Administrator D'Agostino on Nuclear Forces and Nonproliferation

Release Date:
Thu, 2010-10-28

Good morning, and thank you for the opportunity to join you today. Once again, Los Alamos and the Woodrow Wilson Center have done an outstanding job bringing together some of the leading voices in nuclear security to take a look at where things stand today and look ahead to the challenges we continue to face.

A lot has changed since we gathered here last year. In fact, I think it is safe to say that this has been one of the most eventful, important and rewarding years in NNSA's history. It will be remembered as one of the key moments in the 65-year history of the nation's nuclear deterrent.

Earlier this year, we saw the release of a Nuclear Posture Review that adopts a 21st century approach to nuclear security and brings renewed emphasis to reducing global nuclear dangers.

We saw the signing of the New START Treaty that will reduce U.S. and Russian deployed strategic nuclear weapons to their lowest levels in decades. We hope that treaty will be ratified soon. We saw the completion of an historic Nuclear Security Summit – which gathered the leaders of close to 50 countries to take concrete steps toward securing all vulnerable nuclear material around the world within four years.

We saw the release in February of the President's FY2011 Budget Request, which includes a 13 percent increase for NNSA, including a 25.7 percent increase in our nuclear nonproliferation programs and a significant long-term commitment to many of our key initiatives in Defense Programs.

Of course, all of this follows the President's decision to use his first foreign policy speech, during his first trip abroad to highlight the need for a global nuclear security agenda. That "Prague Agenda" is a core part of NNSA's national and international security mission.

Taken together, all of these developments point to the emergence of a new national consensus on the importance of our mission and the need to invest in the resources and infrastructure required to transform a Cold War nuclear weapons complex into a modern, 21st Century Nuclear Security Enterprise. For too long, our nation lacked that consensus, and as a result our enterprise lacked clear direction. Now, thanks to the hard work of many people – including many here in this room – we have a clear path forward.

I also think this has been a year of impressive accomplishments across our enterprise. As President Obama said in his Prague speech, the threat of a terrorist acquiring nuclear weapons "is the most immediate and extreme threat to global security." The President has outlined an ambitious, three-pronged strategy for addressing this threat:

- Reduce nuclear arsenals;
- Halt the proliferation of weapons to additional states; and
- Prevent terrorists from acquiring weapons or the materials to build them.

In each of those areas, NNSA has taken impressive steps forward. Our Defense Nuclear Nonproliferation Program has removed or disposed of 613 kilograms of nuclear weapons-usable highly enriched uranium fuel

and plutonium (enough for over 24 nuclear weapons) from 12 countries. This included the complete removal of all weapons-usable HEU from 5 countries.

In order to minimize the use of HEU in civilian nuclear programs, NNSA and its international partners have converted or verified the shutdown of 9 research reactors that were using HEU. In order to prevent terrorists from acquiring materials that could be used in a so-called "dirty bomb," NNSA recovered approximately 4,000 radiological sources containing more than 50,000 decayed curies in 2009.

In addition, in September we reached the 400MT milestone of Russian weapons-origin HEU converted to LEU under NNSA's HEU Transparency Program. That HEU is downblended into LEU fuel for domestic energy production here in the U.S. Russian HEU is responsible for approximately 10% of all electricity produced in this country. We remove approximately 82kgs of HEU per day from Russian stockpiles and when the Program ends in 2013, we will have removed 500MT of HEU, all used to produce electricity in the U.S.

As part of our global campaign to strengthen international capabilities to prevent nuclear smuggling, NNSA upgraded physical security at more than 185 vulnerable buildings around the world that contained high-priority nuclear and radioactive material. We have provided radiation detection equipment to 334 sites around the world and have equipped 31 major ports with equipment to detect dangerous nuclear and radiological material. We are working in over 55 countries.

Through our Next Generation Safeguard Initiative we are working to develop new techniques and technologies to modernize those international safeguards and make them more effective in preventing countries from diverting nuclear materials and technologies to military purposes.

We shut down the last plutonium-producing reactor in Russia with assistance from six international donors, and continue to monitor over 10 metric tons of weapons-grade plutonium that was produced by these, now shut down, reactors.

I am proud that NNSA continues to lead the way in keeping the American people safe from global nuclear threats.

That same commitment drives our work in Defense Programs, as well. As you know, the NPR highlighted our commitment to move toward the peace and security of a world without nuclear weapons, as well as our responsibility to ensure that the United States nuclear stockpile remains safe, secure and effective, for as long as nuclear weapons exist.

We have made tremendous progress in reducing the stockpile and in increasing transparency about the size of the stockpile. The stockpile will be less than one-quarter of what it was at the end of the Cold War—the lowest level in more than 50 years.

These stockpile reductions send the right message to the rest of the world that the U.S. is committed to Article VI of the NPT, and helped create positive momentum for the 2010 NPT Review Conference.

However, as our stockpile gets smaller, it becomes increasingly important that remaining forces are safe, secure and effective, and, to mitigate future technical and geopolitical risks, that our nuclear infrastructure is able to respond.

That is why is it is critical that we complete the design and construction of key facilities like the Uranium Processing Facility at Y-12 and the Chemistry and Metallurgy Research Replacement (CMRR) project at Los Alamos.

That is why we need to continue to push the frontiers of science and discovery. We are leading the way on exa-scale computing, improving our understanding of the behavior of materials in extreme environments, and pioneering inertial fusion energy. These are ground breaking developments that are supporting our stockpile requirements, while also providing the nation the tools to tackle broader challenges.

Finally, we need to ensure we are attracting the best and brightest to our field. The nuclear security

laboratories, the complex of supporting facilities, and the scientists and engineers across our enterprise constitute a very unique and critical set of skills and capabilities that ensure our nation's security. These capabilities are not only essential for maintaining the nuclear stockpile, but also addressing the broader array of nuclear security challenges.

At their core, these capabilities come down to one thing: our people. In order to execute the President's vision, both for stockpile stewardship and nonproliferation, the science, technology and engineering base at the labs must be reinvigorated.

We need to retain the skills and capabilities we currently possess, and we need to attract the next generation's most promising scientists, engineers and technicians. We must give them state of the art facilities in which to work. And we must continue to give them a clear mission and a clear governance model that maximizes the amount of resources directed toward mission work.

As an enterprise, we must rise to meet these challenges together. In the coming months, we will be issuing a new NNSA strategic plan that builds around five core commitments. We are going to:

- Implement the nonproliferation elements of the President's Nuclear Security Strategy;
- Assure the safety, security, and effectiveness of the nation's nuclear stockpile;
- Recapitalize the nuclear infrastructure and deterrent capability;
- Strengthen the science, technology, and engineering base that underpins everything we do in NNSA; and
- Continue NNSA management reforms, so we can to improve our cost effectiveness.

Together, these five commitments represent a clear path forward for our enterprise. And that brings me to the topic of today's discussion.

As you may remember, when we met last year, I closed my remarks by challenging you to take a hard look at some key questions in your panel discussions. I would like to do the same today. For Panel I:

- The President has described his vision of a world without nuclear weapons. What are the functions the nuclear deterrent provides the nation today, and how will the nation accomplish those functions in the absence of nuclear weapons?
- What parts of our current nuclear weapons infrastructure will be needed in the absence of those weapons to assure that we can reliably detect, understand, and potentially respond to breakout from an adversary?

For Panel II:

- How do the NNSA capabilities affect the nation's efforts in Nonproliferation, Counter Proliferation, Arms Control and Disarmament?
- How do we retain the ability to support verification and intelligence activities for the Nation while reducing our nuclear weapons design and production requirements?

And for both panels: What can NNSA do to assure that we have the skilled people to support the efforts your panels will discuss?

Answers to these questions will build on the thinking that has already been done, and help define the capabilities required to support the U.S. nuclear deterrent, and underpin our nonproliferation, nuclear counterterrorism, and arms control activities.

Thank you again for your time and participation in this valuable effort, I look forward to hearing the rich discussion of your panels.

Measure 6.2 Proactively Manage Large Mission Critical Projects

Measure 6.2.1 CMRR RLUOB/REI Performance (Objective/Essential)

Expectation Statement:
Complete the RLUOB facility punch-list in accordance with the approved baseline. RLUOB Equipment Installation (REI) is executed in accordance with the performance baseline established.

Completion Target:
This measure has been achieved when the Contractor has:
1. Completed RLUOB punch-list items scheduled for FY 2010 by mutual agreement with LASO.
2. Completed REI execution activities according to baseline schedule.

Deliverables: Completion documentation for each milestone

Fee Schedule:
Essential : $550,000

- 20% of available fee allocated to full completion of RLUOB punch-list as scheduled.
- 80% of available fee allocated and weighted equally against target milestones for REI.
- No fee for REI if less than 75% of milestones successfully achieved

Assumptions Specific to This Measure:
- Completion definition set by mutual agreement between NNSA CMRR FPD/COR and LANS CMRR Project Manager.
- CD 2/3 achieved for RLUOB REI.
- Funding is obtained or authorized to execute in accordance with baseline funding needs
- Milestones set by mutual agreement between NNSA COR and LANS by October 1, 2009.

Measure 6.2.2 CMRR NF/SFE Performance (Objective/Essential)

Expectation Statement:
Laboratory effectively manages CMRR NF/SFE progress in support of NNSA strategic objectives. Project will advance design.

Completion Target:
This measure has been achieved when the Contractor has:
Accomplished milestones as agreed to between NNSA CMRR FPD/COR and LANS CMRR Project Manager.

Deliverables:
Completion documentation for each milestone.

Fee Schedule:
Essential : $200,000

- Fee will be split equally between the milestones identified by LANS and mutually accepted by NNSA.
- No fee if less than 75% of milestones successfully achieved

(Dollars In Thousands)

Mello Aff #2, Par 4b

Los Alamos National Laboratory	FY 2009 Appropriation	FY 2010 Appropriation	FY 2011 Request
Non-Defense Environmental Cleanup			
Small Sites			
Small Sites	$1,905	$0	$0
Total Non-Defense Environmental Cleanup	$1,905	$0	$0
Electricity Delivery and Energy Reliability			
Electricity Delivery and Energy Reliability			
Research and Development	$5,900	$6,100	$2,560
Total Electricity Delivery and Energy Reliability	$5,900	$6,100	$2,560
Nuclear Energy			
Generation IV Nuclear Energy Systems			
Generation IV Nuclear Energy Systems	$345	$355	$0
Fuel Cycle R & D			
Fuel Cycle R & D	$13,431	$16,595	$24,795
Radiological Facilities Management			
Radiological Facilities Management	$25,550	$32,030	$27,030
Nuclear Energy Enabling Technologies			
Nuclear Energy Enabling Technologies	$0	$0	$4,680
Reactors Concepts RD&D			
Reactors Concepts RD&D	$0	$0	$1,094
International Nuclear Energy Cooperation			
International Nuclear Energy Cooperation	$0	$0	$450
Total Nuclear Energy	$39,326	$48,980	$58,049
Energy Efficiency and Renewable Energy			
Energy Efficiency and Renewable Energy			
Biomass and Biorefinery Systems R&D	$248	$0	$0
Wind Energy	$111	$503	$424
Hydrogen Technology	$14,929	$16,146	$0
Vehicle Technologies	$1,038	$580	$1,000
Industrial Technologies	$575	$705	$595
Progam Support	$0	$500	$750
Hydrogen & Fuel Cell Technologies	$0	$0	$13,100
Total Energy Efficiency and Renewable Energy	$16,901	$18,434	$15,869
Total Energy Efficiency and Renewable Energy	$16,901	$18,434	$15,869
Science			
High Energy Physics			
High Energy Physics	$388	$298	$255
Nuclear Physics			
Nuclear Physics	$12,064	$10,014	$15,128
Biological and Environmental Research			
Biological and Environmental Research	$25,059	$10,819	$9,894
Basic Energy Sciences			
Basic Energy Sciences	$41,050	$33,287	$35,208

(Dollars In Thousands)

Los Alamos National Laboratory	FY 2009 Appropriation	FY 2010 Appropriation	FY 2011 Request
Fusion Energy Sciences Program			
Fusion Energy Sciences Program	$4,594	$5,076	$5,464
Advanced Scientific Computing Research			
Advanced Scientific Computing Research	$5,621	$4,932	$3,981
Workforce Development for Teachers and Scientists			
Workforce Development for Teachers and Scientists	$270	$144	$270
Congressionally Directed Projects			
Congressionally Directed Projects	$11,098	$0	$0
Total Science	$100,144	$64,570	$70,200
Weapons Activities			
Directed Stockpile Work			
Directed Stockpile Work	$344,931	$295,175	$428,069
Science Campaign			
Science Campaign	$117,366	$115,437	$125,050
Site Stewardship			
Site Stewardship	$0	$3,000	$19,230
Engineering Campaign			
Engineering Campaign	$26,211	$24,690	$24,200
Inertial Confinement Fusion and High Yield Campaign			
Inertial Confinement Fusion and High Yield Campaign	$12,559	$15,000	$17,000
Advanced Simulation & Computing Campaign			
Advanced Simulation & Computing Campaign	$186,916	$202,356	$184,639
Defense Nuclear Security			
Defense Nuclear Security	$149,823	$108,000	$157,000
Cyber Security			
Cyber Security	$17,727	$18,427	$19,927
Readiness Campaign			
Readiness Campaign	$7,807	$2,150	$8,530
Readiness in Technical Base and Facilities			
Readiness in Technical Base and Facilities	$456,975	$460,483	$587,734
Nuclear Couterterrorism Incident Response			
Nuclear Weapons Incident Response	$36,985	$38,835	$43,670
Facilities and Infrastructure Recapitalization Program			
Facilities and Infrastructure Recapitalization Program	$26,613	$15,616	$15,114
Science Technology and Engineering Capability			
Science Technology and Engineering Capability	$9,750	$0	$6,675
Total Weapons Activities	$1,393,663	$1,299,169	$1,636,838
Other Defense Activities			
Health Safety and Security			
Health Safety and Security (All other)	$290	$290	$210
Total Other Defense Activities	$290	$290	$210
Defense Nuclear Nonproliferation			
Nonproliferation and Verification R&D			
Nonproliferation and Verification R&D	$88,577	$77,125	$74,431

(Dollars In Thousands)

Los Alamos National Laboratory	FY 2009 Appropriation	FY 2010 Appropriation	FY 2011 Request
Nonproliferation and International Security			
Nonproliferation and International Security	$25,330	$33,068	$26,331
Non Proliferation Programs with Russia			
International Nuclear Materials Protection & Cooperation	$33,410	$53,554	$49,783
Fissile Materials Disposition	$0	$0	$42,000
Total Non Proliferation Programs with Russia	$33,410	$53,554	$91,783
Global Threat Reduction Initiative			
Global Threat Reduction Initiative	$22,250	$25,124	$40,992
Total Defense Nuclear Nonproliferation	$169,567	$188,871	$233,537
Fossil Energy Research and Development			
Fuels and Other Power Systems			
Carbon Sequestration	$1,020	$245	$2,413
Natural Gas Technologies			
Natural Gas Technologies	$0	$66	$0
Total Fossil Energy Research and Development	$1,020	$311	$2,413
Defense Environmental Cleanup			
NNSA Sites			
NNSA Sites	$222,734	$196,500	$196,953
Total Defense Environmental Cleanup	$222,734	$196,500	$196,953
Total Los Alamos National Laboratory	$1,951,450	$1,823,225	$2,216,629

Mello Aff #2, Par 4b

Today

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MANAGEMENT AND OPERATING CONTRACT FOR THE LOS ALAMOS NATIONAL LABORATORY NATIONAL NUCLEAR SECURITY ADMINISTRATION

CONTRACT NO. DE-AC52-06NA25396

DECEMBER 21, 2005

(1) By contract or otherwise, perform the services and reduce any fee payable by an amount that is equitable under the circumstances; or
(2) Terminate the contract for default.

E-2 FAR 52.246-9 INSPECTION of RESEARCH and DEVELOPMENT (Short Form) (APR 1984)

The Government has the right to inspect and evaluate the work performed or being performed under the Contract, and the premises where the work is being performed, at all reasonable times, and in a manner that will not unduly delay or disrupt the work. If the Government performs inspection or evaluation on the premises of the Contractor or a subcontractor, the Contractor shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

E-3 INSPECTION AND ACCEPTANCE

The Contracting Officer or any other duly authorized representative shall accomplish inspection of all activities and acceptance for all work and effort under this Contract.

Section F - DELIVERIES OR PERFORMANCE

F-1 PLACE OF PERFORMANCE

The work under this Contract is to be carried out at a variety of locations within and outside the United States, but the principal place of performance will be at the Laboratory in Los Alamos County, New Mexico.

F-2 PERIOD OF PERFORMANCE [Modified by Modification No. M064 and M151]

(a) The Contract's period of performance includes, unless sooner reduced, terminated, or extended, in accordance with the provisions of this Contract:

(1) a Transition Term (01Dec05 through 31May06);

(2) a Basic Term (01Jun06 through 30Sep13);

(3) 2 Award Terms earned (01Oct13 through 30Sep15); and

(4) Award Terms if earned (01 Oct15 through 30Sep26).

Measure 6.2 Proactively Manage Large Mission Critical Projects

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Deliverables:
Completion documentation for each milestone.

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- No fee if less than 75% of milestones successfully achieved

Mello Aff #2, Par 4c

111TH CONGRESS
2d Session

SENATE

EXEC. REPT.
111–6

TREATY WITH RUSSIA ON MEASURES FOR FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS (THE NEW START TREATY)

OCTOBER 1, 2010.—Ordered to be printed

Mr. KERRY, from the Committee on Foreign Relations, submitted the following

REPORT

together with

MINORITY VIEWS

[To accompany Treaty Doc. 111–5]

The Committee on Foreign Relations, to which was referred the Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, signed in Prague on April 8, 2010, with Protocol (Treaty Document 111–5), having considered the same, reports favorably thereon with 10 conditions, 3 understandings, and 13 declarations, as indicated in the resolution of advice and consent for such treaty, and recommends that the Senate give its advice and consent to ratification thereof, as set forth in this report and the accompanying resolution of advice and consent.

CONTENTS

IX. Additional Documents

LETTER FROM THE HONORABLE JOSEPH R. BIDEN, JR., VICE PRESIDENT OF THE UNITED STATES, SEPTEMBER 15, 2010

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

Mello Aff #2, Par 4d

term needs; develop an integrated action plan to implement the concrete sourcing strategy
2. Conducted a comprehensive make-buy analysis of site taxi/shuttle service including a comparison to outsourcing to the County.

Fee Schedule:
Stretch: $100,000

- $50,000 for completion of Target 1
- $50,000 for completion of Target 2

Assumptions Specific to This Measure:
- LANS and LASO will agree to completion evidence for each target by April 15, 2010.
- A TA-50/55 specific concrete strategy is included in 16.2.2 which must tie to this deliverable.
- A TA-50/55 specific transportation plan is included in 16.2.2 which must tie to this deliverable.
- Sourcing Strategies must evaluate a credible set of acquisition and packaging considerations.

Measure 16.2.2 Pajarito Corridor Construction Activities (Objective/Stretch)

Expectation Statement:
Develop integrated planning to support the Pajarito corridor construction activities.

Completion Target:
Measure is achieved when the Contractor has:
Instituted a process to manage the institutional interfaces and resolve issues for TA-50/55 related projects (CMRR, TA-55 Reinvestment, RLWTF, New TRU, and NMSSUP2) that enhance overall site project performance and minimize operational impacts for the next decade. The product shall produce at a minimum the following fully coordinated effective and efficient results:

1. Development and submission of an integrated laydown, staging and warehousing plan for TA-50/55 projects (to include any impacts to Pajarito Road) – DUE: June 30, 2010
2. Development of a concrete batch plant strategy coordinated with existing and future concrete plant operation - DUE: June 30, 2010
3. Development of a parking and workforce transportation plan for the TA-55 corridor that will facilitate construction execution, emergency response, and workforce safety. The plan shall determine impacts upon Pajarito road. - DUE: July 30, 2010
4. Development of a security (access control, material staging, inspection & badging) strategy. The strategy shall consider intermediate security posture during construction of projects and needs for compensatory measures. DUE: June 30, 2010
5. Identification and (cost vs benefit) study of any major scope or schedule conflicts or opportunities; DUE: May 30, 2010
6. Development and submission of a single master integrated schedule (and a process to maintain it) to support efficient execution for Pajarito corridor project activities - DUE: June 30, 2010
7. Development of a multi-year staffing plan for recruitment and retention of critical laboratory project staff (for each project). - DUE: June 30, 2010.
8. Assessment of each project's anticipated FY 2011 and FY 2012 budgets to assess capability to sufficiently staff and execute as well as to identify any significant revisions to project planning: June 30, 2010

Fee Schedule:
Stretch: $300,000

- $150,000 for completion of any 7 out of 8 Targets
- $150,000 for completion of the remaining Target

JON KYL
ARIZONA
730 HART SENATE OFFICE BUILDING
(202) 224–4521

COMMITTEE ON FINANCE

COMMITTEE ON THE JUDICIARY

REPUBLICAN WHIP

United States Senate

WASHINGTON, DC 20510–0304

STATE OFFICES:
2200 EAST CAMELBACK ROAD
SUITE 120
PHOENIX, AZ 85016
(602) 840–1891

6840 NORTH ORACLE ROAD
SUITE 150
TUCSON, AZ 85704
(520) 575–8633

August 19, 2010

Mello Aff #2, Par 4e

The Honorable Joseph R. Biden, Jr.
Vice President
1600 Pennsylvania Avenue, N.W.
Washington, D.C. 20500

Dear Mr. Vice President:

Thank you for meeting with Senators Lindsey Graham, Joe Lieberman and me and for following up on the meeting in writing. As I indicated in our meeting, my purpose is not to delay consideration of New START or redefine the basic goals of the modernization program. It is, rather, to do what we can to ensure adequate and timely funding for the modernization program. To that end, I have suggested, and discussed with you, several specific and achievable steps that will, if implemented, also demonstrate a mutual commitment to successful completion of the program outlined in the section 1251 report.

As to FY2011 funding, we need to rectify the $99 million shortfall in the House Subcommittee mark. The prior year offsets identified by the House Committee will have to be restored as will the B61 LEP reprogramming funds that were borrowed from the modernization of the Kansas City Plant. In addition, NNSA will need approximately $60 million to recover from flooding at Pantex, and there will have to be some resolution of the $64 million shortfall in contractor pensions that NNSA recently sought to reprogram – if the reprogramming is approved by Congress, clearly those funds will need to be restored. These are four immediate funding problems that must be addressed in a continuing resolution before October 1 and for the remainder of FY2011. If the Administration has a plan to deal with these issues, it would be helpful if you could share it with us. If there is no plan, you can appreciate our anxiety that this is an indication of a lack of seriousness about achieving the goals of the 1251 program on a timely basis. It is not acceptable for the program to fall behind in its first year.

This leads to the second and even more serious concern about FY2012 and the remainder of the 10-plus-year plan. Your letter notes that the 10-year projection of cost is only that, and that it is premature to adjust the baseline or to present a final budget for the two most costly facilities. I do not disagree. What I respectfully request, however, is that the 1251 plan be updated as more refined data permit and in view of the reality that it is already clear that original cost projections for the Chemistry Metallurgy Research Replacement (CMRR) facility and the Uranium Processing Facility (UPF) are woefully understated; this is the inescapable conclusion of the recent trips, which you mentioned in your letter, that I have taken to key NNSA facilities. According to the lab directors and plant managers, and Administration personnel, by the end of this September, we will know the "should cost" projections for the CMRR and the UPF – the two most expensive capital projects in the modernization of the nuclear weapons enterprise.

While I do not suggest these will be the final costs, I am reliably informed that they will be far more realistic projections, by definition, of the facility costs than the Administration has thus far factored into its budget planning documents (e.g., the 1251 plan of the FY11 FYNSP). Failure to acknowledge this now and provide updates as to current BUT NOT FINAL budget projections raises questions about the Administration's long-term commitment to the program and risks negative reaction from Congress when the true (and significantly larger) costs are sent up for appropriation.

Not only will congressional visibility into this ongoing process avoid that problem, I believe seeing a more realistic projection is key to the Senate's confidence that the Administration is fully committed to the full modernization program. And since these projects are the most conducive to being paid for up front, the sooner these "should cost" projections are available, the sooner the Administration and Congress can determine whether and how to pay for them in view of the significant benefits that guaranteed funding and accelerated engineering and construction bring to the nuclear weapons enterprise and the taxpayer. It is neither necessary nor wise to wait two more years as you suggest.

Lastly, while I have heard that elements of the 1251 plan will be revised as circumstances warrant, I haven't seen any indication that that is being done. As you recall, I recommended 12 critical terms of reference for a more thorough 1251 plan to you and Senators Kerry and Lugar in a memo on July 28th, and asked that an update of that plan be done to inform the FY12 budget and to share with the Senate before it is asked to ratify the New START treaty. I hope this is being done.

None of the matters I have discussed should delay consideration of START. I appreciate your discussion of Russian attitudes and would simply reiterate that, the sooner concerns I've raised are addressed, the easier it will be to conclude START consideration. I suggest our staffs meet before Congress returns to session, and I assure you of my intention to deal with these issues constructively.

