NF) to provide maximum flexibility to respond to future changes in plutonium requirements.

Costs, Technical Risks, and Other Factors

NNSA prepared detailed business case studies of the programmatic alternatives. These studies are available at *http://www.ComplexTransformationSPEIS.com*. They provide a cost comparison of the alternatives and include costs associated with construction, transition, operations, maintenance, security, decontamination and decommissioning, and other relevant factors.[11] Based on these studies, NNSA determined that the costs through 2030 for the consolidation alternatives would be approximately 20–40 percent greater than for the alternatives that would maintain the three major capabilities—plutonium operations, uranium operations, and A/D/HE operations—at their current sites. Additionally, NNSA's analysis found that, through 2060, the costs for the consolidation alternatives would be greater than those for the alternatives that maintain the three capabilities where they are currently located.

With respect to technical risk, as part of the business case studies, NNSA evaluated five types of risk: (1) Engineering and construction; (2) implementation; (3) program; (4) safety and regulatory; and (5) security. These analyses balance nearer-term risks incurred while transitioning to an alternative with longer-term operational risks. For example, consolidation alternatives would have higher risks during the transition due to the challenges associated with mission relocations, but could have lower long-term operational risks because of reduced safety, regulatory, or security risks. All risk criteria were rated equally (20 percent each); a sensitivity analysis determined that the conclusions were not significantly affected by adjustments of plus or minus five percent in risk rating criteria.

The risk assessment was performed by a group of NNSA and contractor employees who are subject-matter experts, site experts, or both. The least risky options are those where the sites have previous experience with the mission or the nuclear material used in that mission. Alternatives that would locate the plutonium mission at LANL or SRS, the uranium mission at Y–12, and the weapons assembly and disassembly mission at Pantex, were determined to pose the lowest risk. Overall, the consolidation alternatives were judged to have 25–160 percent more technical risk than alternatives that would not consolidate or relocate missions.

With respect to plutonium R&D and manufacturing, the cost and risk analyses showed that keeping this mission at LANL has the least cost and poses the lowest risk. This results primarily from the fact that plutonium facilities are very expensive to construct and LANL has existing facilities, infrastructure, and trained personnel that can be used for this mission.

The CMRR–NF was analyzed in the *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0350, Nov. 2003). The CMRR EIS evaluated potential environmental impacts of the proposed relocation of analytical chemistry and materials characterization activities and associated R&D to a new CMRR. Following completion of that EIS, NNSA announced its decision to construct and operate a CMRR consisting of two main buildings, one of which was the CMRR–NF (69 FR 6967; Feb. 12, 2004). The second building—providing laboratory, administrative, and support functions—currently is under construction at LANL. However, NNSA decided to defer a decision regarding construction and operation of the CMRR–NF until it completed the Complex Transformation SPEIS (see Section 1.5.2.1, Volume 1 of the SPEIS).

Analyses of the potential impacts of constructing and operating the CMRR–NF were updated in the *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 LANL SWEIS; DOE/EIS–0380, May 2008) as part of the Expanded Operations and the No Action Alternatives. In a ROD based on the 2008 LANL SWEIS, NNSA announced its decision to continue to implement the No Action Alternative with the

[11] The cost analyses considered both life-cycle costs (i.e., the cumulative costs over an approximately 50-year life) and discounted cash flows (i.e., a net present value in which all future costs are reduced by a common factor (generally the cost of capital)).

addition of some elements of the Expanded Operations Alternative. NNSA did not make any decision related to the CMRR–NF. It explained in the SWEIS ROD that it would not make any decisions regarding proposed actions analyzed in the SPEIS prior to completion of the SPEIS (73 FR 55833; Sept. 26, 2008). NNSA considered the analyses in the CMRR EIS and the 2008 LANL SWEIS, as well as those in the SPEIS in deciding to construct the CMRR–NF.

With respect to uranium manufacturing and R&D, the cost analyses indicated that building a UPF at Y–12, eliminating excess space, and shrinking the security area at the site will significantly reduce annual operational costs. The UPF at Y–12 will replace 50-year-old facilities, providing a smaller and modern production capability. It will enable NNSA to consolidate enriched uranium operations from six facilities at Y–12, and to reduce the size of the protected area at that site by as much as 90 percent. A new UPF will also allow NNSA to better support broader national security missions. These missions include providing fuel for Naval Reactors; processing and down-blending incoming HEU from the Global Threat Reduction Initiative; down-blending HEU for domestic and foreign research reactors in support of nonproliferation objectives; providing material for high-temperature fuels for space reactors (NASA); and supporting nuclear counter-terrorism, nuclear forensics, and the render safe program (program to disable improvised nuclear devices).

The life cycle cost analysis predicts an average annual savings over the 50-year facility life of approximately $200 million in FY 2007 dollars. The risk analysis found that moving the uranium mission to a site other than Y–12 would more than double the technical risks. The site-specific impacts for a UPF, including issues such as its location and size, will be analyzed in a new SWEIS for Y–12 that NNSA is currently preparing.

With respect to weapons assembly and disassembly and high explosives production, NNSA's decision to keep that mission at Pantex will result in the least cost and pose the lowest programmatic risk because the facilities necessary to conduct this work safely and economically already exist. Although no further NEPA analysis is required to continue these missions at Pantex, NNSA will continue to evaluate and update site-specific NEPA documentation as required by DOE regulations (10 CFR Part 1021).

With respect to SNM removal from LLNL, transferring Category I/II SNM to other sites and limiting LLNL operations to Category III/IV SNM will achieve a security savings of approximately $30 million per year at LLNL.

Potential Environmental Impacts

As described in greater detail in the following paragraphs, NNSA considered potential environmental impacts in making these decisions. It analyzed the potential impacts of each alternative on land use; visual resources; site infrastructure; air quality; noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; and waste management. NNSA also evaluated the impacts of each alternative as to irreversible or irretrievable commitments of resources, the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and cumulative impacts. In addition, it evaluated impacts of potential accidents on workers and surrounding populations. The SPEIS includes a classified appendix that assesses the potential environmental impacts of a representative set of credible terrorist scenarios.

The environmental impacts of the alternatives are analyzed in Chapter 5 of the SPEIS. The impacts of the alternatives NNSA has decided to pursue are summarized as follows:

Land Use—Minor land disturbance during construction of new facilities (approximately 6.5 acres at LANL for a CMRR–NF and 35 acres at Y–12 for a UPF); less area would be disturbed after construction is complete. At Y–12, construction of a UPF will allow NNSA to reduce the protected area by as much as 90 percent, which will improve security and reduce costs. At all sites, land uses will remain compatible with surrounding areas and with land use plans. At LANL and Y–12, the land required for operations will be less than 1 percent of the sites' total areas.

Visual Resources—Changes consistent with currently developed areas, with no changes in the Visual Resource Management classification. All sites will remain industrialized.

Infrastructure—Existing infrastructure is adequate to support construction and operating requirements at all sites. During operations, any changes to power requirements would be less than 10 percent of the electrical capacity at each site.

Air Quality—During construction, temporary emissions will result, but National Ambient Air Quality Standards will not be exceeded as a result of this construction. Operations will not introduce any significant new emissions and will not exceed any standards.

Water Resources—Water use will not change significantly compared to existing use and will remain within the amounts of water available at the NNSA sites. Annual water use at each site will increase by less than 5 percent.

Biological Resources—No adverse effects on biota and endangered species. Consultations with the U.S. Fish and Wildlife Service have been completed for the CMRR–NF. Consultations with the Fish and Wildlife Service will be conducted for a UPF during preparation of the Y–12 SWEIS.

Socioeconomics—Short-term employment increases at LANL and Y–12 during construction activities. The selected alternatives will have the least disruptive socioeconomic impacts at all sites. At Y–12, the total workforce will be reduced by approximately 750 workers (approximately 11 percent of the site's workforce) after UPF becomes operational. Employment at all other sites will change by less than 1 percent compared to any changes expected under the No Action Alternative.

Environmental Justice—No disproportionately high and adverse effects on minority or low-income populations will occur at any affected site; therefore, no environmental justice impacts will occur.

Health and Safety—Radiation doses to workers and the public will remain well below regulatory limits at all facilities and at all sites. Doses to the public and workers will cause less than one latent cancer fatality annually at all sites. Conducting future operations in the CMRR–NF and UPF will reduce the dose to workers compared to the doses they receive in existing facilities.

Accidents—The risk of industrial accidents is expected to be low during construction of the new facilities. Radiological accident risks will be low (i.e., probabilities of less than one latent cancer fatality) at all sites. The CMRR–NF and a UPF are expected to reduce the probability and impacts of potential accidents.

Intentional Destructive Acts—Construction of a UPF and CMRR–NF will provide better protection to the activities conducted in these facilities, as it is generally easier and more cost-effective to protect new facilities because modern security features can be incorporated into their design. Although the results of the intentional destructive acts analyses cannot be disclosed, the following general conclusion can be drawn: The potential consequences of

intentional destructive acts are highly dependent upon distance to the site boundary and size of the surrounding population—the closer and higher the surrounding population, the higher the potential consequences. Removal of SNM from LLNL will reduce the potential impacts of intentional destructive acts at that site.

Waste Management—Waste generation will remain within existing and planned management capabilities at all sites. Existing waste management facilities are sufficient to manage these wastes and maintain compliance with regulatory requirements.

Cumulative Impacts—The cumulative environmental impacts of the alternatives are analyzed in Chapter 6 of the SPEIS. The impacts of the alternatives when added to past, present, and reasonably foreseeable future actions will be within all regulatory standards and not result in significant new impacts.

Mitigation Measures

As described in the SPEIS, NNSA operates in compliance with environmental laws, regulations, and policies within a framework of contractual requirements; many of these requirements mandate actions to control and mitigate potential adverse environmental effects. Examples include site security and threat protection plans, emergency plans, Integrated Safety Management Systems, pollution prevention and waste minimization programs, cultural resource and protected species programs, and energy and water conservation programs (e.g., the Leadership in Energy and Environmental Design (LEED) Program). Any additional site-specific mitigation actions would be identified in site-specific NEPA documents.

Comments Received on the Final SPEIS Related to the Programmatic Alternatives

During the 30-day period following the EPA's notice of availability for the Final SPEIS (73 FR 63460; Oct. 24, 2008), NNSA received written comments from the following groups: Alliance for Nuclear Accountability, Project on Government Oversight, National Radical Women, Physicians for Social Responsibility, Oak Ridge Environmental Peace Alliance, Tri-Valley CAREs, the Union of Concerned Scientists, Nuclear Watch New Mexico, the Arms and Security Initiative of the New America Foundation, Concerned Citizens for Nuclear Safety, Embudo Valley Environmental Group, Ecology Ministry, Loretto Community, Aqua es Vida Action Team, Citizens for Alternatives to Radioactive Dumping, and Tewa Women United. Written comments were also received from approximately 30 individuals. The comments NNSA received related to the programmatic alternatives and NNSA's responses follow.

Some commenters substantively reiterated comments that they had provided earlier on the Draft SPEIS, including comments that suggested:

1. NNSA should make no decisions on Complex Transformation until a new Nuclear Posture Review has been completed by the newly elected administration and the report issued by the Congressional Commission on the Strategic Posture of the United States.

Response: NNSA believes the SPEIS analysis is consistent with and supports national security requirements and policies. It is unreasonable to assume that nuclear weapons would not be a part of this nation's security requirements over the time period analyzed in the SPEIS and beyond. The range of alternatives analyzed in the SPEIS covers the range of national security requirements that NNSA believes could reasonably evolve from any changes to national policy with regard to the size and number of nuclear weapons in the foreseeable future. Accordingly, there is no reason to delay the decisions announced in this ROD on complex transformation pending a new Nuclear Posture Review or the recommendations of the Bipartisan Panel reevaluating the United States' Nuclear Strategic Posture (see Comment Response 1.C, Volume III, Chapter III of the SPEIS). This ROD fully explains why NNSA is making these programmatic decisions, why it is appropriate to make these decisions at this time, and the flexibility NNSA has to adapt to any changes in national security requirements that may occur in the near term.

2. The United States does not need nuclear weapons or the infrastructure that produces and maintains them and should pursue disarmament consistent with the Nuclear Non-Proliferation Treaty.

Response: Decisions on whether the United States should possess nuclear weapons and the type and number of those weapons are made by the President and the Congress. As long as this nation has nuclear weapons, a Complex must exist to ensure their safety, security and reliability. NNSA believes the SPEIS analysis is consistent with and supports national security requirements and policies (see Comment Responses 1.0, 2.K.12, and 3.0, Volume III, Chapter III of the SPEIS).

3. There is no need to produce new pits (or no need for certain production rates).

Response: While pits may have extremely long lifetimes and there may ultimately be no need to produce many additional ones, prudence requires that the nation have the capability to produce pits should the need arise. NNSA is not proposing to manufacture any pits unless they are needed to meet national security requirements. A need to produce pits could arise due to the effects of aging on existing pits or changes to our national security policies that could require more pits than the few NNSA is currently manufacturing for stockpile surveillance (see Comment Responses 2.K.16, 2.K.22, and 5.C.1, Volume III, Chapter III of the SPEIS). Until completion of a new Nuclear Posture Review in 2009 or later, the net production at LANL will be limited to a maximum of 20 pits per year.

4. NNSA should undertake further efforts at compliance with Article VI of the Nuclear Non-proliferation Treaty (NPT) (or, Complex Transformation violates this treaty).

Response: The United States has made significant progress toward achieving the nuclear disarmament goals set forth in the NPT, and is in compliance with its Article VI obligations. The NPT does not mandate disarmament or specific stockpile reductions by nuclear states, and it does not address actions they take to maintain their stockpiles. NNSA disagrees with the assertion that Complex Transformation violates the NPT (see Comment Response 1.F, Volume III, Chapter III of the SPEIS).

5. NNSA should have included Stockpile Curatorship as a reasonable alternative fully considered in the SPEIS.

Response: The Curatorship Alternative as proposed by comments on the Draft SPEIS would have required NNSA to give up the capabilities to design and develop replacement nuclear components and weapons, forcing it to rely solely on the surveillance and non-nuclear testing program to maintain weapons and identify when they need repairs. NNSA believes it is unreasonable to give up these capabilities in light of the uncertainties concerning the aging of weapons and changing national security requirements. As explained in the SPEIS in Section 3.15, this would impair NNSA's ability to assess and, if necessary, address issues regarding the safety, security, and reliability of nuclear weapons (see Comment

Responses 2.H.2, 5.H.2, and 7.O, Volume III, Chapter III of the SPEIS).

6. The transformed complex should not support design or production of new design or modified nuclear weapons.

Response: NNSA is required to maintain nuclear weapons capabilities, including the capability to design, develop, produce, and certify new warheads. Maintenance of the capability to certify weapons' safety and reliability requires an inherent capability to design and develop new weapons. NNSA has not been directed to produce newly designed weapons (see Comment Responses 1.B, Volume III, Chapter III of the SPEIS).

7. NNSA should provide additional information on epidemiological studies of radiation health of workers and communities.

Response: Many of the workers at DOE's 20 major sites have been studied epidemiologically, some for decades. The National Institute for Occupational Safety and Health continues to update these studies as warranted by public health and scientific considerations. As more powerful epidemiological study designs become available, new studies of these workers may provide better information about health risks associated with radiation exposure (see Comment Responses 14.K.5 and 14.K.6, Volume III, Chapter III of the SPEIS). Many of the epidemiological studies and other related studies are available at *http://cedr.lbl.gov.*

8. NNSA should focus on clean-up of its sites rather than building new facilities to make weapons.

Response: DOE has a large remediation program and is aggressively addressing past contamination issues at each of its sites. This program is conducted in accordance with federal and state regulatory requirements and includes administrative and engineered controls to minimize releases, as well as surveillance monitoring of the environment and reporting of exposure assessments. These remediation activities are directed by federal and state regulators, have their own schedule and funding, and are separate from actions proposed in the SPEIS (see Comment Responses 7.J and 9.B, Volume III, Chapter III of the SPEIS). It is inaccurate to suggest that cleanup and transformation are mutually exclusive.

9. NNSA should consolidate special nuclear material from LLNL faster than its current schedule.

Response: NNSA has begun the removal of Category I/II SNM from LLNL, and plans to complete it by 2012. NNSA will continue to give this action the high priority requested by the commenter. Safety, security, and logistical issues associated with preparing SNM for shipment; shipping the materials; and storage at the receiving sites determine the schedule for completing this removal (see Comment Response 5.N.4, Volume III, Chapter III of the SPEIS).

10. The modernization of the Kansas City Plant should have been included in the SPEIS.

Response: The activities of the Kansas City Plant were not included in the SPEIS because NNSA concluded that decisions regarding the consolidation and modernization of the Kansas City Plant's activities (the production and procurement of electrical and mechanical non-nuclear components) would not affect or limit the programmatic alternatives analyzed in the SPEIS, or the decisions NNSA makes regarding these alternatives (see Comment Response 12.0, Volume III, Chapter III of the SPEIS).

11. The SPEIS is not written in plain language and lacks a clear format.

Response: NNSA prepared the SPEIS in accordance with the requirements of NEPA and the DOE and CEQ NEPA regulations. NNSA believes that the SPEIS is clearly written and organized in light of the highly technical subject matter and complex nature of the alternatives (see Comment Response 2.A, Volume III, Chapter III of the SPEIS).

12. NNSA inadequately addressed the environmental impacts of intentional destructive acts. NNSA must disclose the potential impacts of successfully executed credible terrorist attack scenarios at sites in the nuclear weapons complex and make this information available to the public.

Response: A classified appendix to the Complex Transformation SPEIS evaluates the potential environmental impacts of credible terrorist attacks that NNSA assumed (for purposes of analysis pursuant to NEPA) were successful at specific existing and proposed facilities. The appendix is classified both because the scenarios evaluated contain classified information and because there is a risk that these scenarios and their potential impacts could be exploited by terrorists or others contemplating harmful acts. Therefore, the SPEIS provides limited information about these acts and their potential consequences (see ''Potential Environmental Impacts'' above and Comment Responses 13.B and 13.D, Volume III, Chapter III of the SPEIS).

13. NNSA failed to consider long-acting consequences of nuclear weapons production, including the impacts that result from every year of operation. NNSA also failed to consider the deployment or potential use of the nation's nuclear arsenal.

Response: The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. Impacts are assessed for both construction and operations. For operations, the SPEIS focuses on the steady-state impacts of operations. Those annual operational impacts are assumed to occur year-after-year. Now that NNSA has made decisions regarding programmatic alternatives, it may need to prepare additional NEPA documents such as site- or facility-level analyses (e.g., the ongoing Y–12 SWEIS for a UPF now that NNSA has decided to locate it at Y–12) (see Comment Response 11.0, Volume III, Chapter III of the SPEIS). NNSA does not make decisions concerning the size, deployment or potential use of the nation's nuclear arsenal, and therefore the consequences of these decisions are not appropriate for analysis in the SPEIS.

14. NNSA inadequately addressed the cumulative impacts of the alternatives, including a detailed and careful analysis of the cumulative impacts of major nuclear-related facilities in New Mexico. Additionally, Comment Response 14.J.4 incorrectly states that Appendix C and D include information about an analysis of cumulative impacts with an extended region of influence of 100 miles.

Response: NNSA addressed potential cumulative impacts resulting from Complex Transformation and ongoing and reasonably anticipated actions of NNSA, other agencies and private developers. In response to public comments, NNSA added a detailed analysis of the cumulative impacts of major nuclear-related facilities in New Mexico. NNSA thinks that analysis is appropriately detailed. The assessment of cumulative impacts is in Chapter 6 of Volume II of the SPEIS (see Comment Responses 2.I and 14.O, Volume III, Chapter III of the SPEIS). With respect to the analysis of cumulative impacts with an extended region of influence of 100 miles, NNSA agrees that the Final SPEIS incorrectly referred the reader to Appendix C and D. NNSA intended to refer the reader to the LANL SWEIS, which shows that extending the region of influence out another 50 miles increases the affected population by 300 percent, while the population dose increases by only 13 percent. NNSA regrets this error.

15. NNSA inadequately addressed Environmental Justice, including a more detailed analysis of transportation impacts and waste disposal.

Response: Under Executive Order 12898, NNSA is responsible for identifying and addressing potential disproportionately high and adverse human health and environmental impacts on minority or low-income populations. Based on the SPEIS's analyses, NNSA concluded that there would not be any disproportionately high and adverse human health and environmental impacts on minority or low-income populations. In response to public comments received, NNSA also included information regarding a ''special pathways analysis'' for operations at LANL for the purpose of assessing how impacts would change compared to standard modeling results. The special pathway analysis is identified in Volume II, Chapter 5, Section 5.1.10 of the SPEIS, and the results of that analysis are presented in Comment Response 14.J, Volume III, Chapter III of the SPEIS.

16. NNSA inadequately addressed the impacts associated with design and production of Reliable Replacement Warheads.

Response: The continuing transformation of the complex is independent of decisions regarding Reliable Replacement Warheads that the Congress and President may make. At present, the Congress has declined to provide additional funding for development of these warheads (see Comment Responses 2.K.19 and 8.0, Volume III, Chapter III of the SPEIS).

17. NNSA has provided an inadequate basis to decide to locate a UPF at Oak Ridge and there is insufficient information in the SPEIS to select a site for a UPF.

Response: Programmatic alternatives regarding a UPF are analyzed in the SPEIS. The SPEIS is the appropriate document to analyze and support programmatic decisions related to major uranium missions and facilities. The Y–12 SWEIS, currently under preparation, will evaluate site-specific issues associated with continued production operations at Y–12, including issues related to construction and operation of a UPF such as its location and size. NNSA will make decisions regarding the specific location and size based on the more detailed analysis that will be in the Y–12 SWEIS (see Comment Response 5.C.2, Volume III, Chapter III of the SPEIS).

18. Commenters said that NNSA should accelerate consolidation of excess SNM and down-blend hundreds of metric tons of excess HEU, which is highly desirable to nuclear terrorists who could use it to quickly and easily create a crude nuclear device.

Response: Disposal of excess SNM is addressed by the Material Disposition Program. NNSA has an ongoing program to down-blend HEU for disposition, as described in the ROD (61 FR 40619; August 5, 1996) for the *Disposition of Surplus Highly Enriched Uranium Environmental Impact Statement* (DOE/EIS–0240, 1996). The potential environmental impacts of an intentional destructive act, such as terrorism or sabotage, are addressed in a classified appendix to the SPEIS (see Comment Responses 5.M, 5.N, and 13.0, Volume III, Chapter III of the SPEIS).

19. NNSA should not move forward with the construction of the CMRR–NF at LANL because of problems with NNSA construction projects, the federal government's limited economic resources, and adequate existing space at the LANL PF–4. Another commenter asked why the CMRR–NF is needed.

Response: As explained in detail in this ROD, the CMRR–NF is a needed modernization of LANL's plutonium capabilities. Continued use of the existing CMR facility is inefficient and poses ES&H and security concerns that cannot be addressed by modifying the CMR. The CMRR–NF will be safer, seismically robust, and easier to defend from potential terrorist attacks (see Comment Responses 3.0, 5.C.1, 5.C.6, and 9.0, Volume III, Chapter III of the SPEIS).

20. The potential environmental impacts of postulated accidents are not adequately addressed in the SPEIS, including the potential impacts to air, land, and water resulting from postulated accidents.

Response: Accidents are addressed in the Health and Safety Sections for each site and include analyses for a full spectrum of accidents with both high and low probabilities (see Comment Response 14.N, Volume III, Chapter III of the SPEIS). The accident analysis focused on human health impacts, which NNSA decided was a reasonable metric for comparing the programmatic alternatives.

21. A new, more thorough, more transparent cost analysis needs to be done before Complex Transformation plans are allowed to proceed.

Response: The purpose and need for complex transformation result from NNSA's need for a nuclear weapons complex that can be operated less expensively. NNSA prepared business case analyses to provide cost information on the alternatives considered in the SPEIS. NNSA considered these studies, the analyses in the SPEIS, and other information to make these decisions regarding transforming the complex. The business case analyses are available to the public on the project Web site: *http://www.ComplexTransformationSPEIS.com* (see Comment Response 9.0, Volume III, Chapter III of the SPEIS). NNSA believes these studies are adequate for making programmatic and project-specific decisions.

22. NNSA failed to consider an alternative that truly consolidates the nuclear weapons complex.

Response: The SPEIS analyzes alternatives that would make the complex more efficient and responsive than it would be under the No Action Alternative. Consolidation alternatives were formulated with that purpose and need in mind. The SPEIS assesses a range of reasonable alternatives for the future weapons complex that includes alternatives that, if they had been selected, would have eliminated one or more nuclear weapons complex sites (see Comment Responses 7.A.5, 7.A.6, and 7.A.7, Volume III, Chapter III of the SPEIS). As this ROD explains, relocating uranium, plutonium, and A/D/HE capabilities would be too expensive and risky.

23. Complex Transformation endangers human health.

Response: New facilities would be designed and operated to minimize risk to both workers and the general public during normal operations and in the event of an accident. Benefiting from decades of experience, NNSA employs modern processes; manufacturing technologies; and safety, environmental, security, and management procedures to protect against adverse health impacts (see Comment Response 14.K, Volume III, Chapter III of the SPEIS).

24. NNSA has not adequately addressed public comments about water usage, radioactive and toxic air emissions, impacts to humans, and impacts to agricultural lands or prime farmlands surrounding LANL resulting from past, current, and future operations of LANL.

Response: The environmental impacts of operating LANL are described in Chapter 4, Section 4.1 of Volume 1 of the SPEIS. The analysis examined surrounding land uses, water availability and usage, air quality and airborne emissions, surface and groundwater quality and discharges, human health, waste management, visual resources, noise, and other impacts of operating LANL. Chapter 5, Section 5.1 of Volume II of the SPEIS analyzes the potential environmental impacts of the alternatives evaluated in the SPEIS in the same media areas. See Comment Responses 14.E.11 through 14.E.14, Volume III, Chapter III of the SPEIS. For example, comment response

14.E.11 states that ''due to concern expressed for the quality of agriculture in the LANL region, NMED (New Mexico Environment Department) collects and analyzes foodstuff samples as part of its surveillance program to ensure quality standards are met.'' The 2008 LANL SWEIS (DOE/EIS–0380), and the ROD (73 FR 55833; Sept. 26, 2008) based on the analyses in it, presented NNSA's responses to similar comments in more detail. NNSA based its programmatic decisions affecting LANL on both the SPEIS and the SWEIS.

25. Albuquerque will begin drinking water from the Rio Grande on December 5, 2008. The Albuquerque Water Utility Authority (WUA), which oversees the project, has detected long-lived alpha-emitting radionuclides in the river. Although the levels of these radionuclides are below regulatory concern, the research shows that the current EPA standards for long-lived alpha-emitting radionuclides are not protective of the fetus and the young child. The WUA has asked LANL to reveal the extent of the radiation on the plateau and canyons that contribute to the river to no avail.

Response: Water quality and use at LANL are addressed in the SPEIS at Section 4.1.5 of Volume I. Impacts of complex transformation on water resources at LANL are addressed in Section 5.1.5 of Volume II. There is no indication that contamination from LANL is affecting Albuquerque's drinking water supply. According to a 2007 water quality report, gross alpha particle activity, radium-228, radium-226, and uranium were among regulated substances that were monitored but not detected (Albuquerque Bernilillo County Water Utility Authority, 2007 Drinking Water Quality Report). The 2007 water quality report may be accessed at *http://www.abcwua.org/content/view/280/484/* (see Comment Response 14.E, Volume III, Chapter III of the SPEIS).

26. NNSA failed to address comments concerning elevated levels of radionuclides in the Rio Embudo Watershed.

Response: The levels of radionuclides from the fallout produced by atmospheric testing of nuclear weapons (e.g., cesium-137, strontium-90, and plutonium-239) are expected to be elevated at Trampas Lake and in the Sangre de Cristo Mountains in which the Embudo Valley lies. The Trampas Lake data agree with expectations for global fallout at this location and are not a result of LANL activities (see Comment Response 14.K.8, Volume III, Chapter III of the SPEIS).

27. Seismic fasteners, ties, and other protections should be used in the construction of the Radiological Laboratory, Utility, and Office Building (RLUOB) within the CMRR project.

Response: NNSA is building the RLUOB to the highest applicable seismic standards. Even though the structure is a radiological laboratory and would not normally be constructed to the same standards as a high hazard nuclear facility, NNSA is nevertheless constructing it to those higher standards (see Comment Response 14.K.7, Chapter III, Volume III of the SPEIS).

28. NNSA did not respond to the comment that it must expand air monitoring in downwind communities and should no longer hide under the grandfather clause for air emissions from its old facilities at LANL.

Response: Operating permits issued pursuant to Title V of the Clean Air Act at NNSA sites include requirements for monitoring emissions from sources and keeping records concerning those sources and their emissions. Monitoring of the environment in and around NNSA sites generally includes air, water, soil, and foodstuffs, and monitoring results are reported in annual environmental surveillance reports. Chapter 10 of Volume II of the SPEIS describes permits issued by regulatory authorities for NNSA facilities and operations. At LANL, NNSA complies with the Clean Air Act and its emissions are regulated by the New Mexico Environment Department (see Comment Response 14.D.2, Chapter III, Volume III of the SPEIS).

29. Will LANL become the second Waste Isolation Pilot Plant (WIPP) site in New Mexico under the Complex Transformation proposal?

Response: This comment concerns the disposal path for newly generated transuranic waste that could result from decisions made on complex transformation. The alternatives analyzed in the SPEIS could generate transuranic waste after WIPP's scheduled closure in 2035. At this time, DOE is not considering any legislative changes to extend WIPP's operation or to develop a second repository for transuranic waste. Any transuranic waste that is generated without a disposal pathway would be safely stored until disposal capacity becomes available (see Comment Response 14.M.4, Chapter III, Volume III of the SPEIS).

30. LANL has failed to install a reliable network of monitoring wells at the laboratory.

Response: LANL's groundwater monitoring program was discussed in the 2008 LANL SWEIS. Groundwater monitoring at LANL is conducted in compliance with the ''Order on Consent for Los Alamos National Laboratory'' (Consent Order), and consistent with the Interim Facility-wide Groundwater Monitoring Plan that was approved by the New Mexico Environment Department in June 2006. Some of the groundwater data at LANL are being reassessed due to potential residual drilling fluid effects. Drilling fluid effects are quantitatively assessed in LANL's Well-Screen Analysis Report, Rev. 2 (LA–UR–07–2852; May 2007). Fifty-two percent of the well screens evaluated in this report produce samples that are not significantly impacted by drilling fluids. LANL has initiated a program to better evaluate the wells and to rehabilitate wells that may be producing suspect results. LANL is using the results of a pilot study to develop a proposed course of action for approval by the New Mexico Environment Department. The process is established by and in compliance with the Consent Order (see Comment Responses 14.E.2 and 14.E.1, Chapter III, Volume III of the SPEIS).

31. The existing CMR facility is not safe and the seismic hazards at LANL are uncertain. The commenters assert that many of their specific comments concerning seismic issues at LANL were not properly addressed. The commenters also state that due to seismic risks, all plutonium operations at LANL should immediately cease.

Response: Section 4.1.6 of Volume I of the SPEIS addresses seismic issues at LANL and Comment Responses 7.0, 14.F.1, 14.K.12, 14.N.8 and 19.E provide additional information on the seismic issues at LANL and the Justification for Continued Operation under which the laboratory's facilities operate. NNSA decided to construct the CMRR–NF largely because the CMR facility cannot be modified to safely operate for many more years (see the basis for decision for plutonium research and development and operations above).

In addition to the comments that were essentially identical to ones submitted on the Draft SPEIS and to which NNSA responded to in the Final SPEIS, NNSA received the following new comments.

1. Some commenters stated they were unable to identify responses in the Final SPEIS to some of their comments.

Response: NNSA reviewed the comments it received to ensure that responses had been included in the Final SPEIS. Based on this review, NNSA concluded that it had provided appropriate responses for all comments and that responses to these commenters' submissions were included in the Final SPEIS.

2. The April 9, 2008, comments of the New Mexico Conference of Catholic Bishops, in a letter signed by Most Rev. Michael J. Sheehan, Archbishop of Santa Fe, and Most Rev. Ricardo Ramirez, CSB, Bishop of Las Cruces, were omitted from the SPEIS's text and compact disc (CD).

Response: NNSA does not have any record of receiving the letter identified above prior to issuing the Final SPEIS. However, NNSA contacted the commenter and requested a copy of the letter. That letter raised questions and issues related to: Potential violations of treaties; an international arms race; whether transformation of LANL will result in a more responsive infrastructure; whether the proposed transformation of the complex is based on a Nuclear Posture Review conducted before or after September 11, 2001; the type of Congressional support that has been received; and the costs and funding source for decontamination and decommissioning. NNSA reviewed these comments and concluded that the Final SPEIS addresses each of them.

3. A commenter asserted that the Scarboro community, within 5 miles of the Y–12 facility, is disproportionately impacted, historically and currently, by the pollutants released on the Oak Ridge Reservation. This commenter also urged NNSA to refrain from issuing a ROD for the SPEIS until it commissions and receives an independent study of canned subassembly/secondary reliability, indicating whether a UPF is actually necessary; and until NNSA prepares a supplemental EIS considering the nonproliferation impacts of the proposed action.

Response: NNSA conducted its Environmental Justice analysis consistent with the requirements of the applicable Executive Order and related guidance. Section 14.J of Volume III, Chapter III, addresses the Environmental Justice comments received during the comment period. The Scarboro community is identified as the closest developed area to Y–12 (see Volume II, Chapter 4, Section 4.9.2 of the SPEIS). The analysis in the SPEIS did not result in any disproportionately high and adverse impacts on any minority or low-income populations at Y–12 (see Volume II, Chapter 5, Sections 5.9.10, 5.9.11, and 5.9.12 of the SPEIS). The reasons for NNSA's decision to proceed with a UPF are set forth above in the discussion of uranium manufacturing and research and development. Comment Response 1.F, Volume III, Chapter III, addresses the nonproliferation impacts of Complex Transformation.

4. The Comment Response Document does not include several public petitions, including one from members of Santa Clara Pueblo supporting the comments made by the Tribal Council of Santa Clara Pueblo. Another petition circulated by youth in the Espanola Valley by the Community Service Organization del Norte (CSO del Norte) is also omitted. Many of the individual comment letters from people living in the Rio Embudo Watershed are missing as well. There is no listing of the names of these commenters in Tables 1.3–3, 1.3–4, 1.3–5 or 1.3–6. The listing of the ''Campaign Comment Documents'' fails to give any indication of the leaders of the campaigns or any geographic reference, unless one flips through that section of the document.