Sincerely,

JON KYL
United States Senator

cc: Senator Joseph Lieberman
Senator Lindsey Graham

Mello Aff #2, Par 4e

DESPITE GOP GAINS, ADMIN. STILL URGING LAME-DUCK 'NEW START' VOTE

Clinton Says 'We Have Enough Votes,' but Questions Remain About Schedule

Though Republican gains in the Senate during the mid-term elections last week could potentially complicate the Obama Administration's push to have the New Strategic Arms Reduction Treaty ratified during a post-election legislative session, Secretary of State Hillary Clinton said last week that she believed there are at least 67 Senators willing to vote in favor of ratifying the arms control pact. That would be enough to ratify the treaty, and last week the Obama Administration renewed its push to have the Senate consider the treaty during a lame-duck session later this month, with President Barack Obama, the Pentagon and Clinton touting the urgency of the vote. "We believe we have enough votes to pass it in the Senate," Clinton told reporters in New Zealand during a Nov. 3 press conference with politicians there. "It's just a question of when it will be brought to the vote. It may be brought—and it would certainly be my preference that it be brought in any lame-duck session in the next several weeks. And that is what I'm working toward seeing happen. But we'll have to wait and work with the Senate and the leadership when they come back for that session."

At a separate event Nov. 4, Obama noted that arms control agreements with the Soviet Union typically receive strong bipartisan support and urged Senate ratification of the treaty, saying it would "send a strong signal to Russia that we are serious about reducing nuclear arsenals." He added: "We've made great progress when it comes to sending a message to Iran that they are isolated internationally, in part because people have seen that we are serious about taking our responsibilities when it comes to nonproliferation," he said. "And that has to continue."

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. The initial START treaty expired Dec. 5, taking with it the verification and monitoring provisions that each country uses to keep an eye on each other's nuclear arsenals.

GOP Gains Complicate Ratification

In recent weeks, several factors have complicated the potential consideration of the treaty during the lame-duck session. The GOP picked up six Senate seats in the Nov. 2 mid-term elections, including one Senator who will be seated before the lame-duck session because of a special election. That could certainly provide more ammunition for Republicans to argue that the vote should be pushed back until the 112th Congress is convened in January, when the Administration would need even more Republican votes to reach the 67 votes needed for the treaty's ratification. The Administration has also not yet updated its modernization plans to Congress in order to answer key questions that have been raised by Republicans.

Moscow politicians also began to waver in their support for the treaty last week as a Russian committee backtracked and withdrew its endorsement of the treaty. The Duma International Affairs Committee had signed off on the pact, but the withdrawal of its endorsement reflects Russian concerns about the treaty's ratification in the U.S. Senate as well as portions of the resolution of ratification that was passed by the Senate Foreign Relations Committee in September, including language on missile defense and prompt global strike. The Duma has always been expected to wait until the Senate ratifies the treaty before acting on its own. "The presidents of Russia and of the U.S. have set the task of synchronizing all procedures concerning the new START treaty. Nevertheless, now we have to speak not only about synchronizing efforts to keep up with the deadlines, but of synchronizing the contents as well," Duma International Affairs Committee Konstantin Kosachev said last week, according to *Russia Today*.

Should the 'New Guys' Make the Decision?

With the start of the lame-duck session looming, there is considerable uncertainty about whether the treaty will be part of the agenda. Sen. Richard Lugar (R-Ind.), the ranking member on the Senate Foreign Relations Committee and the treaty's strongest Republican supporter, appeared to lower expectations a week before the elections when he suggested that the treaty was not a high priority for Republicans and Democratic Senators and that "people just simply are not prepared to discuss it." The election results didn't do much to diminish that opinion.

Baker Spring, a nuclear weapons policy expert with the Heritage Foundation, suggested that the significant turnover in the election provides ample reason for a vote to be delayed on the treaty. He also said it's unprecedented for the Senate to vote on a major strategic nuclear arms treaty with the Soviet Union or Russia during a lame-duck session. "If you're going to have a 10-year treaty it seems

to me that it's appropriate that the new guys are the ones that make the decisions on that," Spring said. That opinion was countered by Arms Control Association Executive Director Daryl Kimball, who said that Administration has answered any questions that Senators might have, including questions dealing with missile defense, prompt global strike and modernization. "There is no substantive reason why New START shouldn't be considered," Kimball said. "There is not a substantive problem with the treaty that enough Republicans have cited as reason to defeat it. If there's a vote, it would in all likelihood be passed by a wide margin."

Could Delay Endanger Modernization?

Kimball suggested that delaying a vote on the treaty could endanger the deal that is emerging on modernization of the nation's weapons complex and arsenal. The Administration said earlier this year that it would need $80 billion over the next decade for the NNSA's weapons program, a figure that Vice President Joe Biden acknowledged in September would increase when the Administration updates Congress on its modernization plans this fall. That increase is largely due to an expected rise in the cost of the Uranium Processing Facility planned for the Y-12 National Security Complex and the Chemistry and Metallurgy Research Replacement-Nuclear Facility planned for Los Alamos National Laboratory. "If the Senate Republican leadership for some reason refuses to allow the New START Treaty to come to a vote, the fragile consensus that has emerged over the last year in support of increased funding for the weapons complex could fall apart," Kimball said. "The Obama Administration may not be able to convince Democrats in the House and the Senate to continue to increase the funding if the New START Treaty and eventually the Comprehensive Test-Ban Treaty are not going forward."

Sen. Jon Kyl (R-Ariz.) has been the GOP point man on nuclear modernization and the New START Treaty and though the Administration may not need his specific vote in support of the treaty, observers believe his cooperation—and cooperation from Senate Minority Leader Mitch McConnell (R-Ky.)—in allowing the treaty to come to the floor is essential. Biden is expected to meet with Kyl before the lame-duck session to provide an update to the modernization plan. Without Republican cooperation, there is little chance that Democratic leaders will risk valuable floor time during the lame-duck session on the treaty, said David Culp, a pro-arms control lobbyist with the Friends Committee on National Legislation. "We think we have the votes and the real problem is getting floor time," Culp said. "But if the Republican leadership doesn't want it to come up, they could do all kinds of things to block it."

Brooks: 'Nail the Deal Down Now'

Former NNSA Administrator and START negotiator Linton Brooks suggested that Republicans accept the deal and cooperate with the Administration. "If I were Senator Kyl, who I believe is key here, I would figure I've gotten everything I'm going to get and I would nail the deal down now," Brooks said. "If the deal goes away I think the funding eventually goes away. I think it is a package deal." Kyl and other Republicans are seeking a greater commitment from the Administration on modernization, and Spring suggested one way to strengthen that commitment would be to amend the Senate Foreign Relations Committee's resolution of ratification with language mandating that the heads of appropriate Congressional committees, like the authorizing and appropriations committees that oversee the National Nuclear Security Administration's budget, sign off on the modernization plan. That couldn't happen, however, until the 112th Congress convenes next year, Spring conceded. "I'd feel much more comfortable if all the relative parties that have purse-strings in this issue were on the same sheet of paper at the start of this process," he said.

Kimball, however, said the Administration had done as much as it could already to demonstrate its commitment to modernizing the NNSA's weapons complex. "Senator Kyl is holding this entire treaty up until such time that he's personally satisfied by what the FY11 and FY12 NNSA budgets look like and probably he's looking for some more guarantees of some kinds about the out-years," Kimball said. "The reality is the Administration has put forward a bigger budget than any previous Republican administration has proposed or been able to deliver on and if there are cost increases for the UPF and CMRR then a future Congress should look at it and decide whether they want to spend more money on that, or a levy project in Iowa."

—Todd Jacobson

NNSA SEEKING OPTIONS FOR TRANSFER OF KANSAS CITY PLANT HOME

With construction of a new home for the National Nuclear Security Administration's Kansas City Plant underway, contractor Honeywell Federal Manufacturing & Technologies has begun to formally look into options for the plant it will leave behind in several years. Honeywell released a Request for Information last week soliciting input from industry on potential uses of the 1940s-era site that could reduce the cost of preparing the site for a new owner to less than the $85 million the NNSA is currently budgeting for the disposition of the facility. The NNSA currently shares the Bannister Federal Complex with the General

Mello Aff #2, Par 4f

Subject: FW: terms of reference for review on CMRR-NF?
From: "Matthews, Katie" <Katie.Matthews@mail.house.gov>
Date: Fri, 6 Aug 2010 13:16:11 -0400
To: "'Trish Williams-Mello'" <twm@lasg.org>, "'gmello@lasg.org'" <gmello@lasg.org>

Just got this. Let me know if you want me to ask followup questions. I'm out next week, so if you can get them to me by the end of the day, that would be great -= otherwise it is the week of the 16th.

Thanks!
Katie

Kathryn Matthews, Ph.D.
AGI/AAAS Science Fellow
Rep. Edward J. Markey (D-MA)
Office: 202-225-2836
katie.matthews@mail.house.gov

From: Ramos, Derrick [mailto:Derrick.Ramos@NNSA.Doe.Gov]
Sent: Friday, August 06, 2010 12:49 PM
To: Matthews, Katie
Cc: Levy, Jonathan; Hunter, Dana; Croft, Katherine; Pray, Charles; Bishop, Clarence
Subject: RE: terms of reference for review on CMRR-NF?

Hi Katie:

A review of CMRR-NF and another of UPF conducted by Scott Samuelson heading a small team was conducted earlier this year at the request of General Harencak. This was a DOE review that took a few days at each of the two sites. The task of this review was to evaluate the basis and maturity of each project's Total Project Cost (TPC) range under the funding scenarios below in order to establish a level of confidence that the Department's FY 2012-2016 budget request supports completion of both projects on schedule and within cost. The scope of the project was to review and evaluate the reasonableness of the processes, procedures, and assumptions used by the project teams to prepare schedule and the TPC range estimates based on the scenarios provided. Placing particular emphasis on the risk management process, including identification of potential risks and key planning assumptions, the magnitude of their impacts, and how they affect the cost uncertainty and required contingency. A verbal debriefing was provided to NA-10, but no formal report was written.

We are at the beginning stage of planning a review to be supported jointly by DOE (Don Cook, NA-10) and DoD (Andrew Weber, Asst. to Sec Def for NCB) that is intended to assist in reviewing the work of the CMRR-NF and UPF teams to gain improved understanding of the likely cost range for each of the two projects if no alterations to scope are made, noting that the projects are only at the 40-45% of engineering design point. Baselines for the projects will not be established prior to the 90% engineering design point so that uncertainties can be reduced prior to establishing formal baselines.

The terms of reference are also attached.

Please let us know if you have any further questions.

Thanks!

Derrick D. Ramos
National Nuclear Security Administration

Charge memo_NA-10_to_Scott_Samuelson.pdf	**Content-Description:**	Charge memo_NA-10_to_Scott_Samuelson.pdf
	Content-Type:	application/pdf
	Content-Encoding:	base64

Department of Energy
National Nuclear Security Administration
Washington, DC 20585

February 26, 2010

MEMORANDUM FOR SCOTT L. SAMUELSON
ACTING DIRECTOR
NIF PROJECT DIVISION

FROM: GARRETT HARENCAK, BRIG GEN, USAF
PRINCIPAL ASSISTANT DEPUTY ADMINISTRATOR
FOR MILITARY APPLICATION
OFFICE OF DEFENSE PROGRAMS

SUBJECT: Reviews of the Chemistry and Metallurgy Research Replacement (CMRR) Project and the Uranium Production Facility (UPF) Project

NNSA has communicated its expectations for both projects to its stakeholders; those expectations are now the basis for all out-year fiscal planning. Both projects must plan for completing construction not later than 2020, with ramp-up to operations in 2022. It is critical that NNSA obtain an evaluation of the FY 2012 budget requests for these projects to develop confidence that the Department's FY 2012 -2016 request represents reasonable budget profiles for meeting our commitments to our stakeholders.

You are hereby charged with organizing and leading reviews of the subject projects per the attached review charter. Guidance to the project teams for this review has been provided by my memorandum of February 18, 2009 (attached). The timeline is challenging and requires extraordinary effort, but the delivery date cannot be extended. Your primary point of contact for coordinating with the sites, arranging for required resources, and reporting your results will be Mike Thompson, the Director, Office of Facility and Infrastructure Acquisition and Operation (NA-172). Please provide concise status reports via e-mail to NA-172 and to me on a bi-weekly basis.

Attachment

cc w/ attachment
C. Deeney, NA-123
S. Goodrum, NA-12
M. Hickman, NA-54
H. Le Doux, LASO
P. Niedzielski-Eichner, NA-14
H. Peters, YSO
R. Scott, NA-50
G. Talbot, NA-17
M. Thompson, NA-172

CMRR and UPF Review Charter

Task:

Evaluate the basis and maturity of each project's Total Project Cost (TPC) range under the funding scenarios below in order to establish a level of confidence that the Department's FY 2012-2016 budget request supports completion of both projects on schedule and within cost.

Scope:

Review and evaluate the reasonableness of the processes, procedures, and assumptions used by the project teams to prepare schedule and TPC range estimates based on the scenarios provided. This evaluation must be informed by an understanding of the design maturity for each facility, including the level of technological maturity and safety integration, the acquisition strategy selected, and the management and oversight model. Particular emphasis must be placed on the risk management process, including identification of potential risks and key planning assumptions, the magnitude of their impacts, and how they affect the cost uncertainty and required contingency.

Program Commitments:

CMRR-NF: Complete the design and construction of the CMRR nuclear facility at Los Alamos – a facility that conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production - by 2020; ramp up to full operations that enable a production rate of 50-80 pits/year in 2022.

UPF: Complete the design and begin construction of the Uranium Processing Facility (UPF) at Y-12 to support production and surveillance of highly-enriched uranium components by 2020; ramp up to full operations of 50-80 Canned Sub Assemblies (CSAs) per year in 2022.

Funding Scenarios:

Scenario #1: Assume the Fiscal Year 2011 to 2015 budget profiles as presented in the President's Fiscal Year 2011 request. Planning numbers beyond 2015 will be provided to the project teams following the publication and release of the President's budget request.

Scenario #2: Assume the Fiscal Year 2011 budget numbers for CMRR-NF and UPF as presented in the President's Fiscal Year 2011 request. For 2012 and beyond, develop an executable budget profile that most efficiently achieves the stated program commitments.

Timeline

The Review Team shall provide its conclusions and rationale in a briefing package to NA-10 by June 4, 2010, followed by a written report by June 30.

- On or before March 1, 2010, the independent review team will work with the project teams to identify the data to be provided, including format and level of detail.
- The project teams shall provide the results of their analysis of the two scenarios to the review team not less than two weeks prior to the on-site reviews.
- The review team will begin its review of the project teams' schedule and cost ranges as soon as possible after the data is available.

Mello Aff #2, Par 4f

	(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

Mello Aff#2 Par 4g

Management of those projects, and others, is only one part of the contracting reform effort that has been proposed. There are two other portions of the potential contract: an enterprise services piece that would serve to standardize project management practices across the NNSA's eight sites, and a professional services piece that would include advisory services, project oversight, project planning, document and presentation development, and inspection and validation. "What this allows us to do is shift responsibility for project execution from the M&O contractors to a new integration management and executing contractor," Hickman said. "It allows the M&O contractors to focus on their core competencies which is research, development, operations and maintenance, and then we allow the IME contractor to focus on construction excellence. That's one of the keys that will get us off the GAO's High Risk List. We don't like to be there. If I can get all of our projects performing to the point where they're meeting their design requirements, their cost and schedule requirements, and the GAO just doesn't want to take us off the list, I'm OK with that, because I've got the proof that we're doing what we said we were going to do when we said we were going to do it and the project does what it said it was supposed to do."

Hickman: There's Value Even Without Big Projects

Hickman suggested that if UPF or CMRR-NF were not part of the scope of work, the contract could still have a lot of value to the NNSA. The NNSA previously said the contract could consist of all construction projects worth more than $5 million, which could include projects like the High Explosive Pressing Facility at the Pantex Plant, a project that will cost more than $100 million, but nowhere near the $5 billion estimates currently surrounding UPF and CMRR-NF. "It'll be harder to do if there are two major sites operating under the same requirements we've had in the past," Hickman told *NW&M Monitor*. "We can wean them with this in place. Although that scope may be limited for us, we're changing the complex. The opportunities if we get the contract in place for the contracting community is pretty substantial over the next 15 years. It might not be what we've got on the table today; we've got to look to the future."

—Todd Jacobson

COSTLY URANIUM PROCESSING FACILITY ALSO A NECESSITY, HARENCAK SAYS

Are Multi-Year Appropriations an Answer to GOP Concerns on Out-Year Funding for Major NNSA Projects?

KNOXVILLE, Tenn.—It's big, it's complex, it will take more than a decade to complete, and it's going to be costly. But the Uranium Processing Facility that is planned for the Y-12 National Security Complex is also necessary, according to Brig. Gen. Garrett Harencak, the National Nuclear Security Administration's top military official, who offered a spirited defense last week of the multi-billion-dollar facility that will eventually consolidate enriched uranium work at Y-12 into one building. "Is UPF going to be expensive? Yes, yes it will," Harencak said at the Energy, Technology and Environmental Business Association annual conference last week in a speech interspersed with one-liners, anecdotes and stories from the boisterous former fighter pilot. "However, look at what it will provide for us. Look at what it does. Then you ask yourself, one of the gravest threats to America is the nuclear threat and Y-12 and UPF will be there to defend it. Is that not worth it?"

Over the last year, a consensus has largely emerged that the facility is needed, shifting discussion to the cost of the UPF and its billion-dollar counterpart, the Chemistry and Metallurgy Research Replacement-Nuclear Facility at Los Alamos National Laboratory. A 2007 cost range pegged the cost between $1.4 and $3.5 billion, but Sen. Bob Corker (R-Tenn.) offered a hint of the potential price tag earlier this year when he said it could cost between $4 billion and $5 billion. Budget documents peg the price of CMRR-NF near $4 billion, but most observers expect that the true cost of the facility is north of $5 billion.

The price tag is important because Senate Republicans have questioned whether the Administration has committed enough money over the next decade to modernize the nation's nuclear weapons complex and arsenal, which is key to the GOP support for the New Strategic Arms Reduction Treaty with Russia. Vice President Joe Biden acknowledged in September that the $80 billion pledge for the NNSA's weapons program over the next 10 years wouldn't be enough, and with a potential vote on the treaty looming (*see related story*), the Administration has been working to update its modernization plan to sway Republicans that are worried about the long-term funding commitment for UPF and CMRR-NF.

'Front-Funding' Considered for UPF, CMRR-NF?

One option that is being discussed among Administration officials involves front-funding the multi-billion-dollar projects, a drastic step that isn't typically used for Department of Energy projects. In August, NNSA Defense Programs chief Don Cook told *NW&M Monitor* that the unique financing approach was "one of the many things we consider in projects," adding: "There is always an option to do more of the forward financing, either as an entire block, or as a bigger fraction, and that has been done for some things in the Department of Defense like [air craft] carriers, but that really is entirely up to Congress." Last

week, Harencak would not comment on the discussions. "We've been asked to not talk about budget things right now even though it's a critical time as we're going through the [White House Office of Management and Budget] process," Harencak said.

While the approach would appear to address the concerns of Republicans worried about the long-term funding for the projects, it's not necessarily expected to be popular among Congressional appropriators, who aren't likely to yield the yearly control of a project easily. "Part of the way Congress ensures good management of projects is through the budgeting of them," a Congressional aide told *NW&M Monitor*. "If you give that up, what's your recourse for when things are going wrong?" The aide also indicated that there are serious issues with committing significant amounts of money to projects that aren't even mature enough to have a solid performance baseline. "You're going to commit out-year funding to two projects that don't have a cost estimate?" the aide said.

'We're Pretty Close to Having it Right'

Harencak emphasized that the NNSA was doing all it could to contain the cost of the facility. Indeed, Cook has asked the Department of Energy's Office of Cost Analysis and the Pentagon's Cost Analysis and Performance Evaluation group to examine the facilities as the agency refines its budget request for Fiscal Year 2012. "We're doing everything in our power to contain the cost of UPF and CMRR," Harencak said. "We're just going to do it. … At some point you just have to say it's going to cost some money, we're going to have to invest to do it. We have got to have this facility. It's as simple as that." Harencak also addressed a review that has been initiated by Energy Secretary Steven Chu to examine the requirements for the facility, which could also impact the cost. "I'm 100 percent confident in the work we've already accomplished," Harencak said on the sidelines of the conference. "I look forward to the Secretary's review. We're always looking for better ways to do things. I'll tell you, we've had a great team working this and I'm pretty confident that we're pretty close to having it right. On the other hand, it's always great to have another set of eyes looking at it and giving us ways to improve."

But in the end, Harencak reiterated the need to move quickly on modernizing the nation's nuclear deterrent, expressing that vision in a style all his own. "Would it be nice if we lived in a world where forest animals live in trees and talk to each other and wear funny suits? Yeah, that would be nice if there was such a place where we wouldn't need to worry about nuclear security, but unfortunately that place doesn't exist," Harencak said. "But we live in a world with threats, we live in a world with evil people that are threatening my children, your children, our families, our friends, our way of life, and we have to defend against that."

—Todd Jacobson

LENGTH OF LAME-DUCK SESSION TO DECIDE FATE OF RUSSIA '123 AGREEMENT'

Congress will determine the fate of a civil nuclear cooperation deal with Russia over the next several weeks in a rather unconventional fashion: by deciding how long it stays in Washington for a lame-duck session. Entering the lame-duck session that starts Nov. 15, the so-called '123 agreement' has spent 75 continuous legislative days before both chambers of Congress, which means the House and Senate will need to remain in session another 15 legislative days to help the Obama Administration avoid the embarrassment of having to submit the treaty to Congress for a third time. The Bush Administration pulled the agreement from consideration in 2008 due to the Russian-Georgian conflict.

The treaty would last for 30 years before being revisited and would allow the transfer of nuclear technology and expertise between the countries—after the granting of a special permit from the Department of Energy. Like all 123 agreements, the pact will enter into force once it spends 90 continuous legislative days before Congress, an intermittent clock that stops ticking when either the House or Senate isn't in session for more than three days at a time. That has made calculating the date the treaty will enter force difficult—even for the Administration.

A Moving Target

When the agreement was submitted to Congress May 10, Administration officials believed they had left just enough time for it to sit before both chambers for 90 consecutive days of legislative review. However, several events changed the legislative clock: the Senate recessed two days earlier than anticipated before the Independence Day break, and the House trimmed seven days from its planned summer session, deciding to leave town July 30 rather than Aug. 6 like its Senate counterparts. Both chambers left Washington more than a week earlier than expected in the fall for the elections, further slowing the pace of the agreement's legislative clock. "It certainly makes you wonder, if this was that important to the Administration why did they wait so long to submit it?" a House GOP aide told *NW&M Monitor*.

The exact date the treaty could enter into force remains unclear and could very well be determined by how the

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

N

Los Alamos NATIONAL LABORATORY EST. 1943

NNSA National Nuclear Security Administration

LA-UR 10-07047

Mello Aff #2, Par 6

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

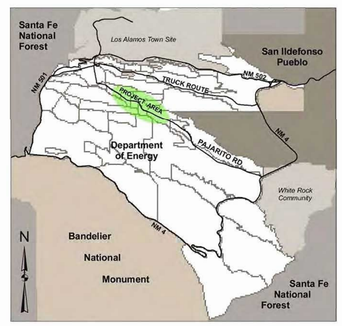
0 100 200 400 600 800 1,000 1,200 Feet

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



Mello Aff #2, Par 6

When CMRR Project construction activities reach a point when the temporary office trailers are no longer needed, these will be vacated and removed by the Project. A permanent parking lot will then be completed that will provide 440 parking spaces for use by the CMRR workforce and other employees working at nearby technical areas. The completion of the parking lot will also include intersection improvements at Pajarito Road and Pecos Drive; striping, lighting, sidewalks, and curbs for the parking area to ensure safe and effective pedestrian and traffic control; fencing between Pajarito Road and the parking lot for pedestrian safety; and a stormwater detention pond for management of storm flow and erosion protection. The proposed project site at TA-50 will ultimately involve 13 acres of previously disturbed land.

The TA-50 trailer installation, the electric service substation installation, and the parking lot actions have been evaluated for NEPA compliance and the site has been specifically evaluated for cultural and biological resources impacts. A hydrological analysis was also conducted. Previously, the CMRR EIS and the CMRR EIS-SA-01 (DOE 2005) considered using portions of this area (approximately 11 acres) for parking, construction laydown, and a potential building site for the RLUOB. The NNSA determined that these uses and site disturbance were either explicitly analyzed or were bounded by the impact analysis presented in the CMRR EIS and that no further NEPA impact analysis was necessary. Also, the 2008 SWEIS explicitly considered the environmental impacts associated with the construction of the new 115-kV electrical substation. Using the area for the placement of temporary construction trailers, a permanent electric service substation, and parking facility was, therefore, considered to be adequately bounded by the CMRR EIS and 2008 SWEIS impact analyses (DOE 2003; DOE 2005; DOE 2008a; USFWS 2006).

- **Pajarito Road Shift (Planned Action)**
  The CMRR Project will shift a segment of Pajarito Road slightly to the south in the vicinity of the entrance to TA-55. The road shift is needed to integrate security requirements for the CMRR Project and the Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP), specifically, to ensure proper placement of the perimeter intrusion fence in proximity to Pajarito Road. The proposed road shift will move a segment of Pajarito Road (near the entrance to TA-55 that is just southeast of the RLUOB and extending an estimated 2100 feet to the northwest) so that the road centerline is shifted up to 60 feet south of its current position. Underground utilities in the area (sewer line, natural gas line, and water line and electrical and telecommunications duct banks) will be relocated; the existing roadbed will be removed; and up to one-half mile of a new road will be constructed with two driving lanes, shoulders, and a turn lane at the Pecos/Pajarito intersection. The shifted road segment will be closer to the edge of Two Mile Canyon but will remain on the mesa top and not enter the canyon. The planned shift of the road segment will disturb about six acres of land, some of it previously disturbed. Pajarito Road is an interior LANL access road that is not open to the

Mello Aff #2, Par 6

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

THE LOS ALAMOS STUDY GROUP,

Plaintiff,

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

UNITED STATES DEPARTMENT OF ENERGY; THE HONORABLE STEPHEN CHU, in his capacity as SECRETARY, DEPARTMENT OF ENERGY; NATIONAL NUCLEAR SECURITY ADMINISTRATION; THE HONORABLE THOMAS PAUL D'AGOSTINO, in his Capacity as ADMINSTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION,

Defendants.

AFFIDAVIT OF Jody Benson

State of New Mexico)
) ss.
County of Los Alamos)

Jody Benson, under penalty of perjury, hereby declares as follows this 2 day of November 2010:

1. I am a citizen of the State of New Mexico and reside in the county of Los Alamos. I work with the Earth and Environmental Sciences Division at Los Alamos National Laboratory; our Division has teams located in TA-3 as well as TA-51 and TA-48 on the Pajarito Corridor. I am writing these views as a private citizen; however I am active in the community of Los

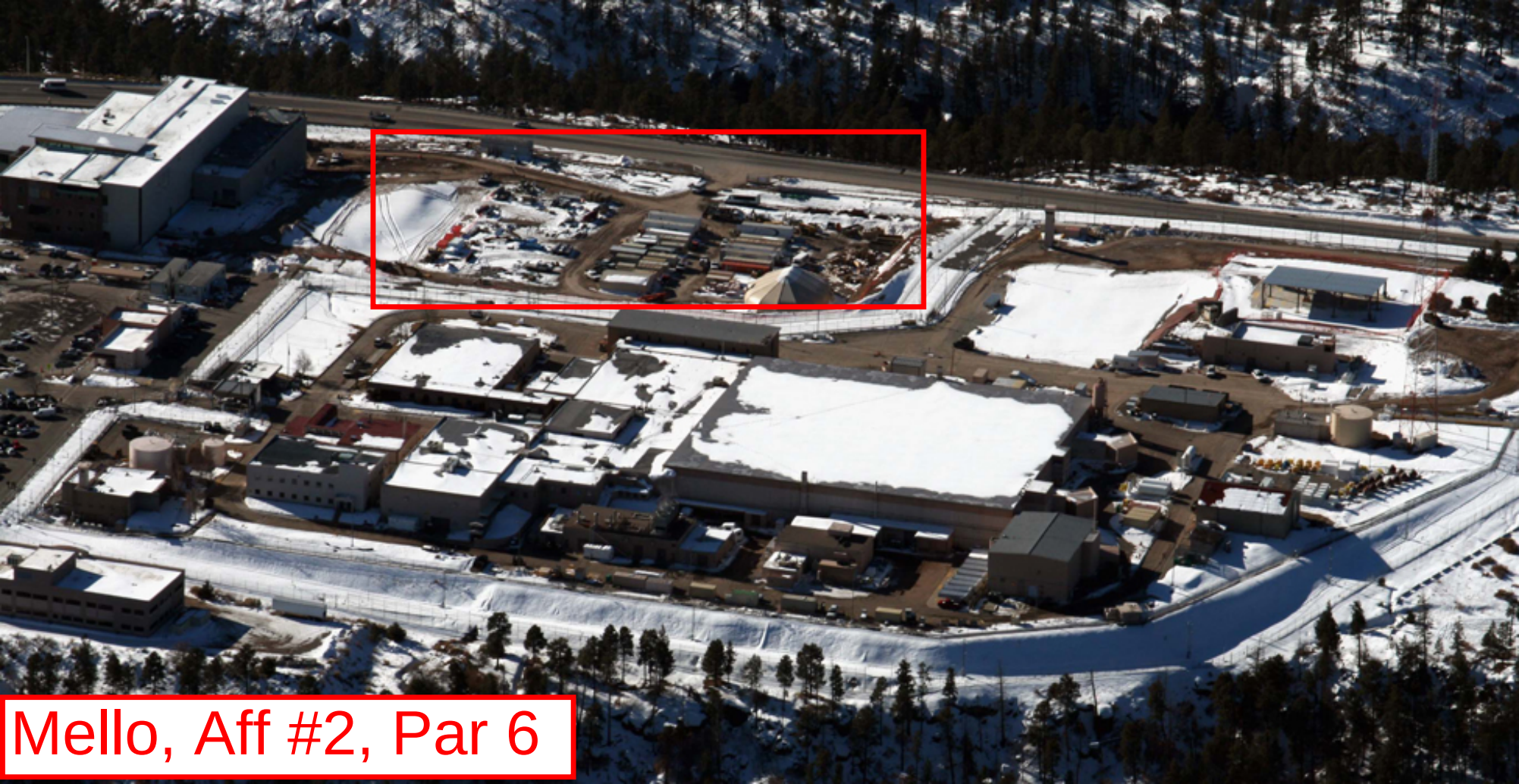
Corridor construction sites, as well as State Route 501, the main "Hill" road. I perceive the following harms to the economy and community values of Northern New Mexico, specifically Los Alamos, if the project continues as now planned:

A. Traffic Impacts on St. Rd. 4: The current NEPA document does not include a regional assessment of traffic impacts. The thousands of haulage trucks would likely necessitate upgrading State Rd 4 from "the Y" (juncture of NM 502 and NM 4) to Pajarito Rd, including widening the road and upgrading the traffic signals. Unless these requisite upgrades are paid for by the project, they would commit our very limited State transportation money to a very small, and currently inadequate five-mile stretch of road and four intersections.

B. Traffic Impacts of the Parking Lot on the Truck Route and Sandia Canyon: Included in traffic impacts: The proposed parking lot in Sandia Canyon (the Truck Route) from which buses will transport the workers to the Pajarito Corridor must be readdressed. Thousands of workers commute to LANL every day. Including another thousand cars, then creating a parking lot below TA-55 would not only destroy a large ecosystem, but require significant upgrades to the Truck Route. The traffic to the proposed parking area would impede normal LANL-commuter traffic; a signal would be required.

C. Need for a regional traffic assessment that includes an analysis of the benefits of a shared commuter parking area (e.g., at one of the casinos), and establishing a commuter-bus system from those parking lots that already exist. This would reduce excessive damage to the fragile Pajarito Plateau ecosystem as well as to commuters who are likely to experience delays, broken windshields, and other hazards and harms. Project funding should include leasing parking.


Jul 30, 2005
Mello Aff #2, Par 6
Image NMRGIS
©2010 Google
© 2010 Google
Imagery Dates: Jun 30, 2005 - Jul 1, 2005
35°51'42.78" N 108°18'03.80" W elev 2221 m
Eye alt 3.28 km


Mello, Aff #2, Par 6

08-D-701, Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) Phase II, Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project Data Sheet is for Construction

Mello Aff #2, Par 7

1. Significant Changes

The most recent DOE O 413.3A approved Critical Decisions (CD) is CD-3B Approve Start of Construction that was approved on December 16, 2009 with a Total Project Cost (TPC) of $245,166,000 and CD-4 of January 2013.

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

This PDS is an update of FY 2009 PDS. The performance baseline scope does not include the Technical Area Isolation Zone and the Airborne Mitigation System. These two items that were included in the preliminary scope were found to be no longer essential.

2. Design, Construction, and D&D Schedule

(fiscal quarter or date)

	CD-0	CD-1	PED Complete	CD-2	CD-3	CD-4	D&D Start	D&D Complete
FY 2008	4QFY2002	2QFY2007	1QFY2008	1QFY2008	2QFY2008	3QFY2012	N/A	N/A
FY 2009	4QFY2003	1QFY2007	1QFY2008	2QFY2008	4QFY2008	4QFY2011	N/A	N/A
FY 2011	08/25/2003	05/30/2008	09/30/2009	06/23/2009	06/23/2009	2QFY2013	N/A	N/A

CD-0 – Approve Mission Need
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
CD-3 – Approve Start of Construction
CD-4 – Approve Start of Operations or Project Closeout
D&D Start – Start of Demolition & Decontamination (D&D) work
D&D Complete – Completion of D&D work

	CD-3A	CD-3B
FY 2009	06/23/2009	
FY 2010		12/16/2009

3. Baseline and Validation Status

(dollars in thousands)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	TPC
FY 2008			214,755	25,245	N/A		240,000
FY 2009	43,094	170,715	213,809	25,245	N/A	25,245	239,054[a]
FY 2011	43,094	176,822	219,916	25,250	N/A	25,250	245,166

[a] The FY 2008 appropriated funding was reduced based on the rescission of 0.91 percent ($71,000) and use of prior year balances from construction projects ($82,000) in accordance with the FY 2008 Consolidated Appropriations Act, (P.L. 110-161).

4. Project Description, Justification, and Scope

Project Description

The project is being conducted in accordance with the project management requirements in DOE O 413.3A and DOE M 413.3-1, Program and Project Management for the Acquisition of Capital Assets, and all appropriate project management requirements have been met.

The Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) Phase II will support the viability of stockpile management and other current missions carried out in Technical Area (TA)-55 at the Los Alamos National Laboratory (LANL) by providing an effective, robust physical security system to address the core essential physical security systems, protection strategies, and security requirements.

The LANL nuclear missions, as they currently exist and as they are planned in the future, require a reliable safeguards and security system to assure the protection and control of special nuclear materials (SNM), classified matter, and NNSA property. The nuclear materials operation at TA-55 involves the ability to securely store, move, process, and track nuclear materials that are attractive to the adversaries both in terms of the quantity of materials and the forms. The NMSSUP Phase II project plays a key role in the support of this mission by replacing or improving the aging exterior physical security systems and installing enhanced systems to support a new protection strategy for the TA-55 site.

The primary components of the project include, at a minimum:

Perimeter Intrusion Detection, Assessment, and Delay System (PIDADS)
East Vehicle and Pedestrian Entry Control Facility (ECF)
Utility Infrastructure (to support the items above)
West Vehicle Access (WVA)

Mello Aff #2 Par 7

soil stabilization. In the following years, both plants will likely be used to supply structural concrete for the CMRR-NF.

The TA-48/55 concrete plant action has previously been evaluated for NEPA compliance and cultural and biological resources impacts, and actions have been identified and will be followed to avoid impacts to nearby cultural and biological resources. NNSA determined that the TA-48/55 concrete plant action was adequately considered in the CMRR EIS impact analyses and that no further NEPA analysis was necessary. The use of a similar site at TA-63/46 has also been previously evaluated for NEPA compliance and cultural and biological resources impacts, and actions have been identified and will be followed to avoid impacts to nearby cultural and biological resources. NNSA determined that the TA-63/46 concrete plant action was eligible for categorical exclusion from the need to prepare any further NEPA impact analyses documents (10 CFR 1021, Appendix B1.15; DOE 2008a; LANL 2008c; LANL 2007d).

- **Move NMSSUP Security Perimeter Fence (Planned Action)**
  Responding to an NNSA directive, the CMRR Project will coordinate with NMSSUP to temporarily relocate a portion of the TA-55 Perimeter Intrusion Detection Assessment and Delay System (PIDADS) fence during the CMRR-NF construction activities. This action is needed to allow access to the TA-48/55 laydown areas and the CMRR-NF construction site while maintaining a security perimeter during construction. In addition, this action creates space to allow the Project to provide construction craft worker break trailers, a nurses station, and delivery access for construction materials. The CMRR Project will move an estimated 600 feet of the south PIDADS fence northward up to 200 feet. In the final constructed configuration, the PIDADS fence will be to the south and east sides of the CMRR-NF, thus enclosing the CMRR-NF within a special security perimeter. The area affected by this action is included in the TA-48/55 laydown areas discussed above.

  The relocation of the NMSSUP Security Perimeter Fence action has previously been evaluated for NEPA compliance and cultural and biological resources impacts, and actions have been identified and will be followed to avoid impacts to nearby cultural and biological resources. Although relocation of the PIDADS fence was not specified in the CMRR EIS impact analyses for the laydown area, the area affected by this action was analyzed in the CMRR EIS for impacts associated with using the site for CMRR Project construction and this included the extension of the existing PIDADS to enclose the CMRR-NF. NNSA determined that the similar temporary relocation of the NMSSUP Security Perimeter Fence was eligible for categorical exclusion from the need to prepare any further NEPA impact analyses documents (CFR 1021, Appendix B1.15; DOE 2010d; DOE 2008a).

- **Temporary Power Upgrades (TA-55 to TA-05) (Proposed Action)**
  The CMRR Project will upgrade temporary power services for the CMRR-NF construction site and support activities. The Project proposes to bring in temporary power along a route from the CMRR-NF site (at TA-55) along Pecos

Mello Aff #2, Par 8

Pajarito Construction Activities

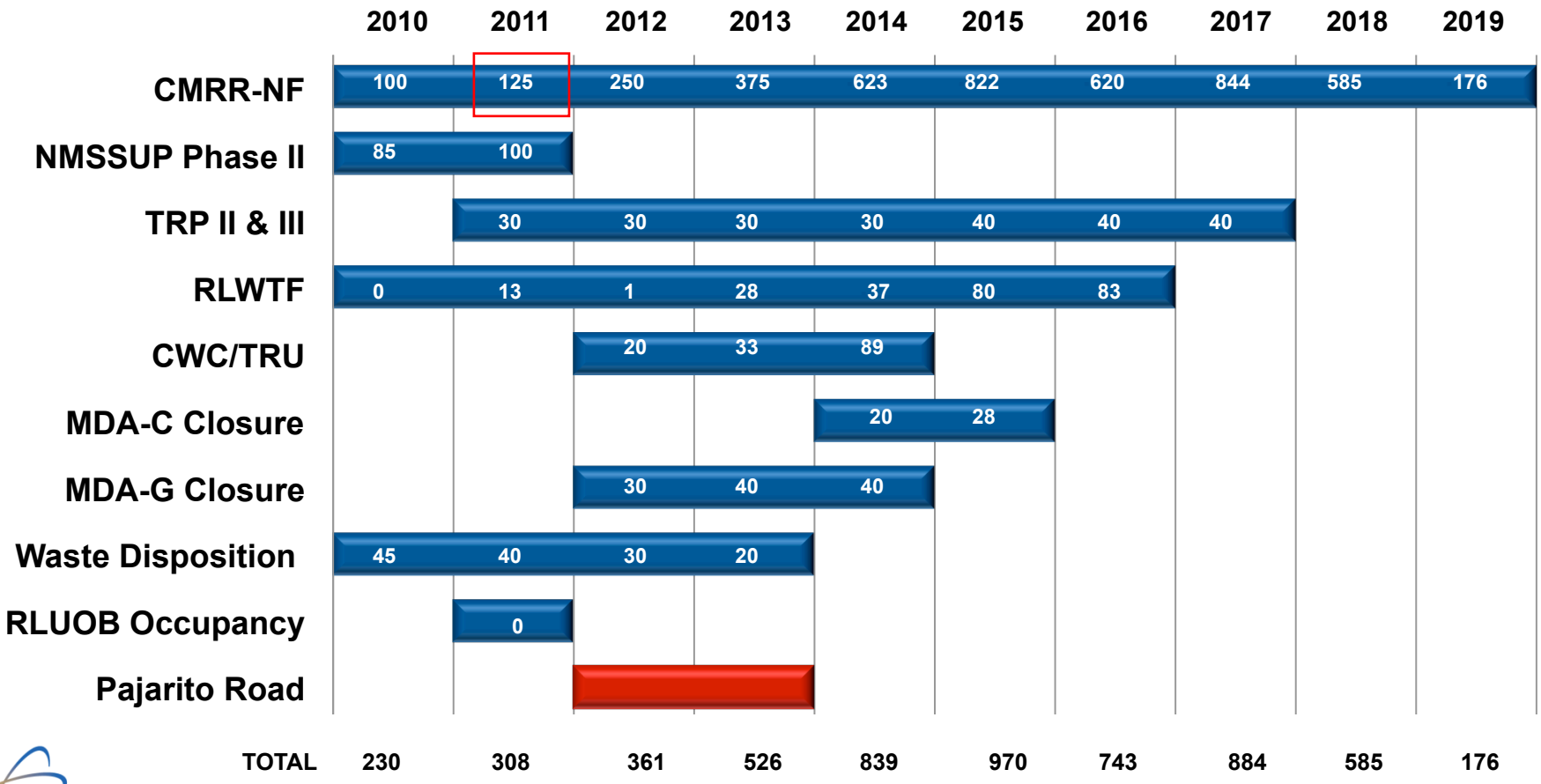
John Bretzke, Deputy Associate Director

Project Management & Site Services, LANL

June 16, 2010

LA-UR-10-04023

Project Construction Craft Personnel



Mello Aff #2, Par 8

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.

Mello Aff #2, Par 8

111TH CONGRESS
2d Session

SENATE

EXEC. REPT.
111–6

TREATY WITH RUSSIA ON MEASURES FOR FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS (THE NEW START TREATY)

OCTOBER 1, 2010.—Ordered to be printed

Mr. KERRY, from the Committee on Foreign Relations, submitted the following

REPORT

together with

MINORITY VIEWS

[To accompany Treaty Doc. 111–5]

The Committee on Foreign Relations, to which was referred the Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, signed in Prague on April 8, 2010, with Protocol (Treaty Document 111–5), having considered the same, reports favorably thereon with 10 conditions, 3 understandings, and 13 declarations, as indicated in the resolution of advice and consent for such treaty, and recommends that the Senate give its advice and consent to ratification thereof, as set forth in this report and the accompanying resolution of advice and consent.

CONTENTS

IX. Additional Documents

LETTER FROM THE HONORABLE JOSEPH R. BIDEN, JR., VICE PRESIDENT OF THE UNITED STATES, SEPTEMBER 15, 2010

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

Mello Aff #2, Par 12a

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Transportation			
	Construction: 135 additional worker vehicles per day; transportation of construction material was not analyzed. Operations: Little/no change; workers housed at CMR in TA-03 would be relocated to the new facility.	Increased offsite construction traffic for a longer time associated with hauling source material for concrete production and other material delivery for approximately 30,000 deliveries over the total construction period. Over the construction period, on average, LANL truck deliveries will increase by 12 per day (range of 4 to 22 per day); traffic flow at East Jemez Rd or Pajarito Rd at SR 4)[12] would increase less than 0.01%. The Project will make use of the existing LANL Truck Inspection Station for the duration of the Project; and no changes to the LANL Truck Inspection Station are anticipated as a result of the CMRR Project. Other construction-related traffic for stockpiling fill and similar purposes in the immediate vicinity of the Project site would also increase and continue for the duration of the construction period. This traffic will occur largely within LANL boundaries, most of it on roads not accessible to the public. Assuming that the source materials are obtained within a 100-mile radius of LANL, approximately 1.08 traffic accidents and fewer than 0.12 traffic fatalities would result from transportation of construction materials.[13] No offsite transportation of radioactive materials will be associated with construction.	Truck trips associated with the planned and proposed activities are substantially below those associated with other large LANL projects that were analyzed in the 2008 SWEIS and ROD. For comparison, the SWEIS reported MDA removal actions resulting in 53,924 trips and MDA capping materials resulting in 104,300 trips. Based on this comparison, the CMRR Project trips would not be likely to result in any accident fatalities or disruption of traffic flow at the entrances to LANL. For comparison, daily traffic at East Jemez and Pajarito Rd entrances as a result of projected MDA removal actions analyzed in the 2008 SWEIS would increase by 1200 to 4200 vehicle trips/day. Impacts to transportation associated with the planned and proposed actions are bounded by the 2008 SWEIS.

Mello Aff #2, Par 12a

Table 2. Comparative Analysis and Potential Consequences of CMRR Proposed Action

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Land Use and Visual Resources			
Land Use	Total acres disturbed: 26.75[2] • Permanent use: 8.75 acres ◊ RLUOB: 4 acres ◊ NF: 4.75 acres • Temporary/Other Construction Use: ◊ 18 acres (laydown areas, batch plant, road shift, parking)	Total acres disturbed: 83 acres • Permanent use: 30 acres ◊ RLUOB: 4 acres ◊ NF: 4.75 acres ◊ Other (road, parking, power): 21 acres • Temporary/Other Construction (laydown areas, concrete plant, office trailers): 53 acres	There would be no significant impacts to land use. Construction and operation of the CMRR is consistent with the LANL Comprehensive Site Plan and the industrial land uses designated for the Pajarito Corridor. There would be no long-term negative impacts to visual resources. The number of above grade stories has increased by one-half story from the original proposal. Most of the areas for the planned and proposed CMRR construction have been previously disturbed and are located in areas with an industrial character. A limited amount of previously undisturbed land will be impacted (TA-48/55 laydown areas, road shift, TA-50 office trailers); however, these areas are constrained by surrounding structures and roadways and are industrial in character. The completed CMRR-NF would be visible from Pajarito Road and nearby LANL technical areas. Lighting would be designed to minimize spill into nearby canyons and to avoid sky glow in compliance with LANL Engineering Standards and the Habitat Management Plan.
Infrastructure			
Site-Wide Infrastructure Characteristic or Capacity	*Water*: Available Capacity[3]: 198 million gallons per year (MG/yr) *Power*: Total Demand[4]: 491,186 megawatt hours per year (MWhr/yr) Peak Demand: 85.5 MWhr *Natural Gas*: Site Usage[5]: 2530 million cubic feet per year (Mm cu ft/yr)	*Water*: Available Capacity[6]: 105 MG/yr *Power*: Total Demand[7]: 626,400 MWhr/yr Peak Demand: 109 MWhr *Natural* Gas: Site Projected Usage[8]: 1197 Mm cu ft/yr	There would be no significant impacts to site-wide infrastructure beyond those bounded by the 2008 SWEIS.

Mello Aff #2, Par 12a

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

THE LOS ALAMOS STUDY GROUP,

Plaintiff,

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

UNITED STATES DEPARTMENT OF ENERGY; THE HONORABLE STEPHEN CHU, in his capacity as SECRETARY, DEPARTMENT OF ENERGY; NATIONAL NUCLEAR SECURITY ADMINISTRATION; THE HONORABLE THOMAS PAUL D'AGOSTINO, in his Capacity as ADMINSTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION,

Defendants.