Response: NNSA received approximately 100,000 comment documents on the Draft SPEIS from federal agencies; state, local, and tribal governments; public and private organizations; and individuals. In addition, during the 20 public hearings that NNSA held, more than 600 speakers made oral comments. NNSA made every effort to include all comment documents in the SPEIS and to identify and to address every comment. Because it would be impractical to list the names of all commenters who submitted campaign e-mails, letters, and postcards, those names are provided electronically in the CD version of the SPEIS and on the project Web site (*http://www.ComplexTransformationSPEIS.com*). In addition, the CD contains additional information on the public comment period and includes meeting transcripts and signatories for campaign documents and petitions. With regard to the petition from members of the Santa Clara Pueblo, NNSA believes this petition was submitted as a comment on the 2008 LANL SWEIS and not as a comment on the SPEIS. NNSA responded to the petition in the ROD it issued in September that was based on the SWEIS. If any comment documents or petitions were omitted from the SPEIS, NNSA regrets that.

5. In Comment Response 14.K.11, Chapter III, Volume III of the SPEIS, NNSA, in response to a comment related to under-reported historic radiation emissions, stated that it was ''unaware of any published CDC [Centers for Disease Control and Prevention] study with findings as described by the commenter.'' The commenter had provided a reference to a Los Alamos Historical Document Retrieval and Assessment Project report for documentation of their claim that ''DOE has grossly under-reported historic radiation emissions by nearly 60-fold.''

Response: NNSA reviewed the Los Alamos Historical Document Retrieval and Assessment Project report, and NNSA stands by Comment Response 14.K.11, Chapter III, Volume III of the SPEIS, which states that, ''Chapter 4, Section 4.6.1, of the LANL SWEIS (LANL 2008) shows the radiation doses received over the past 10 years from LANL operations by the surrounding population and hypothetical maximally exposed individual (MEI). The annual dose to the hypothetical MEI has consistently been smaller than the annual 10-millirem radiation dose limit established for airborne emissions by the U.S. Environmental Protection Agency. The final LANL Public Health Assessment, by the Agency for Toxic Substances and Disease Registry, reports that ''there is no evidence of contamination from LANL that might be expected to result in ill health to the community,'' and that ''overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities'' (Agency for Toxic Substances and Disease Registry, *Public Health Assessment, Final, Los Alamos National Laboratory,* 2006).

6. A commenter noted that Comment Response 14.J.4, Chapter III, Volume III, of the SPEIS incorrectly refers the reader to Appendix D for a description of the accident analysis.

Response: The reference to Appendix D is incorrect. The correct reference should have been to Appendix C. NNSA regrets the confusion caused by this error.

7. A commenter stated that NNSA made a commitment to refrain from making a siting decision on the UPF until the Y–12 SWEIS is completed.

Response: NNSA did not make such a commitment. This ROD explains NNSA's decision to construct a UPF at Y–12 based on the analysis contained in the SPEIS and other factors. This decision is not a decision as to where at Y–12 the new facility would be located or its size. Those decisions will be made based on the more detailed analysis in the Y–12 SWEIS. Additionally, the Y–12 SWEIS will include one or more alternatives that do not include a UPF. The public will have the opportunity to review and comment on the Draft SWEIS when it is prepared.

8. With respect to the new section (Section 6.4) that NNSA added to the Final SPEIS to provide more information on the potential cumulative impacts of nuclear activities in New Mexico, one commenter stated that Pantex should be added to that cumulative assessment because it is just

as close to WIPP and to LANL as WIPP and LANL are to each other. Another commenter stated that the impacts of the WSMR should be included in that assessment.

Response: NNSA added Section 6.4 in response to public comments on the Draft SPEIS that requested an analysis of cumulative impacts for the three DOE nuclear Facilities in New Mexico, as well as other major planned or proposed nuclear facilities in the state. In part, these comments stated that the regions of influence for LANL and SNL/NM overlap and that all three DOE sites are along the Rio Grande corridor in New Mexico. NNSA believes that Section 6.4 is adequate and responsive to public comments received regarding the cumulative impact assessment of nuclear activities in New Mexico. As Pantex is not located in New Mexico, and its region of influence does not extend into New Mexico, it was not included in Section 6.4. Also, because the WSMR does not conduct nuclear activities, it was not included in Section 6.4.

9. A commenter stated that the socioeconomic impacts described in the SPEIS are ''incomplete and vague,'' and asked for an explanation regarding the economic multiplier used in the analysis.

Response: NNSA reviewed this comment and believes that the socioeconomic analyses contained in the SPEIS are appropriate and comply with NEPA's requirements. The economic multipliers used in the SPEIS vary by location and are consistent with the multipliers estimated by the U.S. Bureau of Labor Statistics and multipliers used in other NEPA documents.

10. The SPEIS failed to address impacts on global warming.

Response: The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. The assessment of impacts includes, where appropriate, the direct and indirect contributions to the emission of greenhouse gases resulting from operation and transformation of the nuclear weapons complex. As to the programmatic alternatives analyzed in the SPEIS, the direct impacts would result from the construction and operation of major facilities involved in operations using SNM (e.g., a CPC, CNPC, CMRR–NF, UPF), and from the transportation of components, materials and waste. The emissions of carbon dioxide (CO_2) from construction and operation of proposed major facilities are estimated in Chapter 5 (see Tables 5.1.4–1 and 5.1.4–3 in Section 5.1.4 of Chapter 5, Volume II of the SPEIS). The potential emissions from transportation are a direct function of numbers of trips and their distances. The significant differences among the various programmatic alternatives as to transportation also appear in Chapter 5 (see Section 5.10 of Chapter 5, Volume II of the SPEIS).

The indirect impacts of the programmatic alternatives would result primarily from the use of electricity that is generated from the mix of generating capacities (gas, coal, nuclear, wind, geothermal, etc.) operated by the utilities NNSA purchases power from; these utilities may alter that mix in the future regardless of the decisions NNSA makes regarding transformation of the complex. The use of electricity under the programmatic alternatives is shown in Chapter 5 (see Tables 5.1.3–1 and 5.1.3–2 in Section 5.1.3 of Chapter 5, Volume II of the SPEIS).

Overall, the release of greenhouse gases from the nuclear weapons complex constitutes a miniscule contribution to the release of these gases in the United States and the world. Overall U.S. greenhouse gas emissions in 2007 totaled about 7,282 million metric tons of CO_2 equivalents, including about 6,022 million metric tons of CO_2. These emissions resulted primarily from fossil fuel combustion and industrial processes. About 40 percent of CO_2 emissions come from the generation of electrical power (Energy Information Administration, ''Emissions of Greenhouse Gases in the United States 2007,'' DOE/EIA–0573 [2007]).

As the impacts of greenhouse gas releases on climate change are inherently cumulative, NNSA, and the DOE as a whole, strive to reduce their contributions to this cumulatively significant impact in making decisions regarding their ongoing and proposed actions. DOE's efforts to reduce emissions of greenhouse gases extend from research on carbon sequestration and new energy efficient technologies to making its own operations more efficient in order to reduce energy consumption and thereby decrease its contributions to greenhouse gases.

NNSA considers the potential cumulative impact of climate change in making decisions regarding its activities, including decisions regarding continuing the transformation of the nuclear weapons complex. Many of these decisions are applicable to the broad array of NNSA's activities, and therefore are independent of decisions regarding complex transformation. For example, NNSA (and other elements of the Department) are entering into energy savings performance contracts at its sites, under which a contractor examines all aspects of a site's operation for ways to improve energy use and efficiency. Also, NNSA seeks to reduce its contribution to climate change through decisions regarding individual actions, such as pursuing LEED certification for its new construction and refurbishment of its aging infrastructure. Examples of these decisions include projects that replace aging boilers and chillers with equipment that is more energy efficient. Such projects are underway at Y–12, SNL/NM, and LANL (''DOE Announces Contracts to Achieve $140 Million in Energy Efficiency Improvements to DOE Facilities,'' August 4, 2008, available at: *http://www.energy.gov/6449.htm*).

NNSA considered its contributions to the cumulative impacts that may lead to climate change in making the programmatic decisions announced in this ROD. These decisions will allow NNSA to reduce its greenhouse gas emissions by consolidating operations, modernizing its heating, cooling and production equipment, and replacing old facilities with ones that are more energy efficient. Many of these actions would not be feasible if NNSA had selected the No Action Alternative, which would have required it to maintain the Complex's outdated infrastructure. Federal regulations and DOE Orders require the Department of Energy to follow energy-efficient and sustainable principles in its siting, design, construction, and operation of new facilities, and in major renovations of existing facilities. These principles, which will apply to construction and operation of a UPF at Y–12 and the CMRR–NF at LANL, as well as to other facilities, include features that conserve energy and reduce greenhouse gas emissions.

Issued at Washington, DC, this 15th day of December 2008.

Thomas P. D'Agostino,

Administrator, National Nuclear Administration.

[FR Doc. E8–30193 Filed 12–18–08; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Tritium Research and Development, Flight Test Operations, and Major Environmental Test Facilities

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

commenter stated that the impacts of the WSMR should be included in that assessment.

Response: NNSA added Section 6.4 in response to public comments on the Draft SPEIS that requested an analysis of cumulative impacts for the three DOE nuclear Facilities in New Mexico, as well as other major planned or proposed nuclear facilities in the state. In part, these comments stated that the regions of influence for LANL and SNL/NM overlap and that all three DOE sites are along the Rio Grande corridor in New Mexico. NNSA believes that Section 6.4 is adequate and responsive to public comments received regarding the cumulative impact assessment of nuclear activities in New Mexico. As Pantex is not located in New Mexico, and its region of influence does not extend into New Mexico, it was not included in Section 6.4. Also, because the WSMR does not conduct nuclear activities, it was not included in Section 6.4.

9. A commenter stated that the socioeconomic impacts described in the SPEIS are ''incomplete and vague,'' and asked for an explanation regarding the economic multiplier used in the analysis.

Response: NNSA reviewed this comment and believes that the socioeconomic analyses contained in the SPEIS are appropriate and comply with NEPA's requirements. The economic multipliers used in the SPEIS vary by location and are consistent with the multipliers estimated by the U.S. Bureau of Labor Statistics and multipliers used in other NEPA documents.

10. The SPEIS failed to address impacts on global warming.

Response: The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. The assessment of impacts includes, where appropriate, the direct and indirect contributions to the emission of greenhouse gases resulting from operation and transformation of the nuclear weapons complex. As to the programmatic alternatives analyzed in the SPEIS, the direct impacts would result from the construction and operation of major facilities involved in operations using SNM (e.g., a CPC, CNPC, CMRR–NF, UPF), and from the transportation of components, materials and waste. The emissions of carbon dioxide (CO_2) from construction and operation of proposed major facilities are estimated in Chapter 5 (see Tables 5.1.4–1 and 5.1.4–3 in from transportation are a direct function of numbers of trips and their distances. The significant differences among the various programmatic alternatives as to transportation also appear in Chapter 5 (see Section 5.10 of Chapter 5, Volume II of the SPEIS).

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NNSA considered its contributions to the cumulative impacts that may lead to climate change in making the programmatic decisions announced in this ROD. These decisions will allow NNSA to reduce its greenhouse gas emissions by consolidating operations, modernizing its heating, cooling and production equipment, and replacing old facilities with ones that are more energy efficient. Many of these actions would not be feasible if NNSA had selected the No Action Alternative, which would have required it to maintain the Complex's outdated infrastructure. Federal regulations and DOE Orders require the Department of Energy to follow energy-efficient and sustainable principles in its siting, design, construction, and operation of new facilities, and in major renovations of existing facilities. These principles, which will apply to construction and operation of a UPF at Y–12 and the CMRR–NF at LANL, as well as to other facilities, include features that conserve energy and reduce greenhouse gas emissions.

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DEPARTMENT OF ENERGY

Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Tritium Research and Development, Flight Test Operations, and Major Environmental Test Facilities

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

Report of the Nuclear Weapons Complex Infrastructure Task Force

Mello Aff #1, par 13, ref 1: http://www.cdi.org/PDFs/Report%20of%20the%20Nuclear%20Weapons%20Complex%20Infrastructure%20Task%20Force.pdf

Recommendations for the Nuclear Weapons Complex of the Future

July 13, 2005
Draft Final Report

Secretary of Energy Advisory Board
U.S. Department of Energy

4. **A weapons assembly and disassembly hall**. This will be the location where HE and SNM components for the sustainable stockpile are assembled as a unit. The assembly area will support primary assembly, integration of the primary with the secondary, and the installation of all non-nuclear components into the weapon assembly, as well as surveillance and disassembly of the sustainable stockpile.
5. **Plutonium and pit storage facility.** This building will house all the pits and plutonium raw material.
6. **An HEU and secondary canned assembly storage area.** This facility could be contiguous to the HEU production facility or the plutonium storage facility. This will house all HEU for production and the CSAs.
7. **Facility for secure transportation and shipping/receiving of nuclear weapons.** This facility will be devoted exclusively to shipment and receipt of weapons.
8. **Non-nuclear component assembly and storage.** This facility will be devoted to non-nuclear parts and components to support operation. For security cost savings, most of these components would be stored at the commercial vendor's location or another Complex facility but consistent with just-in-time commercial practices.
9. **Environmental reclamation and waste recovery facility.** This facility will perform all of the reclamation and processing of the plutonium and uranium waste streams. That material which can be recovered will be recycled within the production Complex; the remaining will be packaged for shipment to SRS, NTS, or other DOE disposal sites.

Equipment in the CNPC

The CNPC must avail itself of modern production techniques and practices, modern production equipment, quality assurance, and quality controls. We suggest that the facility use numerically controlled machines and non-contact quality assurance and quality control techniques to the degree such technology can be procured from the commercial sector. To the degree that the processes can be automated and human contact reduced, the quality and uniformity will go up, the environmental costs will go down, and risks to employees will be reduced. Overall, the modest increases in non-contact, numerically controlled capital equipment will more than pay for itself in environmental and production cost reductions. Of particular importance is the ability to do rapid prototyping and free-form fabrication integrated with the numerically controlled machine tools found in modern production plants. These technologies will be used for both low-volume production and the production of tooling, and of course the first-article prototype. The latter is an important element of the responsive character of the Complex.

The NNSA already has conceptual or detailed designs for most of the larger facilities such as the MPF, the UPF, and the Chemistry and Metallurgy Research Replacement (CMRR) building. Note that both the MPF and UPF have laboratory capability that is already identified in the CMRR, and constitute about two-thirds of the cost of the CMRR. By locating all of these at the CNPC, major savings in the elimination of redundant capital equipment and construction costs are realized.

Current designs envision above-ground structures. However, the Task Force notes that underground facilities will prevent an adversarial force from surveying the site or from targeting particular CNPC facilities with weapons of choice. Going underground will simplify and greatly reduce operating costs for security. Site selection alternatives should consider the total life-cycle cost of the facility, including the security and capital costs.

We recognize that the design-basis threat (DBT) will evolve over time as the character, methods, and actions of potential terrorist threats continue to evolve. Therefore, it is imperative that the site incorporates an inherent flexibility to meet future security requirements, preferably through technological innovation. Clear buffer zones and underground facilities would provide high degrees of flexibility for the future. Further discussion of the DBT is found in Appendix G.

A classified Supplement[2] analyzes the issue of timing for the CNPC for a stockpile of 2200 active and 1000 reserve and the expected pit manufacturing capacity of the future Complex. The conclusion is that if the NNSA is required to: 1) protect a pit lifetime of 45 years, 2) support the above stockpile numbers, and 3) demonstrate production rates of 125 production pits to the stockpile per year, the CNPC must be functional by 2014. If one accepts the uncertainty of pit lifetime of 60 years, the CNPC can be delayed to 2034. In either case TA-55 is assumed to be producing 50 production pits to the stockpile per year.

4.2 Industrial Benchmarks

We considered production perspectives that a commercial company, with experience in comparable materials, might have on the Complex pit production operations and facilities.

Since there is no commercial experience with plutonium outside the Complex, the Task Force had a study group look at pit production and future facility needs from a beryllium manufacturing perspective. Beryllium components are used in some current primary designs and have very similar machining requirements and tolerances to the plutonium pits. A number of the casting techniques are different, but not sufficiently different that the physical nature of the facility is altered. Rather, the hazardous nature of beryllium and plutonium make handling specifications and restrictions similar.

The Task Force feels that the Complex would benefit greatly from a greater reliance on advanced manufacturing tools, methodology, and experienced personnel drawn from the commercial state of the art manufacturing industry rather than a modernization of approaches developed 40 years ago within the Complex. The inclusion of such outside experts would likely have a great impact on cost of the CNPC and productivity of the future production complex. More detailed perspectives are included in Appendix H, including consideration of another commercial industry that also has developed highly efficient, secretive production approaches that may be relevant to the production complex of the future.

[2] *Classified Supplement to the NWCITF Report Recommendations for the Nuclear Weapons Complex of the Future*

Options for the MPF

Several ideas that should be considered before they are discarded, since the savings are large for each option, and several of the options could result in additive savings:

- Reduce the structure costs to meet the DBT by using (buying) more land, obtaining advantage of earlier detection and thereby denying approach.
- Consider placing the process building underground.
- Consider placing of the process building inside of a mountain.
- Review the DOE DBT and see if there are other technologies that can be deployed to reduce the cost of the building and still achieve the DBT requirements, but at lower capital and operating cost.
- The size of the MPF is scaled by the production rate of 125 per year. If that number could be reduced by ½ the footprint of the production building should scale, but not quite linearly.
- Reduce the types of pits to be produced. Designing for pits of the future rather than the unique and hard to make pits of the Cold war stockpile would save a lot of money.

It is the Study Group's opinion that the last bullet may have the greatest impact on capital cost reduction, from a technical perspective.

The DBT, which is not a technical requirement, also drives the cost. The Study Group believes that constructing underground, in a mine, or an equivalent, could be the cheapest method to address the DBT is burial. Traditional mining companies can profitably mine underground ore valued at $200/cubic yard. Thus, ~ $50 M should provide a substantially subsurface cavity to house a "thin walled" pit manufacturing facility or any other equivalent type work space.

SRS has utilized good engineering practices and teamwork in the MPF project to date. SRS developed a scope of work, a "model", and established a design criteria and production output level. SRS has designed the MPF given the current set of regulations, guidelines, DBT, safety considerations at today's standards. If these standards or other factors change, it will only make this facility more difficult to build and more costly, if it is done in the traditional DOE manner. It should also be recognized that construction raw material costs are escalating higher on a daily basis. This will also drive project costs higher. Consideration should be given to spend more time and effort on the "Design" phase to reduce contingency and uncertainty in the cost estimate.

TA-55 Operations Commentary

TA-55 is a remarkable facility. The attention to detail at every level of manufacture is to be commended. It is obvious that **processes have been laboriously developed** to provide a quality product safely. However, the manufacturing priorities appear to be: (1) Safety, (2) Security, (3) Quality. **The one missing element is: Productivity**.

Mello Aff #1, par 13, ref 2: http://www.lanl.gov/orgs/cmrr/publicmeetings/proceedings.shtml

making decisions and, and continuing work is a manifestation of the, of the decision process, the pause for Complex Transformation, while things went on, and all those kind of things. Time is a big driver. And it manifests itself not just in the carrying costs, but because everything cost more the further you move out in time. So time is a pretty big component in that algorithm in terms of where cost comes from.

[RICHARD A. HOLMES]
Another source of cost in the job comes from implementation of the seismic requirements. And I think they are, they're getting pretty close to zeroing in, the deviations that we get now from these reports as the come out is much, much smaller than it used to be. We've done the big jump in, in response from the building as the ten year update is. We've made the building stiffer, increased the amount of concrete inside of the building. Ah, we will, I'm probably gonna jump down to the bottom [of the questions on the flip chart] here, we will replace the soil underneath the building. It is easier and more certain in terms of an activity as opposed to testing a jet grouting process and proving to everybody that the jet grouting works and would be the subject of the next twenty-two of these meetings that we would have.

[JONI AREND]
How much soil are you gonna replace?

[RICHARD A. HOLMES]
Um, I think it's on an order of magnitude of about 50 fifty feet. It's 225,000 cubic yards. So we will put in, we'll put in piers around the outer shell and then excavate out, and it goes down, it takes all that material away. So we go down to what is known to be stable, and I think it's an additional fifty feet beyond where the basemat is. Tom's [Whitacre] is nodding his head up and down, so I think I got that pretty close to right. So, if you take where the current road is, you bend by the site, that's where the current excavation is, we're gonna go another 75 or so feet below that, replace the material, build it up to where the basemat is, ten foot basemat, and then build the structure on top of that.

[JONI AREND]
Where is the 225,000 cubic yards of material gonna go?

[RICHARD A. HOLMES]
Some of that will become the cap for MDA-C. Some of that will support the cap down at Area G, depending upon, again, the quality of the fill and how much work it has to have. But there are plenty of users and needs to benefit the area from that material. So, those are the two places that have said, we needed, I think the timing's gonna work pretty well for MDA-C once they come up with a plan. 'Cause they don't have a full-up plan yet, but they've gotta agree to. But some of it go there, and then, if not, if they are not ready for it, it probably all can be consumed down for cap at Area G.

[UNIDENTIFIED PERSON]
[Inaudible words]

Mello Aff #1, par 14, ref 1: http://nepa.energy.gov/finalEIS-0350.htm

All construction work would be planned, managed, and performed to ensure that standard worker safety goals are met. All work would be performed in accordance with good management practices, with regulations promulgated by the Occupational Safety and Health Administration, and in accordance with various DOE Orders involving worker and site safety practices. To prevent serious injuries, all site workers (including contractors and subcontractors) would be required to submit and adhere to a Construction Safety and Health Plan. This Plan would be reviewed by UC at LANL staff before construction activities begin. Following approval of this Plan, UC and NNSA site inspectors would routinely verify that construction contractors and subcontractors were adhering to the Plan, including all Federal and state health and safety standards.

Table 2–1 Summary of CMRR Construction Requirements

Building/Material Usage	*Hazard Category 2 Building*	*Hazard Category 3 Building*	*Administrative Offices and Support Functions Building*	*Other Construction Elements*
Land (acres)	2.5	2.25	4.0	18 [a]
Water (gallons)	757,300	670,500	1,354,500	963,000
Electricity (megawatt-hours)	88.75	88.75	135	Not applicable
Concrete (cubic meters)	1,375	1,067	2,340	Not applicable
Steel (metric tons)	136	106	265	Not applicable
Peak construction workers	300			
Waste (nonhazardous) (metric tons)	130	99	295	10
Construction period (months)	17	17	26	6

Source: LANL 2002e.

[a] The land affected by other construction elements would include: parking (5 acres), laydown area (2 acres), concrete batch plant (5 acres) at either TA-55 or TA-6. Additionally 6 acres of land would be affected at TA-55 due to road realignment. An equal area (6 acres) at TA-6 would be affected for extensive trenching for utilities (1.5 acres), radioactive liquid waste pipeline (3 acres), and new road (1.5 acres).

4782 cubic meters equals 6255 cubic yards

Site preparation prior to the commencement of building construction at either the TA-55 site or TA-6 construction site, in whole or in part, would involve clearing the site of native vegetation. The TA-55 site would involve some removal of asphalt and concrete material at the construction site and removal of mostly grassy vegetation coverage with a few mature trees. The TA-6 construction site would require the removal of mature trees and shrubs as well as grassy vegetation coverage. No asphalt or concrete material are present at the proposed TA-6 construction site.

Noise at the site would occur mainly during daylight hours and would be audible primarily to the involved workers. Construction equipment would be maintained in accordance with applicable health and safety requirements and inspected on a regular basis. Workers would be required to use personal protective equipment (such as eye and hearing protection, hard hats, and steel-toed boots). Machinery guards would also be used as necessary based on activity-specific hazards analyses.

Clearing or excavation activities during site construction have the potential to generate dust and encounter previously buried materials that could include unknown potential release sites (PRS) containing hazardous, toxic, or radioactive materials, or objects of cultural significance. If buried materials or artifacts of cultural significance were encountered during construction, activities

Mello Aff #1, par 14, ref 2: http://www.lanl.gov/projects/pcc/presentations/Tom-McKinney_Prensation_for_Community_Forum.pdf

Construction Bulk Commodity Summary

The construction of the NF Facility will include the following major commodities, approximately:

347,000 cubic yards total

122,000 cubic yards of structural concrete
127,000 cubic yards CLSM fill material for soils stabilization
98,000 cubic yards of high-pressure injected grout for soils stabilization
123,000 linear feet of piping > ½”
95,000 linear feet of process and instrument tubing < ½”
1,040,000 linear feet of conduit and raceway
2,610,000 linear feet of wire, cable and fiber
1,580,000 pounds of ductwork
975,000 pounds of duct support steel

Mello Aff #1, par 14, ref 3: http://nepa.energy.gov/finalEIS-0350.htm

All construction work would be planned, managed, and performed to ensure that standard worker safety goals are met. All work would be performed in accordance with good management practices, with regulations promulgated by the Occupational Safety and Health Administration, and in accordance with various DOE Orders involving worker and site safety practices. To prevent serious injuries, all site workers (including contractors and subcontractors) would be required to submit and adhere to a Construction Safety and Health Plan. This Plan would be reviewed by UC at LANL staff before construction activities begin. Following approval of this Plan, UC and NNSA site inspectors would routinely verify that construction contractors and subcontractors were adhering to the Plan, including all Federal and state health and safety standards.

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507 metric tons = 558 US tons

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Pit Lifetime

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JSR-06-335

November 20, 2006

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1 EXECUTIVE SUMMARY

JASON reviewed the nearly-completed assessment of primary-stage "pit" lifetimes due to plutonium aging for nuclear weapon systems in the enduring U.S. stockpile. The assessment is being prepared by Los Alamos and Lawrence Livermore National Laboratories in support of NNSA's "Level-1"" milestone to understand possible aging effects in the primary stages of nuclear weapons in the current stockpile and to provide system-specific lifetimes for pits. The joint Laboratory assessment uses the methodology of Quantification of Margins and Uncertainties (QMU) and specifically considers the physical aging effects of plutonium.

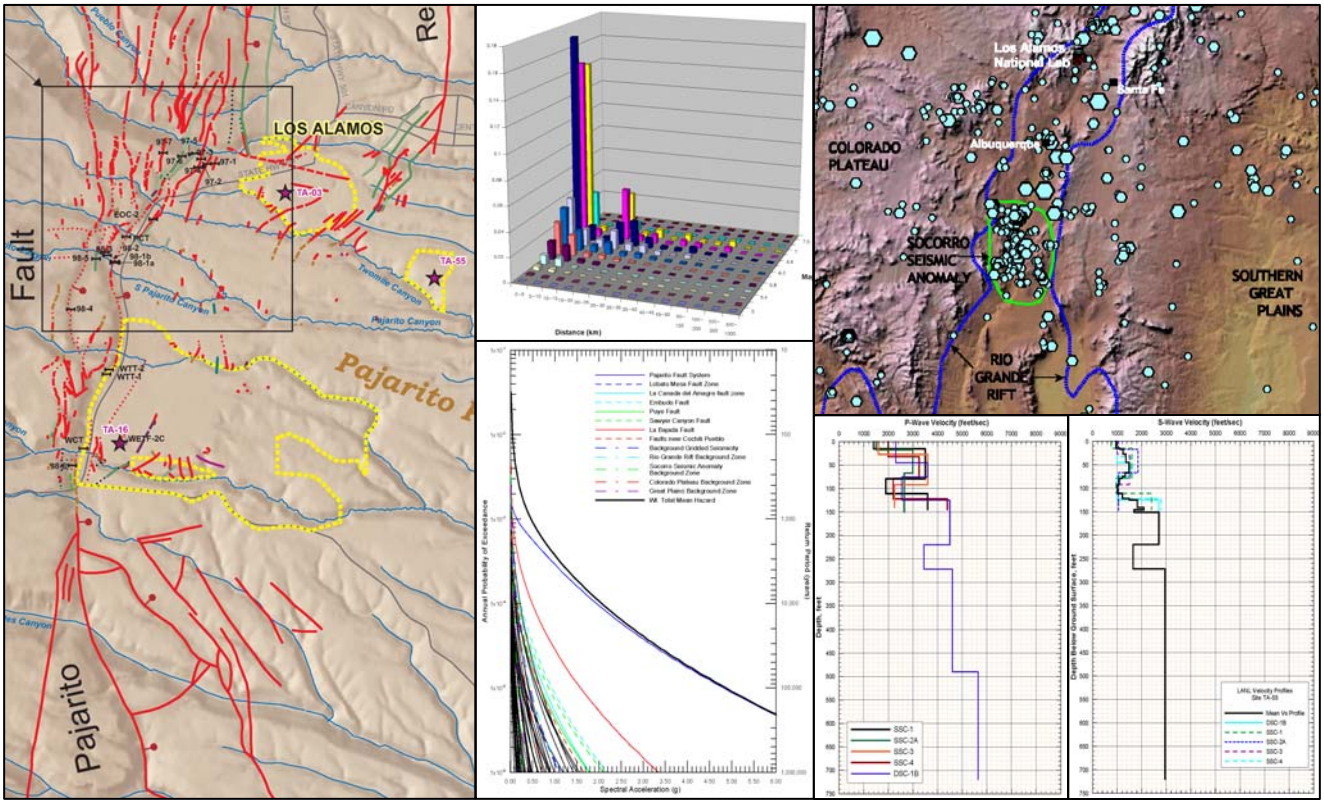
We judge that the Los Alamos/Livermore assessment provides a scientifically valid framework for evaluating pit lifetimes. The assessment demonstrates that there is no degradation in performance of primaries of stockpile systems due to plutonium aging that would be cause for near-term concern regarding their safety and reliability. Most primary types have credible minimum lifetimes in excess of 100 years as regards aging of plutonium; those with assessed minimum lifetimes of 100 years or less have clear mitigation paths that are proposed and/or being implemented.

The Laboratories have made significant progress over the past 3-5 years in understanding plutonium aging and pit lifetimes. Their work is based on analyses of archival underground nuclear-explosion testing (UGT) data, laboratory experiments, and computer simulations. As a result of the Los Alamos/Livermore efforts, JASON concludes that there is no evidence from the UGT analyses for plutonium aging mechanisms affecting primary performance on timescales of a century or less in ways that would be detrimental to the enduring stockpile. The detailed experiments and computer simulations performed by the Laboratories to better understand plutonium aging mechanisms and their possible impact on performance of weapons primaries

FINAL REPORT

Mello Aff #1, par 16, ref 1: http://www.lasg.org/LANL_PSHA_2007.pdf

UPDATE OF THE PROBABILISTIC SEISMIC HAZARD ANALYSIS AND DEVELOPMENT OF SEISMIC DESIGN GROUND MOTIONS AT THE LOS ALAMOS NATIONAL LABORATORY



Prepared for

Los Alamos National Laboratory

25 May 2007

Prepared by

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As a subcontractor to Burns and Roe Enterprises, Inc.

URS

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Job No. 24342433

At the request of the Los Alamos National Laboratory (LANL), URS Corporation and Pacific Engineering & Analysis (PE&A), with support from the Earth and Environmental Sciences Division at LANL, have updated the 1995 probabilistic seismic hazard analysis (PSHA) of LANL (Wong *et al.*, 1995), and developed Design/Evaluation Basis Earthquake (DBE) ground motion parameters. Both Uniform Hazard Response Spectra (UHRS) and Design Response Spectra (DRS) have been calculated per ASCE/SEI 43-05 for the site of the Chemistry and Metallurgical Research Replacement (CMRR) building and for Technical Areas TA-3, TA-16, and TA-55. Site-wide and reference rock-outcrop (dacite) ground motions have also been developed and are recommended for use in the design of facilities in other Technical Areas. DRS were computed for Seismic Design Categories (SDC)-3 (2,500-year return period), -4 (2,500 years), and -5 (10,000 years).

The PSHA was conducted following the guidelines of the Senior Seismic Hazard Analysis Committee for a Level 2 PSHA. Principal inputs required for the development of the DBE ground motions include a seismic source model, ground motion attenuation relationships, and velocity and nonlinear dynamic properties of the lower Quaternary (1.2 to 1.6 Ma) Bandelier Tuff beneath each site.

Since 1995, the only new geotechnical, geologic, and geophysical data available to characterize the dynamic properties of the subsurface geology beneath LANL, particularly the Bandelier Tuff, are the results of investigations performed at the CMRR site. Downhole-velocity, OYO-suspension velocity, and seismic crosshole surveys were performed in boreholes drilled in 2005 at that site. The boreholes include four shallow holes at the corners of the proposed CMRR building footprint (SSC-1 to SSC-4), one deep hole in the center of the footprint (DSC-1B), and a deep hole outside and to the east of the footprint (DSC-2A). Dynamic laboratory testing was also performed by the University of Texas at Austin (UTA) on 22 samples collected in the CMRR boreholes. The dynamic properties that were evaluated are the strain-dependent shear modulus (G) and material damping ratio (D) of the samples. Based principally on the new CMRR data and data collected in 1995, base-case profiles of low-strain shear-wave velocity (V_S) and compressional-wave velocity (V_P) were developed for the CMRR, TA-3, TA-16, and TA-55 sites. Of particular significance to the site response analysis was the existence of the geologic unit Qbt3L, a low-velocity zone within the Bandelier Tuff. Unit-specific shear-modulus reduction and damping curves were developed on the basis of the dynamic laboratory testing results, including the 1995 testing. One set of curves for each unit was corrected for sample disturbance by adjusting reference strains by the ratio of laboratory-to-field V_S measurements.

The 50-km-long Pajarito fault system (PFS) extends along the western margin of LANL and is the dominant contributor to the seismic hazard at the laboratory because of its close proximity and rate of activity. The current (or new) characterization of the PFS is significantly revised from the 1995 study in order to incorporate a considerable amount of new mapping, displacement measurements, and paleoseismic data for the PFS. The PFS is a broad zone of faults that form an articulated monoclinal flexure, which consists of several distinct fault segments that have linked together. The PFS exhibits complex rupture patterns and shows evidence for at least two, probably three surface-faulting earthquakes since 11 ka. This recent temporal clustering of events is in contrast to evidence for the occurrence of only six to nine events since 110 ka although this longer record is likely incomplete. For the new analysis, both segmented and unsegmented rupture models were considered for the PFS, favoring the latter

which is characterized by a 36-km-long, floating earthquake rupture source. Two types of multisegment ruptures for the PFS were also considered: simultaneous (a single large earthquake) and synchronous (two subevents). The preferred range of maximum earthquakes is from moment magnitude (**M**) 6.5 to 7.3. Recurrence rates are dependent on rupture model and both long-term slip rate and late Quaternary recurrence interval data were considered. For the preferred unsegmented rupture model, the weighted-mean slip rate was 0.21 mm/yr, and weighted mean recurrence intervals were 4,400 years (for the logic tree branch assuming temporal clustering) and 17,600 years (for the not-in-a-cluster branch). For the segmented rupture model, a moment-balancing approach was used similar to that used by the Working Group on California Earthquake Probabilities (2003) to partition the slip rate of a segment into earthquakes representing various rupture scenarios and to keep the fault in moment equilibrium. Thus, rates vary for each rupture scenario but overall were consistent with the long-term slip rates of the segmented rupture model.