AFFIDAVIT OF Jody Benson

State of New Mexico)
) ss.
County of Los Alamos)

Jody Benson, under penalty of perjury, hereby declares as follows this 2 day of November 2010:

1. I am a citizen of the State of New Mexico and reside in the county of Los Alamos. I work with the Earth and Environmental Sciences Division at Los Alamos National Laboratory; our Division has teams located in TA-3 as well as TA-51 and TA-48 on the Pajarito Corridor. I am writing these views as a private citizen; however I am active in the community of Los

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Mello Aff #2, Par 12a

Table 2–3 Summary of Environmental Consequences for the CMR Replacement Project

Resource/Material Categories	*No Action Alternative*	*Alternative 1 (relocate CMR AC and MC operations to TA-55)* [a]	*Alternative 2 (relocate CMR AC and MC operations to TA-6)* [a]	*Alternative 3 (relocate CMR AC and MC operations to TA-55)* [b]	*Alternative 4 (relocate CMR AC and MC operations to TA-6)* [b]
Land Resources					
Construction [c]/ Operations [d]	No impact	26.75 acres/ 13.75 acres	26.75 acres/ 15.25 acres	22.75 acres/ 9.75 acres	22.75 acres/ 11.25 acres
Air Quality					
Construction [c]	No impact	Small temporary impact	Small temporary impact	Small temporary impact	Small temporary impact
Operations	0.00003 curies of actinides	- 0.00076 curies of actinides - 2,645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2,645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2,645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2,645 curies of tritium and noble fission gases
Water Resources					
Construction [c]	No impact	Small temporary impact	Small temporary impact	Small temporary impact	Small temporary impact
Operations	Small impact	Small impact	Small impact	Small impact	Small impact
Ecological Resources					
Construction [c]	No impact	Indirect effect on Mexican spotted owl habitat	No impact	Indirect effect on Mexican spotted owl habitat	No impact
Operations	No impact	Indirect effect on Mexican spotted owl habitat	No impact	Indirect effect on Mexican spotted owl habitat	No impact
Socioeconomics					
Construction [c]	No impact	No noticeable changes; 300 workers (peak) 1,152 jobs	No noticeable changes; 300 workers (peak), 1,152 jobs	No noticeable changes; 300 workers (peak), 1,152 jobs	No noticeable changes; 300 workers (peak), 1,152 jobs
Operations	No impact	No increase in workforce [e]	No increase in workforce [e]	No increase in workforce [e]	No increase in workforce [e]
Public and Occupational Health and Safety					

Normal Operations	*Dose*	*LCF*	*Dose*	*LCF*	*Dose*	*LCF*	*Dose*	*LCF*	*Dose*	*LCF*
Population dose (person-rem per year)	0.04	0.000024	1.9	0.0011	2.0	0.0012	1.9	0.0011	2.0	0.0012
MEI (millirem per year)	0.006	3.5×10^{-9}	0.33	2.0×10^{-7}	0.35	2.1×10^{-7}	0.33	2.0×10^{-7}	0.35	2.1×10^{-7}
Average individual dose (millirem per year)	0.0001	7.9×10^{-11}	0.006	3.8×10^{-9}	0.006	4.0×10^{-9}	0.006	3.8×10^{-9}	0.006	4.0×10^{-9}
Total worker dose (person-rem per year)	22	0.013	61	0.04	61	0.04	61	0.04	61	0.04
Average worker dose (millirem per year)	110	0.00007	110	0.00007	110	0.00007	110	0.00007	110	0.00007
Hazardous chemicals	None		None		None		None		None	

Mello Aff#2, Par 12a

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

Annex D

Mello Aff #2, Par 12a

FY 2011 Biennial Plan and Budget Assessment on the Modernization and Refurbishment of the Nuclear Security Complex

May 2010

National Nuclear Security Administration
United States Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

Consolidated Waste Capability

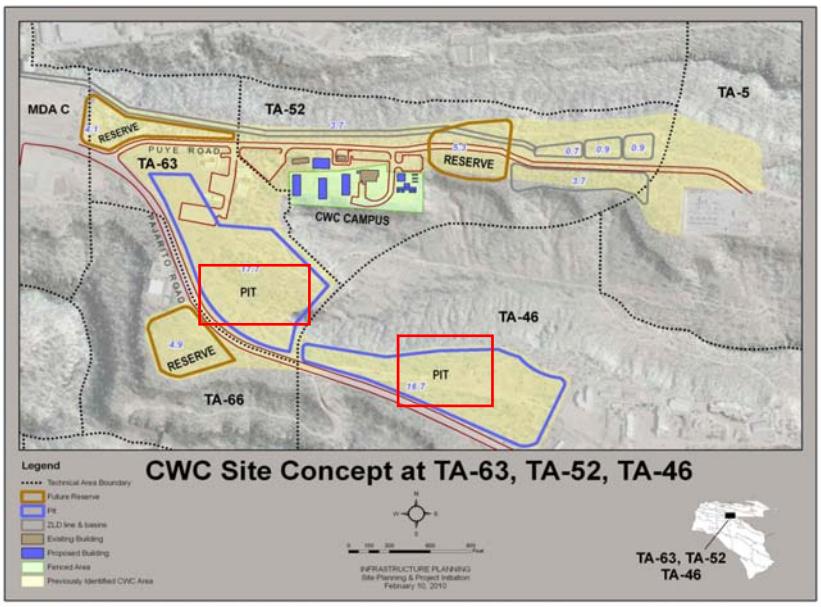


Figure D–11. Site overlay of the Consolidated Waste Capability for addressing TRU, Low Level and Mixed Low Level radioactive waste.

The waste facilities are an integral part of conducting plutonium programs in the system of nuclear facilities. The Consolidated Waste Capability includes the transuranic (TRU) Waste Facility project for solid transuranic waste and associated facilities for hazardous waste, low level waste and mixed low level waste.

The waste facilities are all a part of the larger system of nuclear facilities used to assess, surveil, manufacture, and/or refurbish plutonium components used in nuclear weapons. There is a limited ability to stage waste and therefore plutonium programmatic operations such as surveillance and manufacturing would be interrupted without the facilities required to process and dispose of waste on a timely basis.

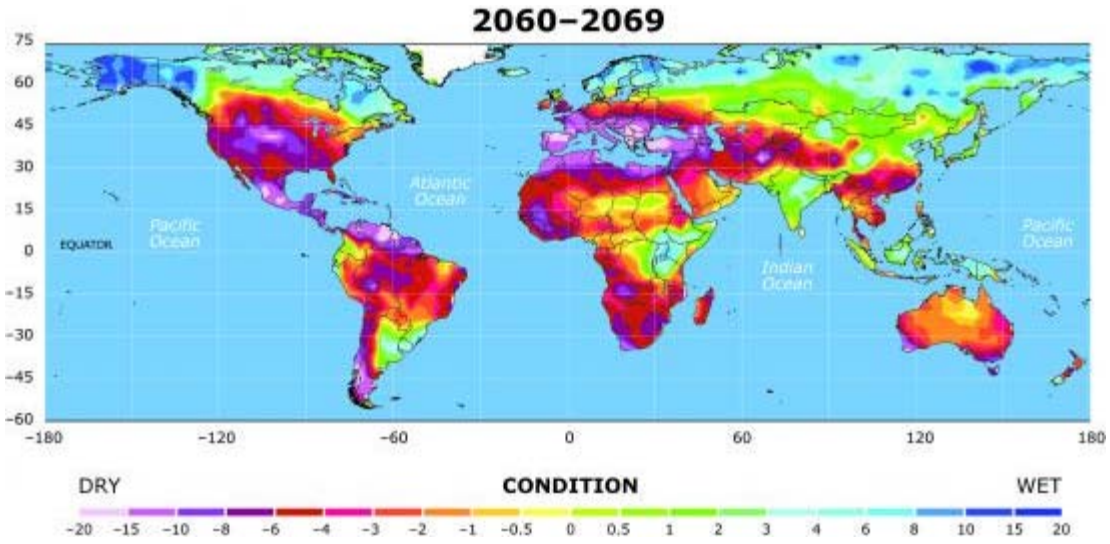
The overall strategy is to upgrade existing facilities supporting solid and liquid waste operations until new facilities including the TRU Waste Facility and Radioactive Liquid Waste Treatment Facility (RLTWF) can be brought online. This strategy has resulted in the Consolidated Waste Capability as a master plan for addressing all forms of waste from the systems of enduring nuclear facilities at Los Alamos. The priority project among these is the TRU Waste project that provides for staging, characterization, and shipping/receiving of TRU waste bound for the Waste Isolation Pilot Plant in Carlsbad. The TRU Waste capability must be reconstituted, commissioned, and in operation at a location outside of the current location. Through the integrated nuclear planning process, these refurbishments and or replacement projects are intended to be sequenced in order to address the plutonium capability and capacity required by the life extension and refurbishment requirements set forth in the NPR.

Mello Aff #2, Par 12a

- Climate Progress - http://climateprogress.org -

New study puts the 'hell' in Hell and High Water

Posted By Joe On October 20, 2010 @ 7:05 pm In Science | Comments Disabled



[1]

Extended drought and Dust-Bowlification over large swaths of the habited Earth may be the most dangerous impact of unrestricted greenhouse gas emissions, as I've discussed many times (see Intro to global warming impacts: Hell and High Water [2]).

That's especially true since such impacts could well last centuries, whereas the actual Dust Bowl itself only lasted seven to ten years — see NOAA stunner: Climate change "largely irreversible for 1000 years," with permanent Dust Bowls in Southwest and around the globe [3].

A must-read new study from the National Center for Atmospheric Research, "Drought under global warming: a review [4]," is the best review and analysis on the subject I've seen. It spells out for the lukewarmers and the delayers just what we risk if we continue to listen to the Siren song of "more energy R&D plus adapatation."

The NCAR study is the source of the top figure (click to enlarge), which shows that in a half century, much of the United States (and large parts of the rest of the world) could experience devastating levels of drought — far worse than the 1930s Dust Bowl, especially since the conditions would only get worse and worse and worse and worse, while potentially affecting 10 to 100 times as many people. And this study merely models the IPCC's "moderate" A1B scenario — atmospheric concentrations of CO2 around 520 ppm in 2050 and 700 in 2100. We're currently on the A1F1 pathway, which would takes us to 1000 ppm by century's end, but I'm sure with an aggressive program of energy R&D we could keep that to, say 900 ppm.

Indeed, the study itself notes that it has ignored well understood climate impacts that could worsen the situation:

> As alarming as Figure 11 [5] shows, there may still be other processes that could cause additional drying over land under global warming that are not included in the PDSI calculation. For example, both thermodynamic arguments124 [6] and climate model simulations125 [7] suggest that precipitation may become more intense but less frequent (i.e., longer dry spells) under GHG-induced global warming. This may increase flash floods and runoff, but diminish soil moisture and increase the risk of agricultural drought.

That is, even when it does rain in dry areas, it may come down so intensely as to be counterproductive.

The study notes that "Recent studies revealed that persistent dry periods lasting for multiple years to several decades have occurred many times during the last 500–1000 years over North America, West Africa, and East Asia." Of course, those periods inevitably caused havoc on local inhabitants. Further, this study warns that by century's end, even in this moderate scenario, many parts of the world could see extended drought beyond the range of human experience:

Mello Aff #2, Par 12a

Regional vegetation die-off in response to global-change-type drought

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Edited by Harold A. Mooney, Stanford University, Stanford, CA, and approved September 7, 2005 (received for review July 8, 2005)

Future drought is projected to occur under warmer temperature conditions as climate change progresses, referred to here as global-change-type drought, yet quantitative assessments of the triggers and potential extent of drought-induced vegetation die-off remain pivotal uncertainties in assessing climate-change impacts. Of particular concern is regional-scale mortality of overstory trees, which rapidly alters ecosystem type, associated ecosystem properties, and land surface conditions for decades. Here, we quantify regional-scale vegetation die-off across southwestern North American woodlands in 2002–2003 in response to drought and associated bark beetle infestations. At an intensively studied site within the region, we quantified that after 15 months of depleted soil water content, >90% of the dominant, overstory tree species (*Pinus edulis*, a piñon) died. The die-off was reflected in changes in a remotely sensed index of vegetation greenness (Normalized Difference Vegetation Index), not only at the intensively studied site but also across the region, extending over 12,000 km² or more; aerial and field surveys confirmed the general extent of the die-off. Notably, the recent drought was warmer than the previous subcontinental drought of the 1950s. The limited, available observations suggest that die-off from the recent drought was more extensive than that from the previous drought, extending into wetter sites within the tree species' distribution. Our results quantify a trigger leading to rapid, drought-induced die-off of overstory woody plants at subcontinental scale and highlight the potential for such die-off to be more severe and extensive for future global-change-type drought under warmer conditions.

tree mortality | vegetation dynamics | climate change impacts | woodlands | *Pinus edulis*

Global climate change is projected to yield increases in frequency and intensity of drought occurring under warming temperatures (1–3), referred to here as global-change-type drought. Protracted, subcontinental drought in the midlatitudes is a complex response driven in part by anomalies associated with oscillations in sea surface temperature (2–4), which can include oscillations over periods of decades or longer, such as those associated with the Atlantic Multidecadal Oscillation and the Pacific Decadal Oscillation (4), and shorter periods spanning several years, such as those associated with the El Niño Southern Oscillation (3). Greenhouse gas forcings are expected to alter these oceanic effects on drought patterns (1–3). Indeed, the most recent protracted drought in southwestern North America, spanning the beginning of the 2000 millennium, exhibited anomalous sea surface temperature patterns consistent with projections of global change response (3). Protracted drought can trigger large-scale landscape changes through vegetation mortality from water stress (5, 6), sometimes associated with bark beetle infestations (5), but the potential for regional to subcontinental scale vegetation die-off under global-change-type drought remains a pivotal uncertainty in projections of climate change impacts (1, 7, 8). Of particular concern is regional-scale mortality of overstory trees, which rapidly alters ecosystem type, associated ecosystem properties, and land surface conditions for decades. The potential for this response is highlighted by a rapid shift of a forest ecotone caused by *Pinus ponderosa* mortality in response to the 1950s drought (5). The effects of drought accompanied by warmer temperatures resulting from greenhouse forcings might be expected to produce even greater effects on vegetation change than those of periodic, protracted drought alone (5). Yet few, if any, studies quantify rapid, regional-scale vegetation die-off in response to drought, key environmental conditions triggering tree mortality, such as prior soil moisture conditions, or how anomalously high temperatures might alter such vegetation responses. Such relationships urgently need to be quantified to improve climate change assessments (9).

We evaluated the impacts of the recent drought on regional-scale mortality of piñon pine (*Pinus edulis*), which is sensitive to climate variation and dominates piñon-juniper woodlands, one of the most extensive vegetation types in the western North America (10–12). Specifically, we evaluated the impacts of the recent drought on regional-scale mortality in the context of the potential impacts of global-change-type drought, and (*i*) demonstrated that the recent drought is not as dry as the previous drought but is warmer in numerous respects, thereby providing a case study for global-change-type drought; (*ii*) quantified site-specific conditions in soil water content and local vegetation response (percentage of tree mortality, and a remotely sensed vegetation index related to photosynthetic activity and associated greenness, Normalized Difference Vegetation Index, NDVI) to precipitation and temperature dynamics; and (*iii*) estimated and verified regional-scale stress and mortality responses in vegetation to drought by using weekly NDVI data back to 1989 and supplemental aerial surveys and field inventories.

Methods

We obtained monthly climate data for all meteorological stations in Arizona, New Mexico, Colorado, and Utah that were listed with the Western Regional Climate Center (www.wrcc.dri.edu; Western U.S. Climate Historical Summaries, September 1,

This paper was submitted directly (Track II) to the PNAS office.

Freely available online through the PNAS open access option.

Abbreviations: NDVI, Normalized Difference Vegetation Index; GAP, Gap Analysis Program.

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2004–Decmber 14, 2004) and determined annual values for total precipitation, mean minimum temperature, and mean maximum temperature. We then identified 22 of those stations associated with piñon-juniper woodlands based on two criteria. First, stations were within 1,000 m of the piñon-juniper vegetation type where *P. edulis* was either the dominant or codominant plant species, as defined by the United States Geological Survey Gap Analysis Program (GAP) distribution map of dominant vegetation (scale of 1:100,000; www.gap.uidaho.edu). The GAP map is derived from satellite imagery combined with existing data, air and field study, and expert knowledge. Our second criterion was that the record of monthly precipitation and temperature for the drought intervals of interest, defined below, was relatively complete: ≤2 months missing for any year of interest, except for two stations (Moab and El Vado) that were missing up to 4 months of data for one of the years. We compared the recent drought with that of the 1950s by focusing on the four driest consecutive years for each: 2000–2003 and 1953–1956, respectively. We tested for differences in total precipitation, mean minimum temperature, and mean maximum temperature between the two drought intervals by using *t* tests paired by station; we applied sequential Bonferroni adjustment to determine tablewide significance for the three *t* tests (13). We categorized anomalously dry or warm years as in the extreme 10 percentiles.

We evaluated synoptic vegetation changes by using the NDVI (1 km^2 = 1 pixel), calculated by using near–IR and visible reflectance values collected by the advanced very high-resolution radiometer located on several National Oceanic and Atmospheric Administration satellite platforms (14). NDVI has been widely used to estimate landscape patterns of primary production (14) and is correlated with foliar water content and water potential for *P. edulis* needles over a wide range of conditions, including recently deceased trees (15). Weekly values of NDVI from 1989 to 2003 were extracted by using the GAP-delineated piñon-juniper distribution of the four states. Before extraction, the NDVI data were corrected by using biweekly maximum value compositing to remove most cloud contamination and were corrected to reduce effects of atmospheric haze and ozone. These data were also detrended to account for artificial value drift by examining temporal signatures from invariant targets (16). The detrending provides a conservatively large adjustment that could mask some of the NDVI dynamics, and hence we present NDVI dynamics as a range bounded by nondetrended and detrended estimates. For each year, mean regional NDVI was calculated from the corrected images for late May through June (Julian weeks 22–26), a period when understory greenness was observed to have minimal effect, allowing overstory effects of die-off to be most apparent.

We used measurements from an intensively studied site located within the region, Mesita del Buey near Los Alamos, NM (17, 18), to document changes in (*i*) precipitation, temperature, and soil water content before and during the recent drought, and (*ii*) the associated responses in site NDVI and tree mortality. Soil water content was measured by using neutron attenuation at a 20-cm depth at 11 locations spaced at ≈10-m intervals; measurements were calibrated for local soils and generally obtained once or more per month. Mortality at Mesita del Buey was estimated through field surveys in 2002 and 2003 and was compared against baseline data. Weekly NDVI values for the Mesita del Buey site were estimated for a 3-×-3-pixel window (after comparing results with window sizes ranging from 1 × 1 to 9 × 9 pixels) to jointly mitigate spatial registration issues and land cover heterogeneity effects. For each year mean NDVI values for Mesita del Buey were calculated for late May through June (weeks 22–26) for intervals representing baseline (1989–1999) and drought after extensive die-off (2002–2003).

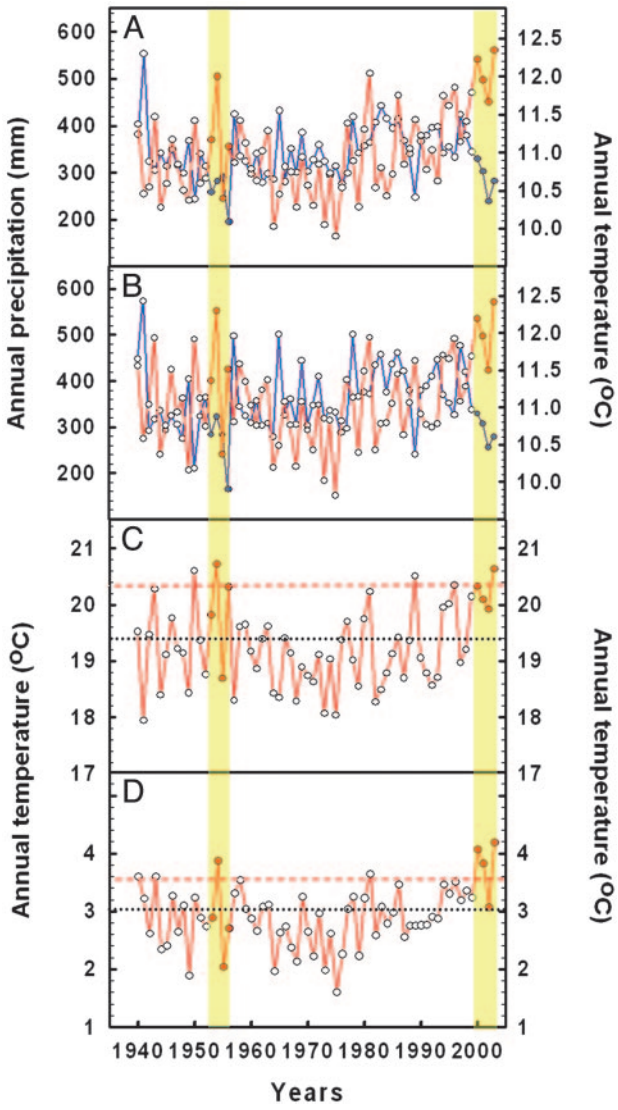

Fig. 1. Southwestern North American climate. (*A* and *B*) Annual mean precipitation (mm) and average of maximum and minimum temperatures (°C) for all stations in the four-state region (*A*) and only stations in or near piñon-juniper woodlands within that region (*B*) are shown. (*C* and *D*) Associated maximum (*C*) and minimum (*D*) temperatures for piñon-juniper woodlands (black line: long-term mean; red line: 10th or 90th percentile, differentiating driest or hottest years) are shown. Shaded bands indicate the four consecutive driest years of the 1950s drought (1953–1956) and the recent drought (2000–2003). Compared with the 1950s drought, the recent drought was wetter ($P < 0.05$) but warmer for maximum ($P < 0.05$) and especially minimum temperature ($P < 0.001$).

To confirm that regional NDVI changes within the GAP-delineated area were associated with tree mortality, we obtained data from aerial surveys conducted by the U.S. Department of Agriculture Forest Service and distributed by the Forest Health Technology Enterprise Team (19), which covered ≈60% of the piñon-juniper woodland distribution in the four states during 2002 and 2003. The surveys were flown 300–400 m above ground, and areas of noticeable stand-level mortality from drought and associated bark beetle infestation were sketch-mapped at the 1:100,000 scale. We also estimated *P. edulis* mortality for nonseedling trees (≥1-m height) at a verification site in each of the four states, based on either documented changes in inventories that were conducted before mortality event (Arizona, Colorado, New Mexico) or for which recent

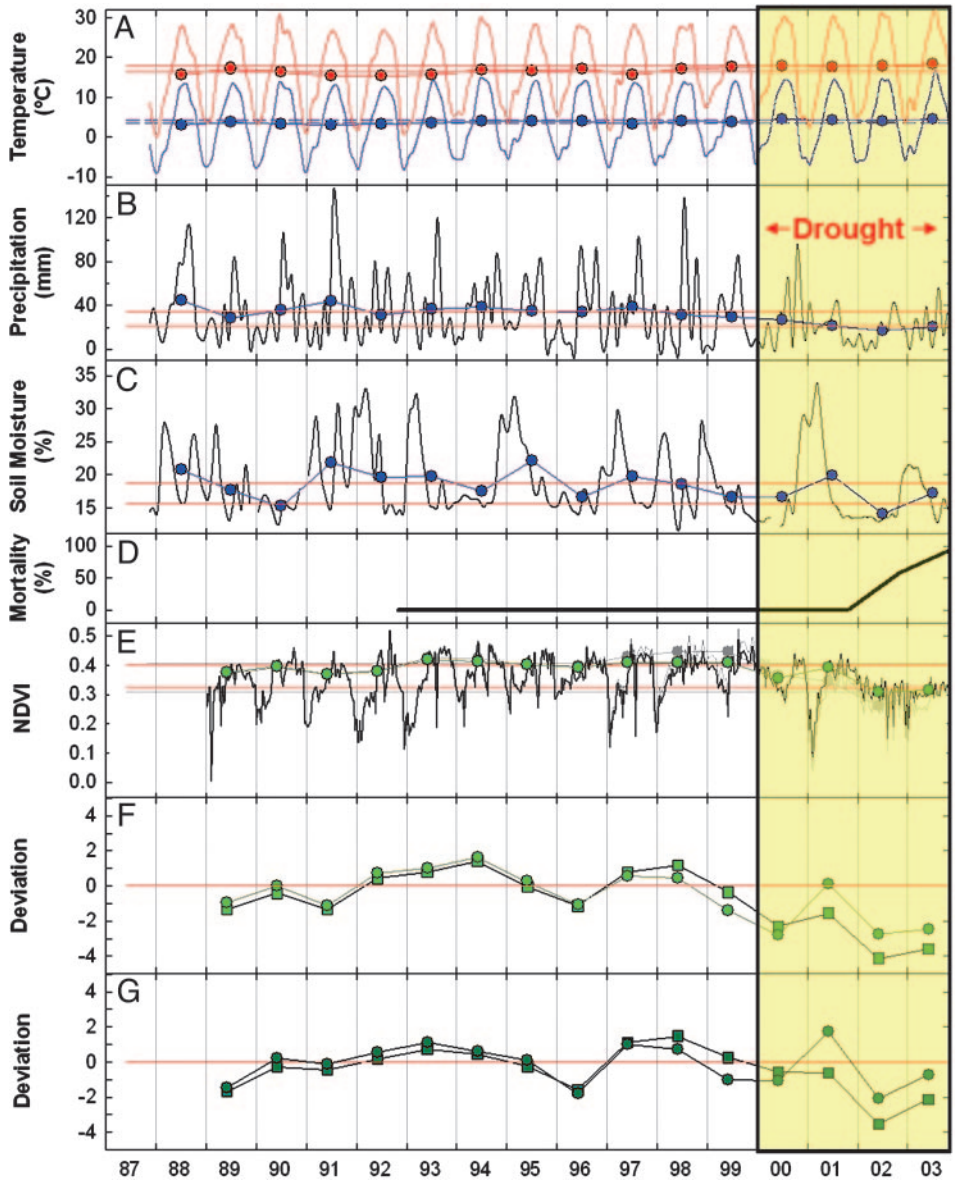

Fig. 2. Drought-induced mortality at Mesita del Buey, northern New Mexico. Shown for predrought and drought periods are: minimum (blue) and maximum (red) temperature (°C) (*A*), precipitation (mm) (*B*), volumetric soil water content at 20 cm (%) (*C*), *P. edulis* mortality (*D*), weekly NDVI at Mesita del Buey (*E*), and NDVI for late May-June for Mesita del Buey (*F*) and the region encompassing *P. edulis* (*G*). For *A–E*, circles indicate means (annual for *A–C* and late May-June for *E–G*); horizontal lines indicate predrought and drought means, with the latter being warmer, wetter, or lower in NDVI. For *E*, gray lines are nondetrended estimates; for *F–G*, squares are nondetrended and circles are detrended estimates.

mortality was inferred (Utah); verification sites varied from 4 to 49 in number of plot or belt transects and 0.2–4.9 hectares for total area surveyed. The New Mexico site spanned the more intensively studied Mesita del Buey site and included wider coverage.