In addition to the dominant PFS, 55 additional fault sources were included in the PSHA. Parameters that were characterized for each fault include: (1) rupture model including independent versus dependent, single plane versus zone, segmented versus unsegmented, and linked configurations; (2) probability of activity; (3) fault geometry including rupture length, rupture width, fault orientation, and sense of slip; (4) maximum magnitude (**M**); and (5) earthquake recurrence, including both recurrence models and rates (using recurrence intervals and/or fault slip rates). There are sparse data on rates of activity for many faults so the approach developed by McCalpin (1995) was applied to characterize fault slip rate distributions. McCalpin's analysis was updated, adding 15 slip rate observations from six additional faults.

In addition to active faults, three areal earthquake source zones were defined based on seismotectonic provinces in the LANL region: the Rio Grande rift, Southern Great Plains, and Colorado Plateau. Due to its high level of seismicity, the Socorro Seismic Anomaly was also modeled as an areal source zone and differentiated from the Rio Grande rift. Earthquake recurrence rates computed for each areal source zone are based on an updated (through 2005) historical seismicity catalog. In addition to the traditional approach of using areal source zones, Gaussian smoothing with a spatial window of 15 km was used to address the hazard from background seismicity and to incorporate a degree of stationarity. The two approaches, areal sources and Gaussian smoothing were weighted equally to compute the hazard from background seismicity in the PSHA.

A combination of both empirical and site-specific attenuation relationships were used in the PSHA. The empirical models were weighted as follows: Abrahamson and Silva (1997), modified for normal faulting, 0.45; Spudich *et al.* (1999), 0.35; Campbell and Bozorgnia (2003), 0.10; Sadigh *et al.* (1997), 0.05; and Boore *et al.* (1997), 0.05. The relationships were weighted based on their appropriateness for the extensional Rio Grande rift. Because the epistemic variability was deemed insufficient as provided by the five attenuation relationships, they were all scaled to obtain a total sigma (ln) of 0.4.

To compensate for the lack of region-specific attenuation relationships, the stochastic ground motion modeling approach was used, as it was in 1995, to develop site-specific relationships for LANL. The point-source version of the stochastic methodology was used to model earthquakes from **M** 4.5 to 8.5 in the distance range of 1 to 400 km. To accommodate finite-source effects at large magnitudes (**M** > 6.5), model simulations included an empirical magnitude-dependent

short-period saturation as well as a magnitude-dependent far-field fall off. Relationships were developed for the CMRR, TA-3, TA-16, and TA-55 sites. A relationship for dacite was also developed. Aleatory variabilities in stress drop, magnitude-dependent point-source depths, the crustal attenuation parameters Q_o and η, and kappa were included in the computations of the attenuation relationships through parametric variations. Site-specific profiles (low-strain V_S, and V_P down to dacite) as well as modulus-reduction and hysteretic-damping curves were also randomly varied.

Variability (aleatory) in the regression of the simulated data is added to the modeling variability to produce 16th, 50th (median), and 84th percentile attenuation relationships. Thirty simulations were made for each magnitude and distance, and the results fitted with a functional form that accommodates magnitude-dependent saturation as well as far-field fall-off. Twelve attenuation relationships developed for the CMRR site were derived from three stress drops, two velocity models, and two sets of dynamic material properties. For the TA-3, TA-16, and TA-55 sites there were nine attenuation relationships derived from three stress drops, one velocity profile, and three sets of dynamic curves. There were six attenuation relationships for dacite derived from one profile, two sets of dynamic curves, and three stress drops.

In the 1995 study, attention was focused on potential topographic effects on ground motions due to the location of LANL facilities on mesas. In this study, a suite of topographic amplification factors was developed for LANL on the basis of (1) recent LANL modeling results, (2) other modeling results and observations in the literature, and (3) recommendations of Eurocode 8. The amplification factors are based on slope angles following Eurocode 8 as well as the French Seismic Code. To accommodate a fully probabilistic hazard analysis, both median estimates and standard deviations were developed, based on ranges of factors in modeling results and observations.

Probabilistic seismic hazard was calculated for the ground surface at CMRR, TA-3, TA-16, TA-55 and the top of dacite at TA-55. The hazard from the site-specific stochastic and empirical western U.S. soil attenuation relationships was calculated separately for each type of relationship. The modeling shows that the probabilistic hazard for peak horizontal ground acceleration (PGA) at all the above sites is controlled primarily by the PFS at all return periods. The PFS similarly controls the hazard at LANL for longer-period ground motions, such as 1.0 sec spectral acceleration (SA). Background seismicity in the Rio Grande rift, which contributed to the hazard at LANL in the 1995 study, is not a significant contributor in this new analysis, probably due to the increased activity rate of the PFS in the Holocene (clustering).

In calculating the probabilistic ground motions at LANL, the surface motions must be hazard consistent; that is, the annual exceedance probability of the soil UHRS should be the same as the rock UHRS. In NUREG/CR-6728, several site response approaches are recommended for use to produce soil motions consistent with the rock outcrop hazard. These approaches also incorporate site-specific aleatory variabilities of soil properties into the soil motions. To compute the site-specific ground-shaking hazard at LANL, we used two different approaches: (1) empirical attenuation relationships for the western U.S. (WUS) generic deep firm soil and (2) site-specific attenuation relationships. In the case of the latter, the site response is contained in the stochastic attenuation relationships (Approach 4). For the empirical attenuation relationships, the

computed generic soil hazard curves from the PSHA were adjusted for the site-specific site conditions at each of the LANL sites using computed amplification factors (Approach 3).

The point-source version of the stochastic ground motion model was used to generate the amplification factors (the ratios of the response spectra at the top of the site profiles to the WUS soil). They are a function of the reference (WUS deep firm soil) peak acceleration, spectral frequency, and nonlinear soil response. Amplification factors were computed for CMRR (4 sets), TA-3 (3 sets), TA-16 (3 sets), and TA-55 (3 sets), based on the velocity profiles and properties, but only one set was computed for the top of dacite. The point-source stochastic model was also used to compute site-specific vertical-to-horizontal (V/H) ratios. To accommodate model epistemic variability following the approach used for the horizontal hazard analyses, empirical deep firm soil V/H ratios were also used with equal weights between the stochastic and empirical models.

The hazard curves derived from the empirical attenuation relationships and the amplification factors were used to calculate site-specific hazard curves using Approach 3. These hazard curves and the hazard curves based on site-specific stochastic attenuation relationships (Approach 4) were then weighted equally and the topographic amplification factors and V/H ratios were applied. In seismic hazard analyses, epistemic uncertainty (due to lack of knowledge) of parameters and models is typically represented by a set of weighted hazard curves. Using these sets of curves as discrete probability distributions, they can be sorted by the frequency of exceedance at each ground-motion level and summed into a cumulative probability mass function. The weighted-mean hazard curve is the weighted average of the exceedance frequency values.

Based on the final site-specific hazard curves, mean horizontal UHRS were computed for CMRR, TA-3, TA-16, and TA-55. The TA-55 UHRS is based on an envelope of the hazard curves of CMRR and the hazard curve developed on basis of the 1995 borehole velocity profiles (SHB-1). Dacite and site-wide mean horizontal UHRS were also computed. The site-wide UHRS is derived from an envelope of the hazard curves of CMRR, TA-3, TA-16, and TA-55. Table ES-1 lists the horizontal and vertical PGA values for the UHRS.

The new PSHA shows that the horizontal surface PGA values are about 0.5 g at a return period of 2,500 years. The vertical PGA values at the same return period are about 0.3 g. The 1995 horizontal PGA values for a return period of 2,500 years are about 0.33 g. The estimated hazard has increased significantly (including other spectral values) from the 1995 study due to the increased ground motions from the site-specific stochastic attenuation relationships and increase in the activity rate of the PFS. The site response effects as modeled in this study with the newer site geotechnical data appears to amplify ground motions more than in the 1995 analysis. Other factors could be the increased epistemic uncertainty incorporated into the empirical attenuation relationships and in the characterization of the PFS.

Horizontal and vertical DRS for CMRR, TA-3, TA-16, TA-55, dacite, and site-wide were calculated for SDC-3, -4, and -5. Table ES-2 lists the horizontal and vertical PGA values for the DRS. DRS at other dampings levels of 0.5%, 1%, 2%, 3%, 7%, and 10% were computed from the 5%-damped DRS using empirical damping ratios.

Strain-compatible properties including V_S, V_S sigma, S-wave damping, S-wave damping sigma, V_P, V_P sigma, P-wave damping, and strains as a function of depth were calculated for return periods of 2,500 and 10,000 years. The strain-compatible properties are consistent with the mean hazard.

Time histories were developed through spectral matching following the recommended guidelines contained in NUREG/CR-6728. The phase spectra were taken from accelerograms of the 23 November 1980 (1934 GMT) **M** 6.9 Irpinia, Italy, earthquake recorded at the Sturno strong motion site.

Table ES-1
LANL Mean PGA Values (g) From the UHRS

Return Period (years)	CMRR		TA-3		TA-16		TA-55		Site-Wide		Dacite	
	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.
1,000	0.27	0.32	0.27	0.32	0.25	0.31	0.27	0.32	0.27	0.32	0.13	0.12
2,500	0.52	0.60	0.52	0.59	0.47	0.57	0.52	0.60	0.52	0.60	0.27	0.27
10,000	1.03	1.21	1.03	1.10	0.93	1.05	1.03	1.21	1.03	1.21	0.65	0.65
25,000	1.47	1.79	1.45	1.57	1.33	1.50	1.47	1.79	1.47	1.79	1.01	0.97
100,000	2.30	3.01	2.29	2.79	2.11	2.57	2.30	3.01	2.30	3.01	1.69	1.65

Table ES-2
LANL PGA Values (g) From the DRS

SDC	CMRR		TA-3		TA-16		TA-55		Site-Wide		Dacite	
	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.
3	0.47	0.56	0.47	0.53	0.43	0.50	0.47	0.60	0.47	0.56	0.28	0.27
4	0.72	0.87	0.71	0.78	0.65	0.74	0.72	0.86	0.72	0.86	0.47	0.45
5	1.17	1.50	1.17	1.39	1.07	1.29	1.17	1.50	1.17	1.50	0.84	0.82

SDC = Seismic Design Category

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Safety Board Raises Seismic Issue On Los Alamos Project

BY GEORGE LOBSENZ

In a potential problem for a key nuclear weapons project, staff at a federal safety oversight board have formally notified the National Nuclear Security Administration that they may not be able to certify the design for a new plutonium-handling facility at Los Alamos National Laboratory because the agency has said it may cost too much to ensure the facility's emissions confinement system can withstand a strong earthquake.

In a January 16 letter to the NNSA, the semi-autonomous Energy Department agency that manages the department's nuclear weapons complex, staff at the Defense Nuclear Facilities Safety Board (DNFSB) said the position taken by NNSA is "not acceptable" given the risks posed by the Chemistry and Metallurgy Research Replacement (CMRR) project at the seismically active Los Alamos site.

Staff at the DNFSB said they wanted NNSA to "re-

(Continued on p. 3)

Court Backs FERC, Raps Blumenthal On Power Deregulation

BY JEFF BEATTIE

In a solid win for FERC in the debate over U.S. power market deregulation, a federal appeals court Friday backed the commission and rejected Connecticut Attorney General Richard Blumenthal's protests that temporary "hybrid" markets in place as New England moves to competitive wholesale markets have produced unjust and unreasonably high power prices.

As is common in such cases, the U.S. Court of Appeals for the District of Columbia offered few direct opinions on the actual structure of the electricity markets in question.

Instead, by a 3-0 vote, a three-judge panel of the court said Blumenthal (D) had not met the burden of proving that the Federal Energy Regulatory Commission's decisions on various steps towards deregulation were unreasonable, showing considerable deference to the agency's decision-making.

In the process, the court backed FERC's decision to reject a proposal from Blumenthal to effectively re-regulate his state's power

(Continued on p. 4)

House Panel Passes Renewable Tax Fix, But Senate Balks

BY CHRIS HOLLY

Economic stimulus legislation approved by the House Ways and Means Committee last week includes language that would allow renewable energy developers to convert tax credits into cash via a proposed new Energy Department grant program. However, the legislation, which the ailing wind and solar industries say is vital to their ability to attract investment, faces opposition in the Senate.

The Ways and Means bill (H.R. 598) would extend the federal tax credit for energy produced from renewable resources for three years; allow renewable energy developers to claim an investment tax credit (ITC) in lieu of the production tax credit (PTC); and allow developers to receive DOE grants in lieu of claiming the ITC for certain projects.

The bill also contains other tax components of an underlying $825 billion stimulus package being pushed through Congress to revive the flagging economy.

The complicated renewable tax fix is aimed at resolving a problem facing wind and solar developers who have used the ITC or PTC as a way to lure investors to back their projects. Much of the investment, for example, in the wind industry over the past few years has come from investment banks who valued the credits as a way to reduce their own tax exposure.

But with the economic crisis running roughshod through corporate balance sheets, banks and other investors have little or no taxable income, hence their desire for tax credits has diminished sharply. This means that developers can't raise the cash they need to build new wind, solar and other renewable energy projects.

With the Ways and Means fix, however, developers in effect could trade their credits for DOE cash, which could be used to expand renewable energy capacity in a variety of ways, said Gregory

(Continued on p. 2)

Palin Puts In-State Gas Pipe On Front Burner

Citing sagging state revenues, Alaska Gov. Sarah Palin in a state-of-the-state speech Thursday said she intends to revive efforts to build a partnership between state authorities and an Alaskan energy firm to build a new in-state natural gas pipeline.

Palin's remarks appeared to acknowledge that the much bigger pipeline planned by the state and TransCanada Corp. to bring North Slope gas supplies to the lower 48 states may face delays and will not come in time to shore up Alaska's withering finances, which include a $1 billion revenue shortfall for the state's government.

In her speech to state lawmakers in Juneau, Palin (R) said she intends to introduce legislation next month to renew an in-state pipeline project by the Alaska Natural Gas Development Authority and Anchorage-based ENSTAR Natural Gas Co. The project was first proposed in July.

The announcement comes as tightening global credit and low energy prices have conspired to freeze up the considerable funding necessary to advance TransCanada's colossal 1,715-mile pipeline from the North Slope.

While focusing on the smaller in-state pipeline initiative, Palin said the TransCanada project remains critically important: "I assure you: The line will be built—gas will flow—Alaska will succeed," she said.

As originally proposed, the in-state pipeline would develop new natural gas resources within the Cook Inlet and Copper River basins and have a capacity of 460 million cubic feet of gas per day—about twice what Alaskans currently use daily. However, with Cook Inlet gas supplies largely depleted, ENSTAR has begun to look elsewhere for supplies for its proposed $3.3 billion line, which is to run along the Parks Highway from Fairbanks to Anchorage.

Safety Board Raises Seismic Issue... *(Continued from p. 1)*

confirm its commitment" to making the emissions confinement system capable of withstanding so-called performance category, or PC-3, earthquake events.

NNSA's position is somewhat unusual because commercial nuclear power plants and other nuclear facilities are typically designed to earthquake safety standards that are substantially equivalent to the PC-3 standard used by DOE.

The DNFSB staff's concerns are important because Congress in the defense authorization bill for fiscal year 2009 specifically gave the DNFSB certification authority for the design of the CMRR project, which NNSA says is vital to maintaining weapons design and production capabilities at Los Alamos.

Under the defense authorization bill, Congress withheld $50.2 million in fiscal 2009 funding for the CMRR project subject to the DNFSB and NNSA providing formal certification to the House and Senate armed services committees that design of the CMRR facility was adequately protective of public safety.

As part of the certification process, the DNFSB staff earlier this month began sending "findings" to NNSA laying out their initial concerns about aspects of the CMRR design.

The staff has sent two findings, one about overall seismic safety of the CMRR and the other focusing on the so-called confinement ventilation system, which is critical to capturing and preventing the release of any harmful emissions from the facility.

While seismic safety has long been a key DNFSB concern on the CMRR project, the January 16 finding on the confinement ventilation system contains stronger language from DNFSB staff about the need for NNSA to change its position.

"The [NNSA's] CMRR Nuclear Safety Design Strategy... states that it may not be economically feasible to seismically design and qualify some components of the active confinement ventilation system or its support system to PC-3 seismic design requirements," the staff said in the finding.

"It is not acceptable to downgrade PC-3 seismic design requirements for the active confinement ventilation system."

As for a solution, the DNFSB staff said: "NNSA should reconfirm its commitment to seismically design the active confinement ventilation system to PC-3 seismic design requirements."

And in an accompanying letter to Gerald Talbot, assistant deputy NNSA administrator for nuclear safety and operations, DNFSB staff said that by sending a finding to NNSA, the staff was highlighting a safety issue that "has not been adequately resolved and that could preclude board certification."

NNSA officials said they expected to address the DNFSB concerns in an internal review of the CMRR project that was now under way.

"We are aware of their concerns," NNSA said in a statement to *The Energy Daily* Friday. "We are in the midst of a major internal review of our design plan and feel confident that the board's questions will be answered when they see the results of this review. We look forward to continuing to work constructively with them to ensure that the CMRR is safe."

NNSA has said that moving forward with the CMRR project is vital because the existing Chemistry and Metallurgy Research (CMR) building at Los Alamos is more than 50 years old and does not meet modern earthquake, fire safety and other environmental and public health protection requirements.

NNSA has been attempting to respond to safety concerns in the interim by removing some plutonium and other hazardous materials from the CMR building. However, the agency says it cannot shut down the CMR building because it provides critical capabilities for handling plutonium and other nuclear materials used in nuclear weapons.

As a result, NNSA has been trying to expedite construction of the CMRR facility, but has run into difficult design and cost problems, with the project's price tag roughly doubling to an estimated $2 billion.

The DNFSB has had longstanding concerns with the design of the CMRR, especially NNSA's initial plan to use "passive confinement" strategies to prevent radioactive releases in some accident scenarios; passive confinement means radioactive releases will be confined by the buildings walls and ceiling, as opposed to being sucked up by an "active" ventilation system and trapped in filters.

Earthquake issues are of particular concern for the CMRR facility because Los Alamos is located in a seismically active area of New Mexico, In addition, the lab recently completed a new seismic review that showed earthquake risks to lab facilities are roughly 50 percent higher than previously believed.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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May 30, 2008

The Honorable Thomas P. D'Agostino
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0701

Dear Mr. D'Agostino:

The Defense Nuclear Facilities Safety Board (Board) understands the vital role that the National Nuclear Security Administration (NNSA) has envisioned for the Plutonium Facility and the Chemistry and Metallurgy Research Replacement (CMRR) facility at Los Alamos National Laboratory. These facilities will likely provide much of the nation's enduring capacity for research, development, and manufacturing involving plutonium and other actinide materials. As a result, two of the Board's priorities are to ensure the development of a high-quality safety basis for the Plutonium Facility and a safe design for the CMRR. The Board's staff recently reviewed both of these efforts. The staff's observations are detailed in the attached reports, which include areas that could benefit from additional examination

The Board was encouraged that NNSA's review of the September 2007 Documented Safety Analysis for the Plutonium Facility largely identified the core deficiencies of the submission, and charted a course for an improved safety basis in the near term that explicitly identified necessary improvements for the future. In the first report, the Board's staff noted several issues and weaknesses that were not fully captured by NNSA's comments and warrant attention. These weaknesses dealt with hazards analysis, controls, software quality assurance, leak path factor calculations, and the criticality safety program. The Board reminds NNSA that the Plutonium Facility continues to operate using a safety basis that was approved more than a decade ago.

The CMRR project is discussed in the second attached report. The Board is encouraged that NNSA plans to complete a technical Independent Project Review before proceeding to the final design stage. This review should provide additional confidence in the nuclear safety strategy employed and the design adequacy of safety-related systems. The Los Alamos Site Office's review of the draft Preliminary Documented Safety Analysis is also important, particularly in addressing significant previously identified shortcomings.

plenums (gloveboxes and laboratory/room areas, respectively), along with three 50 percent capacity sets of fans that are powered from three different electrical buses. Each electrical bus is connected to the two offsite power sources and the two onsite emergency diesel generators. Zone 1 and 2 portions of the ventilation system and their support systems are designed to be operational after a PC-3 seismic event.

Project-specific analyses indicate that operation of one exhaust fan for Zone 1, one exhaust fan for Zone 2, and one supply fan for Zone 2 would be adequate to maintain a cascading flow and negative pressure with respect to the atmosphere during a fire event (with one door left open for emergency response activities). To protect the HEPA filters during a fire, the current design includes a deluge system and demisters, as well as a temperature sensor in the ductwork prior to the deluge spray that would shut down active ventilation on activation. The Board's staff expressed concern about the shutdown of active ventilation during a fire as a result of this temperature sensor. The staff will review the control logic and conditions under which the active confinement ventilation system would maintain negative pressure during a fire.

Preliminary Structural Design. The Board's staff received an overview of the current structural layout of CMRR. NNSA has mandated that the laboratories of the nuclear facility have a flexible, open floor plan to accommodate as-yet unknown future missions. This "hotel concept" prevents the addition of shear walls through the laboratory wings and has resulted in major seismic design challenges. Project personnel had been using a preliminary estimate of seismic motions for the facility until Los Alamos National Laboratory (LANL) completed its update of the probabilistic seismic hazards analysis; however, they did not anticipate that the final seismic motions, particularly vertical motions, would be in resonance with various sections of the nuclear facility. The laboratory portion of the nuclear facility has been most problematic, with the fundamental frequency for the floor and ceiling matching that of the input seismic motions.

The "hotel concept" has generated seismic amplifications in the CMRR facility; it is not clear whether the facility and equipment can be designed to accommodate such demands. To reduce the vertical seismic amplifications in the CMRR structure, the facility design was altered to thicken the basemat and slabs of structure. Few walls have been added in an effort to avoid disrupting the "hotel concept" or the systems layout. This change (stiffening of the structure) responds to recommendations of LANL's structural/seismic parametric studies.

Additionally, the project currently lacks a Structural Acceptance Criteria document to guide in the design of the facility; the Board's staff believes such a document is important for a successful design and encouraged the design team to develop one. As discussed above, project personnel noted that Sargent & Lundy are in the process of preparing a document on the structural analysis approach that may address some of the issues raised by the Board's staff. The staff does not yet have a clear understanding of the structural behavior of the nuclear facility and plans to perform a detailed review of this matter in the near future.

SEC. 3112. LIMITATION ON FUNDING FOR PROJECT 04-D-125 CHEMISTRY AND METALLURGY RESEARCH REPLACEMENT FACILITY PROJECT, LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO.

Of the amounts appropriated pursuant to an authorization of appropriations in this Act or otherwise made available for fiscal year 2009 for Project 04-D-125 Chemistry and Metallurgy Research Replacement (in this section referred to as "CMRR") facility project, Los Alamos National Laboratory, Los Alamos, New Mexico, not more than $50,200,000 may be made available until—

Certifications.

(1) 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; and

Time period.

(2) a period of 15 days has elapsed after both certifications under paragraph (1) have been submitted.

50 USC 2444.

SEC. 3113. NONPROLIFERATION AND NATIONAL SECURITY SCHOLARSHIP AND FELLOWSHIP PROGRAM.

(a) ESTABLISHMENT.—The Administrator for Nuclear Security shall carry out a program to provide scholarships and fellowships for the purpose of enabling individuals to qualify for employment in the nonproliferation and national security programs of the Department of Energy.

(b) ELIGIBLE INDIVIDUALS.—An individual shall be eligible for a scholarship or fellowship under the program established under this section if the individual—

(1) is a citizen or national of the United States or an alien lawfully admitted to the United States for permanent residence;

(2) has been accepted for enrollment or is currently enrolled as a full-time student at an institution of higher education (as defined in section 102(a) of the Higher Education Act of 1965 (20 U.S.C. 1002(a));

(3) is pursuing a program of education that leads to an appropriate higher education degree in a qualifying field of study, as determined by the Administrator;

(4) enters into an agreement described in subsection (c); and

(5) meets such other requirements as the Administrator prescribes.

(c) AGREEMENT.—An individual seeking a scholarship or fellowship under the program established under this section shall enter into an agreement, in writing, with the Administrator that includes the following:

(1) The agreement of the Administrator to provide such individual with a scholarship or fellowship in the form of educational assistance for a specified number of school years (not to exceed five school years) during which such individual is pursuing a program of education in a qualifying field of study, which educational assistance may include payment of tuition, fees, books, laboratory expenses, and a stipend.

(2) The agreement of such individual—

(A) to accept such educational assistance;

Mello Aff#1, Par 18, Ref 2: http://www.hss.energy.gov/deprep/2009/FB09S04B.pdf

CHEMISTRY AND METALLURGY RESEARCH REPLACEMENT FACILITY PROJECT LOS ALAMOS NATIONAL LABORATORY

CERTIFICATION REVIEW

REPORT TO CONGRESSIONAL DEFENSE COMMITTEES

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SEPTEMBER 2009

The update of the PSHA ground motions also revealed that the approach used to derive vertical-to-horizontal ratios had produced overly conservative estimates for these ratios. The 2007 PSHA assumed that the dominant earthquake that controlled the PSHA was a single magnitude 7.0 earthquake at a close-in distance. The update refined the estimate for the dominant earthquake, determining that a range in magnitude of 6.0 to 7.0 was more appropriate at close distances. The ground motion studies resulted in reducing design basis earthquake ground motions by about 25 to 40 percent. The Board reviewed this work and found it acceptable.

The seismic hazard at LANL is complex. LANL has completed numerous studies during the past two decades to better understand the seismic hazard, including studies to understand the rate of movement on the PFS. Given this complex seismic environment, the Board encourages LANL to continue long-term seismic hazard studies aimed at reducing significant uncertainties. These uncertainties include the rate of movement on the PFS and the subsurface stiffness properties, both of which have a significant impact on estimates of ground motion. LANL is developing a long-term seismic hazard program plan; the Board will review this plan as it becomes available.

2.1.2.3 CMRR Seismic and Structural Design

The Board reviewed the Nuclear Facility structural and seismic design. This review focused on evaluating the Nuclear Facility structural configuration and behavior to ensure that the current structural design can resist seismic design ground motions. This evaluation addressed structural issues that could result in the need for significant and costly redesign efforts if not addressed early in the design process.

The Board issued a letter to NNSA on May 30, 2008, documenting structural and seismic design issues. In that letter, the Board pointed out that the open structural layout of the laboratory portion of the facility represented a design challenge. At that time, the ongoing seismic analysis revealed excessive vertical in-structure accelerations for the laboratory roof. These large in-structure accelerations could have been prohibitive from a facility and equipment design perspective. To address this issue, LANL performed a parametric study of the facility that resulted in a structural reconfiguration of the building. LANL recommended several structural changes that would vertically stiffen the roof level above the laboratory level.

Given these changes, the Board focused on the CMRR Project's structural design criteria and plans for completing the structure's seismic design. While the structure had been stiffened several structural design challenges remained. For example, at the mezzanine level of the structure, there are large openings in the floor to allow routing of ventilation equipment and ductwork. The Board's review revealed that there was insufficient confidence that the structural behavior of the Nuclear Facility had been adequately assessed. This could lead to unacceptable structural damage during a design basis earthquake. This led to the identification of the Board's Finding *CMRR Seismic Design.*

The Board met with CMRR Project personnel to discuss the structural behavior and the approach to seismic and structural design. At this meeting, project personnel proposed

modifications to the seismic analysis approach. One of these modifications involved a new approach to defining seismic design ground motions at the foundation of the Nuclear Facility, at a depth of about 75 feet below the ground surface.

The Board continued to express concern about the dynamic behavior of the updated structural configuration of the Nuclear Facility. This configuration is complex. The laboratory level is open, representing a relatively flexible portion of the structure between the stiffer basement and roof. There are few walls in the laboratory level; the CMRR Project instead is employing large columns to support an open laboratory concept for operational flexibility. Walls were added to the structure above the laboratory in an effort to reduce the large vertical in-structure motions. The interaction between these walls and the columns below requires detailed study.

Given these structural complexities, the Board concluded that CMRR Project personnel did not have a sufficient understanding of the building's dynamic response. Project personnel agreed to take actions to develop a better understanding of the structural behavior of the Nuclear Facility. They performed an assessment of building response that resulted in several recommendations related to the Nuclear Facility structural configuration and analysis. These recommendations included extending the mezzanine floor between the laboratory and vault, modifying the roof to remove a structural discontinuity, and accounting for additional structural walls in the dynamic analysis. Project personnel also agreed to add several seismic chords and collector beams to ensure improved structural behavior. These changes will ensure that a suitable load path exists where large discontinuities are encountered in structural slabs and shear walls.

CMRR Project personnel also discussed the need to modify the soil layer immediately below the Nuclear Facility foundation to prevent adverse response of the foundation, such as collapse of the soil under bearing and building sliding. The plan is to either replace or modify this soil layer to improve foundation conditions. While it has not been formally demonstrated that remediating this soil layer will improve the facility's seismic response, the Board agrees that stiffening this layer should improve the seismic response of the Nuclear Facility structure and address project concerns about building sliding. However, a detailed assessment of the revised foundation approach needs to be completed before approval to proceed into final design. This assessment should quantify the impact on foundation-level seismic design ground motions and describe how the seismic analysis model will account for the locally modified soil layer under the structure.

The CMRR Project team's approach to seismic analysis and the general approach to structural and seismic modeling were reviewed. The Board determined that the project lacked an integrated approach to structural modeling. As a result, the structural design process may not be properly validated. Because of computational constraints, project personnel proposed using design and analytical approximations. Providing assurance that such an approach is acceptable is essential, but is complicated by such issues as remediation of the soil layer below the foundation. To address these issues, a detailed structural model with a minimum number of approximations was needed. This model could then be used to validate both the general analysis and design approaches.

CMRR Project personnel agreed with these concerns and revised the structural design process to include the development of a detailed structural model. A design process check is planned to ensure that the approach used is adequate and will meet the structural loads that result from a design basis earthquake. The Board agrees that this is an acceptable path forward. CMRR Project personnel also plan to update the seismic soil-structure interaction analysis. It will be necessary to ensure that the structural model(s) has adequate refinement and inputs to properly capture the dynamic behavior of the Nuclear Facility. A detailed assessment of the remediation of the Nuclear Facility foundation soil will also be necessary to ensure that the soil-structure interaction approach properly models the effects on the seismic design ground motions.

It will be advisable for the project to continue using LANL structural personnel, supported by a peer review panel, to provide detailed oversight of the structural seismic analysis and design. As the Nuclear Facility design proceeds the Board will review the CMRR Project team's detailed assessment of the impact of the revised Nuclear Facility foundation approach.

2.1.3 Finding: *Seismic Design of Active Confinement Ventilation System and Support Systems*

The CMRR Project should not proceed to final design until there is high confidence that the necessary portions of the active confinement ventilation system can be seismically qualified. As discussed in Section 2.1.2.2, the structural response of the Nuclear Facility to vertical design basis ground motions led project personnel to be concerned that the vertical accelerations were at or above the upper limit at which some equipment could be seismically qualified, and to state that the seismic design for some of the safety-related systems might have to be downgraded as a result. The Board did not agree with downgrading the seismic design of any safety-related equipment and determined that inadequate technical justification had been provided to fully understand the equipment seismic qualification issue. Downgrading the seismic design of the active confinement ventilation system would jeopardize the ability of the system to function following a design basis earthquake, resulting in significantly larger releases of radioactive material.

The Board suggested that the CMRR Project team reconfirm its commitment to seismically designing the active confinement ventilation system to PC-3 seismic design requirements. The Board also suggested near-term studies to assess the potential conservatism of PC-3 design basis earthquake ground motions given recently published ground motion attenuation models, and suggested that the CMRR Project team perform a peer review of the approach to seismically qualifying safety-related equipment.

In response to this Finding, the CMRR Project team committed to seismically designing the systems and components of the active confinement ventilation system to PC-3 seismic design requirements. An update to the seismic design ground motions for the CMRR facility was also completed (see Section 2.1.2.2). The Board determined that the resulting reductions in PC-3 horizontal and vertical seismic design ground motions are technically supportable. These reductions alleviate the need to downgrade any safety-related equipment.

04-D-125, Chemistry and Metallurgy Research Building Replacement (CMRR) Project, Los Alamos National Laboratory (LANL), Los Alamos, New Mexico Project Data Sheet (PDS) is for Construction

1. Significant Changes

The most recent DOE O 413.3A approved Critical Decision (CD) is CD-1 for the Nuclear Facility (NF), Special Facility Equipment (SFE), and Radiological Laboratory/Utility/Office Building (RLUOB) equipment installation components of the project, and CD-2/3A for the RLUOB facility component of the project. The CMRR CD-1 was approved on May 18, 2005, which at the time had a preliminary cost range of $745,000,000 - $975,000,000. It is recognized that many of the prior planning assumptions have changed. Further discussion below addresses these changes impacting the estimate. The CD-2/3A for the RLUOB construction was approved on October 21, 2005, with a Total Project Cost (TPC) of $164,000,000. The construction of the RLUOB is being executed with a design build contract. Subsequent Critical Decisions will be sought for the establishment of the performance baselines to install SFE equipment in the RLUOB and for the NF and associated SFE equipment. The TPC of the RLUOB construction is part of the overall CMRR Project preliminary cost range.

Based upon DOE/NNSA Program direction to the project in FY 2007 and FY 2008, the project scope description in Section 4 was modified to address incorporation of the Special Facility Equipment (formerly addressed as Phase B), into each of the respective facility components of CMRR, namely the RLUOB and NF. The start of final design was approved for the SFE associated with the RLUOB in May 2007. With the completion of the RLUOB/SFE final design in FY 2008 and the anticipated establishment of the performance baseline in FY 2009, this effort is being addressed as the Equipment Installation effort necessary for the RLUOB to become programmatically operational. For the Nuclear Facility, the facility construction, equipment procurement and installation, and facility operational readiness will be addressed within the NF performance baseline.

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.

A Federal Project Director at the appropriate level has been assigned to this project.

This PDS is an update of the FY 2009 PDS.

Lifetime Extension Program (LEP)
Executive Summary

JSR-09-334E

September 9, 2009

The MITRE Corporation
JASON Program Office
7515 Colshire Drive
McLean, Virginia 22102
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1 Executive Summary

1.1 Study charge

This study of the Life Extension Program (LEP) for deployed U.S. nuclear weapons responds to the following charge.

> "NNSA requests that JASON study LEP strategies for maintaining the U.S. nuclear deterrent in the absence of underground nuclear testing. This should include:
>
> - Study the certification challenges associated with changes, to include accumulation of changes, made to a warhead[1] during its life.
> - Compare the assessment and certification challenges of different LEP strategies ranging from refurbishment to replacement.
> - Study proposed methods to measure the evolution of risk due to multiple changes during warhead life and initiated in LEPs.
> - Study how NNSA can mitigate risks while maintaining a safe, secure and reliable nuclear deterrent. Comment on how the overall balance and structure of science, technology, engineering and production activities can be made to minimize future risk to the stockpile.
> - Study the accumulated risks and uncertainties of the current Life Extension Program strategy. As already identified by a previous JASON study, risk areas include:
>   - Linkage to UGT data,
>   - Manufacturing changes that may unavoidably result in differences from the as-tested devices,
>   - Increased surety[2] features, and
>   - Thresholds to failure."

NNSA provided the following definitions:

> "**Refurbishment** (current implementation of LEP) - Very generally, individual warhead components are replaced before they degrade with components of (nearly) identical design or that meet the same "form, fit, and function."
>
> **Warhead Component Reuse -** Refers specifically to the use of existing surplus pit and secondary components from other warhead types. Approach may permit limited warhead surety improvements and some increased margins.

[1] In this study "warhead" refers to the nuclear explosive package and associated non-nuclear components.
[2] Surety encompasses safety, security and use control.

Warhead Replacement - Some or all of the components of a warhead are replaced with modern design that are more easily manufacturable, provide increased warhead margins, forego no longer available or hazardous materials, improve safety, security and use control, and offer the potential for further overall stockpile reductions."

1.2 Findings

JASON was asked to assess the impacts of changes to stockpile warheads incurred from aging and LEPs. In response:

- **JASON finds no evidence that accumulation of changes incurred from aging and LEPs have increased risk to certification of today's deployed nuclear warheads**

  This finding is a direct consequence of the excellent work of the people in the US nuclear weapons complex supported and informed by the tools and methods developed through the Stockpile Stewardship program. Some aging issues have already been resolved. The others that have been identified can be resolved through LEP approaches similar to those employed to date. To maintain certification, military requirements for some stockpile warheads have been modified. The modifications are the result of improved understanding of original weapon performance, not because of aging or other changes. If desired, all but one of the original major performance requirements could also be met through LEP approaches similar to those employed to date.

- **Lifetimes of today's nuclear warheads could be extended for decades, with no anticipated loss in confidence, by using approaches similar to those employed in LEPs to date .**

  The report discusses details and challenges for each stockpile system.

For each warhead, decisions must be made about including additional surety features. Findings regarding surety features are

- **Further scientific research and engineering development is required for some proposed surety systems.**

- **Implementation of intrinsic[3] surety features in today's re-entry systems, using the technologies proposed to date, would require reuse or replacement LEP options.**

- **All proposed surety features for today's air-carried systems could be implemented through reuse LEP options.**

[3] i.e. inside the nuclear explosive package.

- **Implementation of intrinsic surety features across the entire stockpile would require more than a decade to complete.**

Concerning methods for assessing evolution of risk and assessing the effects of multiple changes to a weapon, we find that

- **The basis for assessment and certification is linkage to underground test data, scientific understanding, and results from experiment.**

- **Quantification of Margins and Uncertainties (QMU) provides a suitable framework for assessment and certification.**

- **Increased scientific understanding enables reduced reliance on calibration, enhanced predictive capability, and improved quantification of margins and uncertainties.**

Regarding certification challenges for LEP strategies ranging from refurbishment to replacement, we find that

- **Assessment and certification challenges depend on design details and associated margins and uncertainties, not simply on whether the LEP is primarily based on refurbishment, reuse, or replacement.**

Concerning the overall balance and structure of science, technology, engineering and production activities, and how to mitigate risk to the stockpile, we find that

- **Certification of certain reuse or replacement options would require improved understanding of boost.**

- **Continued success of stockpile stewardship is threatened by lack of program stability, placing any LEP strategy at risk.**

Surveillance of stockpile weapons is essential to stockpile stewardship. Inadequate surveillance would place the stockpile at risk. We find that

- **The surveillance program is becoming inadequate. Continued success of stockpile stewardship requires implementation of a revised surveillance program.**

We conclude this section with a concern. All options for extending the life of the nuclear weapons stockpile rely on the continuing maintenance and renewal of expertise and capabilities in science, technology, engineering, and production unique to the nuclear weapons program. This will be the case regardless of whether future LEPs utilize refurbishment, reuse or replacement. The study team is concerned that this expertise is

threatened by lack of program stability, perceived lack of mission importance, and degradation of the work environment.

1.3 Recommendations

Our recommendations are as follows:

- **Determine the full potential of refurbishment, as exemplified by LEPs executed to date, for maintaining or improving the legacy stockpile.**

- **Quantify potential benefits and challenges of LEP strategies that may require reuse and replacement, to prepare for the possibility of future requirements such as reduced yield or enhanced surety.**

- **Strengthen and focus science programs to anticipate and meet potential challenges of future LEP options, including challenges associated with boost and surety science.**

- **Revise the surveillance program so that it meets immediate and future needs.**

- **Assess the benefits of surety technologies in the context of the nuclear weapons enterprise as a system, including technologies that can be employed in the near term.**

Mello Aff #1, par 19, ref 3: http://www.cfo.doe.gov/budget/11budget/Content/Volume%201.pdf

	FY 2011 vs. FY 2010 ($000)
▪ **Plutonium Sustainment** The increase restores the capability to build up to 10 pits per year in the Plutonium Facility-4 (PF-4) at LANL. The increase will permit the completion of W88 pit production requirement, enable a power source production mission and position PF-4 to meet any future Life Extension Program requirements. The change will also enhance the flexibility of the PF-4 operating space to make maximize use of the existing footprint.	**+48,409**
Total, Stockpile Services	**+112,762**
Total Funding Change, Directed Stockpile Work	**+392,520**

in U.S. extended deterrence capabilities will be made without close consultations with our allies and partners.

Sustaining a Safe, Secure, and Effective Nuclear Arsenal

The United States is committed to ensuring that its nuclear weapons remain safe, secure, and effective. Since the end of U.S. nuclear testing in 1992, our nuclear warheads have been maintained and certified as safe and reliable through a Stockpile Stewardship Program that has extended the lives of warheads by refurbishing them to nearly original specifications. Looking ahead three decades, the NPR considered how best to extend the lives of existing nuclear warheads consistent with the congressionally mandated Stockpile Management Program and U.S. non-proliferation goals, and reached the following conclusions:

- The United States will not conduct nuclear testing and will pursue ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty.
- The United States will not develop new nuclear warheads. Life Extension Programs (LEPs) will use only nuclear components based on previously tested designs, and will not support new military missions or provide for new military capabilities.
- The United States will study options for ensuring the safety, security, and reliability of nuclear warheads on a case-by-case basis, consistent with the congressionally mandated Stockpile Management Program. The full range of LEP approaches will be considered: refurbishment of existing warheads, reuse of nuclear components from different warheads, and replacement of nuclear components.
- 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.

Consistent with these conclusions, the NPR recommended:

- Funding fully the ongoing LEP for the W-76 submarine-based warhead and the LEP study and follow-on activities for the B-61 bomb; and
- Initiating a study of LEP options for the W-78 ICBM warhead, including the possibility of using the resulting warhead also on SLBMs to reduce the number of warhead types.

In order to remain safe, secure, and effective, the U.S. nuclear stockpile must be supported by a modern physical infrastructure – comprised of the national security laboratories and a complex of supporting facilities – and a highly capable workforce with the specialized skills needed to sustain

NNSA PUSHING COOPERATION TO REDUCE RISKS ON UPF, CMRR-NF

The National Nuclear Security Administration is encouraging the contractors working on the agency's two major construction projects to work together to address common issues, and the agency is seeking to tie Fiscal Year 2011 contract incentives to the effort. According to a Sept. 3 Defense Nuclear Facilities Safety Board report, which was only made public recently after passing a classification review, NNSA has directed the Y-12 and Los Alamos site offices to develop performance-based incentives for FY2011 that would reduce "known project risks" for the Uranium Processing Facility at Y-12 and the Chemistry and Metallurgy Research Replacement-Nuclear Facility at Los Alamos National Laboratory.

The incentives, which would be included in the annual Performance Evaluation Plan for B&W Y-12 and Los Alamos National Security, LLC, have not been released, but NNSA spokeswoman Jennifer Wagner suggested that some common procurements could help level out the risks involved in purchasing some commodities, and she singled out reinforcing bar as one example. "NNSA often aligns contract incentives to achieve common goals," Wagner said. "In this instance, given that NNSA has two large construction projects in development concurrently, common strategies are being encouraged to address a suite of traditional market and execution risks." She said the common procurement of reinforcing bar for both facilities could "reduce the cost risk of market fluctuations and the schedule risk of timeliness and availability when needed. Common measures also promote integration in planning, work sequencing, vendor qualification, etc." In its report, the DNFSB said the incentives would be designed to "give stakeholders increased confidence in timely project execution within cost and schedule constraints."

A Construction Management Compromise?

The cooperative approach appears to track with the NNSA's interest in consolidating the agency's construction work under one umbrella contract vehicle, though momentum for that contract has cooled in recent months as site contractors have pushed to exclude major construction projects like UPF and CMRR-NF from the contract. The agency announced plans to create a construction management contract in late March, but after an industry day in April, there has been scant communication with industry, and it's unclear when—or if—a statement of work for the contract will be released. The incentives, however, appear to provide both evidence for and against such a contract. On the one hand, the NNSA is clearly interested in increasing cooperation on its major construction projects—one of the main goals of the construction management contract—but it also could be an indicator that the agency is pushing to achieve that cooperation through its existing contracts.

Costly Concerns

Cost and schedule issues for the facilities remain a major concern for NNSA officials. The UPF is currently estimated to cost between $1.4 and $3.5 billion, and Fiscal Year 2011 budget documents indicate that the price tag for CMRR-NF is likely to soar past $4 billion, but most officials believe that the cost of the facilities will be substantially higher. Sen. Bob Corker (R-Tenn.) suggested earlier this year that the cost of UPF is likely to land between $4 and $5 billion, and Congressional aides currently believe the combined cost of the facilities could reach $11 billion. Both facilities are expected to be completed in 2020 and operational by 2022, and are key to efforts to modernize the nation's weapons complex—as well as Senate ratification of the New Strategic Arms Reduction Treaty with Russia. Senate Republicans have pushed the Administration for adequate funding to modernize the weapons complex and arsenal, and while the Administration earlier this year committed $80 billion over the next decade for the effort, Vice President Joseph Biden acknowledged last month that more resources would be needed for the modernization effort and promised to update the Administration's plans later this fall.

Nuclear Weapons & Materials Monitor is a weekly (50 issues a year) publication covering all the activities of the U.S. National Nuclear Security Administration, including the stockpile stewardship program, complex transformation and disposition of weapons grade materials. Also includes insight on programs with Russia and other nuclear states.

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Likewise, Y-12 officials said last week that the cost range for UPF would also be updated later this fall, but the actual baseline won't be completed until the facility's design is 90 percent done, which Y-12 Site Office spokesman Steven Wyatt said is projected to occur in the spring of 2013. Wyatt said in the three years since the UPF cost range was established, "we have continued to bring clarity to this critical national security priority, including requirements, assumptions, design maturity, and project schedule. These changes will ultimately affect the cost range."

'Independent Eyes' Looking at Projects

The NNSA's latest push to control costs is part of a continuing effort to try to decrease the price tag of the multi-billion-dollar facilities as it wrestles with how to build the facilities and what requirements will be included in the projects. Don Cook, the agency's Deputy Administrator for Defense Programs, this summer initiated a review of the facilities' requirements by the Department of Energy's Office of Cost Analysis and the Pentagon's Cost Analysis Improvement Group, representing "independent eyes" to look at the projects, Cook said. Cook said in an August interview that those reviews were expected to be completed last month, but the NNSA has not released any information about the reports. At the time, Cook suggested that he didn't expect drastic changes to the projects. "As far as cutting something way back, I don't think that is likely to occur, because we designed these things not to be capacity-driven in the first place but to give us a basic capability that had some adjustability in capacity but not a lot," Cook said. "We're not too far away from that." A review last year by former Defense Programs chief Everet Beckner of UPF found that the facility was mostly sized appropriately for the nation's needs.

However, there is some evidence that site contractors are looking for ways at decreasing the facility's requirements. According to Bill Reis, the defense programs chief at the Y-12 National Security Complex, the accelerated pace of dismantlement at the facility is designed, in part, to limit the capabilities that need to be replicated in UPF. "We're designing this facility with an expectation that we have dismantled a significant number of those [warhead] components prior to moving into that facility so that we don't have to build in a capability that is not necessary," Reis said. "In other words, if there are some components that we can get taken apart before we put in that facility then there's equipment we don't have to build into that facility." He added: "If we don't have as much to do, that's a good thing."

—Todd Jacobson

'NEW START' NEGOTIATOR VOICES HIGH HOPES FOR TREATY PROSPECTS

Seeming confident that the concerns of many Republican Senators have been addressed, Rose Gottemoeller, the chief U.S. negotiator on the New Strategic Arms Reduction Treaty with Russia, said last week that she is hoping for an overwhelming show of support for the arms control pact when the Senate votes on the ratification of the treaty later this year. "We are hoping that we will have the same kind of vote which was the vote for the [original] START treaty, 95-0," she told reporters last week in New York on the sidelines of the United Nations General Assembly First Committee meeting. "We're looking for that kind of vote this time around as well."

The Senate Foreign Relations Committee approved a resolution of ratification for the treaty, 14-4, on Sept. 16, but the full Senate isn't expected to vote on the treaty until a post-election lame-duck session. Gottemoeller said the Administration was seeking "this vote as soon as possible." Because the treaty needs to be ratified by two-thirds of the Senate, at least eight Republicans along with 59 Democrats are needed for the treaty to enter into force. Russia's Duma also must ratify the treaty, and it is expected to act after the Senate.

In reductions to be made over the next seven years, the treaty would cap the size of the U.S. and Russian strategic deployed stockpiles at 1,550, down from the 1,700-2,200 range allowed by the Moscow Treaty, and would limit the number of deployed and reserve strategic delivery vehicles to 800 with a maximum of 700 missile launchers and bombers allowed to be deployed at one time. It would also reestablish verification and transparency measures that have been lacking since the START Treaty expired Dec. 5. The treaty will last 10 years.

'Building a Corvette in a Model-T Factory'

The ratification process hasn't been easy, and though three Republicans supported the treaty in committee (Sens. Richard Lugar (R-Ind.), Bob Corker (R-Tenn.), and Johnny Isakson (R-Ga.)), many Republicans remain undecided about how they'll vote for the treaty. Much of the uncertainty comes from concerns about modernization of the National Nuclear Security Administration's weapons complex and nuclear arsenal. Thus far, the Administration has committed $80 billion over the next decade for the agency's weapons program, but many Republicans believe that's not enough—a point Vice President Joseph Biden conceded last month—and are waiting on the Administration to update its pledge. Sen. Jon Kyl (R-Ariz.) has led the Senate GOP charge on modernization and most observers

Mello Aff #1, par 19, ref 6:
http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_reports&docid=f:sr201.111.pdf

Calendar No. 414

111TH CONGRESS *2d Session*	SENATE	REPORT 111–201

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2011

R E P O R T

[TO ACCOMPANY S. 3454]

ON

AUTHORIZING APPROPRIATIONS FOR FISCAL YEAR 2011 FOR MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE AND FOR MILITARY CONSTRUCTION, TO PRESCRIBE MILITARY PERSONNEL STRENGTHS FOR SUCH FISCAL YEAR, AND FOR OTHER PURPOSES

TOGETHER WITH

ADDITIONAL VIEWS

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

JUNE 4, 2010.—Ordered to be printed
Filed, under authority of the order of the Senate of May 28 (legislative day, May 26), 2010

tion line item approach was that the life cycle costs would be less using the GSA/third party approach. The committee is concerned that NNSA may be supplementing the construction costs. The committee also notes that ground breaking for the new building has been delayed until August 2011. For future budget submissions, the committee directs the NNSA to specifically identify funds for the KCRIMS project as a separate element of the RTBF and the purpose for which they will be spent.

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, phase III of the CMRR project. The committee is concerned that the phase III project 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.

The committee recommends an increase of $20.0 million for the Los Alamos Neutron Science Center (LANSCE) refurbishment, Project 09–D–007. The LANSCE supports the only machine capable of performing nuclear cross section measurements of weapons materials to support the resolution of significant findings investigations. LANSCE refurbishment would also further enhance the ability of the NNSA to perform surveillance on the stockpile. The committee recognizes that there is considerable deferred maintenance at the LANSCE facility that will need to be addressed as the final design for the LANSCE refurbishment is determined. In the interim the committee authorizes the NNSA to use such funds in fiscal year 2011 as needed to maintain the facility while the design is finalized.

The committee recommends an increase of $10.0 million for the high explosive pressing facility at the Pantex Plant, Project 08–D–802 to accelerate construction of the facility. This new high explosive facility is needed for life extension programs and will provide a modern, safe, working environment for these high risk operations.

Defense Nuclear Nonproliferation programs

The committee recommends $2.7 billion for the Defense Nuclear Nonproliferation program, the same as the budget request. The National Nuclear Security Administration (NNSA) has management and oversight responsibility for the nuclear nonproliferation programs at the Department of Energy (DOE).

Mello Aff #1, Par 20, Ref 1

7. Schedule of Total Project Costs

(dollars in thousands)

		Prior Years	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Outyears	Total
FY 2005	TEC	159,130								159,130
RLOUB	OPC	4,068	802							4,870
Baseline	TPC	163,198	802	0	0	0	0	0	0	164,000
FY 2009	TEC	38,100	40,000	59,000	15,800					152,900
REI	OPC	5,602	11,900	12,100	12,400	4,498				46,500
Baseline	TPC	43,702	51,900	71,100	28,200	4,498	0	0	0	199,400
	TEC	159,130								159,130
FY 2010	OPC	4,068	802							4,870
RLOUB	TPC	163,198	802	0	0	0	0	0	0	164,000
	TEC	38,100	40,000	59,000	15,800					152,900
FY 2010	OPC	5,602	11,900	12,100	12,400	4,498				46,500
REI	TPC	43,702	51,900	71,100	28,200	4,498	0	0	0	199,400
	TEC	131,600	57,500	129,000	289,200	300,000	300,000	300,000	1,504,631	3,011,931
FY 2010	OPC	34,481	2,000	2,500	3,000	3,500	4,000	4,550	300,500	354,531
NF	TPC	166,081	59,500	131,500	292,200	303,500	304,000	304,550	1,805,131	3,366,462
	TEC	159,130								159,130
FY 2011	OPC	4,068	802							4,870
RLOUB	TPC	163,198	802	0	0	0	0	0	0	164,000
	TEC	38,100	40,000	59,000	15,800					152,900
FY 2011	OPC	5,602	11,900	12,100	12,400	4,498				46,500
REI	TPC	43,702	51,900	71,100	28,200	4,498	0	0	0	199,400
	TEC	131,600	57,500	166,000	289,200	300,000	300,000	300,000	1,532,769	3,077,069
FY 2011	OPC	34,481	2,000	2,500	3,000	3,500	4,000	4,550	300,500	354,531
NF	TPC	166,081	59,500	168,500	292,200	303,500	304,000	304,550	1,833,269	3,431,600

Note: NF data above are pre-baseline planning figures

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4QFY2009[a]
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	2QFY2065

(Related Funding requirements)

(dollars in thousands)

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	N/A	N/A	N/A	N/A
Maintenance	N/A	N/A	N/A	N/A
Total, Operations & Maintenance	N/A	N/A	N/A	N/A

[a] This date corresponds to the beneficial occupancy of the RLUOB construction phase only. NF date is TBD.

MONITOR
NUCLEAR WEAPONS & MATERIALS

U.S. National Nuclear Security Administration ◆ Russian Ministry of Atomic Energy
...plus International Nonproliferation Initiatives *(State, DoD, G-8, IAEA)* ◆ Uranium Enrichment

Mello Aff #1, par 20, ref 2, Exhibit 3

Volume 14 No. 41 **October 11, 2010**

— *INSIDE HIGHLIGHTS* —

The NNSA is encouraging the contractors working on the agency's two major construction projects to work together on common issues, and the agency is seeking to tie FY2011 contract incentives to the effort. 2

Seeming confident that the concerns of many Republican Senators have been addressed, Rose Gottemoeller, the chief U.S. negotiator on the New START Treaty with Russia, said last week that she is hoping for an overwhelming show of support for the pact when the Senate votes on the ratification of the treaty later this year. . 3

Officials at the NNSA's Pantex Plant have slightly lowered the estimate for repairing the damage from historic flooding in July, but an ongoing debate about how much money to spend on preventing damage from the next flood has made the estimate a moving target. 5

There appears to be no end in sight to the technical problems that the NNSA is encountering with the tritium-producing burnable absorber rods that supply much of the tritium for the nation's nuclear stockpile. 5

Procurement Tracker 6

Rep. Jane Harman, the California Democrat who chairs a key House intelligence subcommittee, last week called for a more focused effort on securing the vast number of radiological sources at hospitals around the country, suggesting that the government should invest $125 million on the effort 8

Enamored by the cost savings that have been generated by the NNSA's Supply Chain Management Center, Deputy Energy Secretary Daniel Poneman has chartered a team to explore implementing some parts of the initiative across the entire Department of Energy. 8

In an effort to increase its focus on arms control, the State Department has consolidated responsibility for implementing and verifying agreements like the New Strategic Arms Reduction Treaty and negotiating future arms control pacts under the renamed Bureau of Arms Control, Verification and Compliance. 9

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NNSA PUSHING COOPERATION TO REDUCE RISKS ON UPF, CMRR-NF

The National Nuclear Security Administration is encouraging the contractors working on the agency's two major construction projects to work together to address common issues, and the agency is seeking to tie Fiscal Year 2011 contract incentives to the effort. According to a Sept. 3 Defense Nuclear Facilities Safety Board report, which was only made public recently after passing a classification review, NNSA has directed the Y-12 and Los Alamos site offices to develop performance-based incentives for FY2011 that would reduce "known project risks" for the Uranium Processing Facility at Y-12 and the Chemistry and Metallurgy Research Replacement-Nuclear Facility at Los Alamos National Laboratory.

The incentives, which would be included in the annual Performance Evaluation Plan for B&W Y-12 and Los Alamos National Security, LLC, have not been released, but NNSA spokeswoman Jennifer Wagner suggested that some common procurements could help level out the risks involved in purchasing some commodities, and she singled out reinforcing bar as one example. "NNSA often aligns contract incentives to achieve common goals," Wagner said. "In this instance, given that NNSA has two large construction projects in development concurrently, common strategies are being encouraged to address a suite of traditional market and execution risks." She said the common procurement of reinforcing bar for both facilities could "reduce the cost risk of market fluctuations and the schedule risk of timeliness and availability when needed. Common measures also promote integration in planning, work sequencing, vendor qualification, etc." In its report, the DNFSB said the incentives would be designed to "give stakeholders increased confidence in timely project execution within cost and schedule constraints."

A Construction Management Compromise?

The cooperative approach appears to track with the NNSA's interest in consolidating the agency's construction work under one umbrella contract vehicle, though momentum for that contract has cooled in recent months as site contractors have pushed to exclude major construction projects like UPF and CMRR-NF from the contract. The agency announced plans to create a construction management contract in late March, but after an industry day in April, there has been scant communication with industry, and it's unclear when—or if—a statement of work for the contract will be released. The incentives, however, appear to provide both evidence for and against such a contract. On the one hand, the NNSA is clearly interested in increasing cooperation on its major construction projects—one of the main goals of the construction management contract—but it also could be an indicator that the agency is pushing to achieve that cooperation through its existing contracts.

Costly Concerns

Cost and schedule issues for the facilities remain a major concern for NNSA officials. The UPF is currently estimated to cost between $1.4 and $3.5 billion, and Fiscal Year 2011 budget documents indicate that the price tag for CMRR-NF is likely to soar past $4 billion, but most officials believe that the cost of the facilities will be substantially higher. Sen. Bob Corker (R-Tenn.) suggested earlier this year that the cost of UPF is likely to land between $4 and $5 billion, and Congressional aides currently believe the combined cost of the facilities could reach $11 billion. Both facilities are expected to be completed in 2020 and operational by 2022, and are key to efforts to modernize the nation's weapons complex—as well as Senate ratification of the New Strategic Arms Reduction Treaty with Russia. Senate Republicans have pushed the Administration for adequate funding to modernize the weapons complex and arsenal, and while the Administration earlier this year committed $80 billion over the next decade for the effort, Vice President Joseph Biden acknowledged last month that more resources would be needed for the modernization effort and promised to update the Administration's plans later this fall.

Nuclear Weapons & Materials Monitor is a weekly (50 issues a year) publication covering all the activities of the U.S. National Nuclear Security Administration, including the stockpile stewardship program, complex transformation and disposition of weapons grade materials. Also includes insight on programs with Russia and other nuclear states.

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Weapons Complex Monitor ■ *Nuclear Weapons & Materials Monitor* ■ *RadWaste Monitor* ■*Nuclear New Build Monitor* ■ *GHG Transactions & Technologies*

Likewise, Y-12 officials said last week that the cost range for UPF would also be updated later this fall, but the actual baseline won't be completed until the facility's design is 90 percent done, which Y-12 Site Office spokesman Steven Wyatt said is projected to occur in the spring of 2013. Wyatt said in the three years since the UPF cost range was established, "we have continued to bring clarity to this critical national security priority, including requirements, assumptions, design maturity, and project schedule. These changes will ultimately affect the cost range."

'Independent Eyes' Looking at Projects

The NNSA's latest push to control costs is part of a continuing effort to try to decrease the price tag of the multi-billion-dollar facilities as it wrestles with how to build the facilities and what requirements will be included in the projects. Don Cook, the agency's Deputy Administrator for Defense Programs, this summer initiated a review of the facilities' requirements by the Department of Energy's Office of Cost Analysis and the Pentagon's Cost Analysis Improvement Group, representing "independent eyes" to look at the projects, Cook said. Cook said in an August interview that those reviews were expected to be completed last month, but the NNSA has not released any information about the reports. At the time, Cook suggested that he didn't expect drastic changes to the projects. "As far as cutting something way back, I don't think that is likely to occur, because we designed these things not to be capacity-driven in the first place but to give us a basic capability that had some adjustability in capacity but not a lot," Cook said. "We're not too far away from that." A review last year by former Defense Programs chief Everet Beckner of UPF found that the facility was mostly sized appropriately for the nation's needs.

However, there is some evidence that site contractors are looking for ways at decreasing the facility's requirements. According to Bill Reis, the defense programs chief at the Y-12 National Security Complex, the accelerated pace of dismantlement at the facility is designed, in part, to limit the capabilities that need to be replicated in UPF. "We're designing this facility with an expectation that we have dismantled a significant number of those [warhead] components prior to moving into that facility so that we don't have to build in a capability that is not necessary," Reis said. "In other words, if there are some components that we can get taken apart before we put in that facility then there's equipment we don't have to build into that facility." He added: "If we don't have as much to do, that's a good thing."

—Todd Jacobson

'NEW START' NEGOTIATOR VOICES HIGH HOPES FOR TREATY PROSPECTS

Seeming confident that the concerns of many Republican Senators have been addressed, Rose Gottemoeller, the chief U.S. negotiator on the New Strategic Arms Reduction Treaty with Russia, said last week that she is hoping for an overwhelming show of support for the arms control pact when the Senate votes on the ratification of the treaty later this year. "We are hoping that we will have the same kind of vote which was the vote for the [original] START treaty, 95-0," she told reporters last week in New York on the sidelines of the United Nations General Assembly First Committee meeting. "We're looking for that kind of vote this time around as well."

The Senate Foreign Relations Committee approved a resolution of ratification for the treaty, 14-4, on Sept. 16, but the full Senate isn't expected to vote on the treaty until a post-election lame-duck session. Gottemoeller said the Administration was seeking "this vote as soon as possible." Because the treaty needs to be ratified by two-thirds of the Senate, at least eight Republicans along with 59 Democrats are needed for the treaty to enter into force. Russia's Duma also must ratify the treaty, and it is expected to act after the Senate.

In reductions to be made over the next seven years, the treaty would cap the size of the U.S. and Russian strategic deployed stockpiles at 1,550, down from the 1,700-2,200 range allowed by the Moscow Treaty, and would limit the number of deployed and reserve strategic delivery vehicles to 800 with a maximum of 700 missile launchers and bombers allowed to be deployed at one time. It would also reestablish verification and transparency measures that have been lacking since the START Treaty expired Dec. 5. The treaty will last 10 years.

'Building a Corvette in a Model-T Factory'

The ratification process hasn't been easy, and though three Republicans supported the treaty in committee (Sens. Richard Lugar (R-Ind.), Bob Corker (R-Tenn.), and Johnny Isakson (R-Ga.)), many Republicans remain undecided about how they'll vote for the treaty. Much of the uncertainty comes from concerns about modernization of the National Nuclear Security Administration's weapons complex and nuclear arsenal. Thus far, the Administration has committed $80 billion over the next decade for the agency's weapons program, but many Republicans believe that's not enough—a point Vice President Joseph Biden conceded last month—and are waiting on the Administration to update its pledge. Sen. Jon Kyl (R-Ariz.) has led the Senate GOP charge on modernization and most observers

Mello Aff #1, par. 22, http://eteba.org/Presentations/RickHolmestoNM6.10.10.pdf

Chemistry and Metallurgy Research Replacement (CMRR) Project

CMRR Project Update

Los Alamos, New Mexico
June 10, 2010

Rick Holmes, *LANL*
CMRR Division Leader

Los Alamos NATIONAL LABORATORY
NNSA National Nuclear Security Administration

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

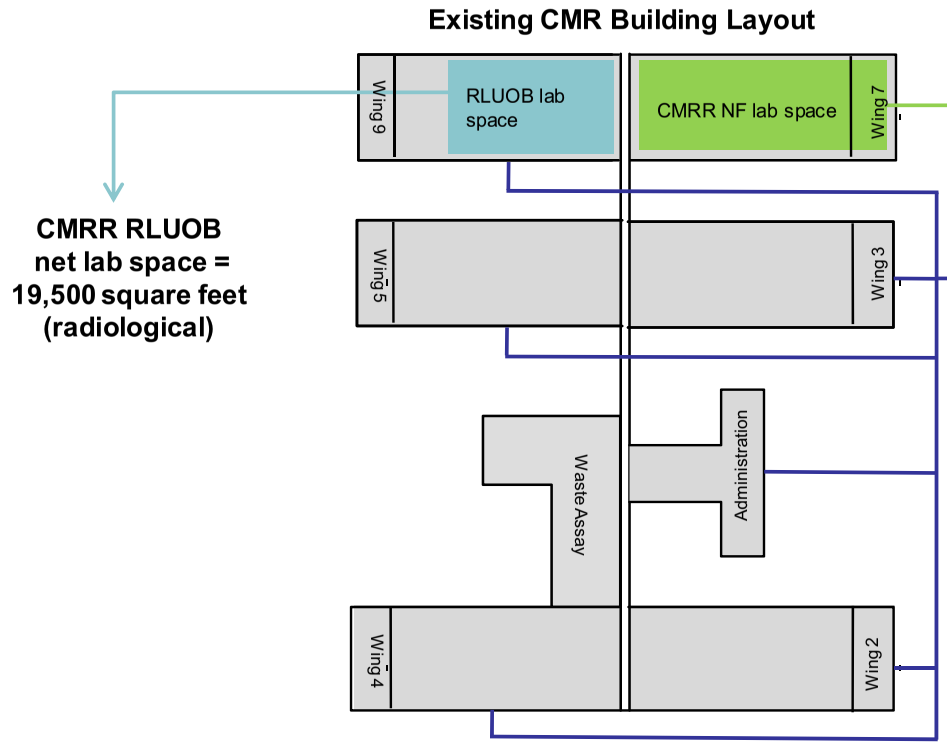
LA-UR 10-01115

Project Overview

- Budget Authority – $97M for FY10
- President's Request – $225M for FY11
- NNSA Headquarters Program Direction
  - Complete RLUOB within approved performance baseline **– Complete**
  - Complete REI according to performance baseline **– Ongoing/Ahead of schedule**
  - Plan for CMRR NF completion by 2020 with operations in 2022
- NF Final Design
  - Technical Safety Strategy ready for Definitive Design
    - **NNSA and DNFSB validation of nuclear safety approach**
  - Executive and Congressional support
  - Nuclear Posture Review – Published

Mello Aff #1, par 23: http://www.lanl.gov/orgs/cmrr/publicmeetings/documents/proceedings/laur09_02749vol7.pdf

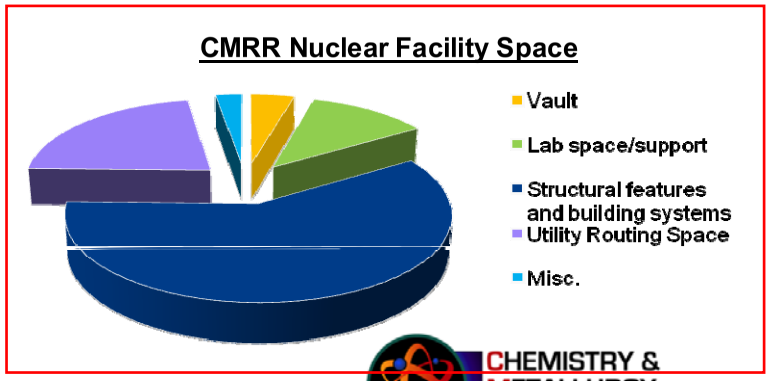
Comparison of CMRR Nuclear Facility Space to CMR



CMRR RLUOB net lab space = 19,500 square feet (radiological)

CMRR Nuclear Facility net lab space = 22,500 square feet (Hazard Category 2 "Nuclear")

CMR Laboratory Wings (main floor only) = [22,000 - 27,000] square feet space
Total of 7 wings = approx. 180,000 square feet wing space



Los Alamos NATIONAL LABORATORY EST.1943 NNSA

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

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Mello Aff #1, par 26.