Results

The recent drought spanning southwestern North America was anomalously dry, similar to the subcontinental drought of the 1950s, but contrasted with that drought in having anomalously high temperatures for the entire region (Fig. 1*A*) and for locations only within the distributional range of *P. edulis* (Fig. 1*B*). Within the distributional range of *P. edulis*, total precipitation during the 4-year interval for the recent drought (2000–2003) was slightly greater than that for the 1950s drought (Fig. 1*B*; $P < 0.05$). Yet the recent drought was warmer than the 1950s drought with respect to maximum annual temperature (Fig. 1*C*; $P < 0.05$) and particularly with respect to minimum annual temperature (Fig. 1*D*; $P < 0.001$) and average summer maximum temperature (June and July; $P < 0.001$). At the intensively studied site within the region located in northern New Mexico (Mesita del Buey), mean minimum and mean maximum temperatures were warmer during than before the recent drought (Fig. 2*A*), a period of reduced annual precipitation spanning 2000–2003 (Fig. 2*B*). The timing and amount of the reductions in precipitation in conjunction with simultaneous warmer temperatures resulted in 10 consecutive months (October 1999–August 2000) of dry soil water conditions (<15% volumetric water content, associated with a soil water potential of less than −2.5 MPa; ref. 18), which was later followed by an additional 15 consecutive months of dry soil water conditions (August 2001–October 2002; Fig. 2*C*). Bark beetle (*Ips confusus*) infestation

and change in foliar water and spectral conditions were observed subsequently during 2002 and 2003 (15). Resulting *P. edulis* mortality at Mesita del Buey exceeded 90% (Fig. 2*D*). The tree mortality at this site is reflected in a >20% decrease in NDVI, highlighted by the reduced NDVI values for 2002 and 2003 that persisted once the *P. edulis* mortality began (Fig. 2 *E* and *F*). Premortality effects of the drought are evident in the depressed values of site NDVI for 2000, a very dry year, and then are partially offset by increased NDVI in 2001, because of a relatively wet 2000–2001 winter and associated herbaceous response. The site-specific changes in NDVI are roughly parallel with regional-scale changes in NDVI (Fig. 2*G*), which also dropped off substantially in 2002 and to a lesser extent in 2003. The site-specific mortality at Mesita del Buey proceeded into 2003, despite a pulse of soil moisture during the 2002–2003 winter (Fig. 2*F*), with NDVI remaining depressed through 2003. Conversely, at the regional scale where mortality was less complete, the winter 2002–2003 pulse of soil moisture appears to have resulted in an increased herbaceous response that partially masks the effect of the tree die-off (Fig. 2*G*). Nonetheless, even using the conservatively detrended estimate, NDVI-depressed values at the regional scale remain substantial. Indeed, reductions in NDVI of similar magnitude to those linked directly to tree mortality at Mesita del Buey covered much of the *P. edulis* distribution, indicating the spatial extent and variation of drought-induced mortality (Fig. 3*A*). Regional aerial surveys conducted by the U.S. Forest Service for a subset of the area within the study region confirm that there was widespread mortality for >12,000 km^2 (Fig. 3*B*), as reflected in our estimates of NDVI changes. Additional field plot inventories provide further confirmation of widespread *P. edulis* mortality, with mortality from the drought and associated infestations of the bark beetle *I. confusus* at the four verification areas ranging from 40% to 80% (Fig. 3*B*).

Discussion

Our results are notable in documenting rapid, regional-scale mortality of a dominant tree species in response to subcontinental drought accompanied by anomalously high temperatures. Although the proximal cause of mortality for most of the trees was apparently infestation by bark beetles, such outbreaks are tightly tied to drought-induced water stress (5, 20). The soil water content in the months preceding tree mortality was sufficiently low to have produced high plant water stress and cessation of transpiration and photosynthesis in *P. edulis* (18). Importantly, there was high mortality of as much as 90% or more at studied high elevation sites, such as Mesita del Buey, Mesa Verde in Colorado, and near Flagstaff, AZ, which are near the upper limit of *P. edulis* distribution and where precipitation and water availability are generally greater than at many other locations where this species occurs. In contrast, mortality in response to the 1950s drought in the same landscape as Mesita del Buey in northern New Mexico was documented predominantly on drier, mostly lower elevation sites, based on the presence or absence of standing or downed dead piñon wood (21). Most of the patchy mortality in the 1950s was associated with trees >100 years old, whereas nearly complete tree mortality across many size and age classes was observed in response to the recent drought (ref. 22 and data for Figs. 2*D* and 3*B*). Collectively, these observations suggest that the mortality response to the recent drought was greater in magnitude and extent than the mortality response to the 1950s drought. The warmer temperatures associated with the recent drought would have increased the energy load and water stress demands on the trees and may account for the apparently greater resulting mortality. The effects of water and temperature stress during the recent drought could have been further exacerbated by (*i*) anomalously high precipitation in the southwestern North America from about 1978–1995 that allowed rapid tree growth and increased stand densities, resulting in potentially greater intraspecific competition for drought-limited water and greater susceptibility to drought, beetle infestation, and associated pathogens (22) and/or (*ii*) amplifying effects of warmer temperatures and longer growing seasons on beetle growth rates and population dynamics (23). Nonetheless, previous studies of drought-induced die-off have highlighted the underlying importance of water stress in triggering die-off (5, 20).

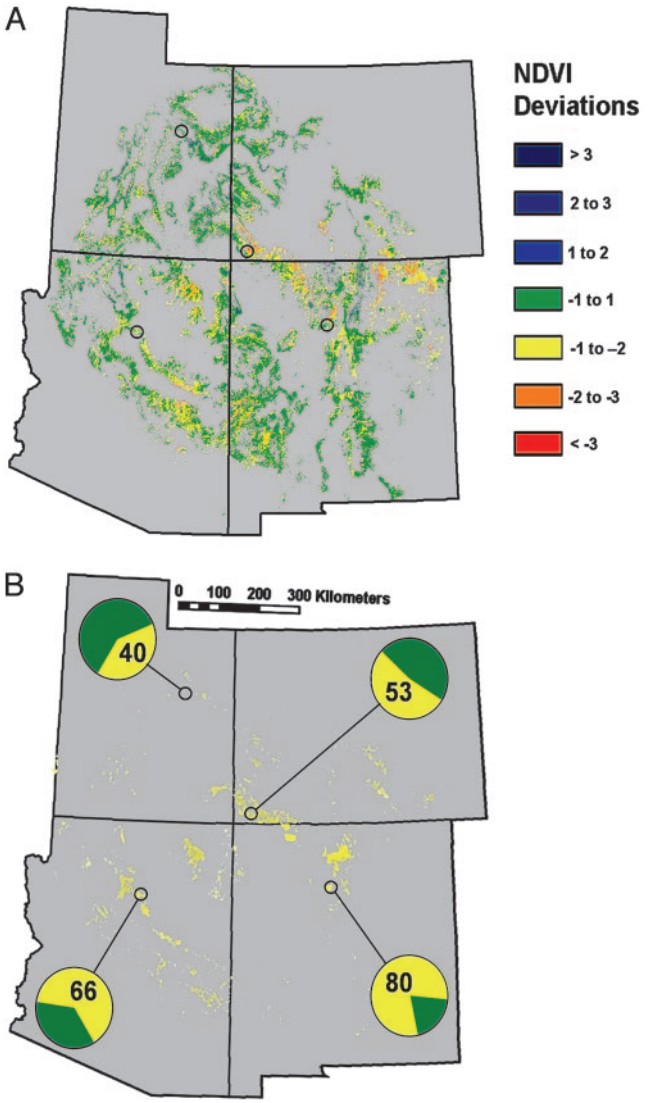

Fig. 3. Regional drought-induced vegetation changes. (*A*) Change map for NDVI for the region encompassing *P. edulis* distribution within Arizona, New Mexico, Colorado, and Utah, based on deviation from 2002–2003 relative to the predrought mean (1989–1999) during the period late-May to June. (*B*) Aerial survey map of piñon-juniper woodlands, delineating areas that experienced noticeable levels of tree mortality (including larger, older trees), conducted by the U.S. Forest Service (19) in four study areas throughout the region, corroborates the NDVI and aerial survey maps and documents stand-level estimates of mortality that range from 40% to 80% of nonseedling trees.

The rapid, extensive regional changes in vegetation cover through tree die-off that we have quantified for southwestern North America have a number of important, interrelated ecological implications (12, 24), including potentially large changes in carbon stores and dynamics, of concern for carbon-related polices and management (9). Other interrelated implications include large changes in near-ground solar radiation (25), runoff

and erosion (5), genetic structure of the dominant tree species on the landscape (26), and land surface microclimate feedbacks to the atmosphere (27). Additionally, future production of piñon nuts, an important food source for several species of birds and small mammals and for local people (28), is expected to be greatly reduced over an extensive area. Persistence of the recent drought could lead to further mortality of *P. edulis* and other plant species within its distribution. Notably, a dominant herbaceous species within piñon-juniper woodlands, *Boutelua gracilis*, underwent a >50% reduction in live basal cover between 1999 and 2003 near the Mesita del Buey site. Even codominant, woody species of *Juniperus monosperma*, which are much more drought tolerant than *P. edulis* (18), are undergoing mortality in response to the drought, ranging from 2% to 26% at our four field verification sites.

The cessation of drought conditions may be insufficient for reestablishment of *P. edulis* and associated plant species, as documented for landscape response of *Pinus ponderosa* after the 1950s drought (5). Such rapid shifts in vegetation may represent abrupt, rapid, and persistent shifts in not only ecotones, but also in dominant vegetation cover and associated ecosystem process (5, 7–8). At a minimum, the spatially extensive die-off will need to be considered in regional environmental assessments and management decisions over the next several decades, the shortest interval required for a *P. edulis*-dominated overstory structure to reestablish. More generally, an improved predictive capability to forecast ecological responses to climate at regional scales is needed to effectively deal with the consequences of large-scale, long-term climate forcings (2, 8). Our results highlight how drought-induced die-off can span across the range of a vegetation type and challenges the current paradigm for climate-induced vegetation dynamics, which focuses largely on changes at the margins of a species' range and the ecotone boundaries within that range (1, 5, 6). Additionally, if temperatures continue to warm, vegetation die-off in response to future drought may be further amplified (5, 8, 9, 12). This recent drought episode in southwestern North America may be a harbinger of future global-change-type drought throughout much of North America and elsewhere, in which increased temperature in concert with multidecadal drought patterns associated with oceanic sea surface oscillations can drive extensive and rapid changes in vegetation and associated land surface properties.

We thank participants of the Drought Workshop in Flagstaff in 2003 and J. T. Overpeck, J. L. Betancourt, T. W. Swetnam, K. Larsen, F. J. Barnes, J. Salazar, J. L. Martinez, T. G. Schofield, and C. B. Zou for comments and/or technical support. D.D.B., P.M.R., and C.W.M. were supported by Los Alamos National Laboratory Directed Research. K.P.P. was supported by National Aeronautics and Space Administration Land Cover Land Use Change Grant NAG5-11337. C.D.A. was supported by the Global Change Program of the U.S. Geological Survey's Biological Resources Discipline. R.G.B. was supported by the U.S. Forest Service Rocky Mountain Research Station and the Los Alamos National Laboratory Biological Resources Management Program. O.B.M. was supported by National Institute of Environmental Health Sciences Grant P30ES012072. Support for regional collaboration was also provided by the National Science Foundation through the Drought-Induced Regional Ecosystem Response Network (National Science Foundation Grant DEB-0443526 to N.S.C.) and the Sustainability of Semi-Arid Hydrology and Riparian Areas Science and Technology Center (through National Science Foundation Cooperative Agreement EAR-9876800).

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Mello Aff #2, Par 12b

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Natural Gas	Construction (NF & supporting structures): • No information provided Operations (RLUOB and NF): • No information provided	Construction (NF & supporting structures): • None Operations (RLUOB and NF): • 140 Mm cu ft/yr, 12% increase in usage (use of natural gas is restricted to the utility building attached to the RLUOB to supply boilers and emergency generators)	The CMRR EIS did not project the amount of natural gas needed for construction or operations at the RLUOB and CMRR-NF. Natural gas use is bounded by 2008 SWEIS; within site-wide limits.
Geology and Soils			
	Construction[11]: • NF: Excavate to 50-ft depth; 117,000 cu yds of material removed • Tunnels & Trenching: Excavate to 50-ft depth; 122,300 cu yds of material removed Operations: Not expected to impact geologic and soil resources. Facilities are sited to minimize risk from geologic hazards including earthquakes. Note: The potential to encounter contaminated soils is discussed below under "Potential Release Sites."	Construction: • NF: Excavate to 125-ft depth, between 375,000 and 500,000 cu yds of material removed • Tunnels & Trenching: Excavate to 50-ft depth; 113,500 cu yds of material removed This represents an increased depth of excavation (additional 75 ft) and increased material removed (additional 249,200 to 374,200 cu yds) compared to the CMRR EIS analysis. The excavated material (spoils) will be beneficially reused on other projects: Approximately 153,000 cu yds of the material will be reused as fill for other CMRR construction-related projects (such as for grading or fill to prepare laydown areas); the remaining amount will be staged at a LANL-wide materials staging area for future beneficial reuse on other LANL projects.	There will be some impacts to local geology as a result of the additional disturbance of subsoil during the NF construction. This additional disturbance is required for the NF construction to meet the seismic protection requirements (see discussion in Section 3). As stated in the CMRR EIS, the building must be constructed to minimize risks to workers, public, and environment from geologic hazards, including earthquakes. The planned and proposed activities meet this requirement. The magnitude and consequences of impacts related to the CMRR Project's total disturbance of subsoil are small in comparison to those bounded under the MDA remediation actions covered by the 2008 SWEIS ROD; that analysis considered the impacts associated with removal of up to 2.5 million cubic yards of crushed tuff and other material (DOE 2008a).

Mello Aff #2, Par 12g

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Infrastructure (continued)			
Water Requirements	Construction (NF and supporting structures)[9]: • 2.39 MG total; average 0.80 MG/yr over 3 yrs or 0.4% of available capacity	Construction (NF and supporting structures): • 96.39 MG total; average 17.52 MG/yr for 5.5 yrs, or 17% of available capacity • Estimated peak use[10]: 0.18 MG/day	Planned and proposed construction activities are expected to have a minimal (short-term and temporary) effect on the water supplies. During the construction phase (5.5 yrs), the temporary increase in water would be approximately 17% of LANL's available (surplus) capacity and it will not impact the available water supply to any current or projected uses. Bounded by the 2008 SWEIS; within site-wide limits.
	Operations (RLUOB and NF): • 10.4 MG/yr, 5% of available capacity	Operations (RLUOB and NF): 11.9 MG/yr, 11% of available • RLUOB: 5.2 MG/yr • NF: 6.7 MG/yr The increased water requirement of 1.5 MG/yr for operation would be a result of the installation of a demineralization system to remove silica and improve equipment performance.	There is no expected change in impacts associated with the Operations water use requirements. Operational use will decrease the available (surplus) capacity only slightly more than originally projected; however, it will not impact water supplies to any current or projected uses. Bounded by 2008 SWEIS; within site-wide limits.
Power Requirements	Construction (NF and supporting structures): • NF: 177.5 MWhr/yr Operations (RLUOB and NF): • 19,272 MWhr/yr, 4% increase in demand • Peak load of 2.6 MW, 3% increase in demand	Construction (NF & supporting structures): • NF: 337 MWhr/yr (includes batch plant operation) Operations (RLUOB and NF): • 43,680 MWhr/yr, 7% increase in demand • Peak of 3.7 MW, 3% increase • Estimates include 30% load growth/year for 50-year design life The increase in electrical requirements of 24,408 MWhr/yr is a result of the current project design, the increased size of the facility, and the added growth factor over 50 years.	Planned and proposed construction activities are expected to have a temporary effect on the electrical power requirements at LANL. Electrical requirements for the operation of the CMRR-NF are expected to have a minimal effect on LANL operations. Bounded by the 2008 SWEIS; within site-wide limits.

Mello Aff #2, Par 12h

and hydrology; these are spelled out in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

Approximately 34 acres (13.8 hectares) of wetlands have been identified within LANL boundaries during a survey in 2005 with 45 percent of these located in Pajarito Canyon. Dominant wetland plants found in site wetlands include reed canary grass (*Phalaris arundinacea* L.), narrow-leaf cattail (*Typha angustifolia* L.), coyote willow (*Salix exigua* Nutt.), Baltic rush (*Juncus balticus* Wildl.), wooly sedge (*Carex lanuginose* Michx.), American speedwell (*Veronica americana* Schwein. ex Benth.), common spike rush (*Eleocharis macrostachya* Britt.), and curly dock (*Rumex crispus* L.) (ACE 2005). Wetlands in the LANL region are primarily associated with canyon stream channels or are present on mesas, often in association with springs, seeps, or effluent outfalls. Cochiti Lake and the area near the LANL Fenton Hill site (TA-57) support lake-associated wetlands. There are also some springs within White Rock Canyon that support wetlands. Wetlands in the general LANL region provide habitat for reptiles, amphibians, and invertebrates, and potentially contribute to the overall habitat requirements of a number of species, including sensitive species (LANL 2004c, DOE 1999a).

The *1999 SWEIS* reported that there were 50 acres of wetlands on LANL. However, many of the outfalls with which these wetlands were associated have been closed or re-routed and the wetlands no longer exist. A further explanation for the difference in wetland acreage found in 1999 is that the methodology used in the past included as wetlands waters of the United States (ACE 2005). These channel areas were not delineated in the present survey as wetlands since they do not meet the criteria of the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987).

During the Cerro Grande Fire, 16 acres (6.5 hectares) of the wetlands on LANL were burned at a low or moderate intensity. No wetlands within LANL were severely burned. Some riparian areas along the drainages also burned during the fire; however, these are not wetlands and are not included in the total acres of wetland. In addition to direct impacts from the fire, wetlands could receive increased sediment from stormwater runoff. While small amounts of sediment from the burned areas would enhance wetland growth, large amounts of deposited sediment could permanently alter the condition of existing wetlands and destroy them. The effects of the Cerro Grande Fire on LANL wetlands have yet to be fully assessed (DOE 2000f).

Fire suppression did not result in any direct impacts to wetlands since fire roads or breaks were not placed in wetlands. While construction of stormwater control projects following the fire resulted in minor impacts to wetlands (for example, culvert cleaning downstream from TA-18), these actions will protect downstream wetlands from erosion (DOE 2000f). Water retention structures built in drainages following the fire could develop wetland characteristics over time; however, with the ongoing drought, they have not yet been defined as wetlands (LANL 2006a).

To date, all or portions of 8 tracts have been conveyed or transferred to Los Alamos County and the Department of the Interior to be held in trust for the Pueblo of San Ildefonso (see Table 4–2). These tracts contain a total of about 9 acres (3.6 hectares) of wetlands, including stream channels. Although these wetlands are still protected by Federal and state regulations, they are no longer under the control of DOE. To date, there has been no change in the status of these wetlands because development has not taken place; however, future development could result in

Mello Aff #2, Par 12h; pp. 28-29 have been added to the citation for clarity

White Rock Canyon Reserve

The White Rock Canyon Reserve was dedicated by DOE on October 30, 1999. It contains approximately 1,000 acres on the southeastern portion of LANL along the Rio Grande. The objective of the Reserve is to conserve, protect, and enhance the site's biological and cultural resources. Bandelier National Monument will co-manage it together with NNSA with input from UC/LANL, other state and federal agencies, nearby Pueblos, and the local community. A comprehensive resources management plan for the Reserve, to be developed by Bandelier National Monument with NNSA review and approval, will be completed by 2005 (DOE 1999c).

2.3.2 Regional Importance of LANL Resources

Administrative boundaries do not necessarily coincide with ecological boundaries. LANL facilities, infrastructure, operations, and impacts (positive, negative, and undetermined) are immersed in the patterns and processes of a complex regional landscape making up the Pajarito Plateau. Major habitat types and canyon systems are continuous across this plateau, which encompasses jurisdictional boundaries of LANL, Bandelier National Monument, Santa Fe National Forest, Native American Pueblos, and other land management stewards. Seasonal migration routes for elk and deer and foraging, or hunting, ranges of black bears and mountain lions cross these jurisdictional boundaries. A number of interagency organizations have been created to foster cooperation. The following describes current interagency organizations.

The East Jemez Resource Council

The East Jemez Resource Council was established in 1998 with a goal of maintaining and enhancing the natural and cultural resources of the East Jemez Mountains so that they may be sustained and appreciated by current and future generations. The Council has several technical working groups that focus and report on resource-specific issues and efforts. NNSA, UC, Santa Fe National Forest, US Fish and Wildlife Service, and Bandelier National Monument signed the Charter establishing the Council. Other participating government entities include San Ildefonso, Cochiti, and Santa Clara Pueblos, the New Mexico Environment Department (NMED), New Mexico State Forestry Division, and New Mexico Department of Game and Fish.

Pajarito Plateau Watershed Partnership

In 1999, when the Watershed Management Plan was in development, regional landowners and managers with a common interest in the water quality of the Pajarito Plateau established the Pajarito Plateau Watershed Partnership (PPWP). The Partnership's mission is to protect, improve, and restore water quality in this watershed. Toward this end, the Partnership is preparing a multiagency program and plans to identify and resolve the primary regulatory and stakeholder issues affecting water quality. Partnership members include Bandelier National Monument, San Ildefonso Pueblo, Santa Clara Pueblo, Los Alamos County, NMED, Santa Fe National Forest, NNSA, and UC/LANL. In 2001, the PPWP became a new working group under the East Jemez Resource Council.

B.1 INTRODUCTION

This appendix provides some of the resource-specific context necessary for understanding the purpose and intended use of the IRMP for managing the natural and cultural resources occurring at LANL. It includes information regarding the extent and condition, resource management considerations, and the current approach to resource management associated with each of the following resources: air, surface water, groundwater, biological resources (including soils), and cultural resources. The information in this appendix represents the current understanding and management status for each resource. It is based on historic and on-going studies and publications including the SWEIS for LANL (LANL 1997; LANL 1998b; LANL 1999), updated as appropriate.

B.1.1 Background

A key component of managing natural and cultural resources at LANL are the relationships between resources on both a regional and site-specific scale. Consideration of the administration of LANL operations and activities within a site-specific and regional context is also important. Administrative boundaries, however, do not necessarily coincide with ecological boundaries. LANL facilities, infrastructure, operations, and impacts (positive, negative, and undetermined) are part of the patterns and processes of a complex regional landscape making up the Pajarito Plateau. Major watersheds (Figure B.1), canyon systems, and vegetation zones (Figure B.2) are continuous across this plateau, which encompass jurisdictional boundaries of LANL, Bandelier National Monument, Santa Fe National Forest, Native American Pueblos, and other land management stewards. Because of this ecological continuity and interconnectedness, the site to be managed by this IRMP must be considered in its context as part of a larger regional ecosystem. Two landscape-based organizational themes may be used to place this larger regional ecosystem into perspective: watershed units and major vegetation zones.

Watersheds

The regional ecosystem has been defined to include eight major watersheds, each of which has significant tributaries (Table B.1). Guaje Canyon bounds this regional ecosystem on the north, Frijoles Canyon on the south, the crest of the Jemez Mountains on the west, and the Rio Grande on the east. Because of their downstream hydrologic connection to LANL and the functional boundary of Cochiti Dam, the White Rock Canyon stretch of the Rio Grande

Table B.1 Watersheds and Main Tributaries

Watersheds[a]	Major Tributaries to the Watershed[b]
Los Alamos	Los Alamos Pueblo Barrancas Bayo Rendija DP Guaje
Mortandad	Ten-Site Mortandad Cañada del Buey Cedro
Water	Cañon de Valle S-Site (Martin) Potrillo Fence Indio
Sandia	Sandia
Pajarito	Pajarito Three-Mile Starmer Two-Mile
Ancho	North Ancho South Ancho
Chaquehui	Chaquehui
Frijoles	Frijoles

[a]These watersheds drain the Pajarito Plateau, some portion of NNSA property, and discharge to the Rio Grande.

[b]Many of these tributaries receive surface flow from other, lesser, named and unnamed, tributaries.

and Cochiti Lake are also included in this regional ecosystem.

Watersheds draining the Jemez Mountains and Pajarito Plateau are tributaries of the Rio Grande, which is the fifth largest watershed in North America. Approximately 11 miles of LANL's eastern boundary borders on the rim of White Rock Canyon or descends to the Rio Grande. The riverine, lake, and canyon environment of the Rio Grande as it flows through White Rock Canyon makes a major contribution to the biological resources and significantly influences ecological processes of the LANL region.

From their narrow, thickly forested beginnings on the flanks of the Jemez Mountains to their confluence with the Rio Grande, major canyons are associated with the eight major watersheds. The plateau canyons range in depth from about 200 to 600 feet. The steeply sloping, north-facing canyon walls and canyon bottoms are shadier and cooler and have higher levels of humidity and soil moisture than the often nearly vertical, south-facing canyon walls, which are sunnier, hotter, and more arid. These differences in slope, aspect, sunlight, temperature, and moisture cause a dramatic, localized shift in major vegetation zones on canyon walls and in canyon bottoms beyond their typical range of elevation. This "canyon effect" is responsible for fingers of coniferous forest extending down regional canyons.

Surface water flow occurs in canyon bottoms seasonally, or intermittently, as a result of spring snowmelt and summer rain. A few short sections of riparian vegetation of cottonwood and willow and other water-loving plants are present in scattered locations on LANL as well as along the Rio Grande in White Rock Canyon. The relatively abundant moisture concentrated between the temperature-moderating canyon walls allows a diverse array of plant and animal species to exist in these canyons at elevations that exceed the normal upper and lower elevation limits for these species.

Wildlife is abundant and diverse in the canyons. The canyons contain a more complex mix of habitats than the adjacent mesa tops and provide nest and den sites, food, water, and travel corridors. Mammals and birds are especially evident in these environments.

Major Vegetation Zones

While watersheds traverse all or part of the elevational gradient, major vegetation zones (Figure B.2) are organized into elevation- and aspect-defined bands across this gradient. Increasing temperature and decreasing moisture along the 12-mile-wide and 5,000-foot elevational gradient from peaks of the Jemez Mountains to the Rio Grande result in formation of six vegetative zones. The six major vegetative zones that characterize this regional ecosystem are montane grasslands, spruce-fir forest, mixed-conifer forest (with aspen forest), ponderosa pine forest, piñon-juniper woodland, and juniper savannah.

The montane grassland, spruce-fir, and mixed-conifer vegetation zones are located primarily west of LANL with little or no representation on LANL proper. The vegetation zones and associated ecotones provide habitat, including breeding and foraging territory, and migration routes for a diversity of permanent and seasonal wildlife.

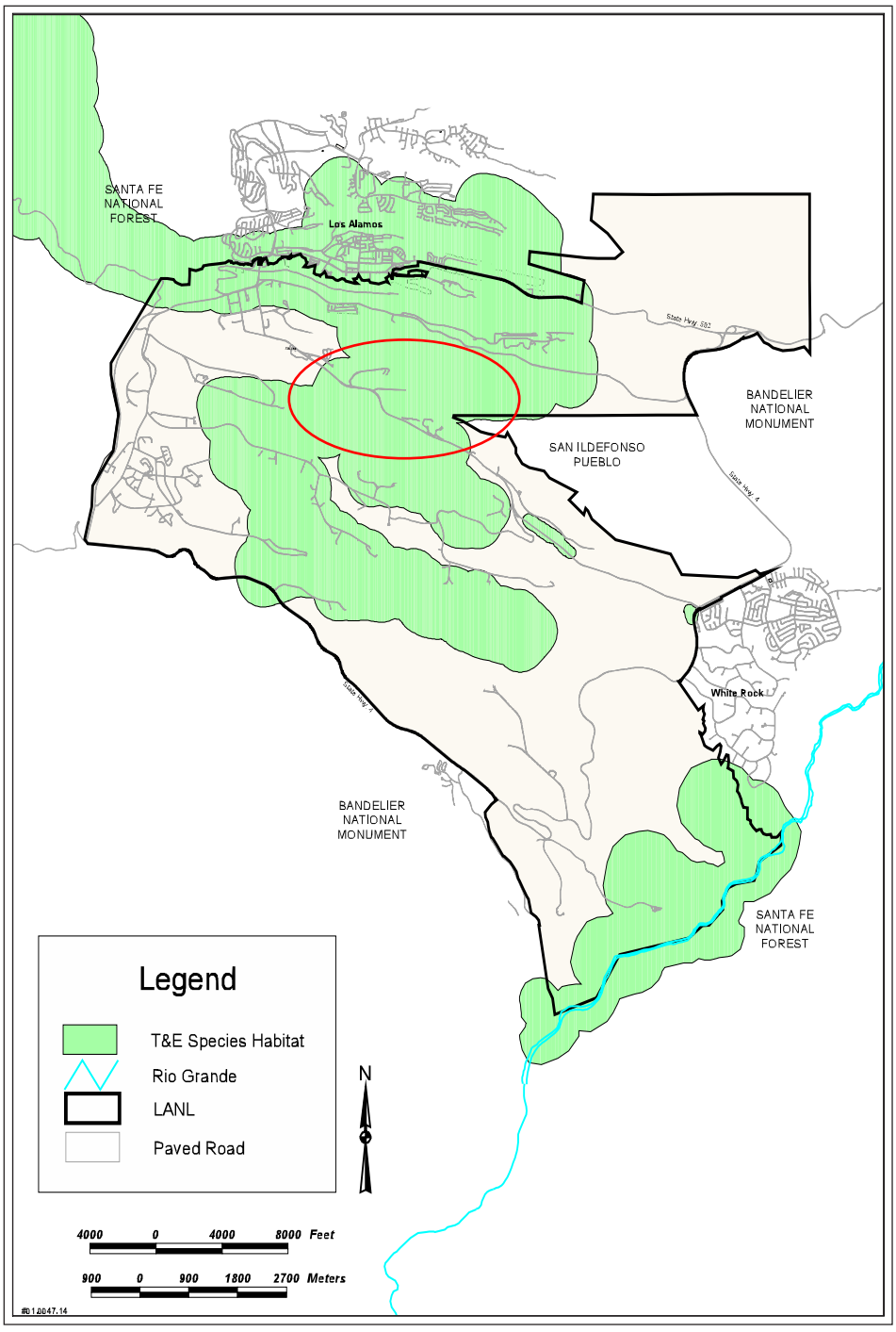


Figure B.5. Threatened and endangered species habitat at LANL.

Mello Aff #2, Par 12h

Approximately 6.6 percent of LANL acreage is bare soil. Soil erosion rates vary considerably on mesa tops at LANL, with highest rates occurring in drainage channels and areas of steep slopes and lowest rates occurring on gently sloping portions of the mesa tops away from channels. The Cerro Grande fire has changed the extent and condition of much of the forest, range, and soils of the LANL site. Even more dramatic changes have occurred within the mountain slopes and canyons to the west and upslope of LANL. Several thousand acres of LANL forest and rangelands burned with variable intensity during the fire. These areas are under various stages of rehabilitation and postfire recovery. Site soils, particularly in severely burned areas and drainages, have become more vulnerable to erosion because of loss of vegetation and the increased flooding potential resulting from the fire.

Wildlife, Sensitive Species, and Habitats

The lands within and around LANL have diverse, unique biological communities with complex ecological relationships. Plant communities range from urban landscaping to grasslands, wetlands, shrublands, woodlands, and mountain forest, which provide habitat for a wealth of animal life. This richness of animal life includes elk and deer, bears, mountain lions, coyotes, rodents, bats, reptiles, amphibians, invertebrates, and a myriad of resident, seasonal, and migratory bird life. In addition, threatened and endangered species of concern and other sensitive species use LANL resources. Because of restricted access to LANL lands and management of contiguous Bandelier National Monument for natural biological systems, much of the region provides a refuge for wildlife.

LANL's lands support state- and federal-listed threatened and endangered species. A number of regionally protected and sensitive species of concern have been documented on or near LANL's lands. These consist of two federally listed endangered species, two federally listed threatened species, and 18 species of concern (species that may be of concern to US Fish and Wildlife Service but do not receive protection under the Endangered Species Act). There are potentially more than 20 state-listed species residing within LANL boundaries.

Wetlands, mostly restricted to the bottoms of these canyons, provide valuable habitat for reptiles, amphibians, and invertebrates and potentially contribute to overall habitat requirements of the Mexican spotted owl, southwestern willow flycatcher, and spotted bat, all of which are federal- or state-listed species, or both. Wetlands also provide habitat, food, and water for many common species such as deer, elk, small mammals, and many migratory birds and bats.

B.2.4.2 Resource Management Considerations

LANL facilities and operations occur within an ecologically diverse and relatively undisturbed region protected under a myriad of federal and state regulations, policies, and orders. LANL is also surrounded by many different stakeholder communities that expect the site to operate in a compliant and responsible manner. LANL projects and activities must be planned and implemented in a manner that minimizes risk to both institutional activities and the surrounding environs via processes that integrate the mission and biological resources management.

Forest, Range, and Soils

In the last 50 years, the LANL region has sustained five major wildfires: the Water Canyon fire in 1954, the La Mesa fire in 1977, the Dome fire in 1996, the Oso fire in 1998, and the Cerro Grande fire in 2000. In each case, fire occurred during the late-spring, early-summer fire season when fire danger was high or extreme. Weather conditions were hot and dry, fuel moisture content was low, and fuel loads were high. Even after these five fires, overall conditions across the Pajarito Plateau are still conducive to wildfire, and as fuel loads regenerate in the burned areas, the probability of the next serious fire event increases. These conditions are an important consideration in the effort to address the risk of wildfire at LANL and within the region. Soil erosion can have serious consequences to maintenance of biological communities and is also a mechanism for moving contaminants across LANL and off site. Wildfire, construction, and other similar activities at LANL can displace these soils, and runoff from parking lots and buildings can cause erosion. In addition, surface contamination can result from open detonations at the firing sites or from deposition of contaminants released to the atmosphere from building vents and other operations. The Cerro Grande fire dramatically increased the risks associated with soil erosion.

Wildlife, Sensitive Species, and Habitats

Some specific wildlife management considerations that have been identified by LANL biologists, other LANL personnel, and external stakeholders include (1) minimizing vehicle-animal collisions; (2) identifying and protecting key habitats on LANL; (3) maintaining the ability of animals to travel across LANL in the face of increasing development, fencing, and other disturbances; (4) minimizing transmission of zoonotic diseases (such as hantavirus) to humans; (5) minimizing uptake and transport of contaminants by wildlife; (6) evaluating and mitigating impacts of wildlife on other natural resources; and (7) evaluating and mitigating impacts of the Cerro Grande fire on wildlife species.

NNSA operations and activities at LANL have the potential to impact threatened, endangered, and sensitive species. These species are protected under federal and state laws as well as institutional policies. These laws and policies are designed to avoid or mitigate potential impacts associated with removal and fragmentation of key habitat, disturbance during breeding seasons, and alteration of hunting and foraging areas (Figure B.5). Conversely, these species may impact institutional planning and operations by requiring certain areas to remain undisturbed and restricting the amount of land space available for locating and operating new facilities.

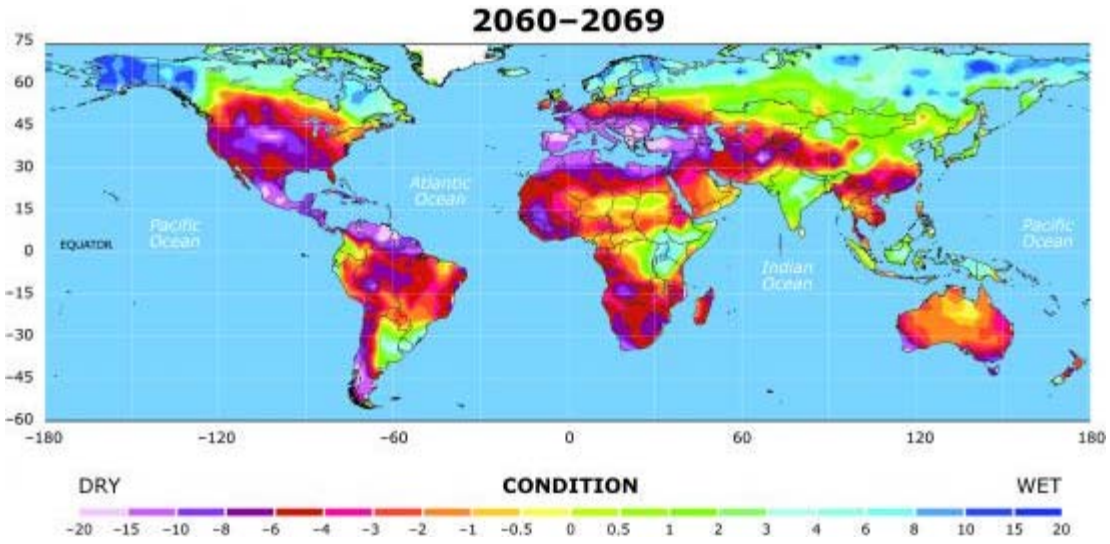
LANL wetlands (Figure B.3) are considered sensitive habitats that provide resources for local and regional wildlife. These wetlands provide habitat and resources for threatened and endangered species, aquatic invertebrates, amphibians and reptiles, and numerous species of local and migratory birds and are also used by other wildlife like large game species as water sources. LANL wetlands, and the floodplains in which they exist, are protected under federal and state laws. Some of these wetlands are the result of industrial outfalls regulated under the Clean Water Act. To reduce the amount of pollutants released to the environment, some of these outfalls are being eliminated, and the associated wetlands are being reduced or lost. One of the significant considerations associated with managing LANL wetlands is the institutional trade-offs between eliminating outfalls as a

Mello Aff #2, Par 12h

- Climate Progress - http://climateprogress.org -

New study puts the 'hell' in Hell and High Water

Posted By Joe On October 20, 2010 @ 7:05 pm In Science | Comments Disabled



[1]

Extended drought and Dust-Bowlification over large swaths of the habited Earth may be the most dangerous impact of unrestricted greenhouse gas emissions, as I've discussed many times (see Intro to global warming impacts: Hell and High Water [2]).

That's especially true since such impacts could well last centuries, whereas the actual Dust Bowl itself only lasted seven to ten years — see NOAA stunner: Climate change "largely irreversible for 1000 years," with permanent Dust Bowls in Southwest and around the globe [3].

A must-read new study from the National Center for Atmospheric Research, "Drought under global warming: a review [4]," is the best review and analysis on the subject I've seen. It spells out for the lukewarmers and the delayers just what we risk if we continue to listen to the Siren song of "more energy R&D plus adapatation."

The NCAR study is the source of the top figure (click to enlarge), which shows that in a half century, much of the United States (and large parts of the rest of the world) could experience devastating levels of drought — far worse than the 1930s Dust Bowl, especially since the conditions would only get worse and worse and worse and worse, while potentially affecting 10 to 100 times as many people. And this study merely models the IPCC's "moderate" A1B scenario — atmospheric concentrations of CO2 around 520 ppm in 2050 and 700 in 2100. We're currently on the A1F1 pathway, which would takes us to 1000 ppm by century's end, but I'm sure with an aggressive program of energy R&D we could keep that to, say 900 ppm.

Indeed, the study itself notes that it has ignored well understood climate impacts that could worsen the situation:

> As alarming as Figure 11 [5] shows, there may still be other processes that could cause additional drying over land under global warming that are not included in the PDSI calculation. For example, both thermodynamic arguments124 [6] and climate model simulations125 [7] suggest that precipitation may become more intense but less frequent (i.e., longer dry spells) under GHG-induced global warming. This may increase flash floods and runoff, but diminish soil moisture and increase the risk of agricultural drought.

That is, even when it does rain in dry areas, it may come down so intensely as to be counterproductive.

The study notes that "Recent studies revealed that persistent dry periods lasting for multiple years to several decades have occurred many times during the last 500–1000 years over North America, West Africa, and East Asia." Of course, those periods inevitably caused havoc on local inhabitants. Further, this study warns that by century's end, even in this moderate scenario, many parts of the world could see extended drought beyond the range of human experience:

Mello Aff #2, Par 12h

Table 3–8 Threatened, Endangered, and Other Sensitive Species of LANL

Common Name	*Scientific Name*	*Federal Status* [a]	*State Status*	*Potential to Occur* [b]
Mammals				
Black-footed ferret	*Mustela nigripes*	FE	-	Low
Spotted bat	*Euderma maculatum*	-	T	High
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	-	T	Moderate
Western small-footed myotis bat	*Myotis ciliolabrum melanorhinus*	SOC	SOC	High
Little brown occult bat	*Myotis lucifugus occultus*	SOC	SOC	Moderate
Little brown bat	*Myotis lucifugus carissima*	SOC	SOC	Moderate
Fringed bat	*Myotis thysanodes thysanodes*	SOC	SOC	High
Yuma bat	*Myotis yumanensis yumanensis*	SOC	SOC	High
Long-legged bat	*Myotis volans interior*	SOC	SOC	High
Long-eared bat	*Myotis evotis evotis*	SOC	SOC	High
Townsend's pale big-eared bat	*Plecotus townsendii pallescens*	SOC	SOC	High
Big free-tailed bat	*Nyctinomops macrotis*	SOC	SOC	Moderate
Ringtail	*Bassariscus astutus*	SOC	SOC	High
Western spotted skunk	*Spilogale gracilis*	SOC	SOC	Moderate
Red fox	*Vulpes vulpes*	SOC	SOC	Moderate
Goat peak pika	*Ochotona princeps nigrescens*	SOC	SOC	Low
American marten	*Martes americana origenes*	SOC	SOC	Low
Birds				
Southwestern willow flycatcher	*Empidonax trailii extimus*	FE	E	Moderate
Bald eagle	*Haliaeetus leucocephalus*	FT	T	Moderate
Mexican spotted owl	*Strix occidentalis lucida*	FT	-	Moderate
Mountain plover	*Charadrius montanus*	PT	-	Low
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C	-	Moderate
Baird's sparrow	*Ammodramus bairdii*	-	T	Low
Northern goshawk	*Accipiter gentilis*	SOC	SOC	Low
Loggerhead shrike	*Lanius ludovicianus*	SOC	SOC	Moderate
Gray vireo	*Vireo vicinior*	SOC	SOC	Moderate
Black swift	*Cypseloides niger borealis*	SOC	SOC	Low
Amphibians				
Western boreal toad	*Bufo boreas boreas*	C	E	Low
Jemez mountain salamander	*Plethodon neomexicanus*	-	T	Moderate
Fish				
Flathead chub	*Hybopsis gracilis*	SOC	SOC	Low
Invertebrates				
Pearly checkerspot butterfly	*Charidryas acastus acastus*	SOC	SOC	Low

Mello Aff #2, Par 12h

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 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 (Greenfield Alternative): The construction of new 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 to Class IV. 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 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.

Mello Aff #2, Par 12h

1,900 meters]), piñon-juniper woodland (6,200 to 6,900 feet [1,900 to 2,100 meters]), ponderosa pine forest (6,900 to 7,500 feet [2,100 to 2,300 meters]), and mixed conifer forest (7,500 to 9,500 feet [2,300 to 2,900 meters]) (see **Figure 3–7**). The vegetative communities on and near LANL are very diverse, with over 900 species of vascular plants identified in the area. As noted in Section 3.2.1, the 1,000-acre (405-hectare) White Rock Canyon Reserve, located in the southeast portion of LANL, was dedicated in 1999 because of its ecological and cultural resources and research potential. DOE will continue to own and control access to the property. The National Park Service will cooperatively manage the reserve to enhance and ensure protection of habitat and wildlife (DOE 1999c).

Terrestrial animals associated with vegetation zones in the LANL area include 57 species of mammals, 200 species of birds, 28 species of reptiles, and 9 species of amphibians. Common animals found on LANL include the black-headed grosbeak (*Pheuclicus melanocephalus*), western bluebird (*Sialia mexicana*), elk (*Cervus elaphus*), and raccoon (*Procyon lotor*). The most important and prevalent big game species at LANL are mule deer (*Odocoileus hemionus*) and elk. Elk populations have increased in the area from 86 animals introduced in 1948 and 1964 to an estimated population of over 10,000 animals. Hunting is not permitted onsite. Numerous raptors, such as the red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*), and carnivores, such as the black bear (*Ursus americanus*) and bobcat (*Lynx rufus*), are also found on LANL (DOE 1999c). A variety of migratory birds have been recorded at the site and are protected under the Migratory Bird Treaty Act.

In May 2000, the Cerro Grande Fire burned across 7,684 acres (3,110 hectares) of forest area within LANL (DOE 2002c). Fire suppression activities resulted in the clearing of an additional 130 acres (52 hectares). Depending on fire intensity, vegetation will either be replaced by new species or recover in a relatively short period. Where the fire intensity was high, it is likely that recolonization will be by other than the original species, with the possibility that exotic plants may predominantly occur in areas previously dominated by native species (DOE 2000b).

Throughout LANL's history, developments within various TAs have caused significant alterations in the terrain and the general landscape of the Pajarito Plateau. These alterations have resulted in significant changes in land use by most groups of wildlife, particularly birds and large mammals that have large seasonal and daily ranges. Certain projects required the segregation of large areas such as mesa tops and, in some cases, project areas were secured by fences around their perimeters. These alterations have undoubtedly caused some species of wildlife, such as elk and mule deer, to alter their land-use patterns by cutting off or changing seasonal or daily travel corridors to wintering areas, breeding and foraging habitats, and bedding areas (DOE 1996c). The Cerro Grande Fire dramatically altered the habitat of many animals. While initially eliminating or fragmenting the habitats of many animals (such as reptiles, amphibians, small mammals, and birds), the habitat for other species (such as large mammals) will increase or improve by the newly created foraging areas. During the fire, individuals of many species died. Population recovery is expected within the next several breeding seasons. Elk and mule deer populations are expected to increase in response to the additional foraging areas resulting from postfire vegetation regrowth (DOE 2000b).

Mello Aff #2, Par 12i

Chemistry and Metallurgy Research Replacement (CMRR) Project

CMRR Project Update

Los Alamos, New Mexico
October 6, 2010

Presented by
Steve Fong, *NNSA*
CMRR Federal Project Team

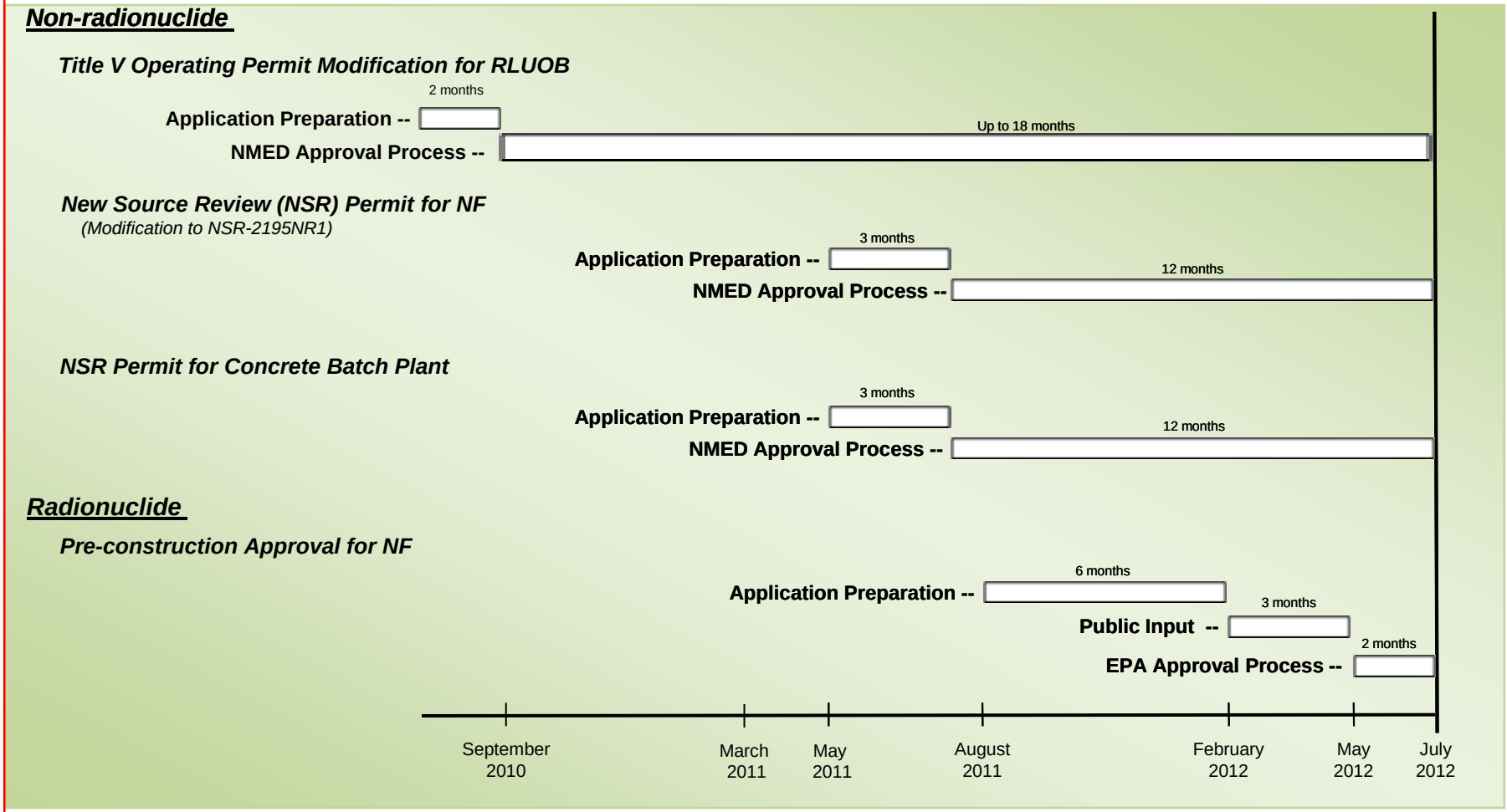
Rick Holmes, *LANL*
CMRR Division Leader

Los Alamos NATIONAL LABORATORY
NNSA National Nuclear Security Administration

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

LA-UR 10-06560

Tentative Air Quality Permit Schedule



Mello Aff #2, Par 12l

"Criticality Accident" Slotin Building [TA-18]: In August 1945, because of a fatal criticality accident suffered by Harry Daghlian at the Omega Site in TA-2, critical assembly work was transferred to the Pajarito Site [TA-18]. In May 1946, a similar fatal accident occurred in Building 18-1 (Figure 15.9), leading to the death of Louis Slotin. His death prompted the discontinuance of hand assembly for criticality experiments and the use of remote assembly techniques, as well as accentuating the role that health physics eventually came to play in weapons research.