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:

The undersigned represents the Los Alamos Study Group (Study Group).[1] The purpose of this letter is to invite your attention to the following important matters regarding the construction and operation of the proposed CMRR-NF, presented first in summary form and subsequently in greater detail.

The Study Group is a nonprofit research and educational organization based in Albuquerque, New Mexico, which focuses on educating the general public, federal and contractor management, members of Congress, and others on a range of interrelated policy issues, including 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

[1] For general background please see http://www.lasg.org and for specific background regarding the CMRR and closely related 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.

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]

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.

On numerous occasions, the Study Group discussed CMRR issues with NNSA officials in Los Alamos and has travelled dozens of times to Washington, DC 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 related matters. To the limit of the Study Group's resources and abilities, and within the limits of information available to them, the Study Group has carefully followed and engaged with the federal government on all CMRR issues. They have diligently pursued and exhausted all the administrative remedies available to them, and many more, over a decade-long period, specifically concerning CMRR.

Brief CMRR Background

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 general location 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]

---

[3]For 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."

[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,

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 part of the CMR is retained.[9] CMR disposition is expected to cost in the neighborhood of $400 million in today's dollars (a very preliminary estimate).[10] 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, according to NNSA.[11] In contrast, all aspects of CMRR-NF are still in preliminary design. Despite congressional concern[12] there is no CMRR-NF performance baseline.[13]

June 11, 2007, p. 105, http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_reports&docid=f:hr185.110.pdf.

[7] NNSA, CMRR PDS for FY2011.

[8] Ibid.

[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. NNSA had a funded project, partially executed when it was terminated at the end of FY2001 in favor of CMRR, to upgrade all but two CMR wings.

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

[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:sr201.111.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.

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 yd^3 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 Concerns

As shown in Figure 4, the CMRR proposed today is expected to cost ten times as much[16] as was estimated in the November 14, 2003 CMRR EIS.[17] Roughly the same scaling factor applies to the nuclear laboratory component of CMRR, now called CMRR-NF, which in absolute terms is responsible for nearly all the projected cost increases.

Even without adducing further evidence, these huge cost increases strongly suggest that reasonable alternatives exist in lieu of conducting 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 – much of it in just the last year, betokening a recent rapid expansion in project scale and impacts. Since most of the increased impacts, new impacts, and novel project elements were added recently – some of the most egregious very recently indeed – the full measure of the Study Group's concerns could hardly have been expressed sooner. 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 were originally estimated, as shown in Table 1 (attached).

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

[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_Prensation_for_Community_Forum.pdf.

[15] Ibid.

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

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

proposed CMRR-NF involves dramatically greater construction impacts than any of the CMRR alternatives analyzed in 2003. Some of these impacts are shown in Table 1. Today's CMRR-NF also includes several new, unanalyzed project elements, including additional buildings, construction yards, and major traffic modifications, and has entirely new categories of impacts, than were never mentioned in the CMRR-EIS, let alone analyzed there.

Central, pervading elements of the *initial* CMRR-NF phase ("Infrastructure Package Construction") were never analyzed in the CMRR EIS. The February 18, 2004 Record of Decision (ROD)[18] did not choose the CMRR-NF that NNSA now wants to build. Significantly, the presently proposed CMRR-NF was not even among the choices analyzed or available when the ROD was issued.

Moreover, 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 when CMRR-NF is considered in the context of NNSA's integrated "Pajarito Construction Corridor"[21] and its "Integrated Nuclear Planning,"[22] both of which include a number of connected infrastructure plans, decisions, and projects. These projects are functionally interrelated, geographically proximate, and more or less contemporaneous. See, for example, Figures 5 and 6 (attached), presented by LANL to the Espanola business community and public on June 16, 2010.[23]

Without further disclosure of the project alternatives that have been considered – and, upon information and belief, are still being, or are about to be considered – and without any

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[18] http://nepa.energy.gov/EIS-0350ROD_021404.pdf.

[19] http://www.doeal.gov/laso/NEPASWEIS.aspx.

[20] http://www.complextransformationspeis.com/.

[21] LANL, 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 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] See http://www.lanl.gov/construction/.

NEPA analysis of the resulting environmental impacts, it is not clear whether NNSA's overall Pajarito Road project is (1) tantamount to a "Modern Pit Facility," for which no EIS was ever completed; or (2) is really a "Pajarito Corridor Construction Project,"[24] for which no EIS has even been initiated; or (3) 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.[25]

In addition to the above concerns, there was never any notice or comment process involving the public, agencies, or tribes concerning: (1) the nature of project being designed today; (2) the available alternatives; or (3) 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, as Table 1 shows. These procedural and informational injuries have harmed all these parties and they have harmed the Study Group.

Remedy

The Council on Environmental Quality (CEQ) states at (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. However, the preparation of a 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 of the 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 objective "hard look" needed to freshly evaluate project alternatives without prejudice. As stated at 40 CFR 1500.1:

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[24] As presented in the LANL June 16, 2010 forum.

[25] 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 23, 2002 to prepare an EIS for CMRR (http://www.epa.gov/EPA-IMPACT/2002/July/Day-23/i18552.htm).

> 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)

Because the original EIS never analyzed the project being designed and proposed today, together with reasonable alternatives to it, there is no applicable EIS to supplement.

NNSA cannot continue its investigation of its currently-preferred alternative 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") 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 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. These actions must be undertaken and are necessary and appropriate to evaluate and choose viable project alternatives.[26]

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[26] The CMRR-NF project has been developed long past DOE's normal NEPA threshold, incurring some $289 million in appropriations so far (but still only 8.5% of expected total costs), prejudicing NNSA's choice of alternatives. It is precisely to avoid a waste of resources and to avoid prejudicing decisions 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.

Neither Congress nor the Administration has made any commitment to initiate final design ("Critical Decision 2," in DOE parlance), or to build ("Critical Decision 3") CMRR-NF. As noted above, both commitments are expected on about April 1, 2011, barring further delays. Thus, if the needed NEPA (and business case) analyses are begun promptly, NNSA should be able to achieve NEPA compliance without any, or without any significant, project delay.

The present moment is an ideal time to initiate the required NEPA analysis. *Accurate* NEPA analysis could not have begun prior to this year, given the very recent changes and expansions in the ever-evolving, and now quite different than previous, "project." In contrast, delaying the necessary NEPA analysis would significantly delay 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 alternatives[27] 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] Consequently, our request, and NEPA's requirements, need not delay agency action and will help, not harm, agency interests.

---

[27] "The committee continues to believe that replacing the existing Chemical and Metallurgical Research facility [sic] 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.

Thank you for your consideration of these matters. We would appreciate a prompt and principled response so that we may avoid pursuing further legal remedies.

Sincerely,

Thomas M. Hnasko

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
Figure 5: Map of selected "Pajarito Construction Corridor" projects
Figure 6: List of "Pajarito Construction Corridor" projects
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
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

Figure 1

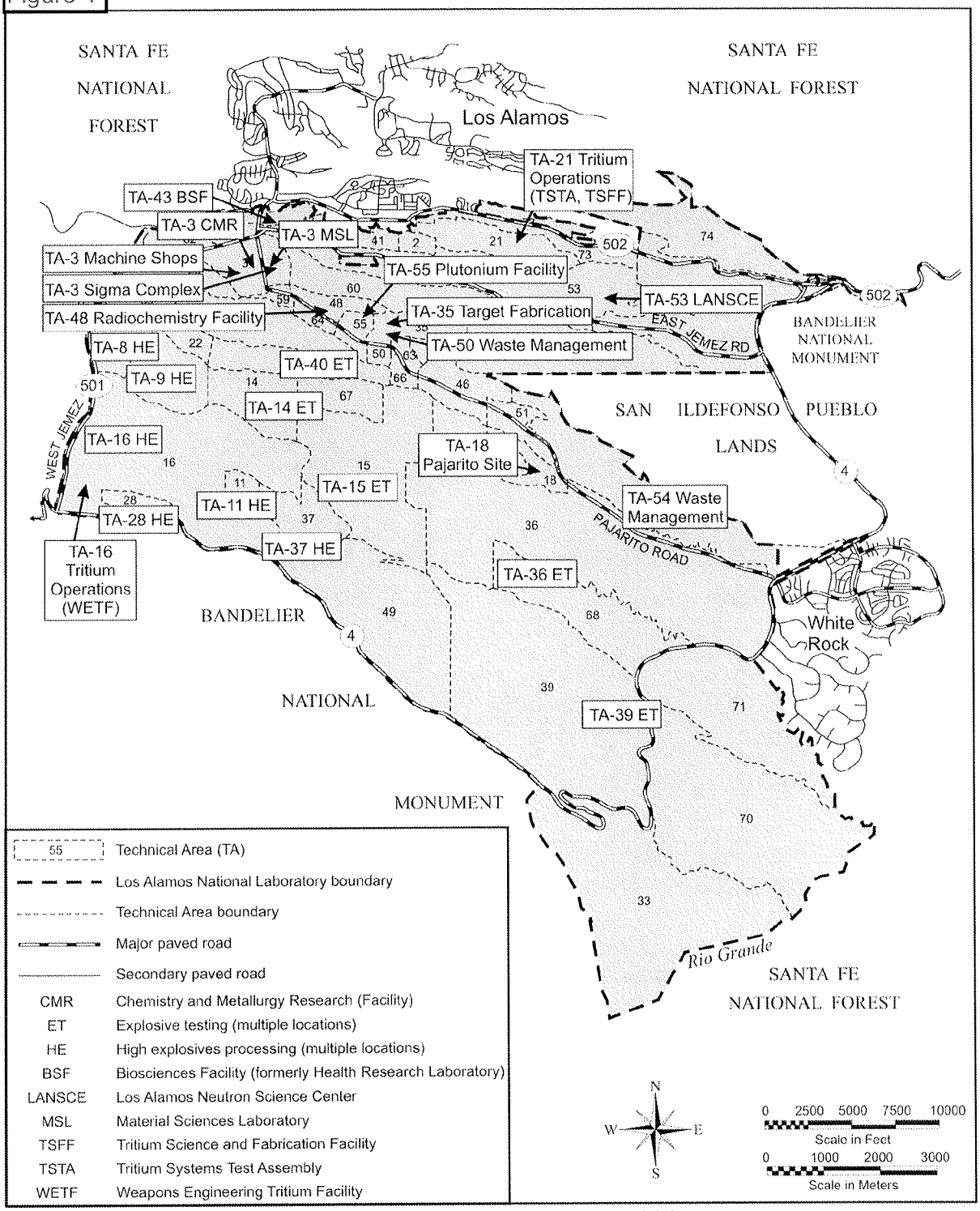
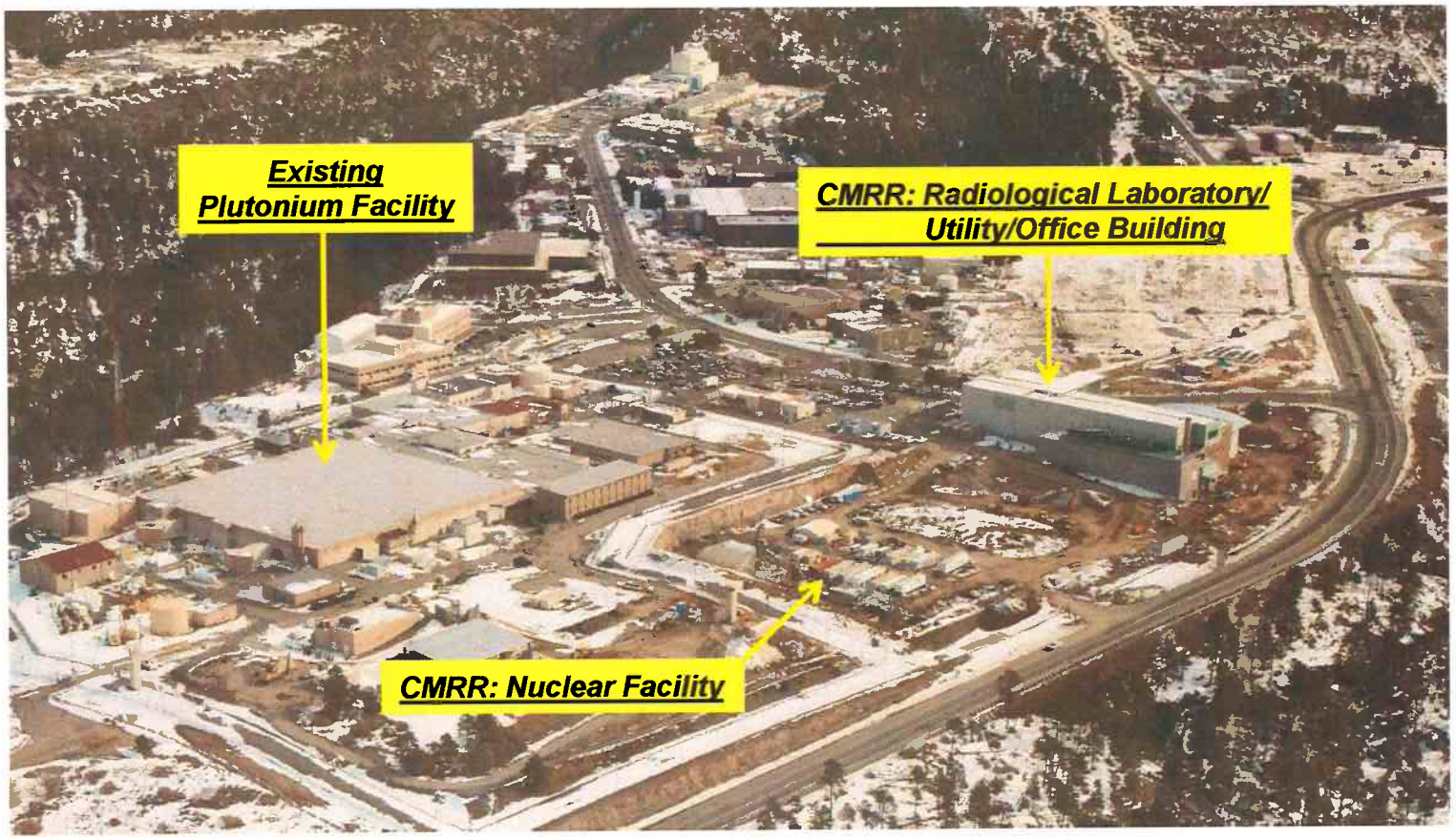


Figure S–4 Locations of Key Facilities

Figure 2

CMRR at Technical Area-55



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NNSA

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

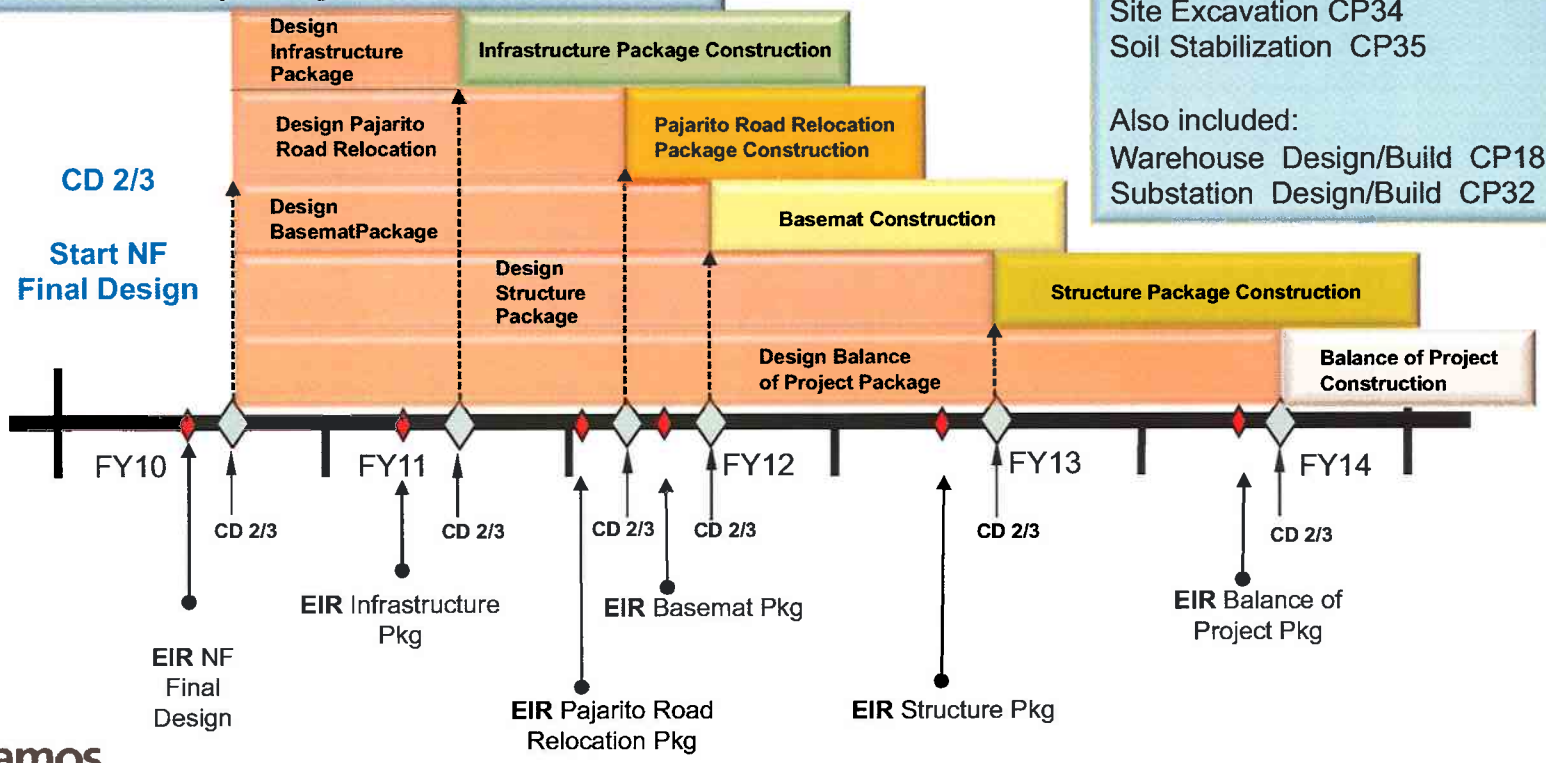
Figure 3

CMRR Nuclear Facility Baselines

CD-2/3 Infrastructure Pkg – March 2011
CD-2/3 Pajarito Road Relocation Pkg – December 2011
CD-2/3 Basemat Pkg – March 2012
CD-2/3 Structure Pkg – March 2013
CD-2/3 Balance of Project Pkg –March 2014

Infrastructure Package Includes:
Batch Plant CP01
Temporary Utilities CP02
Site Preparation Laydown CP03
Site Utility Relocation CP33
Site Excavation CP34
Soil Stabilization CP35

Also included:
Warehouse Design/Build CP18
Substation Design/Build CP32



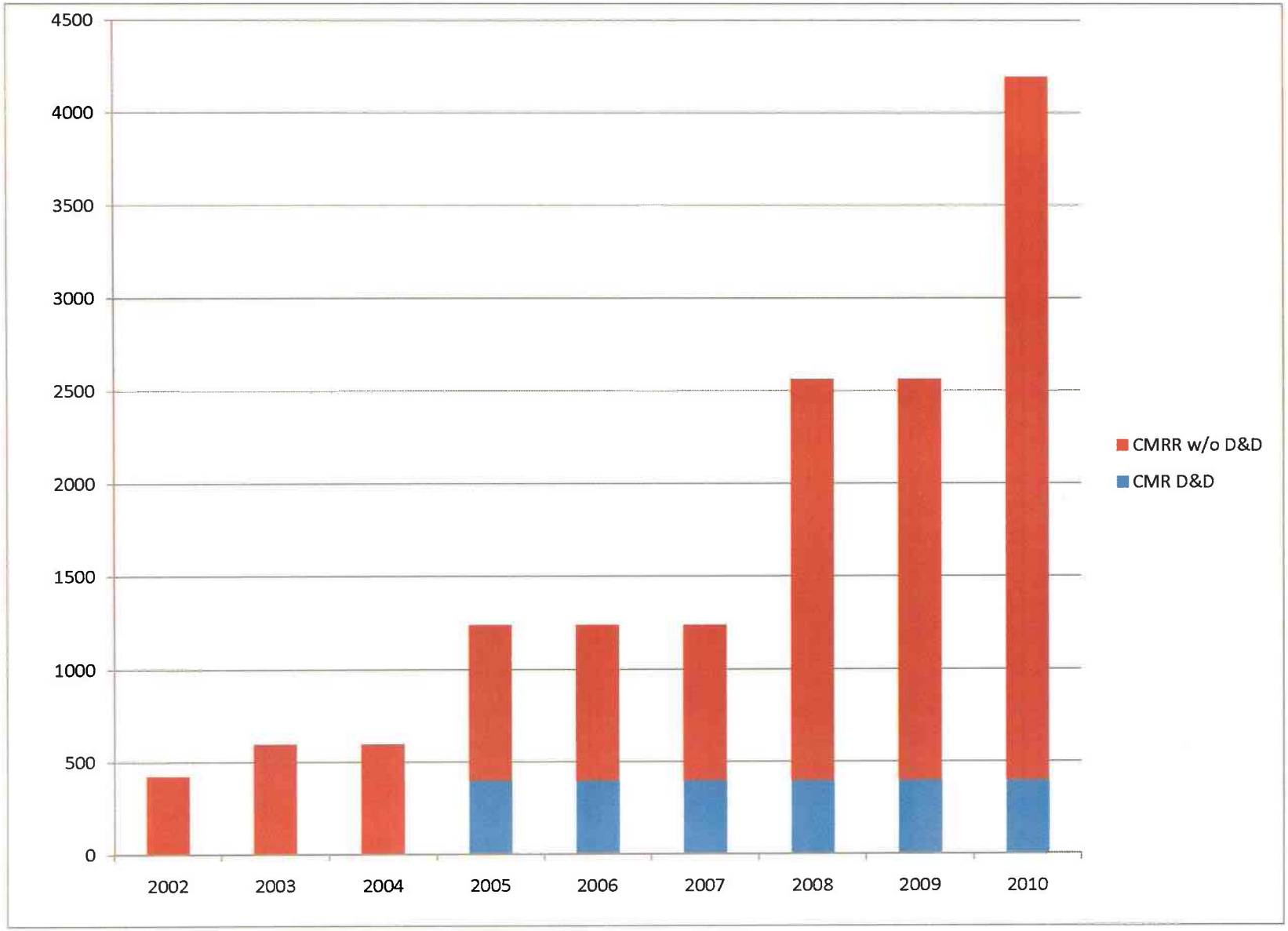


Figure 4: History of NNSA CMRR Cost Projections So Far ($ million, M) (NNSA)

All costs are Total Project Cost (TPC) except 2002, which is the mid-point in the Total Estimated Cost (TEC) range; CMR D&D at $400 M; project laboratory space declined over this period, raising the per unit cost of space more than indicated

Figure 5

Construction Project Layout

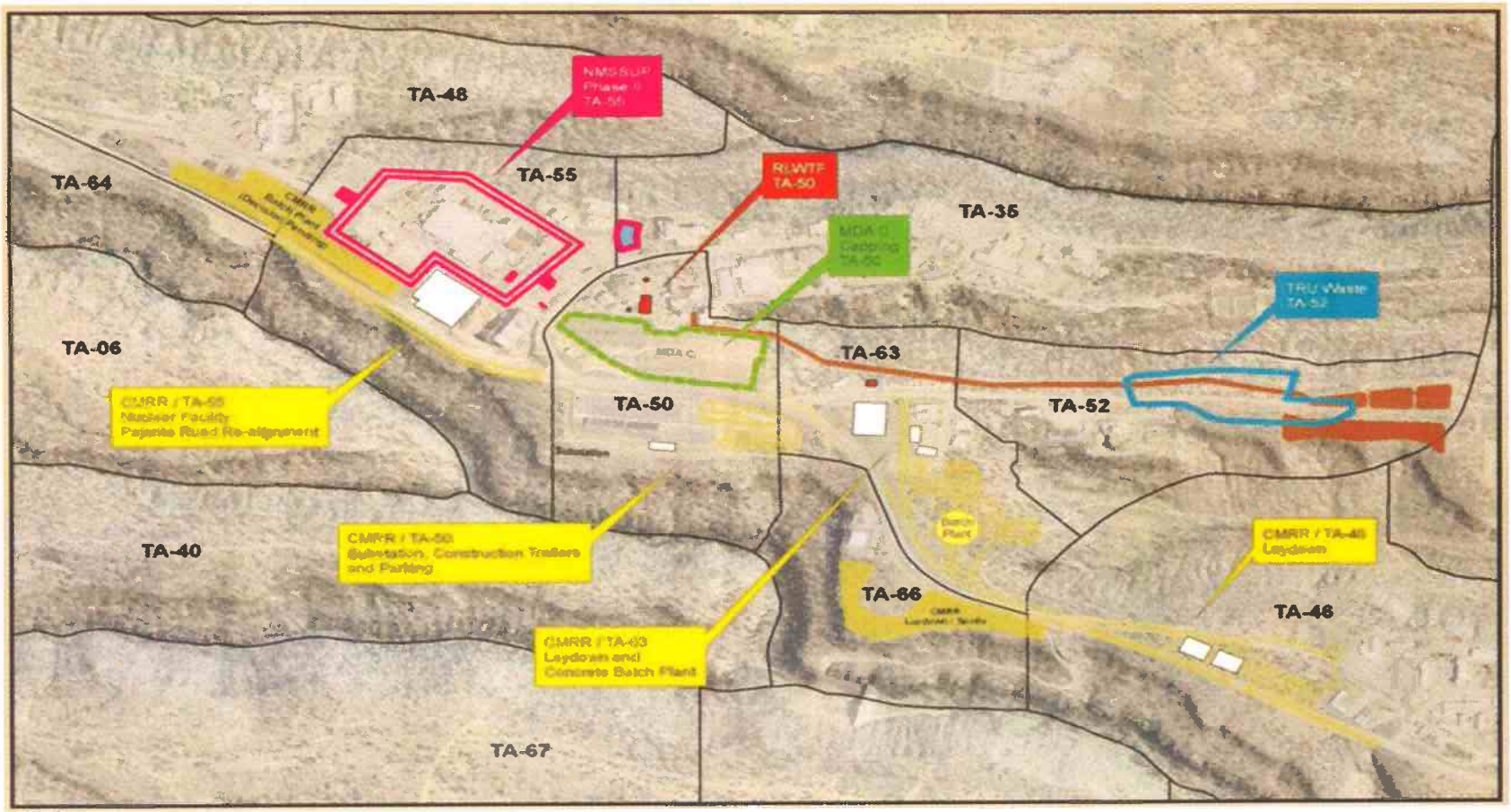


Figure 6

Major Projects-Near Concurrent Activities

- Chemistry & Metallurgy Research Replacement (CMRR)
- Nuclear Materials Safeguards and Security Upgrade Project (NMSSUP) Phase II
- TA-55 Revitalization Project (TRP) Phase II & III
- Radioactive Liquid Waste Treatment Facility (RLWTF)
- TRU Waste Facility (TRU)
- Material Disposal Area-C Closure
- Material Disposal Area-G Closure
- Waste Disposition Project
- RLUOB Occupancy

"short table" cited in Paragraph 26.

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

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 for *both* buildings)
Steel	558 us tons	>15,000 us tons (27 times original for *both* 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 disposition	Not analyzed	Impact very large, needs analysis
Connected actions include elements of the variously named "Pajarito Construction Corridor," "Integrated Nuclear Planning," and "Plutonium Center of Excellence."		

Sources:

1. NNSA, "Final CMRR Environmental Impact Statement," November 2003, DOE/EIS-0350.
2. NNSA public statements.
3. Other NNSA communications.
4. "Cement and Concrete: Environmental Considerations," Environmental Building News, March 1, 1993. http://www.buildinggreen.com/auth/article.cfm/1993/3/1/Cement-and-Concrete-Environmental-Considerations/

CMRR Nuclear Facility Project Overview

October 2010

Aerial Photography - September 2008

TA-48
TA-64
TA-55
TA-35
TA-63
TA-52
TA-50
TA-46
TA-66

CMRR Laydown
CMRR Batch Plant
CMRR / TA-55 Nuclear Facility and Pajarito Road Re-alignment
Radiological Laboratory Utility and Office Building
CMRR / TA-50 Substation, Construction Trailers and Parking
CMRR / TA-63 Batch Plant Secondary
Existing substation will provide temporary power to NF
CMRR / TA-46 LAYDOWN

Stormwater Detention Basin
APPROXIMATE TEMPORARY NIMSF FENCE RELOCATION
EXISTING PAJARITO ROAD
PAJARITO ROAD RE-ALIGNMENT
NF
RLUOB
MDA-C
PAJARITO ROAD
Existing
Trailers
New Parking
Construction Trailer
Substation
Upgrade intersection
PUTE ROAD
Construction
Trailers

N

Mello Aff #1, Par 27, Ref 1, EXHIBIT 4

Los Alamos NATIONAL LABORATORY EST. 1943

NNSA National Nuclear Security Administration

LA-UR 10-07047

Legend

- Proposed 2010/2011 SEIS Project Activities
- Previously Evaluated in 2003 EIS and 2005 SA
- Technical Area Boundary

PROJECTION: State Plane Coordinate System, New Mexico, Central Zone, U. S. Feet, DATUM NAD 83

SPATIAL DATA REFERENCES:
-Aerial Photography, SPPI-IP, September 2008
-Roads, Facilities, ES-SE
-Hillshade, 4-ft. LIDAR, GISLab
-Potential Release Sites, ADEP-WES, EP2009-0633

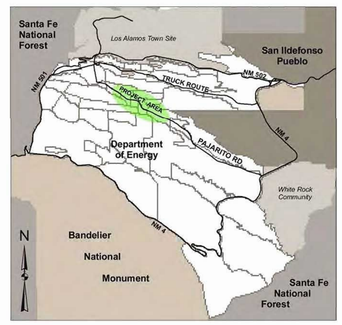
0 100 200 400 600 800 1,000 1,200 Feet

1 inch = 200 feet

UNCLASSIFIED

Site Planning & Project Initiation Group
Infrastructure Planning Office
LOS ALAMOS NATIONAL LABORATORY

Geographic Information Systems
CMRR_Project_Overview_Public_v2.mxd



CMRR Facility operations at TA-55 under this alternative would be conducted at the levels of activity described for the Expanded Operations Alternative in the *LANL SWEIS*. The Expanded Operations Alternative presented in the *LANL SWEIS* provides the reference point from which incremental effects of this proposed action are measured.

4.3.1 Land Use and Visual Resources

Mello Aff #1, par. 27, ref 2

4.3.1.1 Land Use

Construction and Operations Impacts—Total land disturbance during construction of the new CMRR Facility at TA-55, would involve 26.75 acres (10.8 hectares). Permanent disturbance, consisting of land used for buildings and parking lots, would impact 13.75 acres (5.6 hectares). The remaining 13 acres (5.26 hectares) would consist of a construction laydown area of 2 acres (0.8 hectares), an area for a concrete batch plant of 5 acres (2 hectares) maximum, and land affected by a road realignment of 6 acres (2.4 hectares). Potential development sites at TA-55 include some areas that have already been disturbed, as well as others that are currently covered with native vegetation including some mature trees that would have to be cleared prior to construction. Construction and operation of a new CMRR Facility at TA-55 would be consistent with both the *LANL SWEIS* and *LANL Comprehensive Site Plan* designations of the area for Research and Development and Nuclear Materials Research and Development, respectively (see Section 3.2.1).

4.3.1.2 Visual Resources

Construction and Operations Impacts—Impacts to visual resources resulting from the construction of the new CMRR Facility at TA-55 would be temporary in nature and could include increased levels of dust and human activity. Once completed, the administrative offices and support functions building would be three stories above grade. Regardless of the construction option selected under this alternative, the Hazard Category 2 and Hazard Category 3 Laboratory Building(s) would be no more than one story in height. The general appearance of the new CMRR Facility would be consistent with other buildings located within TA-55. Facilities would be readily visible from Pajarito Road and from the upper reaches of the Pajarito Plateau rim. Although the new CMRR Facility would add to the overall development at TA-55, it would not alter the industrial nature of the area. Accordingly, the current Class IV Visual Resource Contrast rating for TA-55 would not change.

4.3.2 Site Infrastructure

Annual site infrastructure requirements for current LANL operations, as well as current site infrastructure capacities, are presented in **Table 4–6**. These values provide the reference point for the LANL site infrastructure impact analyses presented in this section. The table also presents projected site infrastructure requirements that incorporate both the forecasted demands of the *LANL SWEIS* Expanded Operations Alternative and those of non-LANL users relying on the same utility systems. The *LANL SWEIS* identified that peak electrical demand could exceed site electrical capacity. In addition, whereas the *LANL SWEIS* had projected that water use would remain within DOE water rights, DOE recently conveyed 70 percent of its water rights to

Mello Aff #1, Par 28,
http://www.buildinggreen.com/auth/article.cfm/1993/3/1/Cement-and-Concrete-Environmental-Considerations/

Table 4 CO Emissions from Cement and Concrete Production

CO_2 Emissions from Cement and Concrete Production

	lbs CO_2 per ton of cement	lbs CO_2 per cu. yd. of concrete	Percent of total CO_2
CO_2 emissions from energy use	1,410	381	60
CO_2 emissions from calcining of limestone	997	250	40
Total CO_2 emissions	2,410	631	100

Notes:

Calculations of energy requirements for cement and concrete as in Table 2.

CO_2 emissions from different fuels from ACEEE Consumer Guide to Home Energy Savings, 1991.

Estimates of emissions from calcining limestone from CO_2 Release from Cement Production 1950-1985, by Richard Griffin, Institute for Energy Analysis, Oak Ridge Assoc. Universities, 8/87.

[close window]

All construction work would be planned, managed, and performed to ensure that standard worker safety goals are met. All work would be performed in accordance with good management practices, with regulations promulgated by the Occupational Safety and Health Administration, and in accordance with various DOE Orders involving worker and site safety practices. To prevent serious injuries, all site workers (including contractors and subcontractors) would be required to submit and adhere to a Construction Safety and Health Plan. This Plan would be reviewed by UC at LANL staff before construction activities begin. Following approval of this Plan, UC and NNSA site inspectors would routinely verify that construction contractors and subcontractors were adhering to the Plan, including all Federal and state health and safety standards.

Table 2–1 Summary of CMRR Construction Requirements

Building/Material Usage	*Hazard Category 2 Building*	*Hazard Category 3 Building*	*Administrative Offices and Support Functions Building*	*Other Construction Elements*
Land (acres)	2.5	2.25	4.0	18 [a]
Water (gallons)	757,300	670,500	1,354,500	963,000
Electricity (megawatt-hours)	88.75	88.75	135	Not applicable
Concrete (cubic meters)	1,375	1,067	2,340	Not applicable
Steel (metric tons)	136	106	265	Not applicable
Peak construction workers			300	
Waste (nonhazardous) (metric tons)	130	99	295	10
Construction period (months)	17	17	26	6

Source: LANL 2002e.

[a] The land affected by other construction elements would include: parking (5 acres), laydown area (2 acres), concrete batch plant (5 acres) at either TA-55 or TA-6. Additionally 6 acres of land would be affected at TA-55 due to road realignment. An equal area (6 acres) at TA-6 would be affected for extensive trenching for utilities (1.5 acres), radioactive liquid waste pipeline (3 acres), and new road (1.5 acres).

Site preparation prior to the commencement of building construction at either the TA-55 site or TA-6 construction site, in whole or in part, would involve clearing the site of native vegetation. The TA-55 site would involve some removal of asphalt and concrete material at the construction site and removal of mostly grassy vegetation coverage with a few mature trees. The TA-6 construction site would require the removal of mature trees and shrubs as well as grassy vegetation coverage. No asphalt or concrete material are present at the proposed TA-6 construction site.

Noise at the site would occur mainly during daylight hours and would be audible primarily to the involved workers. Construction equipment would be maintained in accordance with applicable health and safety requirements and inspected on a regular basis. Workers would be required to use personal protective equipment (such as eye and hearing protection, hard hats, and steel-toed boots). Machinery guards would also be used as necessary based on activity-specific hazards analyses.

Clearing or excavation activities during site construction have the potential to generate dust and encounter previously buried materials that could include unknown potential release sites (PRS) containing hazardous, toxic, or radioactive materials, or objects of cultural significance. If buried materials or artifacts of cultural significance were encountered during construction, activities

Mello Aff#1, Par 30, Ref 2:
http://www.lanl.gov/projects/pcc/presentations/John-Bretzke_Prensation_for_Community_Forum.pdf

Pajarito Construction Activities

John Bretzke, Deputy Associate Director

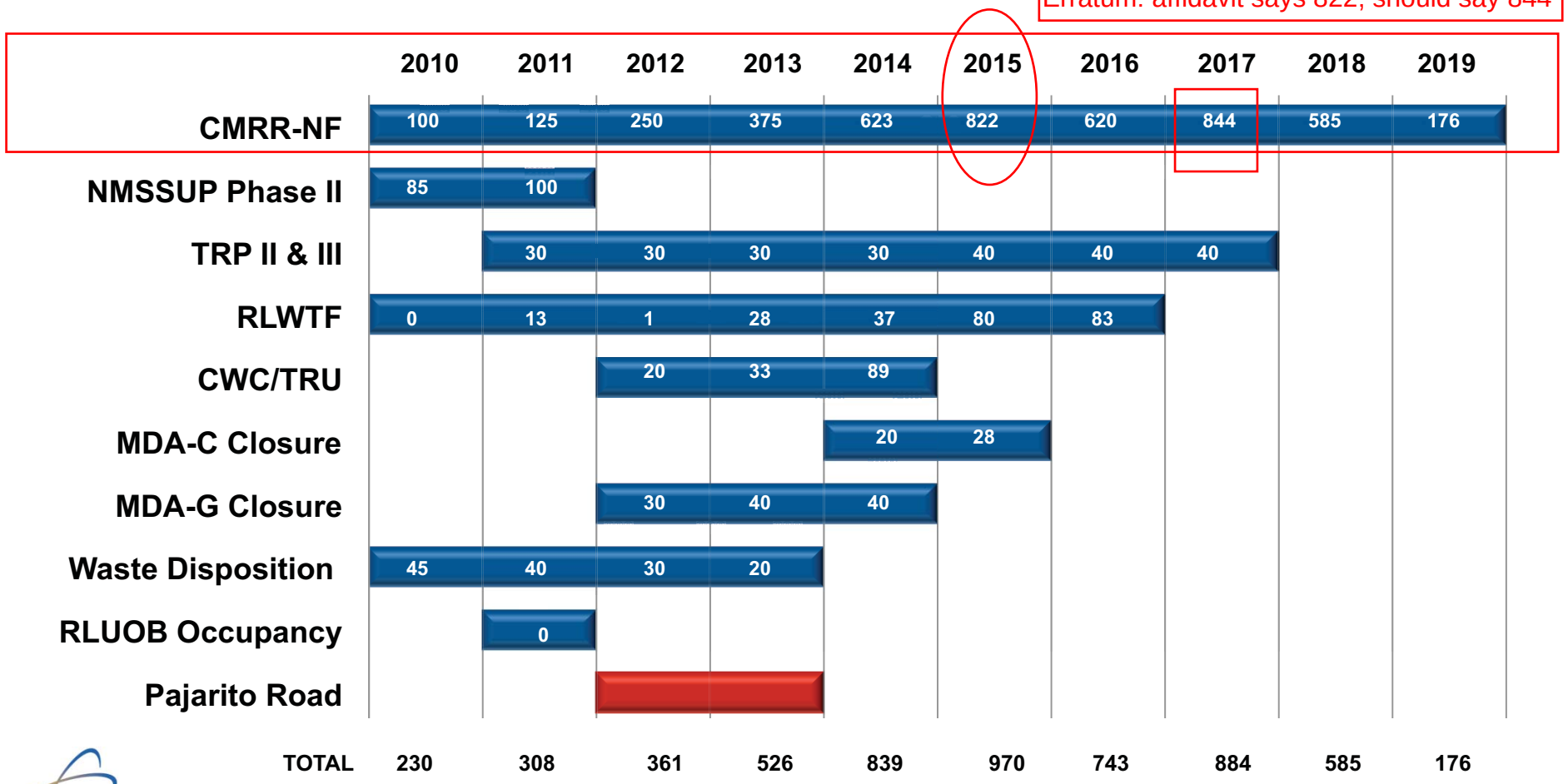
Project Management & Site Services, LANL

June 16, 2010

LA-UR-10-04023

Project Construction Craft Personnel

Erratum: affidavit says 822; should say 844



The New York Times

Archives

U.S. SPENT BILLIONS ON ATOM PROJECTS THAT HAVE FAILED

By KEITH SCHNEIDER, Special to the New York Times
Published: December 12, 1988

WASHINGTON, Dec. 11 — The United States spent billions of dollars in the last two decades on complex military and civilian energy projects that failed to work as promised.

The flawed record has led to uneasiness in Congress with the Energy Department's proposals to build five new reactors and other nuclear plants to modernize the nation's atomic weapons industry.

In all, the Energy Department and its predecessor agencies have spent more than $15 billion since 1970 on troubled projects, a figure confirmed by the department and the General Accounting Office, the investigative arm of Congress. Capabilities Questioned

"These plants failed for different reasons," said Representative John D. Dingell, the Michigan Democrat who is chairman of the influential House Energy and Commerce Committee, which has investigated Energy Department programs. "Some should never have been undertaken, and some failed for what appears to be incompetence that borders on wrongdoing." [A list of failed projects is on page B12.] J. Dexter Peach, Assistant Comptroller General of the General Accounting Office, added: "The shortcomings we've seen raise questions about the technical capabilities of the Department of Energy. The Energy Department is aware of this record."

He said department officials "are telling us it's going to be a real challenge" technically to undertake the large-scale construction projects being discussed. Built and Abandoned

Processing plants, nuclear waste sites and other projects that cost hundreds of millions of dollars were built and abandoned without ever operating. Several other projects, including an experimental reactor in Tennessee, were delayed for years because of technical problems that led to billions of dollars in extra costs. In other instances, plants once regarded as vital turned out to be unnecessary, including an en-richment plant in Ohio that cost $3.5 billion before construction was stopped. [A list of failed projects is on page B12.] The huge cost of modernizing the nuclear weapons industry and cleaning up decades of accumulated toxic and radioactive nuclear wastes is shown in a study completed by the Energy Department and delivered to the White House last week. The Washington Post reported today that the study calls for $50 billion to be spent over the next 20 years to close old weapons plants in Colorado and Utah, build new military nuclear reactors and clean up the worst of the environmental damage caused by producing atomic weapons since the start of the Manhattan Project in 1942. A Failed Project

One striking example of a construction project that turned out to be a failure was a $225 million plutonium processing building at the Rocky Flats Plant near Golden, Colo. The processing plant, Building 371, was started in 1973, completed in 1981 and operated for a month in 1982 before being shut because the new processing technology did not work. The Energy Department has estimated that it will cost nearly $400 million and take eight years to make the equipment in the building work.

"The fact of the matter is that Building 371 is a fiasco," said Joseph F. Salgado, the Deputy Secretary of Energy. "It's a horror story. It's unacceptable."

Building 371 was intended to replace another, much older processing plant, Building 771. On Oct. 8 The Energy Department shut Building 771 on Oct. 8 after three employees were exposed to plutonium dust, which can be extremely dangerous if it is inhaled. The closing of Building 771 was, the nation's sole source of reprocessed plutonium, which is used in triggers for thermonuclear bombs. The closing has brought most of the plant's operations at the Rocky Flats Plant to a halt. Reprocessed plutonium is used in triggers for thermonuclear bombs.

"Building 371 is one of a long list of horribles," said Representative David E. Skaggs, Democrat of Colorado, whose district includes the Rocky Flats Plant. "We need independent oversight of this agency. We're past the point where the Department of Energy has the credibility to oversee itself on any of its programs." Department's Dual Mission

Mr. Salgado was one of many a number of top executives who said the Energy Department cannot be entirely faulted for problems with construction. They noted that the agency has a dual mission of building nuclear weapons and developing advanced nuclear and nonnuclear sources of energy. As a result, they said, the department oversees the design and construction of one-of-a-kind plants with technologies that have not been proven in full-scale industrial applications.

At least one of the Energy Department's more complex projects has been built on time and within budget. But virtually every other important project has faced serious financial and technical difficulties.

At the Savannah River Plant, near Aiken, S.C., The department has nearly completed a $1 billion plant at the Savannah River Plant near Aiken, S.C., to turn high-level liquid radioactive wastes into glass logs. The plant, which is expected to be completed on time, is designed to turn unstable liquids into stable solids, which the department hopes eventually to permanently entomb permanently in a waste respository yet to be built in Nevada. But some materials scientists have criticized the project, saying the type of glass used, borosilicate, will allow radioactivity to seep out over time. The department, though, disagrees with that assessment.

Only the Defense Department spends more than the Energy Department on high-technology construction projects, the officials asserted. Nuclear Technology's Bounds

Experts inside and outside Government asserted that the Energy Department and its predecessor agencies, particularly the Atomic Energy Commission, favored enormous, risky projects to test the bounds of nuclear technology. From 1954 to 1961, the Atomic Energy Commission and the Air Force spent $1 billion trying to develop a nuclear-powered airplane at the Idaho National Engineering Laboratory near Idaho Falls. President Kennedy canceled the project after it became clear such an airplane, even if it could fly, would pose great risks in the event of a mishap.

Mr. Salgado , though, agrees with the agency's critics, however, that the failure of Building 371 at the Rocky Flats Plant was not by no means an isolated incident.

"There are some legitimate concerns" about the agency's capability to plan and executive technically sophisticated projects, he said.

Each one of the 17 principal laboratories and weapons plants in the 12-state nuclear weapons industry has spent large sums to build or modernize projects only to discover equipment does not function properly or technological processes collapse. In some cases, the building is no longer deemed necessary and is canceled.

At the Idaho National Engineering Laboratory, for example, the Energy Department in 1985 completed a $200 million reprocessing plant that did not work. It spent an additional $20 million to redesign and reconstruct the equipment. Officials at the Idaho weapons plant, where spent fuel from naval nuclear ships is dissolved chemically to recover uranium, said the repairs were needed because of "errors in design."

Similar problems occurred at the $176 million naval fuel fabrication plant completed two years ago at the Savannah River Plant. The fabrication plant, which turns uranium into fuel for naval ships, "experienced startup problems with equipment, procedures and the experience level of personnel for this highly complex operation," according to a written statement by the Energy Department. The department refused to say what was spent on repairs. Uneasy About Record

Representative Skaggs said he is one of a growing number of lawmakers who are uneasy about the Energy Department's record on construction and its planning and forecasting abilities. Mr. Skaggs said Congress should take a more thoughtful look next year than it has in the past at requests for billions of dollars for new weapons projects.

Representative Dingell said hearings on the department's record will be held next year.

As part of the most ambitious program of military nuclear construction since the Government built the nationwide weapon complex in the 1940's and early 1950's, the Energy Department has proposed a $3.6 billion military production reactor for the Savannah River Plant in South Carolina, and four new advanced reactors for the Idaho National Engineering Laboratory.

"We're going to need to set some priorities," Mr. Skaggs said. "Congress is tired of looking over to the Energy Department and finding the left hand doesn't know what the right hand is doing."

The Energy Department's record on building giant projects, lawmakers have said, could also influence Congressional debate about the department's plan to build a $5 billion giant atom smasher superconducting super collider in Texas. Enriched Uranium Project

Yet civilian energy and research programs have also been plagued by technical failures and soaring costs. One example is a Federal program to sell enriched uranium to utilities. In 1969 the Atomic Energy Commission began to sell enriched uranium from three enormous Government plants in Tennessee, Kentucky, and Ohio for use in fuel for commercial nuclear power plants in the United States and overseas.

In 1977, armed with studies predicting the demand for enriched uranium would soar as more nuclear plants were put into operation, the newly formed Energy Department started building a $9 billion enrichment plant in Portsmouth, Ohio, that used advanced gas centrifuge technology to separate and enrich uranium. A $1.5 billion modernization program also began at the three plants to gain more production capacity.

But the fortunes of the nuclear power industry tumbled after March 28, 1979, when the reactor core melted at the Three Mile Island nuclear power plant in Pennsylvania in the nation's worst civilian nuclear accident. Yet Congress and the Energy Department took years to acknowledge that the need for the enrichment program had declined.

In June 1985, Energy Secretary John S. Herrington halted construction on the new Ohio enrichment plant after $3.5 billion had been spent. Mr. Herrington also ordered the closing of the enrichment plant at the Oak Ridge Reservation in Tennessee after more than $400 million had been spent on modernization.

About $1.1 billion have been spent since 1979 on equipment to increase the production at enrichment plants in Paducah, Ky., and Portsmouth, Ohio. Those plants have been operating at about half their capacity. Energy Projects That Failed Clinch River Breeder Reactor Oak Ridge Reservation, Tennesee Project Build reactor to use plutonium instead of uranium as fuel. Estimated cost when begun in 1970 $700 million. Amount spent $1.5 billion. Problem Project canceled in 1984 after debate in Congress and the White House about the usefulness of the technology and the cost of completion, then estimated at nearly $4 billion. Fast Flux Test Facility Hanford Reservation, Richland, Wash. Project Build reactor to provide nuclear materials for the Clinch River Breeder Reactor. Estimated cost when begun in 1971 $75 million. Amount spent $540 million at completion in 1982. Problem Cancellation of breeder reactor program left fast flux reactor without a primary mission. xhrr Plutonium Processing Building 371 Rocky Flats Plant, Golden, Colo. Project Replace contaminated

plutonium processing building. Estimated cost when begun in 1973 $63 million. Amount spent at completion in 1981 $225 million. Problem Never operated; "severe design, materials and mechanical problems" would cost nearly $400 million to fix. Gas Centrifuge Uranium Enrichment Plant Portsmouth Uranium Enrichment Complex, Piketon, Ohio Project Construct new uranium enrichment plant. Estimated cost when begun in 1977 $9 billion. Amount spent $3.5 billion. Problem Construction halted in 1985 with the plant 20 percent complete after Energy Department determined another technology would be less expensive and more reliable. High Energy Physics Atomic Particle Acclerator Brookhaven National Laboratory, Long Island Project Build an atomic particle accelerator for high-energy physics research to consist of a 2.5 mile circular tunnel, a particle accelerator and support buildings. Estimated cost when begun in 1979 $275 million. Amount spent $172 million. Problem Though tunnel was completed, other aspects were hampered by failure to develop superconducting magnets. Project canceled in 1983. The department said it would be wiser to invest the $400 million needed to finish the accelerator on a planned $5 billion superconducting super collider. Great Plains Coal Gasification Plant Beulah, N.D. Project Guarantee loan to build plant turning coal into synthetic natural gas. Estimated cost when begun in 1981 No cost to Government. Amount spent $1.6 billion to cover defaulted loan. Problem Plant owners, a consortium of five American energy companies, defaulted on a guaranteed $1.6 billion loan. The Government operated the $2.1 billion plant for three years then sold it for $85 million to a utlitity. N Reactor Hanford Reservation, Richland, Wash. Project Upgrade equipment and improve safety of a plutonium-production reactor with graphite core. Estimated cost when begun in 1987 $34 million. Amount spent $110 million. Problem Department decided in midst of upgrade that reactor was not needed.

Mello Aff#1, Par 43: http://www.lanl.gov/orgs/cmrr/publicmeetings/proceedings.shtml

CHEMISTRY
METALLURGY
RESEARCH
REPLACEMENT

CMRR Public Meeting, September 23, 2009

Volume 8

Los Alamos National Laboratory
Los Alamos, New Mexico

Los Alamos
NATIONAL LABORATORY
EST. 1943

National Nuclear Security Administration

LA-UR 10-00676

[ROGER SNODGRASS, LOS ALAMOS MONITOR]
[Reply off microphone]

[RICK HOLMES]
Okay. We can do that. Might be a little better.

[RICK HOLMES]
Um, the second building is a nuclear facility, um, Security Category I, Hazard Category 2. It is still in design at this point. I'm gonna talk about a couple of things where we are. Since the last time we met we have finished the certification process, and I'll explain for those of you who don't remember what that was, but that has been done and is complete. And we'll talk in detail about that. So, two buildings with associated engineered and installed equipment on a relatively small footprint.

[RICK HOLMES]
Next chart, please.

[LANL Slide 9]
[RICK HOLMES]
Uh, this is Pajarito Road. Um, the Rad Lab Building in, in sketch form, and the nuke facility in the existing TA-55 infrastructure, and ultimately the entire complex, with the rad lab being on the outside, will be inside of the security perimeter. By the next time we meet I'll have arranged for an aerial photograph and actually have this, the rad lab, really in the picture.

[RICK HOLMES]
Uh, let's go to the next chart.

[LANL Slide 10]
[RICK HOLMES]

[SCOTT KOVAC]
[Unintelligible words offering an aerial picture]

[RICK HOLMES]
Oh, that's— I can get them, thank you.

[UNIDENTIFIED PERSON]
[Unintelligible words]

[RICK HOLMES]
We do have means. [Laughs]

[RICK HOLMES]
So, um, the direction to the project has not substantially changed. It is finish the rad lab facility within the baseline, which we are about to say, "Yep, we're done." Prepare for and get started on the equipment installation, and we've done that. Um, resolve the certification issues. And we've

Mello Aff #1, par. 44, ref 1&2
http://www.lanl.gov/orgs/cmrr/publicmeetings/documents/proceedings/laur10-02173vol9.pdf

CHEMISTRY
METALLURGY
RESEARCH
REPLACEMENT

CMRR Public Meeting, March 3, 2010

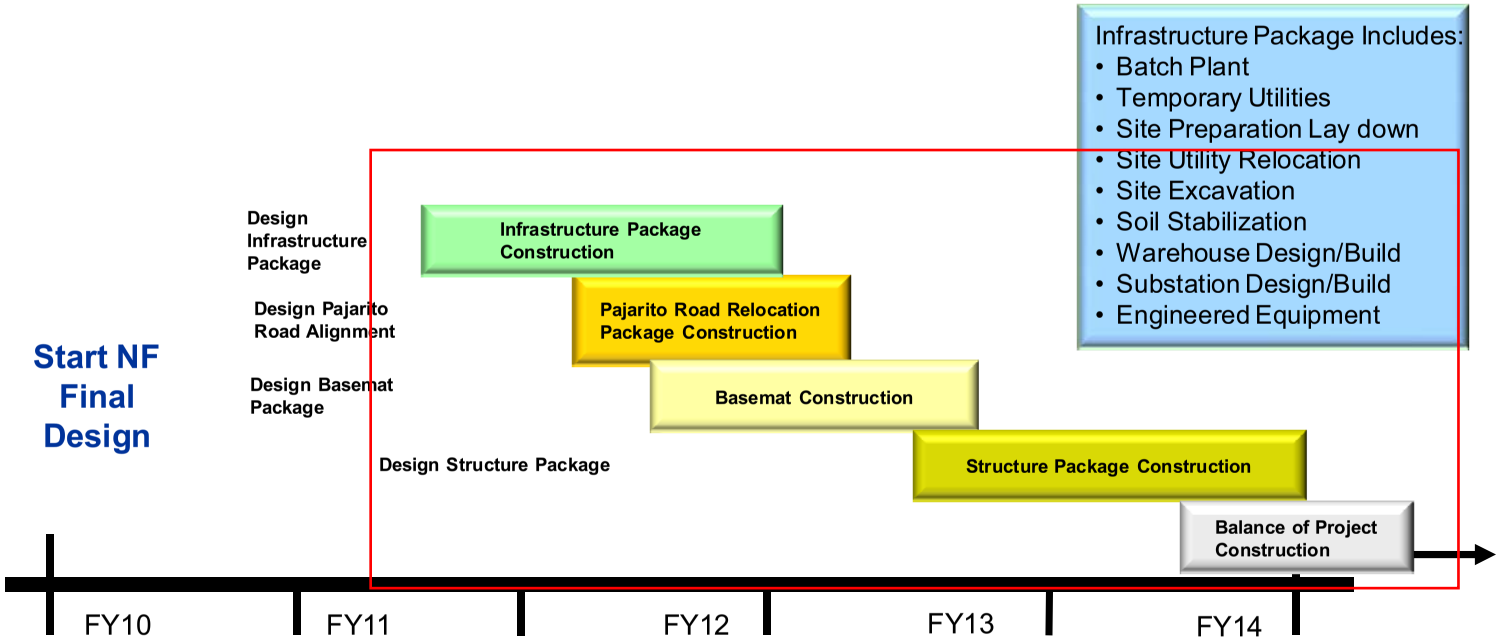
Volume 9

Los Alamos National Laboratory
Los Alamos, New Mexico

Los Alamos
NATIONAL LABORATORY
EST. 1943

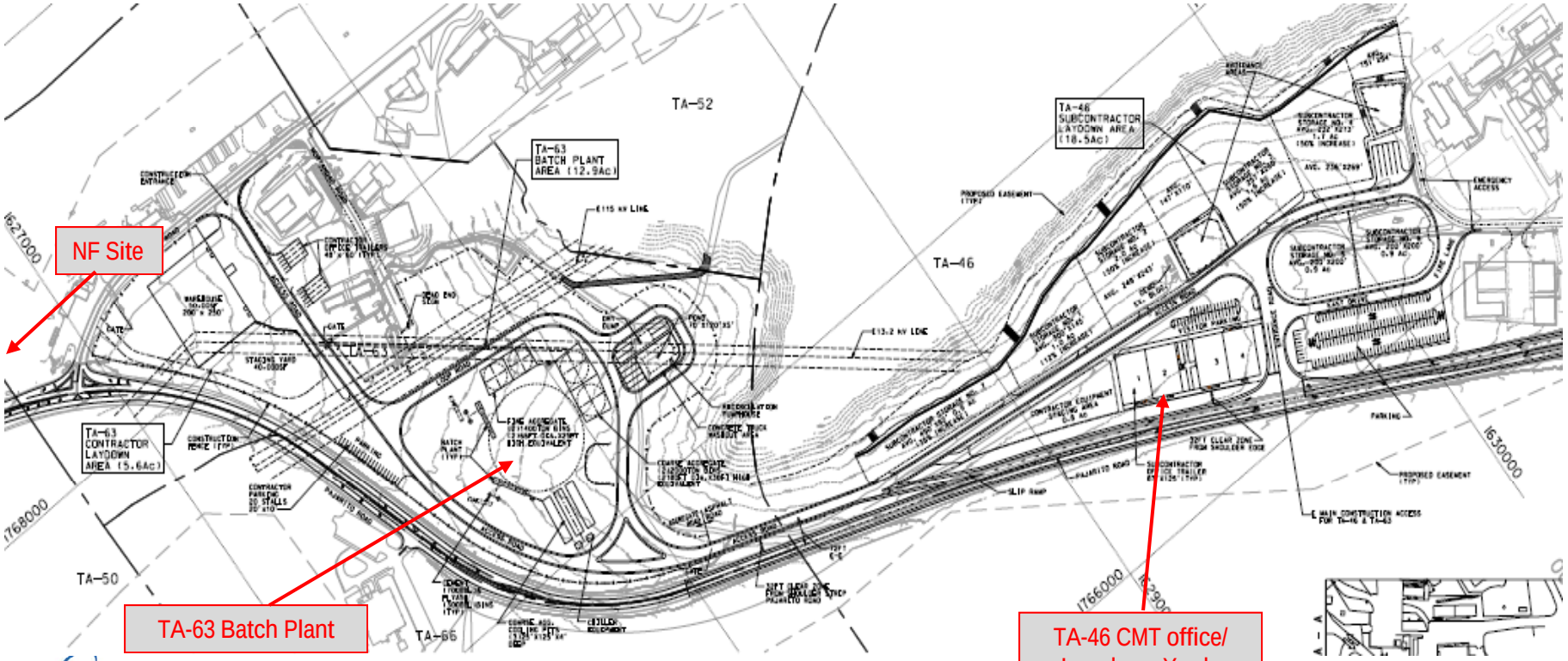
National Nuclear Security Administration

Planned Nuclear Facility Baselines



Construction Site Infrastructure

Lay-down/fabrication yards offices will be established approximately 1 mile from the NF construction site at TA-63 and TA-46 due to lack of available space at the NF construction site.



Mello Aff #1, par. 48 (Exhibit 1).

Telephone conference between Greg Mello and Steve Fong, CMRR Project Manager, 8/11/09

8/11/09 Fong

rebar NF 12,191 tons guesstimate
conc. NF 120,322 yd³
rebar RLUOB 1,700 tons
conc. RLUOB 17–18,000 yd³
s. steel RL est. 1,000 tons
s. steel NF est. (not avail.)

Vault n/incl. in 22,500 ft sp. net. lab.
gross ft whole thing — whole
- interstitial space — counted?
- ck public presentation
- tried to rip out all non essential space

Any HC III space in NF? No.
RLUOB is radiological, not Haz Cat III
1027 – cto.
III – ~ 900 g Pu-equiv.
radio 8.4 Pu-239 equiv.

Ql 3 the "soft zone"
Have wrestled w/ this. May remove this layer.
G forces reduce it they mitigate this / remediate

RLUOB is

CHEMISTRY AND METALLURGY RESEARCH REPLACEMENT FACILITY PROJECT LOS ALAMOS NATIONAL LABORATORY

CERTIFICATION REVIEW

REPORT TO CONGRESSIONAL DEFENSE COMMITTEES

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SEPTEMBER 2009

The update of the PSHA ground motions also revealed that the approach used to derive vertical-to-horizontal ratios had produced overly conservative estimates for these ratios. The 2007 PSHA assumed that the dominant earthquake that controlled the PSHA was a single magnitude 7.0 earthquake at a close-in distance. The update refined the estimate for the dominant earthquake, determining that a range in magnitude of 6.0 to 7.0 was more appropriate at close distances. The ground motion studies resulted in reducing design basis earthquake ground motions by about 25 to 40 percent. The Board reviewed this work and found it acceptable.

The seismic hazard at LANL is complex. LANL has completed numerous studies during the past two decades to better understand the seismic hazard, including studies to understand the rate of movement on the PFS. Given this complex seismic environment, the Board encourages LANL to continue long-term seismic hazard studies aimed at reducing significant uncertainties. These uncertainties include the rate of movement on the PFS and the subsurface stiffness properties, both of which have a significant impact on estimates of ground motion. LANL is developing a long-term seismic hazard program plan; the Board will review this plan as it becomes available.

2.1.2.3 CMRR Seismic and Structural Design

The Board reviewed the Nuclear Facility structural and seismic design. This review focused on evaluating the Nuclear Facility structural configuration and behavior to ensure that the current structural design can resist seismic design ground motions. This evaluation addressed structural issues that could result in the need for significant and costly redesign efforts if not addressed early in the design process.

The Board issued a letter to NNSA on May 30, 2008, documenting structural and seismic design issues. In that letter, the Board pointed out that the open structural layout of the laboratory portion of the facility represented a design challenge. At that time, the ongoing seismic analysis revealed excessive vertical in-structure accelerations for the laboratory roof. These large in-structure accelerations could have been prohibitive from a facility and equipment design perspective. To address this issue, LANL performed a parametric study of the facility that resulted in a structural reconfiguration of the building. LANL recommended several structural changes that would vertically stiffen the roof level above the laboratory level.

Given these changes, the Board focused on the CMRR Project's structural design criteria and plans for completing the structure's seismic design. While the structure had been stiffened several structural design challenges remained. For example, at the mezzanine level of the structure, there are large openings in the floor to allow routing of ventilation equipment and ductwork. The Board's review revealed that there was insufficient confidence that the structural behavior of the Nuclear Facility had been adequately assessed. This could lead to unacceptable structural damage during a design basis earthquake. This led to the identification of the Board's Finding *CMRR Seismic Design.*

The Board met with CMRR Project personnel to discuss the structural behavior and the approach to seismic and structural design. At this meeting, project personnel proposed

modifications to the seismic analysis approach. One of these modifications involved a new approach to defining seismic design ground motions at the foundation of the Nuclear Facility, at a depth of about 75 feet below the ground surface.

The Board continued to express concern about the dynamic behavior of the updated structural configuration of the Nuclear Facility. This configuration is complex. The laboratory level is open, representing a relatively flexible portion of the structure between the stiffer basement and roof. There are few walls in the laboratory level; the CMRR Project instead is employing large columns to support an open laboratory concept for operational flexibility. Walls were added to the structure above the laboratory in an effort to reduce the large vertical in-structure motions. The interaction between these walls and the columns below requires detailed study.

Given these structural complexities, the Board concluded that CMRR Project personnel did not have a sufficient understanding of the building's dynamic response. Project personnel agreed to take actions to develop a better understanding of the structural behavior of the Nuclear Facility. They performed an assessment of building response that resulted in several recommendations related to the Nuclear Facility structural configuration and analysis. These recommendations included extending the mezzanine floor between the laboratory and vault, modifying the roof to remove a structural discontinuity, and accounting for additional structural walls in the dynamic analysis. Project personnel also agreed to add several seismic chords and collector beams to ensure improved structural behavior. These changes will ensure that a suitable load path exists where large discontinuities are encountered in structural slabs and shear walls.

CMRR Project personnel also discussed the need to modify the soil layer immediately below the Nuclear Facility foundation to prevent adverse response of the foundation, such as collapse of the soil under bearing and building sliding. The plan is to either replace or modify this soil layer to improve foundation conditions. While it has not been formally demonstrated that remediating this soil layer will improve the facility's seismic response, the Board agrees that stiffening this layer should improve the seismic response of the Nuclear Facility structure and address project concerns about building sliding. However, a detailed assessment of the revised foundation approach needs to be completed before approval to proceed into final design. This assessment should quantify the impact on foundation-level seismic design ground motions and describe how the seismic analysis model will account for the locally modified soil layer under the structure.

The CMRR Project team's approach to seismic analysis and the general approach to structural and seismic modeling were reviewed. The Board determined that the project lacked an integrated approach to structural modeling. As a result, the structural design process may not be properly validated. Because of computational constraints, project personnel proposed using design and analytical approximations. Providing assurance that such an approach is acceptable is essential, but is complicated by such issues as remediation of the soil layer below the foundation. To address these issues, a detailed structural model with a minimum number of approximations was needed. This model could then be used to validate both the general analysis and design approaches.

CMRR Project personnel agreed with these concerns and revised the structural design process to include the development of a detailed structural model. A design process check is planned to ensure that the approach used is adequate and will meet the structural loads that result from a design basis earthquake. The Board agrees that this is an acceptable path forward. CMRR Project personnel also plan to update the seismic soil-structure interaction analysis. It will be necessary to ensure that the structural model(s) has adequate refinement and inputs to properly capture the dynamic behavior of the Nuclear Facility. A detailed assessment of the remediation of the Nuclear Facility foundation soil will also be necessary to ensure that the soil-structure interaction approach properly models the effects on the seismic design ground motions.

It will be advisable for the project to continue using LANL structural personnel, supported by a peer review panel, to provide detailed oversight of the structural seismic analysis and design. As the Nuclear Facility design proceeds the Board will review the CMRR Project team's detailed assessment of the impact of the revised Nuclear Facility foundation approach.

2.1.3 Finding: *Seismic Design of Active Confinement Ventilation System and Support Systems*

The CMRR Project should not proceed to final design until there is high confidence that the necessary portions of the active confinement ventilation system can be seismically qualified. As discussed in Section 2.1.2.2, the structural response of the Nuclear Facility to vertical design basis ground motions led project personnel to be concerned that the vertical accelerations were at or above the upper limit at which some equipment could be seismically qualified, and to state that the seismic design for some of the safety-related systems might have to be downgraded as a result. The Board did not agree with downgrading the seismic design of any safety-related equipment and determined that inadequate technical justification had been provided to fully understand the equipment seismic qualification issue. Downgrading the seismic design of the active confinement ventilation system would jeopardize the ability of the system to function following a design basis earthquake, resulting in significantly larger releases of radioactive material.

The Board suggested that the CMRR Project team reconfirm its commitment to seismically designing the active confinement ventilation system to PC-3 seismic design requirements. The Board also suggested near-term studies to assess the potential conservatism of PC-3 design basis earthquake ground motions given recently published ground motion attenuation models, and suggested that the CMRR Project team perform a peer review of the approach to seismically qualifying safety-related equipment.

In response to this Finding, the CMRR Project team committed to seismically designing the systems and components of the active confinement ventilation system to PC-3 seismic design requirements. An update to the seismic design ground motions for the CMRR facility was also completed (see Section 2.1.2.2). The Board determined that the resulting reductions in PC-3 horizontal and vertical seismic design ground motions are technically supportable. These reductions alleviate the need to downgrade any safety-related equipment.