Figure 15.9. Building 18-1, site of a fatal criticality accident.

Potential Los Alamos National Laboratory Ancestral Pueblo National Historic Landmark

There are more than 1600 known Ancestral Pueblo archaeological sites at LANL, among the highest densities of such sites in the American Southwest. While all are considered important by the modern Pueblo descendants of the people who made these sites, there is a small percentage of sites that, due to integrity of location and the nature of the resource, best serve to tell the story of the Ancestral Pueblo use of the Pajarito Plateau during the period of around AD 1250 to 1700.

These Ancestral Pueblo resources can be grouped into two general levels of significance: NHL potential status and National Register Historic District potential status. A general description of these resources is provided below, followed by a specific listing of sites recommended for the landmark.

Late Coalition Period and Classic Period Complex Plaza Pueblos: During the period of around AD 1150 to 1250, large numbers of small single-story roomblock pueblos, each averaging around two to three habitation rooms and four to five storerooms, were constructed on the Pajarito Plateau. This represented the first time in the archaeological record that large numbers of people were living part or all of the year on the Plateau. Subsequently, during the period of AD 1250 to 1300, population began amalgamating into larger-sized pueblos. These pueblos appear to run from about 40 to more than 200 rooms and are characterized by two or more roomblocks being linked together around one or more partially or completely enclosed plazas. Most of these complex plaza pueblos contain one or more sections of roomblocks that were originally two

WALATOWA

PUEBLO of JEMEZ

Mello Aff #2, Par 12m
Exhibit 1

October 4, 2010

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

Thomas Paul (Tom) D'Agostino
NNSA Administrator
NA-1/Forrestal Building
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Dear Secretary Chu and Administrator D'Agostino:

I am writing to express my concern about environmental impacts, and the lack of analysis and public discussion of those impacts, from the proposed Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility at Los Alamos National Laboratory (LANL).

The multi-billion dollar CMRR project appears to have quietly grown through recent years to the point that local officials and Pueblo leaders like me are almost completely in the dark about it. This proposed semi-underground facility for storing, handling, and processing plutonium would have a big impact on our region – and it has no applicable Environmental Impact Statement (EIS).

The National Environmental Policy Act (NEPA) requires that Indian tribes be offered notice, review, and comment opportunities regarding this facility. The facility described to the tribes in 2003 is not the same facility being proposed today.

If built, this facility would be the most expensive project ever built in New Mexico by far, except for the interstate highways. Its primary purpose is to increase production capacity for new plutonium warhead cores ("pits").

In 2003 NNSA wrote an EIS outlining plans for a much smaller and quite different facility. That earlier EIS described a facility that would cost only one-tenth as much as today's, use one-fiftieth as much concrete, take one-fourth the time to build and be ready a decade sooner, as well as entail far fewer environmental impacts across the region. Then NNSA changed the project dramatically without telling anyone, and without any analysis of alternatives to the new aggrandized project, its design, or its proposed construction methods.

The project now includes:

- A new planned excavated depth of 125 feet and replacement of a 50 foot layer of volcanic ash beneath the proposed building with 225,000 cubic yards of concrete and/or grout, vs. an original depth of at most 50 feet;

- Vastly larger quantities of structural steel (now more than 15,000 tons) and concrete (now 347,000 cubic yards);

- Greatly increased acreage to be affected, now involving many LANL technical areas;

- Greatly increased climate-altering greenhouse gas emissions, including more than 100,000 tons of carbon dioxide from concrete production alone;

- Anywhere from 20,000 to 110,000 heavy truck trips just for concrete ingredients and disposal;

- A decade-long construction schedule;

- Multiple new project elements including a warehouse, electrical substation, temporary worker housing, worksite shelter(s), traffic modifications, road relocation or closure, truck inspection facility, temporary facilities for displaced workers; and possibly temporary housing;

- Various "connected actions" – at least eight other major nearby construction projects with cumulative impacts;

- A variety of unknown road and traffic modifications, including closure of Pajarito Road for two years; and

- Generation of up to 400,000 cubic yards of excavation spoils, which are to be dumped on existing nuclear waste sites (material disposal areas "C" and "G") in lieu of removing the shallow-buried waste.

At the end of this facility's useful life it would be contaminated, and would very likely be closed in place as a permanent hazard, being too large to break up,

transport, and dispose of elsewhere. Over its life this building is expected to generate millions of pounds of radioactive and hazardous chemical wastes.

Many circumstances surrounding this project have changed since it was proposed. It may not even be needed. It may not be worth the cost. Quicker, safer, and cheaper alternatives may exist. I understand that there isn't even a preliminary design or projected cost at present. It seems premature to proceed without these. This is a good time to thoroughly and publicly check for better alternatives which may have become available during the long period when the cost and impacts of this one have grown so much.

We are very concerned that the Valles Caldera not be adversely impacted by LANL activities, including the proposed CMRR. Because the Valles Caldera which is an integral part of Jemez Pueblo's traditional use and aboriginal Indian title area, lies immediately adjacent to LANL to the west and southwest. Radionuclide contamination of the air, water and soil in the Valles Caldera affects our Pueblo directly because our all-important domestic and agricultural water supply originates in the headwaters of the Rio Jemez, in the Valles Caldera. We are particularly concerned that plutonium refining and machining operations that will be conducted in the CMRR will increase fugitive radionuclide emissions from LANL. We have measured radioisotope analytes, Pu-238 / 239 and U-235/236 in the Valles Caldera that exceed their respective mean regional concentrations, as measured by LANL, by a factor of three. I have attached the April 9, 2008 study prepared by our Pueblo Department of Resource Protection titled, "Sampling for Radioisotope Impacts from Los Alamos National Laboratory in the Valles Caldera National Preserve", which reports this data. The probability of increased regional radionuclide contamination from the proposed CMRR is one of many environmental impacts of the greatly enlarged project that have not been analyzed.

We therefore respectfully request that the Department of Energy (DOE) prepare a new EIS for the CMRR Nuclear Facility and its alternatives, pursuant to the National Environmental Policy Act (NEPA) and its implementing regulations. It's important to us that this EIS be preceded by the required scoping process, so that my constituents and I, and other governmental agencies, tribes, and independent technical experts, can fully participate in the development and discussion of project alternatives and scope of analysis. Given the enormous size of the presently proposed project as compared to the project proposed and reviewed in the 2003 EIS, a Supplemental Environmental Impact Statement (SEIS) based upon the 2003 EIS will not be adequate. We believe that full NEPA compliance is required based on the reality that the CMRR as presently proposed is essentially a new project.

An EIS is a pre-decision analysis intended to guide the decision-making process, not a justification for a decision that has already been made. It is critically important to stop obligating funds while this analysis is going on. If DOE doesn't

stop committing and expending irretrievable resources, there is no point in conducting an analysis.

As you are aware, NEPA requires federal agencies to provide notice and comment opportunities to local governments and Indian tribes regarding proposed major federal actions, including enabling them to help analyze alternatives, and including analysis of the direct, indirect, and cumulative impacts upon the human environment. None of this has happened.

I want to help DOE reach a sound decision on the proposed CMRR Nuclear Facility. A new EIS, including scoping and accompanied by halting investment in the project alternative being finalized today without an adequate EIS, is required to facilitate public participation and result in a sound final decision.

Sincerely,

Joshua Madalena

Joshua Madalena, Governor
Jemez Pueblo

c: Larry Echohawk, Asst. Secretary for Indian Affairs, Dept. of Interior
Pueblo of Acoma – Governor Chandler Sanchez
Pueblo of Cochiti – Governor Vernon M. Garcia
Pueblo of Isleta – Governor J. Robert Benavides
Pueblo of Santo Domingo Tony Tortalita
Pueblo of Laguna – Governor John Antonio
Pueblo of Nambe – Governor Ernest Mirabal
Pueblo of Ohkay Owingeh – Governor Marcelino Agunio
Pueblo of Picuris – Governor Manuel Archuleta
Pueblo of Pojoaque – Governor George Rivera
Pueblo of San Felipe – Governor Feliciano Candelaria
Pueblo San Ildefonso – Governor Perry Martinez
Pueblo of Sandia – Governor Joe M. Lujan
Pueblo of Santa Ana – Governor Bruce Sanchez
Pueblo of San Clara – Governor Walter Dasheno
Pueblo of Taos – Governor James Lujan Sr
Pueblo of Tesuque – Governor Frederick Vigil
Ysleta Del Sur – Governor Frank Paiz
Pueblo of Zia – Governor Marcellus Medina
Pueblo of Zuni – Governor Norman Cooeynte
Tom Luebben, General Counsel
David Yepa, General Counsel

Affidavit of Gilbert Sanchez, cited at Mello Aff #2, Par 12m

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

THE LOS ALAMOS STUDY GROUP,

Plaintiff,

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

UNITED STATES DEPARTMENT OF ENERGY; THE HONORABLE STEPHEN CHU, in his capacity as SECRETARY, DEPARTMENT OF ENERGY; NATIONAL NUCLEAR SECURITY ADMINISTRATION; THE HONORABLE THOMAS PAUL D'AGOSTINO, in his Capacity as ADMINSTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION,

Defendants.

AFFIDAVIT OF J. Gilbert Sanchez

State of New Mexico)
) ss.
County of Santa Fe)

J. Gilbert Sanchez, under penalty of perjury, hereby declares as follows this 3 day of November 2010:

1. I am a citizen of the United States and resident of the Pueblo de San Ildefonso, 34 O TAH NAH PO, Santa Fe, NM. I have lived here all my life except when serving in the USAF and attending college.
2. I am a Tewa person enrolled in the Pueblo de San Ildefonso and former governor, having

served in 1985-1986. I am also the creator and a former director of the Pueblos Environmental Office, Cultural Preservation Office, and Economic Development Department.

3. I am currently an active member of the South Kiva participating within our Ceremonies and Dances. However, I am not representing the South Kiva by any means in my making these statements.

4. I am currently a member of the Los Alamos Study Group and have been actively involved in the Study Group and their campaigns, as time has allowed, since 1992.

5. In this case, the Los Alamos Study Group has asked that the Department of Energy and National Nuclear Security Administration to comply with the National Environmental Policy Act ("NEPA") by analyzing the impacts of construction and operation of the Chemistry and Metallurgy Research Replacement Nuclear Facility ("CMRR-NF") and connected projects along the Pajarito Corridor, and of reasonable alternatives to these projects. I fully support the effort to require such NEPA analysis.

6. As an individual I am active in protecting our ancestral lands which include those lands on which the Los Alamos National Laboratory (LANL) is sited. I stand to protect our Sacred Space and Sites that are located within the laboratory's boundaries, as our Tribal Leadership has not come forth to do so. I have stood up against the continued destruction of our ancestral dwellings and the loss of live streams used for ceremony. I stand against the destruction of any more of our Sacred Space and Sites that will then be used for the creation of weapons of mass destruction for the sole purpose of ending human life as we

know it here on our Earth Mother. As an example of furthering my concern of the damage being done to our Scared Space and Sites, while serving as Governor of the Pueblo de San Ildefonso I managed to have our Tribal Council do an on-site review of the impacts from the work being done at LANL. We found that many of our Scared Space and Sites had been damaged or destroyed, possible impacts on the many plants and animals that are essential for our continued survival or[and] used in our ceremonies, as medicine, or harvested for our food, and the wood we gather for heating and cooking. Since I was eighteen (18) years of age I have worked to educate my fellow Tribal Peoples regarding the harm that has come and is likely to come from LANL.

7. As a long time resident of the Pueblo de San Ildefonso and an active member of the South Kiva, I have a strong personal interest in the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF).

8. The digging of such a large hole to accommodate this building on such a Scared Space and Site has been a mystery to me. How can the Government of the United States and the Department of Energy (DOE) continue to destroy our most Scared Space and Sites under the guise of Homeland and National Security when there are laws in place for the very protection of such Sacred Space and Sites? How can this country protect a Religious State while at the same time destroying our most Sacred Space and Sites? Is this not a violation not only of Law but also of Human Rights?

9. What about LANL's past record of non-compliance and adherence to their own safety standards as they have acknowledged over the years in the newspapers? I would not

want any type of contamination from this site to further impact our Sacred Area that has[is] adjoined[to] LANL since the latter's creation. LANL has yet to do a real and complete evaluation of the impacts from their past activities or on-going work to any degree to assure me that their activities have not damaged the Pueblos' Lands.

10. I would personally be affected adversely if the CMRR Nuclear Facility project goes forward in its present form. I reside nearby and I regularly drive on roadways that will be impacted to get to work, to take others to work or school, to enjoy the environment, harvest animals and natural resources, and practice my spirituality. I would suffer these harms if the project continues as now planned:

    a) A high level of construction activity with attendant noise, dust, fumes, traffic, nighttime lighting, and offensive spoils and debris would intrude upon my life, economic livelihood, experience, and spiritual practices on a regular basis for approximately a[serval] decade[s].

    b) Thousands of haulage trucks would come and go on and near Pajarito Road, NM 502, NM 40, and NM 4, at all hours near my home for more than a decade, spreading dust and diesel fumes and creating road hazards to me, my family, tribal members, and others.

    c) Huge spoil piles would accumulate on account of the deep hole planned to be dug underneath the site of the CMRR-NF, which will require excavation of 400,000 cubic yards of crushed tuff. These piles will probably be visible from locations outside Pajarito Canyon and will be visually very offensive.

d) Nighttime lights at the construction site are already in use. They are extremely bright and are visible even from the northern part of Los Alamos. These lights are highly intrusive upon the peace and solitude of rural New Mexico. They interfere with nocturnal wildlife and are inappropriate and harmful intrusions into my tribe's sacred sites and our night sky.

e) Two cement plants, multiple lay down yards, site excavation, and haulage of excavation spoils will generate airborne dust that will be carried by winds in all directions, including at times east toward my home, and into Tewa sacred sites and archeological sites downwind. This will go on for at least a decade.

f) My entire life I have visited the sacred sites of my people around Pajarito Canyon. With the construction activity going on, the location will be subject to noise, dust, fumes, and the regular passage of heavy machinery, and such visits will no longer be enjoyable or even possible.

g) My entire life I have visited locations around the Pajarito Canyon to harvest game and collect wood and plants and other natural resources. The traffic, noise, dust, fumes, heavy machinery, lights, and other disturbances that this facility will generate during construction and after completion will inhibit the very wildlife that we are now taking from within our Sacred Area. The plants, waterways, and our food pathways will be harmed by this undertaking. It will further damage the migration route of the deer, elk, and other animals that I and my tribe harvest. Visits to these areas for their economic and cultural resources will no longer be enjoyable or even possible.

h) I live within 10 miles of the CMRR-NF site. My location is downwind from the CMRR-NF site. If the CMRR-NF is constructed and goes into operation, it will be the location of experimental and production usage of highly radioactive materials, including enriched uranium and plutonium. These materials are extremely hazardous and damaging to human health. Future normal operations of the CMRR-NF will cause some releases of these substances, which will reach me through the air or ground water. There is also a significant risk of an accident, causing such elements to be released into the air or water and to be inhaled or ingested by me.

These impacts will cause serious injury to me, and they threaten to continue for ~~a~~ decade[s] if not more. For such reasons, I submit that a thorough environmental analysis of the CMRR-NF project and other projects ongoing on the Pajarito Plateau is essential so that the responsible agencies may consider all reasonable alternatives before any such projects may go forward.

Further affiant saith not:

The foregoing is signed and declared under penalty of perjury to be true and correct.

Dated: Nov. 3, 2010

J. Gilbert Sanchez

J. Gilbert Sanchez

SUBSCRIBED AND SWORN TO before me this 3rd day of November 2010, by J. Gilbert Sanchez.

Notary Public

My Commission Expires:
01-05-11

OFFICIAL SEAL
Donna Lee Aguilar
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 01-05-11

Mello Aff #2 Par 12n, (note: quantity of cubic yards of solid waste generated by CMR disposition cited in Affidavit #2 should be 20,000, not 10,000, cubic yards. See below.)

2.7.7 Disposition of the CMR Building

The disposition options for the existing CMR Building include:

Disposition Option 1: Reuse of the Building for administrative and other activities appropriate to the physical conditions of the structure with the performance of necessary structural and systems upgrades and repairs.

Disposition Option 2: Decontamination, decommission, and demolition of selected parts of the existing CMR Building, with some portions of the Building being reused.

Disposition Option 3: Decontamination, decommission, and demolition of the entire existing CMR Building.

Over the past 50 years of operation, certain areas within the existing CMR Building, pieces of equipment, and building systems have become contaminated with radioactive material and by operations involving SNM. These areas include about 3,100 square feet (290 square meters) of contaminated conveyors, gloveboxes, hoods and other equipment items; 760 cubic feet (20 cubic meters) of contaminated ducts; 580 square feet (50 square meters) of contaminated hot cell floor space; and 40,320 square feet (3,750 square meters) of laboratory floor space.

At this time, the existing CMR Building has not been completely characterized with regard to types and locations of contamination. In addition, project-specific work plans have not been prepared that would define the actual methods, timing, or workforce to be used for the decontamination and demolition of the Building. Instead, general or typical methods of decontamination and demolition are presented in general terms below. Additional NEPA compliance review would be required when the specific features of the disposition of the CMR Building actually become mature for decision in about 15 years.

2.7.7.1 Decontamination and Demolition Process

The process that would be used to decontaminate and demolish the CMR Building is described in the text box in Section 2.9.1. Detailed project-specific work plans for the decontamination and demolition of the CMR Building would be developed and approved by NNSA before any actual work began. These plans would include those required for environmental compliance (such as an SWPP Plan) and monitoring activities (such as using a real-time gamma radiation monitor); all necessary legal and regulatory requirements in effect at the time would be undertaken before any decontamination or demolition activities were conducted. Some of the disposition work could involve technologies and equipment that have been used in similar operations, and some could use newly developed technologies and equipment. It is not likely that all of the decontamination and demolition work elements described in the following discussion would be utilized. All work would be carefully planned in accordance with established state and Federal laws and regulations (such as National Emissions Standards for Hazardous Air Pollutants [NESHAP]), DOE Orders, and LANL procedures and BMPs.

The decontamination and demolition work is estimated to require up to one million person-hours. At any given time, a workforce from 2 to 100 or more workers could be onsite (LANL 2003). The DOE and LANL limit for worker exposure is 5 rem per year (10 CFR 835).

2.7.7.2 CMR Building Decontamination

The CMR Building consists of three levels, each essentially covering the full footprint of the structure. Radioactive contamination in the CMR Building is known or suspected in quantities that could require some level of decontamination or control for continued use or to control the spread of contamination during demolition. The three building levels include:

- **Attic**—Contains primarily facility equipment and is expected to be mostly free of radioactive contamination.

- **Main Floor**—Most of the CMR Building's laboratory and office space is on this level. The ceilings are expected to be mostly clean, with increasing potential for contamination toward the floor. It is estimated that 45 percent of the items and surfaces at this level are contaminated to some degree.

- **Basement**—Contains facility equipment, and has the highest potential for contamination. The ventilation ducts and piping in this area are on the contaminated side of the process flow, and it is expected that some contamination would migrate down into the basement. It is assumed that all equipment and surfaces in the basement are contaminated to some degree.

The CMR Building (except for Wing 9) is constructed of reinforced concrete floors (typically 4 inches [10 centimeters] thick), reinforced concrete walls (18 inches [46 centimeters] thick), reinforced concrete frame, and steel framing with a light-gauge metal deck roof. The entire facility is supported on reinforced concrete basement walls and columns on spread footings. Wing 9 is constructed differently with the above-grade walls consisting of lightly reinforced concrete masonry walls. The floor and grade slabs are thicker (approximately 11 inches [28 centimeters]), and the footings and concrete around and under the hot cells are massive (LANL 2003).

The overall footprint is estimated to be 195,000 square feet (18,116 square meters) and the average height from the bottom of the basement slab to the top of the roof is 50 feet (15 meters). The total volume of the Building is estimated to be 360,000 cubic yards (275,242 cubic meters) (LANL 2003).

Ventilation System: The exhaust side of the ventilation system is large and highly contaminated. Most of the contaminated ductwork is in the basement.

Radioactive Liquid Waste Line: The radioactive liquid waste system carries contaminated wastewater to the RLWTF at TA-50. This is a highly contaminated system and, due to leakage, is thought to be the largest contributing source of contamination within the CMR Building. It has been estimated that the radioactive liquid waste line consists of approximately 9,200 feet (2,804 meters) of 5-inch- (13-centimeter-) diameter and 16,100 feet (4,907 meters) of 2.5-inch-

(6-centimeter-) diameter stainless steel pipe. It is expected that the bulk of this piping would be transuranic waste, with some portions being mixed low-level radioactive waste due to mercury contamination. Also, in areas of leakage, surrounding concrete, walls, floors, and other adjacent surfaces there may be higher levels of contamination (LANL 2003).

Vacuum Systems: Of the two large vacuum systems in the CMR Building, one is highly contaminated. The second newer system is expected to have only low levels of contamination.

Walls: Leaks from the radioactive liquid waste line have resulted in contamination within the walls. It has been estimated that 432,000 square feet (40,134 square meters) would have to be replaced to achieve a level of decontamination adequate for reuse of the space for operations (LANL 2003).

Floors: Floor contamination is widespread and ranges from low to high levels. The basement floors have many areas of contamination, some of which have been painted over. Floor contamination in the attic is limited.

Asbestos: Approximately 73,000 feet (22,250 meters) of asbestos pipe insulation has been found in the CMR Building, with another 9,400 square feet (873 square meters) on ducts. Floor tile (up to 20,000 square feet [1,858 square meters]) and ceiling tile may also contain asbestos (LANL 2003).

Decontamination of the CMR Building would consist of the removal of nonradiological and radiological contamination from the building using vacuum blasting, sand blasting, carbon dioxide bead blasting, scabbling, and mechanical separation of radioactive and nonradioactive materials. This would include removal of flooring, ceiling tiles, insulation, and paint contaminated with asbestos, lead, and other toxic-contaminated materials. Some of these materials may also be contaminated with radionuclides and require special handling. Radiologically contaminated and uncontaminated debris would be segregated. The extent of decontamination performed would be limited to those activities required to minimize radiological and hazardous material exposure to workers, the public, and the environment.

Decontamination of the CMR Building would also include the removal of asbestos debris. About 50 percent of the asbestos debris is anticipated to be free of radiological contamination. The other 50 percent of the asbestos debris is expected to be radiologically contaminated and would require special handling.

Air emissions generated during asbestos removal would be controlled by tents enclosing highly contaminated areas and using high-efficiency particulate air-filtered collection devices to collect asbestos dust particles. Dust suppression techniques would also be used to ensure that particulate emissions are kept to a minimum. Asbestos decontamination workers would be protected by personal protective equipment and other engineering and administrative controls.

Worker exposure to ionizing radiation would be controlled to limit any individual's dose to less than 1 rem per year. Where practical, shielding and remotely operated equipment would be used to reduce radiation levels at worker locations.

2.7.7.3 Demolition of the CMR Building

Once the CMR Building has been decontaminated, demolition could proceed. All demolition debris would be sent to appropriate disposal sites. The CMR Building is not expected to be technically difficult to demolish and waste debris would be handled, transported, and disposed of in accordance with standard LANL procedures.

Demolition of uncontaminated portions of the Building would be performed using standard industry practices. A post-demolition site survey would be performed in accordance with the requirements of the *Nuclear Regulatory Commission Manual for Conducting Radiation Surveys* (NUREG/CR-5849).

2.7.7.4 Waste Management and Pollution Prevention Techniques

Waste management and pollution prevention techniques that could be implemented during the demolition of the CMR Building would include:

- Conducting routine briefings of workers;
- Segregating wastes at the point of generation to avoid mixing and cross-contamination;
- Decontaminating and reusing equipment and supplies;
- Removing surface contamination from items before discarding;
- Avoiding use of organic solvents during decontamination;
- Using drip, spray, squirt bottles or portable tanks for decontamination rinses;
- Using impermeable materials such as plastic liners or mats and drip pallets to prevent the spread of contamination;
- Avoiding areas of contamination until they are due for decontamination;
- Reducing waste volumes (by such methods as compaction); and
- Engaging in the use of recycling actions (materials such as lead, scrap metals, and stainless steel could be recycled to the extent practical).