Mello Aff #1, par. 52, http://www.lanl.gov/news/releases/los_alamos_national_laboratory_to_host_forum_june_16.html

News Release

Los Alamos National Laboratory to host forum June 16

Businesses can learn about upcoming construction opportunities at Lab

LOS ALAMOS, New Mexico, May 28, 2010—Area business owners can learn about planned construction projects and potential economic opportunities at Los Alamos National Laboratory during a community forum from 10 a.m. to noon, June 16 at the Santa Claran Hotel in Española.

A number of construction projects on Pajarito Road are planned beginning in the Laboratory's 2011 fiscal year, which starts October 1, and continuing over several years. Pajarito Road is an access-controlled road on LANL property between Los Alamos and White Rock.

At the forum, leaders from the Laboratory and the Los Alamos Site Office of the National Nuclear Security Administration will present information about the projects, procurement processes and opportunities, and other important information. A publicly accessible Web site also will be unveiled at the forum; the site will have up-to-date information about Laboratory construction projects.

Seating for the forum is limited; RSVP to rsvp-lanlcommunityforum@lanl.gov by June 4. For more information, contact the Community Programs Office at 665-4400.

About Los Alamos National Laboratory

Los Alamos National Laboratory, a multidisciplinary research institution engaged in strategic science on behalf of national security, is operated by Los Alamos National Security, LLC, a team composed of Bechtel National, the University of California, The Babcock & Wilcox Company, and URS for the Department of Energy's National Nuclear Security Administration.

Los Alamos enhances national security by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy, environment, infrastructure, health, and global security concerns.

LANL news media contact: Steve Sandoval, (505) 665-9206, steves@lanl.gov

News Releases Archive »

Los Alamos National Laboratory employees, Lab contractor pledge record $2.5 million to local United Way organizations, other nonprofits

Contacts: Steve Sandoval, (505) 665-9206, steves@lanl.gov

LOS ALAMOS, New Mexico, November 18, 2010—Los Alamos National Laboratory employees have again demonstrated concern for their communities and those in need by pledging a record $1.5 million to United Way and other eligible nonprofit programs.

Read more

Fast Facts

Mello Aff #1, par. 54:
http://www.cfo.doe.gov/budget/11budget/Content/Volume%201.pdf

	(dollars in thousands)		
	Appropriations	Obligations	Costs
FY 2012	3,000	3,000	3,000
FY 2013	3,500	3,500	3,500
FY 2014	4,000	4,000	4,000
FY 2015	4,500	4,500	4,550
FY 2016	TBD	TBD	TBD
FY 2017	TBD	TBD	TBD
Total, OPC	TBD	TBD	TBD
Total Project Cost (TPC)			
FY 2002	1,665	1,665	1,665
FY 2003	12,174	12,174	12,174
FY 2004	16,714	7,214	7,214
FY 2005	20,731	30,231	9,012
FY 2006	29,310	29,310	20,211
FY 2007	19,026	19,026	28,621
FY 2008	39,406	39,406	31,638
FY 2009	92,248	92,248	46,661
FY 2010	58,200	58,200	79,180
FY 2011	168,500	168,500	107,000
FY 2012	292,200	292,200	261,000
FY 2013	303,500	303,500	303,500
FY 2014	303,961	303,961	304,000
FY 2015	304,500	304,500	304,550
FY 2016	TBD	TBD	TBD
FY 2017	TBD	TBD	TBD
Total, TPC	TBD	TBD	TBD

Overall Project

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Total Estimated Cost (TEC)			
PED[a]			
FY 2004	9,500	0	0
FY 2005	13,567	23,067	1,848
FY 2006	27,910	27,910	19,147
FY 2007	14,161	14,161	27,213
FY 2008	0	0	15,079
FY 2009	0	0	-329
FY 2010	0	0	2,180
Total, PED (PED 03-D-103-01)	65,138	65,138	65,138
Final Design & Construction (TEC 04-D-125)			
FY 2004	9,941	0	0
FY 2005	39,684	49,625	0

[a] CMRR SFE and NF have completed preliminary design using PED funds included 03-D-103. Design beyond preliminary will be completed using TEC funds included in 04-D-125.

Mello Aff#1, Par 56, Ref 1: http://www.cfo.doe.gov/budget/02budget/weapons/readtech.pdf

	Total Estimated Cost (TEC)	Prior Year Approp-riations	FY 2000	FY 2001	FY 2002	Unapprop-riated Balance
96-D-102, Stockpile Stewardship Facility Revitalization, Phase VI, VL	15,374	9,335	139	0	2,900	3,000
96-D-104, Processing & Environmental Tech Laboratory, SNL	45,900	35,041	10,859	0	0	0
95-D-102, CMR Upgrades Project, LANL	106,020	77,769	14,943	13,308	0	0
Total, Construction		220,929	99,298	161,258	154,664	246,918

Mello Aff #1, par 56, ref 2: http://www.cfo.doe.gov/budget/03budget/content/weapons/RTBF.pdf
please see instead: http://www.cfo.doe.gov/budget/02budget/weapons/readtech.pdf

FY 2001 Items of Congressional Interest: The FY 2001 appropriations act added $36 million for critical infrastructure and upgrades at the following locations: Kansas City Plant $12 million; Pantex Plant $12 million, Y-12 Plant $10 million; and Savannah River Site Tritium Facility $2 million. These funds will be used to support facility modifications and upgrades, fire protection projects, repairs and replacement of utility systems, roof repairs and replacement of capital equipment.

The FY 2001 appropriations act also added approximately $40 million to Operations of Facilities. For Sandia National Laboratories, $10 million was added for the operation of the pulsed power facilities which will ensure a full single shift of operations of the Z machine and will continue pulsed power technology development activities, and $20 million was added for microsystems and microelectronics activities. At Pantex, the $3.1 million added for contractor transition at Pantex will be used to cover BWXT activities such as labor hours, travel, office space, and other transition costs. At LANL, $7 million was added for planning for the replacement of the CMR facility.

(dollars in thousands)

	FY 2000	FY 2001	FY 2002
Lawrence Livermore National Laboratory	36,757	34,294	40,246

Includes DP's share of the operations of high explosives and physical data research experimental facilities, engineering test facilities, Superblock, and other direct-funded facilities.

Within this budget element, $325,000 will be made available for a GPP project for safety improvements to Corral Hollow Road adjacent to Site 300 of the Lawrence Livermore National Laboratory (LLNL). Site 300 is the laboratory's remote explosives test facility, and the DOE has become increasingly concerned for the safety and well-being of its employees, contractors, and the public using Corral Hollow Road, which provides the only access to Site 300. Corral Hollow Road is a rural two-lane roadway owned and maintained by San Joaquin County. Due to housing and population growth in Tracy and the Central Valley and the traffic that it generates, there has been an increasing number of vehicular near misses at Site 300's entrance gate. The proposed solution to this traffic safety problem is to widen Corral Hollow Road by 12 feet and extend the paved area of Corral Hollow Road for a 1400 foot distance along the County's existing right-of-way adjoining Site 300. This expansion will reconfigure the existing roadway into a three-lane country road for that distance. The addition of the third lane would be used as a turn lane into the Site 300 main entrance (coming from the west) and as a partial acceleration lane leaving Site 300 (heading east). This turn lane addition at the entrance would allow the safe ingress and egress that Site 300 needs in order to reduce the potential for accidents.

Mello Aff #1, par. 57.

	(dollars in thousands)		
	Appropriations	Obligations	Costs
FY 2012	3,000	3,000	3,000
FY 2013	3,500	3,500	3,500
FY 2014	4,000	4,000	4,000
FY 2015	4,500	4,500	4,550
FY 2016	TBD	TBD	TBD
FY 2017	TBD	TBD	TBD
Total, OPC	TBD	TBD	TBD
Total Project Cost (TPC)			
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FY 2003	12,174	12,174	12,174
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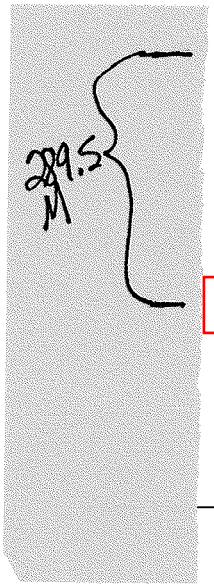
FY 2014	303,961	303,961	304,000
FY 2015	304,500	304,500	304,550
FY 2016	TBD	TBD	TBD
FY 2017	TBD	TBD	TBD
Total, TPC	TBD	TBD	TBD



Overall Project

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Total Estimated Cost (TEC)			
PED[a]			
FY 2004	9,500	0	0
FY 2005	13,567	23,067	1,848
FY 2006	27,910	27,910	19,147
FY 2007	14,161	14,161	27,213
FY 2008	0	0	15,079
FY 2009	0	0	-329
FY 2010	0	0	2,180
Total, PED (PED 03-D-103-01)	65,138	65,138	65,138
Final Design & Construction (TEC 04-D-125)			
FY 2004	9,941	0	0
FY 2005	39,684	49,625	0

[a] CMRR SFE and NF have completed preliminary design using PED funds included 03-D-103. Design beyond preliminary will be completed using TEC funds included in 04-D-125.

Mello Aff #1, par. 59:
http://foreign.senate.gov/download/?id=4C65B25B-F3E8-4CF6-8660-36E21D639ECC

THE VICE PRESIDENT
WASHINGTON

September 15, 2010

The Honorable John F. Kerry
Chairman, Committee on Foreign Relations
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Since the New Strategic Arms Reduction Treaty (New START) was submitted to the Senate for advice and consent, questions posed during committee hearings on the Treaty have highlighted, among other things, the Administration's plans to modernize the U.S. nuclear weapons complex, in particular the President's budget request for FY 2011 and projected out-year requests to accomplish the missions of the Stockpile Stewardship and Management Programs. I write to assure the Committee of the Administration's strong support for this program.

As you know, the *Nuclear Posture Review* (NPR), published in April, addresses U.S. national security goals and details this Administration's commitment to sustaining an arsenal of nuclear weapons that meets 21st century standards of safety, security, and effectiveness. The entire Administration is committed to taking the steps necessary to realize this objective.

Our budgets seek to reverse five years of declining support for nuclear stockpile management. The President's FY 2011 budget request for weapons activities in the National Nuclear Security Administration (NNSA) provides the funds needed to "ramp-up" activity and revitalize the enterprise in the near term. We have submitted plans for significant funding increases, starting with a $624 million increase in FY 2011 and increasing to a $1.64 billion plus-up by FY 2015. This is a cumulative increase of more than $5.68 billion over the FY 2010 five-year plan. The FY 2011-2015 President's Budget was based on the best estimates available at that time, and reflected our assessment of necessary investments and the capacities to absorb increased funding.

Earlier this spring, the Administration provided reports to Congress describing our 10- and 20-year plans, respectively, to sustain and modernize nuclear delivery systems, and the nuclear stockpile and the associated infrastructure. As the President has demonstrated in these plans and in his budget, he recognizes that the modernization of the Nation's nuclear deterrent will require sustained higher-level investments over many years.

Out-year budgets are, by definition, projections built on assumptions. NNSA has used the time since the spring – when the NPR and New START were concluded – to work on updating initial assumptions. We now have a more complete understanding of stockpile requirements, including the life extension program needs. Similarly, the designs of key facilities such as the Uranium Processing Facility and the Chemical and Metallurgy Research Replacement Facility have progressed. Based on information learned since the submission of the President's FY 2011 budget and the report under section 1251 of the National Defense Authorization Act for FY 2010, we expect that funding requirements will increase in future budget years.

Later this fall, the Administration will provide the Congress with information that updates the Section 1251 report. At that time, and in our future budgets, we will address any deficiencies in the Future Years Nuclear Security Program. We are also prepared to brief the oversight committees and interested Senators as these programs progress, so that Congress can have full visibility into the program and confidence in our processes.

Finally, the Administration has actively engaged the House and Senate Appropriations Committees in support of the President's 2011 request, and we will continue to do so. Moreover, as further evidence of the President's commitment to an immediate start to his modernization initiatives, the Administration earlier this month recommended that the Committees provide for a rate of operations consistent with the President's request for NNSA weapons activities during any continuing resolution period.

This Administration has expressed its unequivocal commitment to recapitalizing and modernizing the nuclear enterprise, and seeks to work with Congress on building a bipartisan consensus in support of this vital project. I look forward to continued work with Congress to ensure that we accomplish our shared objective to maintain and strengthen U.S. nuclear security.

Sincerely,

Joseph R. Biden, Jr.

cc: The Honorable Richard G. Lugar
Ranking Member

FY 2011 Continuing Resolution (CR) Appropriations Issues

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threshold would therefore not be in effect without specific authority in the CR, which would increase the administrative burden on theater personnel and reduce the commanders' flexibility to respond quickly to requirements in theater.

DOD, Lift and Sustain Authority

Sec. ___. The authority provided in section 9006 of Public Law 111-118 shall continue in effect through the date specified in section 106(3) of this joint resolution.

Language is needed to provide Lift and Sustain authority, which was most recently authorized by section 9006 of the FY 2010 Department of Defense Appropriations Act (Public Law 111-118) and expires on October 1, 2010. This authority allows DOD to provide transportation and sustainment support to more than 10,000 coalition forces in Afghanistan and Iraq. An interruption in DOD's ability to provide such support could undermine U.S. military operational effectiveness in Afghanistan at a time when U.S. and coalition forces are striving to implement the President's strategy in that country.

Energy and Water Subcommittee

DOE, NNSA, Weapons Activities Supporting the Nuclear Posture Review

Sec. ___. Notwithstanding section 101, amounts are provided for "Department of Energy—Weapons Activities" at a rate for operations of $7,008,835,000.

Language is needed to provide a rate for operations of $7,009 million to support the recommendations of the Nuclear Posture Review (NPR) and support full funding for the weapons complex modernization. The President's FY 2011 Budget request of $7,009 million for Weapons Activities reflected an increase of $624 million (9.8 percent) over the FY 2010 enacted level to support the recommendations of the NPR.

Constraining the Weapons Activities account to the FY 2010 level during the CR will delay implementation of the programs supporting the NPR, including their connection with the New START treaty. An increase above the FY 2010 level in a CR is required to meet the time-sensitive NPR requirements, and without this anomaly the tightly knit set of schedules planned to support the Administration's and Congress' goals would be imperiled.

DOE, National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling

Sec. ___. For necessary expenses of the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling established by, and in order to carry out activities under, Executive Order 13543, $15,000,000, to remain available until September 30, 2011: Provided, That funds appropriated in this paragraph may be used to reimburse obligations incurred for the purposes provided herein prior to enactment of this Act: Provided further, That Congress designates this amount as an emergency requirement for these specific purposes.

Mello Aff #1, par. 60, ref 1:
http://appropriations.senate.gov/customcf/uploads/34ddd9ae-1c8b-4672-b658-a98ee03ea3de/CR%20Text.pdf

In the Senate of the United States,

September 29, 2010.

Resolved, That the bill from the House of Representatives (H.R. 3081) entitled "An Act making appropriations for the Department of State, foreign operations, and related programs for the fiscal year ending September 30, 2010, and for other purposes.", do pass with the following

AMENDMENTS:

Strike all after the enacting clause and insert the following:

That the following sums are hereby appropriated, out of any money in the Treasury not otherwise appropriated, and out of applicable corporate or other revenues, receipts, and funds, for the several departments, agencies, corporations, and other organizational units of Government for fiscal year 2011, and for other purposes, namely:

SEC. 101. Such amounts as may be necessary, at a rate for operations as provided in the applicable appropriations Acts for fiscal year 2010 and under the authority and

expended, for drought emergency assistance: Provided, That financial assistance may be provided under the Reclamation States Emergency Drought Relief Act of 1991 (43 U.S.C. 2201 et seq.) and any other applicable Federal law (including regulations) for the optimization and conservation of project water supplies to assist drought-plagued areas of the West;

(2) that such amount be available on the date of enactment of this Act; and

(3) the amount is designated as an emergency requirement and necessary to meet emergency needs pursuant to sections 403(a) and 423(b) of S. Con. Res. 13 (111th Congress), the concurrent resolution on the budget for fiscal year 2010.

SEC. 122. Notwithstanding section 101, amounts are provided for "Department of Energy—Weapons Activities" at a rate for operations of $7,008,835,000.

SEC. 123. Notwithstanding any other provision of this Act, except section 106, the District of Columbia may expend local funds for programs and activities under the heading "District of Columbia Funds" for such programs and activities under title IV of S. 3677 (111th Congress), as reported by the Committee on Appropriations of the Senate, at the rate set forth under "District of Columbia Funds" as included in the Fiscal Year 2011 Budget Request

Continuing Resolution Dramatically Benefits New Mexico Nuclear Weapons Laboratories (LASG, 9/30/10)

Current and Requested Appropriations for NNSA Weapons Complex Sites (in millions of dollars)

(DOE headquarters and other sites not included)

	FY2010		FY2011 Requested		Requested Increase, $		Requested Increase, %	
	Total DOE	**WA**	**Total DOE**	**WA**	**Total DOE**	**WA**	**Total DOE**	**WA**
KCP	462.045	459.382	535.433	532.949	73.388	73.567	15.9%	16.0%
LLNL	1,137.176	992.913	1,213.180	1,051.070	76.004	58.157	6.7%	5.9%
LANL	1,823.225	1,299.169	2,216.629	1,636.838	393.404	337.669	21.6%	26.0%
NTS	323.953	243.041	389.079	228.669	65.126	(14.372)	20.1%	-5.9%
PP	534.716	534.473	533.140	532.317	(1.576)	(2.156)	-0.3%	-0.4%
SNL	1,309.770	953.098	1,491.998	1,141.953	182.228	188.855	13.9%	19.8%
SRS	1,619.585	229.656	1,632.317	191.685	12.732	(37.971)	0.8%	-16.5%
Y-12	742.709	656.610	792.565	676.756	49.856	20.146	6.7%	3.1%
Totals	**7,953.179**	**5,368.342**	**8,804.341**	**5,992.237**	**851.162**	**623.895**	**10.7%**	**11.6%**
LANL + SNL proposed (WA actual as of 9/30) increase, in $					575.632	526.524		
LANL + SNL, percent of total proposed (and for WA, actual) increase, all 8 sites							67.6%	84.4%

Total WA, all sites	**6,384.431**	**7,008.835**
Total WA provided until 12/3/10, all sites		**7,008.835**
Portion DOE requested increase not provided, all sites		**227.267**

KCP	Kansas City Plant
LLNL	Lawrence Livermore National Laboratory
LANL	Los Alamos National Laboratory
NTS	Nevada Test Site
PP	Pantex Plant
SNL	Sandia National Laboratories
SRS	Savannah River Site
Y-12	Y-12 National Security Complex
WA	Weapons Activities

Mello Aff #1, par. 60, ref 2 (Exhibit 5).

Mello Aff #1, par. 60, ref 3: http://www.lanl.gov/news/index/html (accessed 9/8/2010).

News

Sen. Udall tours LANL Recovery Act cleanup sites

September 8, 2010—New Mexico Senator Tom Udall toured Recovery Act cleanup sites at the Lab's Technical Area 21 on Tuesday.

Lab researcher named Fellow of American Ceramic Society

September 2, 2010—Quanxi Jia of the Center for Integrated Nanotechnologies at Los Alamos has been selected as a 2010 American Ceramic Society Fellow for his outstanding contributions to the ceramic arts or sciences.

Lab attracts record number of students this summer

August 31, 2010—This year, the Laboratory attracted a record number of student interns, giving them the opportunity to conduct exciting and important research in a wide range of disciplines.

Seven Lab employees to serve on Los Alamos Employees' Scholarship Fund advisory committee

August 27, 2010—Seven Laboratory employees recently were elected to serve three-year terms on the Los Alamos Employees' Scholarship Fund scholarship advisory committee. Elected were Clare Webber, Leo Jaramillo, Claudette Chavez, Phillip Goldstone, Randy Erickson, Craig Leasure, and Phil Tubesing.

2009 Distinguished Performance Award winners announced

August 26, 2010—Five individuals, five small teams, and seven large teams are receiving 2009 Distinguished Performance Awards, a program that recognizes job performance above and beyond what is normally expected.

NNSA Defense Programs chief to tour Lab, have All-Employee Meeting

August 26, 2010—The new NNSA Deputy Administrator for Defense Programs, Don Cook, will spend two days touring key facilities and getting a wide variety of briefings at the Laboratory starting Monday, August 30.

Lab researcher receives prestigious Fulbright Scholar Award

Nathan G. McDowell of Earth Systems Observations (EES-14) has received a Fulbright Scholar Award. The 10-month award will enable him to study vegetation mortality patterns and mechanisms, carbon cycling, and climate in the European Union. McDowell will be based in Slovenia, where he also will present guest lectures in plant physiology and forestry courses at the University of Ljubljana.

Awards recognize outstanding LANL Tech Transfer

August 23, 2010—The 12th Annual Technology Transfer Recognition and Awards reception honored Laboratory scientists and technicians who develop scientific technologies in support of the Laboratory's mission that have potential for commercialization in business and industry.

Second LDRD Day showcases Lab's scientific research

August 24, 2010—The Los Alamos Laboratory Directed Research and Development (LDRD) program will host the second LDRD Day on September 8 at the Hilton Hotel at Buffalo Thunder Resort in Pojoaque.

Global security topic of talk at American Chemical Society meeting

August 24, 2010—The role of chemists in national security science was a hot topic Monday (August 23) at the American Chemical Society's Boston meeting, when Principal Associate Director for Global Security Will Rees addressed the crowd.

Administration Building demolition project continues

August 23, 2010—The institutionally funded decontamination and decommissioning of the former Administration Building (SM-43) at Technical Area 3 is making progress.

Filing for occupational illness compensation? Satellite office available on-site

News Releases

Archive »

Los Alamos National Laboratory attracts record number of students this summer

Contact: Laura Ambrosiano, (505) 667-7000, lauraa@lanl.gov; Steve Sandoval, (505) 665-9206, steves@lanl.gov

LOS ALAMOS, New Mexico, September 7, 2010—Los Alamos National Laboratory this summer attracted a record number of student interns, giving them the opportunity to conduct exciting and important research in a wide range of disciplines. More than 1,300 students interned in both technical and nontechnical fields.

»Read more

Fast Facts

Read about Los Alamos National Laboratory: Fact Sheets

People
11,437 total employees
Los Alamos National Security, LLC 9,452
SOC (Guard Force) 510
Other contractors 437
Students 1,038

Place
Located 35 miles northwest of Santa Fe, New Mexico, on 36 square miles of DOE-owned property.

More than 2,000 individual facilities, including 47 technical areas with 8 million square feet under roof.

Replacement value of $5.9 billion
Budget FY 2008: Approx. $2 billion
55% Weapons Programs
8% Nonproliferation programs
7% Safeguards and Security
8% Environmental Management
3% DOE Office of Science
3% Energy and other programs
15% Work for Others

Workforce Demographics
43% of employees live in Los Alamos, the remainder commute from Santa Fe, Española, Taos, and Albuquerque.

Average Age: 45
67% male, 33% female
43% minorities
72% university degrees

Mello Aff#1, Par 60, Ref 4, EXHIBIT 6

ATOMIC AUDIT

THE COSTS AND CONSEQUENCES OF U.S. NUCLEAR WEAPONS SINCE 1940

Stephen I. Schwartz, editor

Bruce G. Blair, Thomas S. Blanton, William Burr, Steven M. Kosiak, Arjun Makhijani, Robert S. Norris, Kevin O'Neill, John E. Pike, and William J. Weida, contributing authors

BROOKINGS INSTITUTION PRESS
WASHINGTON, D.C.

TABLE 1-1. Auditing the Manhattan Project: Where Did the Money Go?

Cumulative costs in millions of dollars as of December 31, 1945

Site/program	*Then-year dollars*[a]	*Constant 1996 dollars*
Oak Ridge (total)	1,188.35	13,565.66
K-25 Gaseous Diffusion Plant	512.17	5,846.64
Y-12 Electromagnetic Plant	477.63	5,452.41
Clinton Engineer Works—HQ and central utilities	155.95	1,780.26
Clinton Laboratories	26.93	307.44
S-50 Thermal Diffusion Plant	15.67	178.90
Hanford engineer works	390.12	4,453.47
Special operating materials	103.37	1,180.01
Los Alamos Project	74.06	845.38
Research and development	69.68	795.45
Government overhead	37.26	425.29
Heavy-water plants[b]	26.77	305.57
Total	1,889.61	21,570.83

Source: Original data from Hewlett and Anderson, *1939/1946,* p. 11.

a. Includes capital and operations costs from 1942 through 1945. Costs adjusted using a base year of 1944. Actual costs per facility per year are apparently unknown.

b. Designed and constructed by E. B. Badger and Sons and the Consolidated Mining and Smelting Company of Canada in Trail, British Columbia, and by E. I. Du Pont de Nemours and Company in Morgantown, West Virginia; Montgomery, Alabama; and Dana, Indiana.

but preparations for "Operation Crossroads" kept about one-eighth of the scientists busy.[55] There was no question, however, that the program would continue after the war. At a meeting of the Interim Committee on May 31, 1945 (formed by Secretary of War Stimson to consider post-war policy options for the atomic bomb and including Stimson, Groves, Army Chief of Staff George C. Marshall, Oppenheimer, Lawrence, Bush, MIT president Karl T. Compton, Undersecretary of the Navy Ralph A. Bard, Assistant Secretary of State William L. Clayton, and Secretary of State-designate James F. Byrnes), Lawrence spoke forcefully in favor of continued production, recommending "that a program of plant expansion be vigorously pursued and at the same time a sizable stock pile of bombs and material should be built up" to ensure that the nation would "stay out in front." Later in the meeting, Byrnes "expressed the view, *which was generally agreed to by all present,* that the most desirable program would be to push ahead as fast as possible in

55. Jonathan Weisgall, *Operation Crossroads: The Atomic Tests at Bikini Atoll* (Annapolis, Md.: Naval Institute Press, 1994), p. 137.

Mello Aff #1, par. 62.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 23, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending July 23, 2010

Radioactive Liquid Waste: This week, the site office issued direction to LANL on maintaining an enduring radioactive liquid waste processing capability. The Radioactive Liquid Waste Processing Facility – Upgrade Project (RLWTF-UP), which is over 90% complete with design, was intended to replace the existing aging facility and provide capability for both transuranic and low level liquid waste processing. However, NNSA has concluded that the escalating project cost (currently estimated at approximately $350M versus previous estimates of approximately $100M) combined with out-year funding challenges (given other high priority projects) require NNSA to evaluate and pursue other alternatives. Therefore, the site office has directed LANL to 1) provide a recommendation for the most cost effective and efficient way to ramp down on the current RLWTF-UP design activities and 2) evaluate options to provide an enduring radioactive liquid waste capability (including upgrade and use of existing facilities and smaller scope new facilities). The site office requested a final recommendation on a preferred option within eight weeks.

Chemistry and Metallurgy Research Replacement (CMRR) Project: The Integrated Design Coordination Meeting for the CMRR project was conducted in Los Alamos this week and included representatives from NNSA, LANL and project subcontractors. For the CMRR Nuclear Facility, the project is completing the closure of issues identified in the Technical Independent Project Review that was conducted late last year. The CMRR Nuclear Facility final design contracts are expected to be awarded in October.

Plutonium Facility – Unreviewed Safety Question: This week, LANL concluded that the presence of potentially explosive ammonium nitrate powder identified on high efficiency particulate air (HEPA) filters represents an Unreviewed Safety Question. Previous actions to place the facility in a safe configuration remain in effect (e.g., aqueous operations the 200 area suspended and controlled access to the HEPA plenum room). LANL continues to investigate the source of the ammonium nitrate powder with samples from the in-service HEPA filters collected this week (site rep report 7/9/10).

Weapons Engineering Tritium Facility (WETF): LANL continues to pursue startup preparations for the function test capability at WETF. A management self assessment is scheduled to begin next week followed by a contractor readiness assessment planned for August 9th.

Plutonium Facility – Safety Basis: As noted last week, Plutonium Facility personnel are on the final phase of implementing the Documented Safety Analysis that was approved in December 2008. LANL recently requested an extension for completing this activity to October (previously scheduled to be complete in August). The extension is required to allow completion of fire suppression system modifications and implementation of the material-at-risk tracking system.

Mello Aff #1, par. 63 (Exhibit 7)

		vigil_f@lanl.gov, (505) 667-3219			
165	562910	Environmental Remediation Services - Technical Services with a focus on technical, regulatory, and non-field support. Multiple Master Task Ordering Agreements (MTOA) will be awarded to cover a 3 year base period with a 2 1 year option. Prequalifications will be requested in August, 2010. Contact: Larry Quinlan, quinlan_l@lanl.gov, (505) 606-0094	150 M	10/1/2010	S
166	562910	Environmental Remediation Services - Environmental Services will include RA/D&D, sampling, and a focus on field support. Multiple MTOAs will be awarded to cover a 3 year base period with 2 1 year options. Prequalifications will be requested in August, 2010. Contact: Mark Backus, backus_mark_k@lanl.gov, (505) 665-9781	400 M	10/1/2010	S
167	562910	Environmental Remediation Services - Waste Characterization, Processing, & Nuclear Facilities Operations Management Support Services. Multiple MTOAs will be awarded to cover a 3 year base period with 2 1 year options. Prequalifications will be requested in August, 2010. Contact: James McGill, mcgill_james@lanl.gov, (505) 665-5638	200 M	10/1/2010	S
168	562910	Environmental Remediation Services -Waste Management, Treatment, Transportation, and Disposal. Multiple MTOAs will be awarded to cover a 3 year base period with 2 1 year options. Prequalifications will be requested in August, 2010. Contact: Jean Renner, jcrenner@lanl.gov, (505) 606-2172	250 M	10/1/2010	S
78	TBD	Vacuum Products, Contact: TBD RFP Date: TBD	14 M		O
82	423120	Automotive Parts, Contact: Frank Sedlacek, sedlacek@lanl.gov, (505) 667-0418	3 M	8/30/2010	S
122	423430	Networking Equipment - Edge Switches, Contact: Barbara Wolf, bwolf@lanl.gov, (505) 606-1673	14.5 M	11/30/2010	S
132	325120	SUBCONTRACTOR shall furnish qualified personnel, equipment, materials and facilities to perform all services necessary to provide the Laboratory with Grade A or higher refrigerated liquid helium, dewar rentals, service of government owned dewars. Contact: Robert Manzanares, rbmanzanares@lanl.gov, (505) 665-0504	5.3 M	8/30/2010	S
137	237130	Temporary Utilities. Contact: Robert Ping, rwping@lanl.gov, (505) 664-0539	10 M	11/1/2010	S
138	238910	Site Preparation Laydown. Contact: Robert Ping, rwping@lanl.gov, (505) 664-0539	25 M	10/1/2010	
139	237130	Site Utilities Relocation. Contact: Robert Ping, rwping@lanl.gov, (505) 664-0539	5 M	10/1/2010	
140	236210	OSP Security Cable & Horizontal Pull. Contact: Robert Ping, rwping@lanl.gov, (505) 664-0539 RFP Date: TBD	5 M	8/20/2010	
141	238910	Site Excavation. Contact: Robert Ping, rwping@lanl.gov, (505) 664-0539 RFP Date: TBD	30 M	10/1/2010	

Competition Type

O = Open Competition
S = Small Business Set-Aside
8 = 8(a) Set-Aside
D = Service Disabled Veteran-Owned Set-Aside

Mello Aff#1, Par 64:
http://www.lanl.gov/orgs/sup/procurement/solicitations/index.shtml
10/16/10, 8:40pm

Summary of Work

For Procurement of

Safety Significant Air Handling Units

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, fabrication, procurement of materials/devices, inspection, testing, and delivery of 15 Safety Significant Air Handling Units.

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 30, 2010.

SCOPE OF WORK:

The procurement includes but is not limited to the following major components:

- Housings
- Dampers
- Actuators

Summary of Work

For Procurement of

Safety Class Fire Pump Assemblies

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, parts, equipment, material, devices, fabrication, inspection, testing, commissioning, and delivery of Safety Class skid mounted Fire Pump Assemblies (FPA).

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 30, 2010.

SCOPE OF WORK:

The FPAs consist of two (2) skid mounted Safety Class diesel engine-driven fire pump assemblies (DEFPA) and Two (2) Safety Class skid mounted electric motor-driven fire pump assemblies (EMFPA).

All FPAs including components, devices, and accessories shall be designed, fabricated, tested, and commissioned in accordance with National Fire Protection Association (NFPA) 20. All electrical equipment and wiring shall comply with NFPA 70.

LA-UR-10-05349

Summary of Work

For Procurement of

Nuclear Air Treatment Systems

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, fabrication, procurement of materials/devices, inspection, testing, and delivery of twenty-one Nuclear Air Treatment Systems (NATS).

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 30, 2010.

SCOPE OF WORK:

The procurement includes but is not limited to the following major components:

- Housing
- Dampers
- Fire Screens

LA-UR-10-05347

Summary of Work

For Procurement of

HVAC Fan Assemblies

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, parts, equipment, material, devices, fabrication, inspection and testing, labor and delivery of twenty-six HVAC Fan assemblies.

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 30, 2010.

SCOPE OF WORK:

The procurement includes but is not limited to the following major components:

- Electric Motors
- Fans
- Temperature and Vibration Probes

LA-UR 10-05348

Summary of Work

For Procurement of

Diesel Engine Driven Generator Sets

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, fabrication, procurement of materials/devices, inspection, testing, and delivery of two Safety Significant Diesel Engine Driven Generator Sets and two Non-Safety Diesel Engine Driven Generator Sets.

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 30, 2010.

SCOPE OF WORK:

The Suppliers scope of supply and the performance requirements for the new equipment are summarized below:

- Two (2) Diesel Engine Driven Generator Sets (DGs) classified as Safety Significant (SS)

LA-UR-10-05351

Summary of Work

For Procurement of

Bubble Tight Isolation Damper Assemblies

for the

Chemistry and Metallurgy Research Replacement Project (CMRR)

The Chemistry and Metallurgy Replacement (CMRR) project will be constructing a Hazard Category 2 nuclear facility at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL) site where research will be performed using nuclear materials. This request for expressions of interest is for the design, fabrication, procurement of materials/devices, inspection, testing, and delivery of twenty-two Bubble Tight Isolation Damper assemblies.

TO DEMONSTRATE YOUR INTEREST AND TO PREQUALIFY FOR THIS SOLICITATION, PLEASE SUBMIT THE FOLLOWING:

- Evidence of similar services performed within the last 5 years.
- Completed Supplier/Contractor Questionaire, Appendix C labeled Contractor/Supplier Questionaire, Appendix D labeled Contractor Safety & Health Questionaire and Appendix E labeled Supplier Quality Assurance Questionaire.

NOTE: It has not yet been determined whether any resulting Request for Proposal will be a small business set-aside; however, small businesses (in whatever organizational structure) are strongly encouraged.

Your response is acceptable through e-mail to Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov) or Kathie Ping, CMRR Procurement Specialist, (kdping@lanl.gov).

Your response is requested on or before August 23, 2010.

SCOPE OF WORK:

The procurement includes but is not limited to the following major components:

- Bubble Tight Isolation Dampers
- Electric and Pneumatic Actuators
- Solenoid Valves

LA-UR 10-05090

Mello Aff#1, Par 65, EXHIBIT 8

LANL Construction Corridor

Tom McKinney, Associate Director

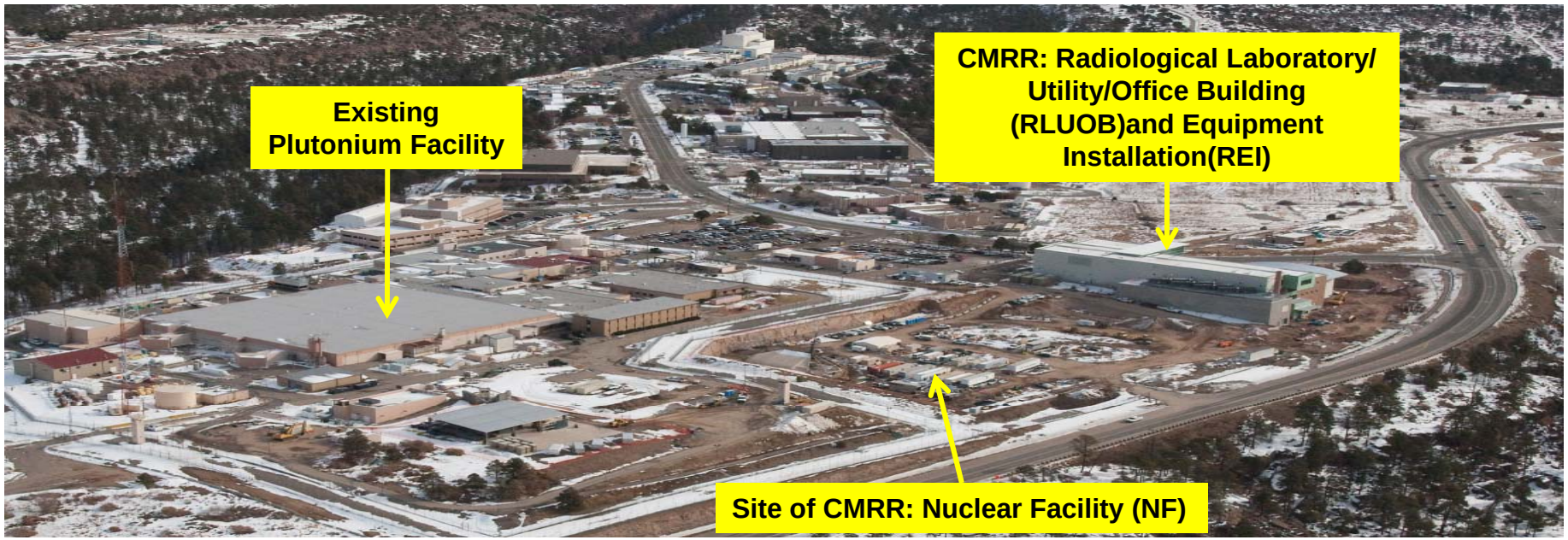
Project Management and Site Services Directorate

Los Alamos National Laboratory

September 8, 2010

LA-UR 10-05995

Chemistry and Metallurgy Research Replacement Project



Mello Aff #1, par. 65, ref 2:
http://appropriations.house.gov/index.php?option=com_content&view=article&id=237&Itemid=12

110TH CONGRESS *1st Session* } HOUSE OF REPRESENTATIVES { REPORT 110–185

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL, 2008

JUNE 11, 2007.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. VISCLOSKY, from the Committee on Appropriations, submitted the following

R E P O R T

together with

ADDITIONAL VIEWS

[To accompany H.R. 2641]

The Committee on Appropriations submits the following report in explanation of the accompanying bill making appropriations for energy and water development for the fiscal year ending September 30, 2008, and for other purposes.

INDEX TO BILL AND REPORT

	Page Number Bill	Report
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I. Department of Defense—Civil:		
Corps of Engineers—Civil:		
Introduction	.....	9
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Construction	2	27
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Operation and Maintenance	4	33
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Central Utah Project Completion Account	10	38
Bureau of Reclamation:		

ditional funding to restore the baseline Uranium Processing Facility (UPF) PED funding that was reprogrammed in fiscal year 2007 to fund other purposes by the NNSA. The Committee supports the facility and material consolidation activities at the Y–12 Plant.

Project 04–D–125, Chemistry and Metallurgy Research Facility Replacement (CMRR), LANL.—The recommendation provides no funds for the CMRR project, a decrease of $95,586,000 from the budget request. The Committee direction halts the construction activity at the CMRR facility. 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.

Project 04–D–128, TA–18 mission relocation project, Los Alamos National Laboratory.—The Committee recommends $14,455,000, a decrease of $15,000,000 from the budget request. The Department of Energy's Inspector General conducted an audit on the NNSA's ability to maintain capability of the TA–18 mission to conduct nuclear criticality experiments during the transfer of the special nuclear materials from the TA–18 facility at Los Alamos National Laboratory to the Device Assembly Facility (DAF) at the Nevada Test Site. Although the NNSA goal was to restore interim criticality operations as early as 2005, the current NNSA plan delays transfer and reestablishment of capability at DAF until 2010 at the earliest. The Department recognized the security requirement to remove the SNM from TA–18 in 1999; however, according to the DOE IG, it will now take over a decade for the NNSA to complete the relocation of the criticality experiments mission. While the Committee is disappointed at the failure of the NNSA and Los Alamos National Laboratory to complete the SNM consolidation activity, the funding reduction reflects the schedule slip and reallocation of funding for higher priorities.

U.S. DEPARTMENT OF ENERGY
Washington, D.C.

ORDER

DOE O 413.3A

Approved: 7-28-06
Chg 1: 11-17-08

Mello Aff #1, par. 66 & 67:
https://www.directives.doe.gov/directives/current-directives/413.3-BOrder-ac1/view?searchterm=None

SUBJECT: PROGRAM AND PROJECT MANAGEMENT FOR THE ACQUISITION OF CAPITAL ASSETS

1. OBJECTIVES.

   a. To provide the Department of Energy (DOE), including the National Nuclear Security Administration, with project management direction for the acquisition of capital assets with the goal of delivering projects on schedule, within budget, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health standards.

   b. To implement Office of Management and Budget Circulars A-11 Part 7, A-123, A-127, and A-130.

   c. To implement DOE P 413.1, *Program and Project Management Policy for the Planning, Programming, Budgeting, and Acquisition of Capital Assets*, dated 6-10-00.

2. CANCELLATIONS.

   DOE O 413.3, *Program and Project Management for the Acquisition of Capital Assets*, dated 10-13-00. Cancellation of an Order does not by itself modify or otherwise affect any contractual obligation to comply with the Order. Contractor Requirements Documents containing directive requirements that have been applied to a contract remain in effect until the contract is modified to eliminate or replace requirements from canceled directives.

   Further, DOE O 413.3 cancels Chapters 1 through 3 of DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*, dated 3-28-03, and takes precedence over the Manual where conflicts exist.

3. APPLICABILITY.

   a. DOE Elements.

      The requirements identified in this Order are mandatory for all DOE Elements (unless identified in the exclusions paragraph), including the National Nuclear Security Administration, for all capital asset acquisition projects having a Total Project Cost or Environmental Management Total Project Cost for Clean-Up Projects greater than or equal to $20 Million (M).

Vertical line denotes change.

necessary to tailor the project's execution process to allow the project team to propose cost-effective innovative approaches that reduce project duration and cost.

(4) Transition/Closeout Phase.

When the project nears completion and has progressed into formal transition and commissioning, which generally includes final testing, inspection, and documentation, the project is prepared for operation, long-term care, or closeout. The nature of the transition and its timing depends on the type of project and the requirements that were identified subsequent to the mission need.

d. Critical Decisions.

The five Critical Decisions are major milestones approved by the Secretarial Acquisition Executive or Acquisition Executive that establish the mission need, recommended alternative, Acquisition Strategy, the Performance Baseline, and other essential elements required to ensure that the project meets applicable mission, design, security, and safety requirements. Each Critical Decision marks an increase in commitment of resources by the Department and requires successful completion of the preceding phase or Critical Decision. Collectively, the Critical Decisions affirm the following:

- There is a need that cannot be met through other than material means;
- The selected alternative and approach is the optimum solution;
- Definitive scope, schedule and cost baselines have been developed;
- The project is ready for implementation; and
- The project is ready for turnover or transition to operations.

The amount of time between decisions will vary. Projects may quickly proceed through the early Critical Decisions due to a lack of complexity, the presence of constraints that reduce available alternatives, or the absence of significant technology and developmental requirements. In these cases, more than one Critical Decision may be approved simultaneously. Conversely, there may be a need to split a Critical Decision.

(1) CD-0, Approve Mission Need.

The Initiation Phase begins with the identification of a mission-related need. A Program identifies a credible performance gap between its current capabilities and capacities and those required to achieve the goals articulated in its strategic plan and/or in the DOE Target Enterprise

Architecture for IT capital asset projects.. A Mission Need Statement is the translation of this gap into functional requirements that cannot be met through other than material means. It should describe the general parameters of the project, how it fits within the mission of the Program, and why it is critical to the overall accomplishment of the Department mission, including the benefits to be realized. The mission need is independent of a particular solution, and should not be defined by equipment, facility, technological solution, or physical end-item. This approach allows the Program the flexibility to explore a variety of solutions and not limit potential solutions. Approval of CD-0 formally establishes a project and begins the process of conceptual planning and design used to develop alternative concepts and functional requirements. Additionally, CD-0 approval allows the Program to request Project Engineering and Design funds for use in preliminary design, final design, and baseline development.

(2) 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.

(3) CD-2, Approve Performance Baseline.

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.

Mello Aff #1, par. 67:
http://www.lanl.gov/projects/pcc/presentations/John-Bretzke_Prensation_for_Community_Forum.pdf
please see instead:
http://www.lasg.org/CMRR/LA-UR-10-01115_CMRR-Public-Mtg_Mar-2010-Vol-9.pdf

Chemistry and Metallurgy Research Replacement (CMRR) Project

CMRR Project Update

Los Alamos, New Mexico
March 3, 2010

Presented by
Steve Fong, *NNSA*
CMRR Federal Project Team

Rick Holmes, *LANL*
CMRR Division Leader

Los Alamos NATIONAL LABORATORY
NNSA National Nuclear Security Administration

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

High-Level Schedule

Complete

- 2002 CMRR Critical Decision (CD)-0 (*Approve Mission Need*)
- 2004 CMRR EIS Record of Decision (ROD) signed
- 2005 CMRR CD-1 (*Approve Alternative Selection and Cost Range*)
- 2005 CMRR RLUOB CD-2/3 (*Approve Performance Baseline/Construction*)
- 2007 CMRR RLUOB Equipment, Final Design Authorization
- 2008 NNSA Complex Transformation Supplemental EIS ROD
- 2009 CMRR REI CD-2/3 (*Approve Performance Baseline/Procurement Installation*)
- 2009 CMRR NF Safety Basis and Design Integration, and Technical Reviews
  - NNSA & DNFSB Certification Safety Issues Resolved

This Year

- 2010 CMRR RLUOB Facility (CD-4)
- 2010 Nuclear Posture Review (March)
- 2010 CMRR NF Final Design Authorization

Future Years (tentative)

- 2011 CMRR RLUOB Staff Occupancy
- 2011 NF Early Infrastructure Packages (CD-2/3)
- 2011/12 NF Basemat/Structural Packages (CD-2/3)
- 2013 CMRR RLUOB Radiological Laboratory Operations
- 2014 CMRR NF Balance of Facility (CD-2/3)
- 2020 CMRR NF Construction Complete (planning)

Los Alamos NATIONAL LABORATORY EST.1943 NNSA

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

Mello Aff #1, par. 68:
https://www.directives.doe.gov/directives/current-directives/430.1-EGuide-1-Chp03/view

CHAPTER 3

STAGES OF PROJECT DEVELOPMENT

1. INTRODUCTION

Estimates are produced throughout the life of a project at various stages. It is important to understand the stages of project development in order to understand how they relate to the various estimates. Chapter 4 describes the various estimates and their relationship to each other as well as to the key decisions. All projects, whether they are conventional construction or Environmental Management (EM), evolve through a series of stages. Both types of projects originate with preliminary study and then follow a series of design stages. Finally, the design is implemented in the form of a finished product.

Regardless of the finished product, all projects will require management and support activities throughout the life of the project. Major differences between these two types of projects are observed in the study and design phases. EM projects tend to have more intricate study and design phases than those of conventional construction projects. Also, EM projects are unique in that each complete project is divided into two parts: assessment and cleanup. Each part of an EM project is comprised of a complete cycle of study, design, and implementation; hence, the cycle is completed twice for the completion of a single project, whereas the cycle is only completed once for construction projects. A comparison of activities involved in conventional construction and EM projects is provided in Table 3-1. Also included is Table 3-2, Comparison of EM Project Phases to conventional construction phases.

2. RELATIONSHIP OF STAGES OF DEVELOPMENT TO TYPES OF ESTIMATES

The development of a project occurs in three major stages: study, design, and implementation. As a project develops, more information and specifications are required,

TABLE 3-1

EM AND CONVENTIONAL CONSTRUCTION TERMINOLOGY CROSSWALK

	DOE ASSESSMENT AND CLEANUP PHASE TERMINOLOGY	4700.1 TERMINOLOGY CONVENTIONAL CONSTRUCTION
STUDY	Preliminary Assessment Inspection	Development Phase Conceptual Design Report
DESIGN	Characterization Evaluation of Cleanup Alternatives	Title I Title II
IMPLEMENT	Cleanup Action Compliance	Construction/Title III Operations

resulting in more estimates than were included in the previous stage. These estimates become a more accurate representation of the actual project cost. In the following, a description of conventional construction terminology will be discussed in relation to the project stages of development and their estimates.

A. Study Stage

The study stage consists of a development phase and a conceptual design report (CDR). Investigations and studies are conducted to compile the information that is essential for the design stage. Through these investigating processes, planning feasibility study estimates are derived for preliminary budget estimates of total project cost on the basis of any known research and development requirements. This preliminary phase establishes the scope, feasibility, need, and activities included in

the CDRs, which results in a budget/conceptual design estimate, which is used to request congressional authorization for funding.

B. Design Stage

The design stage consists of the Title I and the Title II phases. The Title I (preliminary) design phase defines the project criteria in greater detail, permitting the design process to proceed with the development of alternate concepts and a Title I design summary. The approved Title I concept and the supporting documentation prepared for Title I form the basis of all activity in the definitive phase, Title II of project design. Title II incorporates all the restudy and redesign work, the final specifications and drawings for bids from contractors, and the construction cost estimator along with analyses of health and safety factors. Moreover, the coordination of all design elements and local and government agencies is also included.

The Title I and Title II phases are used to prepare the most accurate estimate possible prior to competitive bidding and construction. Title I estimates shall include all items referred in the CDR estimate basis. The Title II estimate uses the Title II design for its basis. The Title II estimate may be used for the government's estimate.

C. Implementation Stage

The implementation stage consists of construction, Title III, and operational phases. This is the time during which actual work and operations are performed. Current working estimates are required throughout the life of the project for cost control. These estimates reflect the most recent cost and data design available, the estimated cost to complete, the allowance for contingency, detailed contingency analysis, and the uncertainties remaining in the project.

D. EM and Conventional Construction Stages

The terminology of EM and conventional construction stages may differ, but the same basic structure of project development is evident as depicted in Table 3-1, which compares the stages of a project using DOE Order 4700.1, PROJECT MANAGEMENT SYSTEM, terminology with one using EM terminology.

3. NATIONAL ENVIRONMENTAL POLICY ACT ACTIVITIES

The stages of project development will include a number of engineering and scientific studies that address design, technical, and regulatory issues. Environmental assessments (EAs) are conducted to meet the requirements of the National Environmental Policy Act (NEPA). The objective of an EA is to determine if a proposed action or project will have a significant impact on the environment, to assess that impact, and to identify alternatives.

In conventional construction, this step occurs in the Pre-Title I phase of project development. For EM projects, this step occurs in the latter part of the assessment phase.

A. Environmental Assessments

The objective of an EA is to determine if a proposed action will have a significant impact on the environment and to assess that impact. If an EA results in a finding of no significant impact (FONSI), a notice is published in the Federal Register to that effect. If there is a significant impact or if there are objections to the FONSI, an environmental impact statement (EIS) may be required. An EA can include the following elements of work.

1. Planning and coordination of the EA process, in which potential sources of data are identified and the scope of the proposed action is reviewed.

2. Inventory of natural, human, and cultural resources based on existing sources of information. Typical elements of the resource inventory include geology, hydrology, vegetation, wildlife, threatened and endangered species, air quality, land use (existing and planned), visual characteristics, socioeconomic character, and acoustic conditions. Cultural resources include archaeological sites, historical sites, sites with religious or social significance, and other structures or areas with cultural significance.

3. Impact assessment and mitigation planning, in which the proposed action is evaluated to determine the impact on the resources identified in the inventory. Appropriate mitigation measures are identified where it is possible to make adjustments in the proposed action that reduce or eliminate impacts.

4. Participating in agency reviews of the EA and responding to questions and comments.

5. Preparing an EA, including decision documents.

When the NEPA process is successfully concluded with an EA, other environmental permitting actions may follow, such as preparation of a prevention of significant deterioration (PSD) permit under the Clean Air Act. If a FONSI cannot be obtained, an EIS is required.

B. Environmental Impact Statements

EISs are prepared to meet the requirements of the NEPA whenever an EA does not result in a FONSI. The objective of an EIS is to evaluate any major federal action that is proposed that has the potential for significant environmental impact and to provide a forum for a public decision making process regarding the action. An EIS can include the following elements of work.

- EIS scoping in which the general technical approach is agreed upon and the public involvement program is initiated. Potential sources of data are identified and the scope of the proposed action, as well as any known alternatives, is reviewed.

- Inventorying natural, human, and cultural resources based on existing sources of information. Typical elements of the resource inventory include geology, hydrology, vegetation, wildlife, threatened and endangered species, air quality, land use (existing and planned), visual characteristics, socioeconomic character, and acoustic conditions. Cultural resources include archaeological sites, historical sites, sites with religious or social significance, and other sites with cultural significance.

- Impact assessment and mitigation planning, in which the proposed action is evaluated to determine the impact on the resources identified in the inventory. Appropriate mitigation measures are identified where it is possible to make adjustments in the proposed action that reduce or eliminate impacts. Alternatives to the proposed action, including "no action," are considered to evaluate the impact on the environment. The impact of the proposed action is compared to the impact of the other alternatives.

- Preparing a draft EIS and distributing that report to all interested parties including elected officials, citizen groups, and the public.

- Participating in agency reviews and public hearings regarding the draft EIS and responding to questions and comments.

- Preparing a final EIS including all comments and the responses to those comments.

- Preparing decision documents required for a record of decision (ROD).

When the NEPA process is successfully concluded with an EIS, other environmental actions may follow, such as permit preparation.

4. STUDY PHASE ACTIVITIES

Preliminary phase activities consist of studies and investigations. These studies and investigations must be conducted to gather the information that is necessary for the design phase.

A. Pre-Title I Activities

U.S. DEPARTMENT OF ENERGY
Washington, D.C.

ORDER

DOE O 413.3A

Approved: 7-28-06
Chg 1: 11-17-08

Mello Aff #1, par. 69:
https://www.directives.doe.gov/directives/current-directives/413.3-BOrder-ac1/view?searchterm=None

SUBJECT: PROGRAM AND PROJECT MANAGEMENT FOR THE ACQUISITION OF CAPITAL ASSETS

1. OBJECTIVES.

   a. To provide the Department of Energy (DOE), including the National Nuclear Security Administration, with project management direction for the acquisition of capital assets with the goal of delivering projects on schedule, within budget, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health standards.

   b. To implement Office of Management and Budget Circulars A-11 Part 7, A-123, A-127, and A-130.

   c. To implement DOE P 413.1, *Program and Project Management Policy for the Planning, Programming, Budgeting, and Acquisition of Capital Assets*, dated 6-10-00.

2. CANCELLATIONS.

   DOE O 413.3, *Program and Project Management for the Acquisition of Capital Assets*, dated 10-13-00. Cancellation of an Order does not by itself modify or otherwise affect any contractual obligation to comply with the Order. Contractor Requirements Documents containing directive requirements that have been applied to a contract remain in effect until the contract is modified to eliminate or replace requirements from canceled directives.

   Further, DOE O 413.3 cancels Chapters 1 through 3 of DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*, dated 3-28-03, and takes precedence over the Manual where conflicts exist.

3. APPLICABILITY.

   a. DOE Elements.

      The requirements identified in this Order are mandatory for all DOE Elements (unless identified in the exclusions paragraph), including the National Nuclear Security Administration, for all capital asset acquisition projects having a Total Project Cost or Environmental Management Total Project Cost for Clean-Up Projects greater than or equal to $20 Million (M).

Vertical line denotes change.

necessary to tailor the project's execution process to allow the project team to propose cost-effective innovative approaches that reduce project duration and cost.

(4) Transition/Closeout Phase.

When the project nears completion and has progressed into formal transition and commissioning, which generally includes final testing, inspection, and documentation, the project is prepared for operation, long-term care, or closeout. The nature of the transition and its timing depends on the type of project and the requirements that were identified subsequent to the mission need.

d. Critical Decisions.

The five Critical Decisions are major milestones approved by the Secretarial Acquisition Executive or Acquisition Executive that establish the mission need, recommended alternative, Acquisition Strategy, the Performance Baseline, and other essential elements required to ensure that the project meets applicable mission, design, security, and safety requirements. Each Critical Decision marks an increase in commitment of resources by the Department and requires successful completion of the preceding phase or Critical Decision. Collectively, the Critical Decisions affirm the following:

- There is a need that cannot be met through other than material means;
- The selected alternative and approach is the optimum solution;
- Definitive scope, schedule and cost baselines have been developed;
- The project is ready for implementation; and
- The project is ready for turnover or transition to operations.

The amount of time between decisions will vary. Projects may quickly proceed through the early Critical Decisions due to a lack of complexity, the presence of constraints that reduce available alternatives, or the absence of significant technology and developmental requirements. In these cases, more than one Critical Decision may be approved simultaneously. Conversely, there may be a need to split a Critical Decision.

(1) CD-0, Approve Mission Need.

The Initiation Phase begins with the identification of a mission-related need. A Program identifies a credible performance gap between its current capabilities and capacities and those required to achieve the goals articulated in its strategic plan and/or in the DOE Target Enterprise

Architecture for IT capital asset projects.. A Mission Need Statement is the translation of this gap into functional requirements that cannot be met through other than material means. It should describe the general parameters of the project, how it fits within the mission of the Program, and why it is critical to the overall accomplishment of the Department mission, including the benefits to be realized. The mission need is independent of a particular solution, and should not be defined by equipment, facility, technological solution, or physical end-item. This approach allows the Program the flexibility to explore a variety of solutions and not limit potential solutions. Approval of CD-0 formally establishes a project and begins the process of conceptual planning and design used to develop alternative concepts and functional requirements. Additionally, CD-0 approval allows the Program to request Project Engineering and Design funds for use in preliminary design, final design, and baseline development.

(2) 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.

(3) CD-2, Approve Performance Baseline.

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.

Mello Aff #1, par. 71:
http://www.lanl.gov/projects/pcc/presentations/John-Bretzke_Prensation_for_Community_Forum.pdf

Pajarito Construction Activities

John Bretzke, Deputy Associate Director

Project Management & Site Services, LANL

June 16, 2010

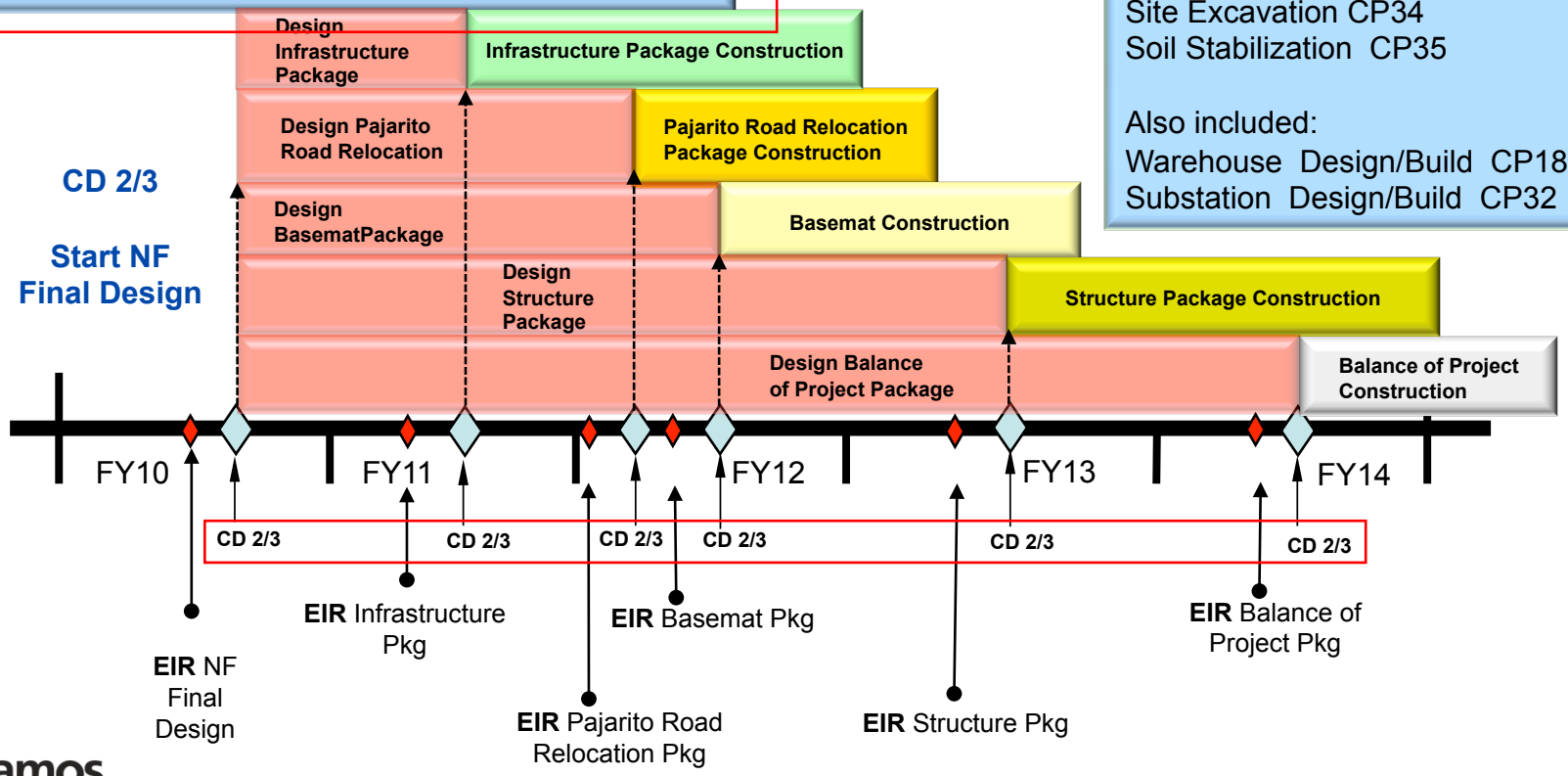
LA-UR-10-04023

CMRR Nuclear Facility Baselines

CD-2/3 Infrastructure Pkg – March 2011
CD-2/3 Pajarito Road Relocation Pkg – December 2011
CD-2/3 Basemat Pkg – March 2012
CD-2/3 Structure Pkg – March 2013
CD-2/3 Balance of Project Pkg –March 2014

Infrastructure Package Includes:
Batch Plant CP01
Temporary Utilities CP02
Site Preparation Laydown CP03
Site Utility Relocation CP33
Site Excavation CP34
Soil Stabilization CP35

Also included:
Warehouse Design/Build CP18
Substation Design/Build CP32



Mello Aff #1, par. 73:
http://www.lanl.gov/projects/pcc/presentations/John-Bretzke_Prensation_for_Community_Forum.pdf

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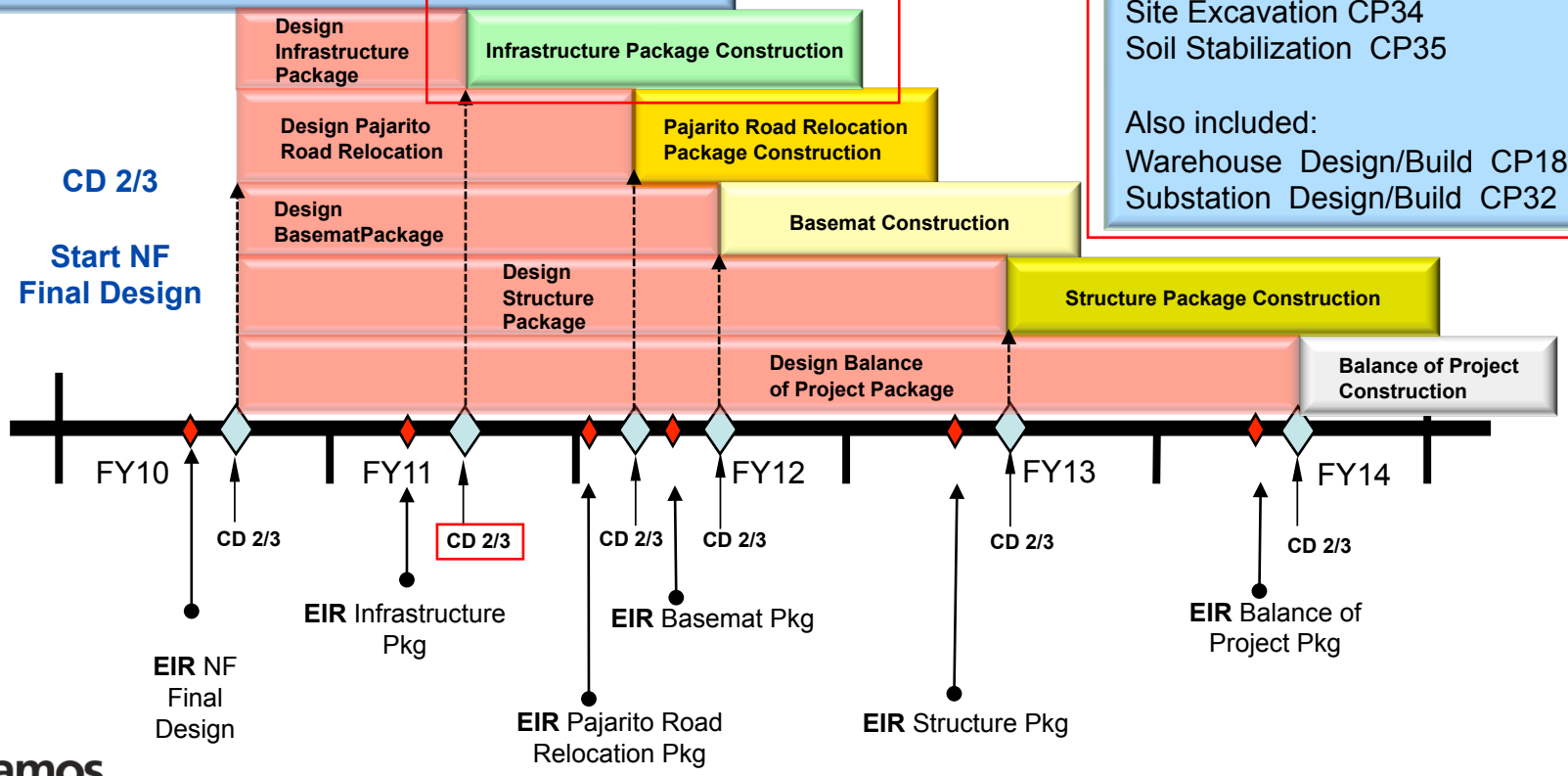

Mello Aff#1, Par 74:
http://www.cfo.doe.gov/budget/11budget/Content/Volume%201.pdf

(dollars in thousands)

	Appropriations	Obligations	Costs
OPC			
FY 2009	3,079	3,079	5,602
FY 2010	10,700	10,700	8,177
FY 2011	14,100	14,100	14,100
FY 2012	14,123	14,123	14,123
FY 2013	4,498	4,498	4,498
Total, OPC	46,500	46,500	46,500
Total Project Cost (TPC)			
FY 2007	11,489	11,489	2,959
FY 2008	21,613	21,613	9,410
FY 2009	8,077	8,077	10,672
FY 2010	50,700	50,700	68,177
FY 2011	73,100	73,100	69,561
FY 2012	29,923	29,923	34,123
FY 2013	4,498	4,498	4,498
Total, TPC	199,400	199,400	199,400

Nuclear Facility

(dollars in thousands)

	Appropriations	Obligations	Costs
Total Estimated Cost (TEC)			
PED			
FY 2004	9,500	0	0
FY 2005	13,567	23,067	1,848
FY 2006	27,910	27,910	19,147
FY 2007	14,161	14,161	27,213
FY 2008	0	0	15,079
FY 2009	0	0	-329
FY 2010	0	0	2,180
Total, PED (PED 03-D-103-01)	65,138	65,138	65,138
Final Design			
FY 2008	39,406	39,406	15,454
FY 2009	92,196	92,196	45,972
FY 2010	57,000	57,000	75,000
FY 2011	166,000	166,000	104,500
FY 2012	102,800	102,800	102,800
FY 2013	60,000	60,000	112,375
Total, Final Design (TEC 04-D-125)	TBD	TBD	TBD
Total, Design	TBD	TBD	TBD
Construction			
FY 2011	0	0	0
FY 2012	186,400	186,400	155,200
FY 2013	240,000	240,000	187,625
FY 2014	299,961	299,961	300,000
FY 2015	300,000	300,000	300,000
FY 2016	TBD	TBD	TBD
FY 2017	TBD	TBD	TBD
Total, Construction (TEC 04-D-125)	TBD	TBD	TBD