Some of the wastes generated from the decontamination and demolition of the CMR Building would be considered residual radioactive material. DOE Order 5400.5 establishes guidelines, procedures, and requirements to enable the reuse, recycle, or release of materials that are below established limits. Materials that are below these limits are acceptable for use without restrictions. The residual radioactive material that would be generated by the decontamination and demolition of the CMR Building would include uncontaminated concrete, soil, steel, lead, roofing material, wood, and fiberglass. The concrete material could be crushed and used as backfill at LANL. Soil could also be used as backfill or as topsoil cover, depending on their characteristics. Steel and lead could be stored and reused or recycled at LANL. Wood, fiberglass, and roofing materials would be disposed at the Los Alamos County Landfill or its replacement facility. The total amount of waste generated from the disposition of the CMR Building is anticipated to be 36,000 cubic yards (27,500 cubic meters); this estimate does not include the amount of waste generated by the demolition of the outbuildings, parking lots, or soil removal. The total volume of solid waste, and recyclable materials generated from the disposition of the CMR Building is estimated at 20,000 cubic yards (15,300 cubic meters)

Decontamination and Demolition Work Elements

Characterization, Segregation of Work Areas, and Structural Evaluation: Walls, floors, ceilings, roof, equipment, ductwork, plumbing, and other building and site elements would be tested to determine the type and extent of contamination present. The CMR Building would then be segregated into areas of contamination and noncontamination. Contaminated areas would be further subdivided by the type of contamination: radioactive materials, hazardous materials, toxic materials including asbestos, and any other RCRA listed or characteristic contamination. As part of the characterization and segregation of work areas, consideration would also be given to the structural integrity of the CMR Building. Some areas could require demolition work prior to decontamination.

Removal of Contamination: Workers would remove or stabilize contamination according to the type and condition of materials. If the surface of a wall was found to be contaminated, it might be physically stripped off. If contamination was found within a wall, a surface coating might be applied to keep the contamination from releasing contaminated dust during dismantlement and to keep the surface intact.

Demolition of the CMR Building, Foundation, and Parking Lot: After contaminated materials have been removed, wherever possible and practical, the demolition of all or portions of the CMR Building would begin. Demolition could involve simply knocking down the structure and breaking up any large pieces. Knocking down portions of the CMR Building, foundation, and parking lot could require the use of backhoes, front-end loaders, bulldozers, wrecking balls, shears, sledge and mechanized jack hammers, cutting torches, saws, and drills. If not contaminated, demolition material could be reused onsite at LANL or disposed of as construction waste onsite or offsite. Asphalt would be placed in containers and trucked to established storage sites within LANL, at TA-59 on Sigma Mesa.

Segregating, Packaging, and Transport of Debris: Demolition debris from the CMR Building would be segregated and characterized by size, type of contamination, and ultimate disposition. Debris that is still radiologically contaminated would be segregated as low-level radioactive waste if no hazardous[1] contamination is present. Radiologically-contaminated and non-contaminated asbestos debris would also be segregated separately. Other types of debris that would be segregated include mixed low-level radioactive waste,[2] noncontaminated construction debris, and debris requiring special handling. Segregation activities could be conducted on a gross scale using heavy machinery or could be done on a smaller scale using hand-held tools. Segregated waste would be packaged as appropriate and stored temporarily pending transport to an appropriate onsite or offsite disposal facility.

Debris would be packaged for transport and disposal according to waste type, characterization, ultimate disposition, and U.S. Department of Transportation (DOT) or DOE transportation requirements. Uncontaminated construction debris could be sent unpackaged to the local landfill by truck. Demolition debris would also be recycled or reused to the extent practicable. Debris would be disposed of either on or offsite depending on the available capacity of existing disposal facilities. Offsite disposal would involve greater transportation requirements depending on the type of waste, packaging, acceptance criteria, and location of the receiving facility.

Testing and Cleanup of Soil and Contouring and Seeding: The soils beneath the CMR Building would be sampled and tested for contamination. Any contaminated soil would undergo cleanup per applicable environmental regulations and permit requirements and would be packaged and transported to the appropriate disposal facility depending on the type and concentration of contamination. After clean fill and soil were brought to the site as needed, the site would be contoured. Contouring would be designed to minimize erosion and replicate or blend in with the surrounding environment. Subsequent seeding activities would utilize native plant seeds and the seeds of non-native cereal grains selected to hold the soil in place until native vegetation becomes stabilized.

[1] *Hazardous waste is a category of waste regulated under the RCRA. Hazardous RCRA waste must be solid and exhibit at least one of four characteristics described in 40 CFR 261.20 through 40 CFR 261.24 (ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the U.S. Environmental Protection Agency in 40 CFR 261.31 through 40 CFR 261.33.*

[2] *Mixed low-level radioactive waste contains both hazardous RCRA waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act.*

(LANL 2003). The volume of radioactive waste generated from the disposition of the CMR Building is estimated to be 16,000 cubic yards (12,200 cubic meters).

Asbestos that is not radiologically contaminated would be packaged according to applicable requirements and sent to the LANL asbestos transfer station for shipment offsite to a permitted asbestos disposal facility along with other asbestos waste generated at LANL.

Radioactive contaminated soil, concrete, walls, and tiles would be packaged as low-level radioactive wastes and disposed of at TA-54, Area G, or an offsite commercial facility. Gloveboxes and radioactive liquid waste lines categorized as transuranic waste would be disposed at the Waste Isolation Pilot Plant (WIPP).

If any other RCRA-regulated hazardous wastes were generated by disposition activities, they would be handled, packaged, and disposed of according to LANL's hazardous waste management program. Hazardous wastes would be stored at TA-54, Area L, at LANL until sufficient quantities are accumulated for shipment to offsite treatment, storage, and disposal facilities. Any hazardous waste generated by the demolition of the CMR Building would be transferred to an appropriate offsite facility for disposal. All offsite shipments would be transported by a properly licensed and permitted shipper and conducted in compliance with U.S. Department of Transportation (DOT) regulations and DOE standards.

2.7.8 Disposition of the CMRR Facility

Disposition of the new CMRR Facility would be considered at the end of its designed lifetime operation of at least 50 years. It is anticipated that the impacts from the disposition of the CMRR Facility would be similar to those discussed for the disposition of the existing CMR Building.

2.8 THE PREFERRED ALTERNATIVE

CEQ regulations require an agency to identify its preferred alternative, if one or more exists, in the final EIS [40 CFR 1502.14(e)]. The Preferred Alternative is the alternative that the agency believes would fulfill its statutory mission, giving consideration to environmental, economic, technical, and other factors. Alternative 1 (construct a new CMRR Facility at TA-55), is NNSA's Preferred Alternative for the replacement of the CMR capabilities. NNSA has identified as its preferred construction option the construction of a single consolidated SNM-capable Hazard Category 2 laboratory with a separate administrative offices and support functions building (Construction Option 3). NNSA's preferred option for the disposition of the CMR Building is to decontaminate, decommission and demolish the entire structure (Disposition Option 3).

2.9 SUMMARY OF ENVIRONMENTAL CONSEQUENCES FOR THE CMR BUILDING REPLACEMENT PROJECT

This section comparatively summarizes the alternatives analyzed in this EIS in terms of their expected environmental impacts and other possible decision factors. The following subsections summarize the environmental consequences and risks by construction and operations impacts for

Mello Aff #2, Par 12n

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

9. Required D&D Information

As directed by the DOE Acquisition Executive at CMRR CD-0, NNSA and LANL developed a pre-conceptual cost and schedule range for the D&D requirements of the existing CMR Building located at TA-3 during the CMRR conceptual design. The initial pre-conceptual cost estimate range for D&D of the CMR Building is approximately $200,000,000 - $350,000,000 (un-escalated FY 2004 dollars) with an associated schedule estimate range of 4-5 years. (If this cost range is escalated to FY 2012, the cost estimate range increases to $350,000,000 - $500,000,000). This information was presented as part of CMRR CD-1 per Secretarial direction issued at CD-0.

During the 3rd Quarter of FY 2005, the D&D of the existing CMR facility received CD-0 in conjunction with CMRR CD-1 approval. The receipt of CD-0 for the D&D of the CMR Facility demonstrates NNSA commitment to the Conference Report (H. Rept. 107-258) accompanying the FY 2002 Energy and Water Development Appropriations Act "one-for-one" requirement. Current Future Years Nuclear Security Program/Integrated Construction Program Plan (FYNSP/ICPP) funding profiles do not include the funding for the D&D of the CMR Facility as final funding determinations have yet to be made for inclusion in the appropriate budget year for this activity. NNSA will not initiate CMR D&D activities until completion and operational start-up of the CMRR Nuclear Facility, currently projected to be no earlier than FY 2014. As such, budget formulation for CMR D&D is premature for the FY 2010 budget submission. The inclusion of the D&D CMR Facility budget will occur upon the establishment of a project number and update of the FYNSP/ICPP in out year budget cycles.

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

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

Mello Aff #2, Par 14a

therefore, would not result in any additional environmental or health and safety impacts to LANL. Each of the alternatives would generally have the same amount of operational impacts. In other words, all of the alternatives would produce equivalent levels of emissions and radioactive releases into the environment, infrastructure requirements would be the same, and each alternative would generate the same amount of radioactive and nonradioactive 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 CMRR Facility would result from the decontamination and demolition of the Building and the transport and disposal of radiological and nonradiological waste materials.

Transportation Risks

All alternatives except the No Action Alternative, would require the relocation and one-time transport of SNM equipment and materials. Transport of SNM, equipment, and other materials currently located at CMR Building to the new CMRR Facility at TA-55 or TA-6 would occur over a period of 2 to 4 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 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 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 (9.0×10^{-8}). For all alternatives, the overall environmental impacts and potential risks of transporting AC and MC samples would be small.

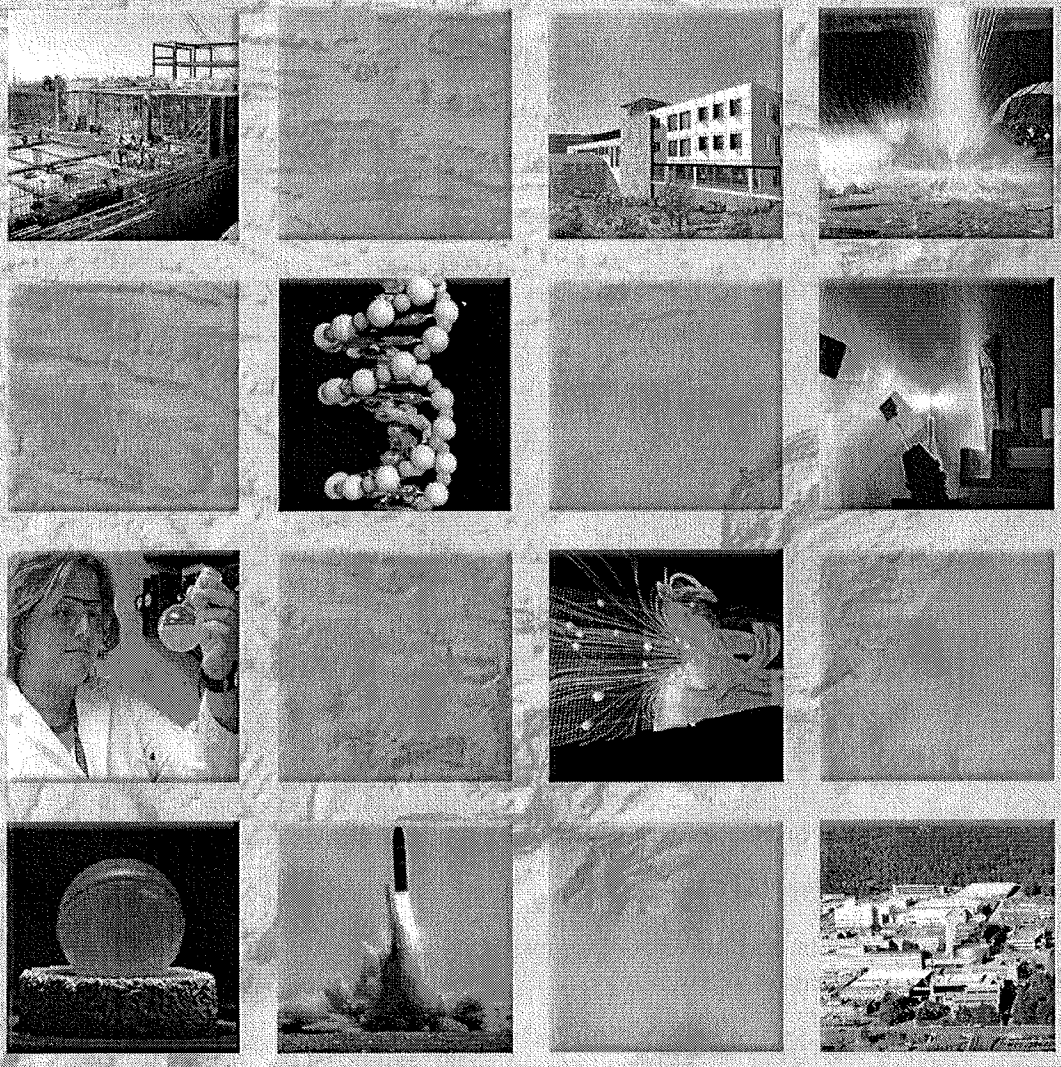
Impacts During the Transition from the CMR Building to the New CMRR Facility

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

Mello Aff #1, Par 14a

Ten-Year Site Plan
FY09 - FY18

LOS ALAMOS NATIONAL LABORATORY



Los Alamos
NATIONAL LABORATORY
EST. 1943

NNSA
National Nuclear Security Administration

LA-UR-08-06540

Operated by: Los Alamos National Security, LLC

September 2008

Capability to perform such work with the MTS as one of the identified approaches.

As discussed relative to NNSA mission needs in Section 3.1.2, the Laboratory is pursuing the signature facility concept MaRIE for achieving and maintaining leadership in materials-centric national security science. MaRIE's focus is on achieving solutions for transformational materials performance with an emphasis on matter-radiation interactions in extremes. Those solutions, enabled by MaRIE, will provide unique capabilities to address many national and global security challenges in addition to specific NNSA mission needs. MaRIE will be an international user facility and add to the suite of national user facilities provided through the Lujan Center, NHMFL, and CINT.

The mission need for the capabilities MaRIE would provide has been articulated in long-range planning by the materials research community, specifically DOE's SC Fusion Energy Science Advisory Committee (FESAC) and Basic Energy Sciences Advisory Committee (BESAC), in a series of scientific community reports and studies. Details of the MaRIE concept are being further developed with potential users.

Science Complex

Over the years, the Laboratory has described plans for a Science Complex to provide new mission-related basic and applied science facilities and to facilitate removal of aging and deteriorating space. The amount of aging facility space, much of which will be eliminated as the Science Complex becomes operational, exceeds the amount of new space planned for the Science Complex. The need for the Science Complex remains and increases in urgency as facilities supporting mission-related work continue to age. The Laboratory is continuing to explore alternative financing methods to support science facilities in addition to traditional funding mechanisms, such as Congressional Line-Item funding and GPP funding. For the purpose of this TYSP, specifically as it relates to the attachments, the Science Complex is assumed to be a third party lease.

The Science Complex, as currently envisaged, will consist of two buildings, one for classified work and one for unclassified work, totaling up to 450,000 gsf. The complex will house up to 1,600 scientific staff members from across the Laboratory, supporting both NNSA and non-NNSA national security missions as noted in Section 3.1.2. This new multidisciplinary, cost effective state-of-the-art infrastructure will seek LEED Gold certification. The Laboratory is preparing a detailed operating lease proposal package for NNSA review in FY09.

Energy Programs

Because energy security, carbon emission reduction, and climate modeling will remain significant national and DOE priorities, energy programs are anticipated to be of ongoing importance. The Laboratory will continue to play a leading role in nuclear energy through R&D in such areas as modeling and simulation, fuels and materials research, nuclear data, repository science and issues of waste from R&D, nonproliferation and safeguards, and the proposed MTS at LANSCE.

Until replacement facilities can be developed, Wing 9 of CMR will need to remain in operation to support NE as well as environmental, NNSA, and other activities.

Laboratory facilities will also continue to contribute to other aspects of energy security programs, including:

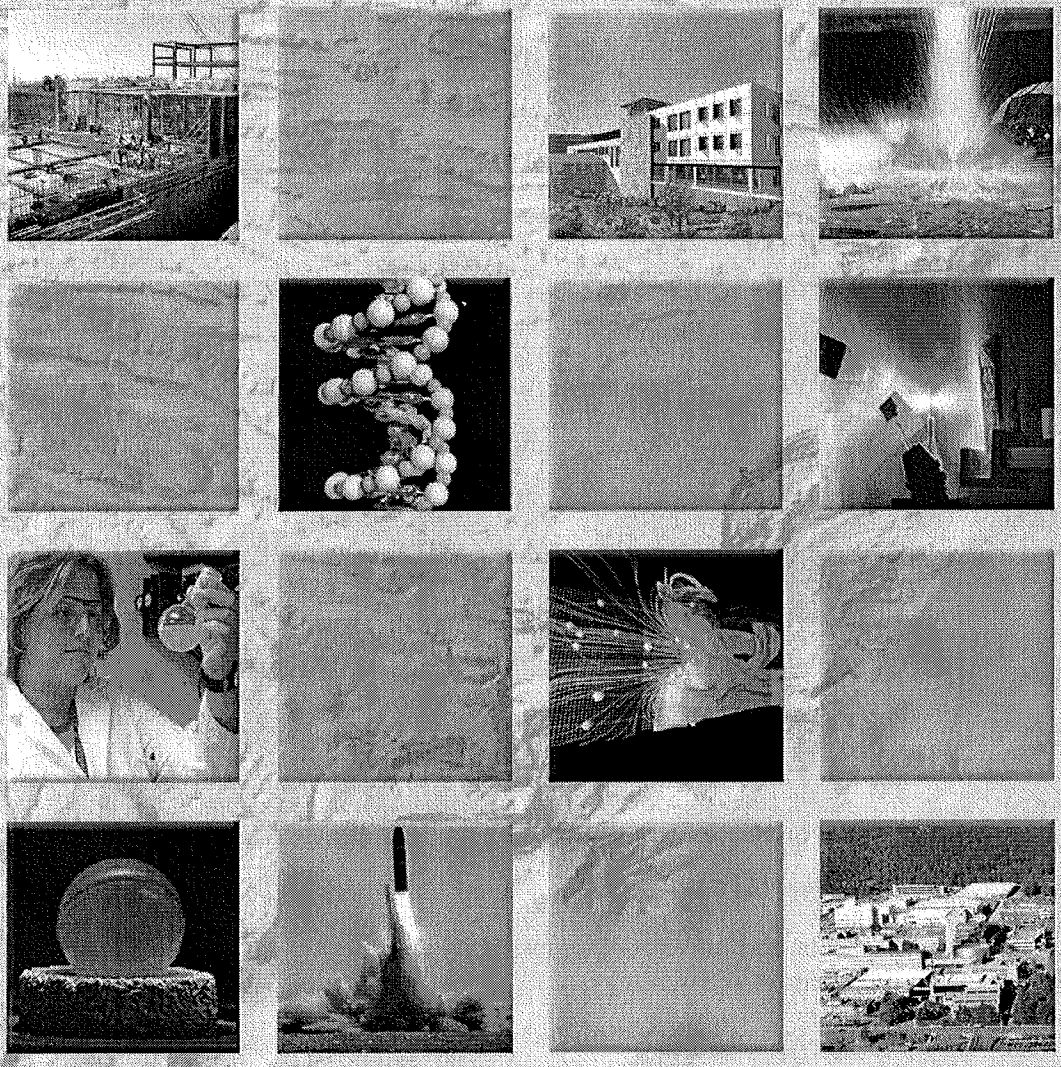
- modeling of energy infrastructure
- alternative energy sources
- fuel cell research, innovation, and development
- research and analysis for carbon storage and sequestration
- technologies for fossil fuels and energy efficiency

The Laboratory was recently selected to lead the DOE's Center of Excellence for Chemical

Mello Aff #2, Par 14a

Ten-Year Site Plan
FY09 - FY18

LOS ALAMOS NATIONAL LABORATORY



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Operated by: Los Alamos National Security, LLC

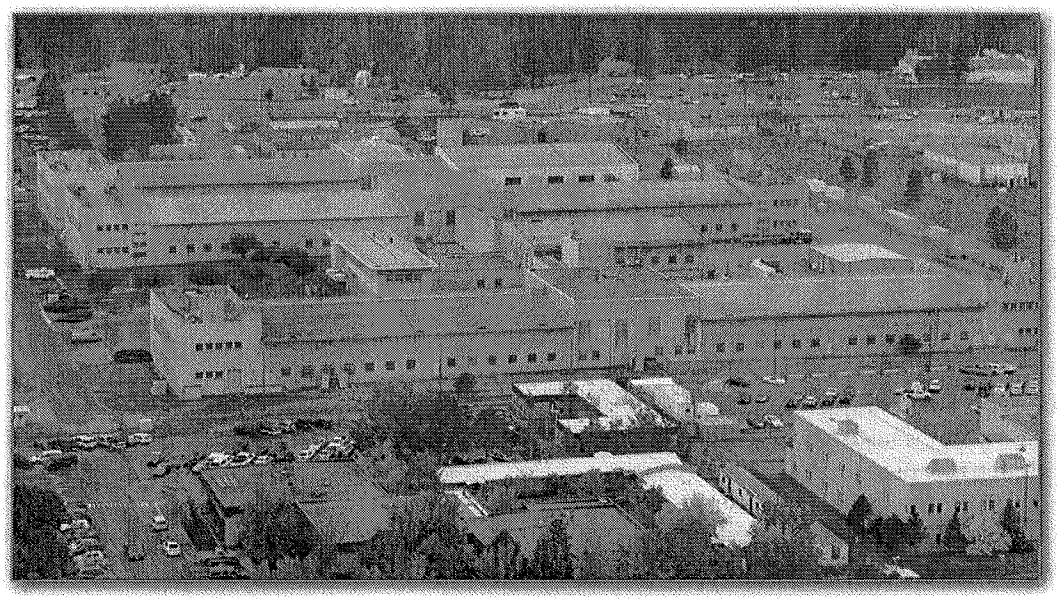
September 2008

Both of these projects are identified within FYNSP. However, it is recognized that the duration required to get these facilities constructed and approved may be longer than originally anticipated. Studies are underway to determine if investments are needed in the existing facilities to maintain operations in a safe and compliant manner until the new facilities become operational.

Chemistry and Metallurgy Research Facility: The existing CMR facility serves as the primary facility for a broad spectrum of actinide, metallurgical, and other material testing systems of radiological components for Security Category III material levels. The CMR building houses significant nuclear material capabilities in support of programs at TA-55, including analytical chemistry, metallography, and R&D for science-based stockpile stewardship and surveillance programs.

The CMR facility currently operates on a "run-to-replacement" philosophy due to funding constraints and in anticipation of CMRR project completion. The CMR will maintain normal operations and sustain capabilities needed for ongoing missions until the CMRR Facility becomes operational. This will require an update to the current Authorization Basis (AB) which will expire in 2010. A new Documented Safety Analysis (DSA) is expected to be approved by NNSA prior to the December 2010 expiration. Significant investments involving upgrades to the CMR facility's cooling and ventilation systems are underway to keep the CMR operational and compliant. The Laboratory has also initiated a major risk reduction effort in wings 2, 3 and 4 that involves relocating process activities and wing closures to reduce the operating hazards and will lead to a continuation of an operating environment that can be sustained until the new CMRR is completed.

The CMRR will provide new facilities at TA-55 to house existing CMR capabilities and consolidate Security Category I/II laboratory work in a single area to minimize the transfer of nuclear material within the complex. The CMRR facilities consist of three buildings—a laboratory/office building, a utility building (RLUOB), and a Security Category I/II,



The existing CMR, which houses significant nuclear materials capabilities, will require continued investments in the facility's maintenance to sustain capabilities needed for ongoing missions until the CMRR is certified operational.

eliminate the associated DM. As indicated in Attachment F-2, the MDNC facilities, including utility facilities, will not receive sufficient funding nor benefit from footprint reduction to achieve the FCI goal. In FY09, the Laboratory will evaluate a new site-wide integrated prioritization method to ensure the proper balance of sustainment funding is achieved.

Tradeoffs to Reduce Maintenance Costs

Given the fiscal realities of declining budgets, maintenance investment decisions require consideration of potentially significant tradeoffs at the site level. FYNSP constraints are expected to result in generally flat maintenance budgets until CMRR becomes operational. Therefore, as previously stated, to reduce the maintenance budget gap, the Laboratory must reduce the overall site footprint, enabling the maintenance budget to support remaining facilities and systems at sustainable levels. A detailed F&I funding gap analysis will be performed in FY09 utilizing updated facility inspection data, updated DM/RPV data and revised RM.

The Laboratory is refining site maintenance business practices to reduce overhead and improve safety and productivity. LANS started transforming the 60-year-old maintenance subcontracting model in FY07 by in-sourcing several functions. As a result, overhead costs dropped and efficiency increased. Further refinement of the site service model is planned in FY08 and FY09.

Mello Aff #2, Par 14a (note, sub-paragraph 14a heading was used twice; this is the second 14a).

Pajarito Construction Activities

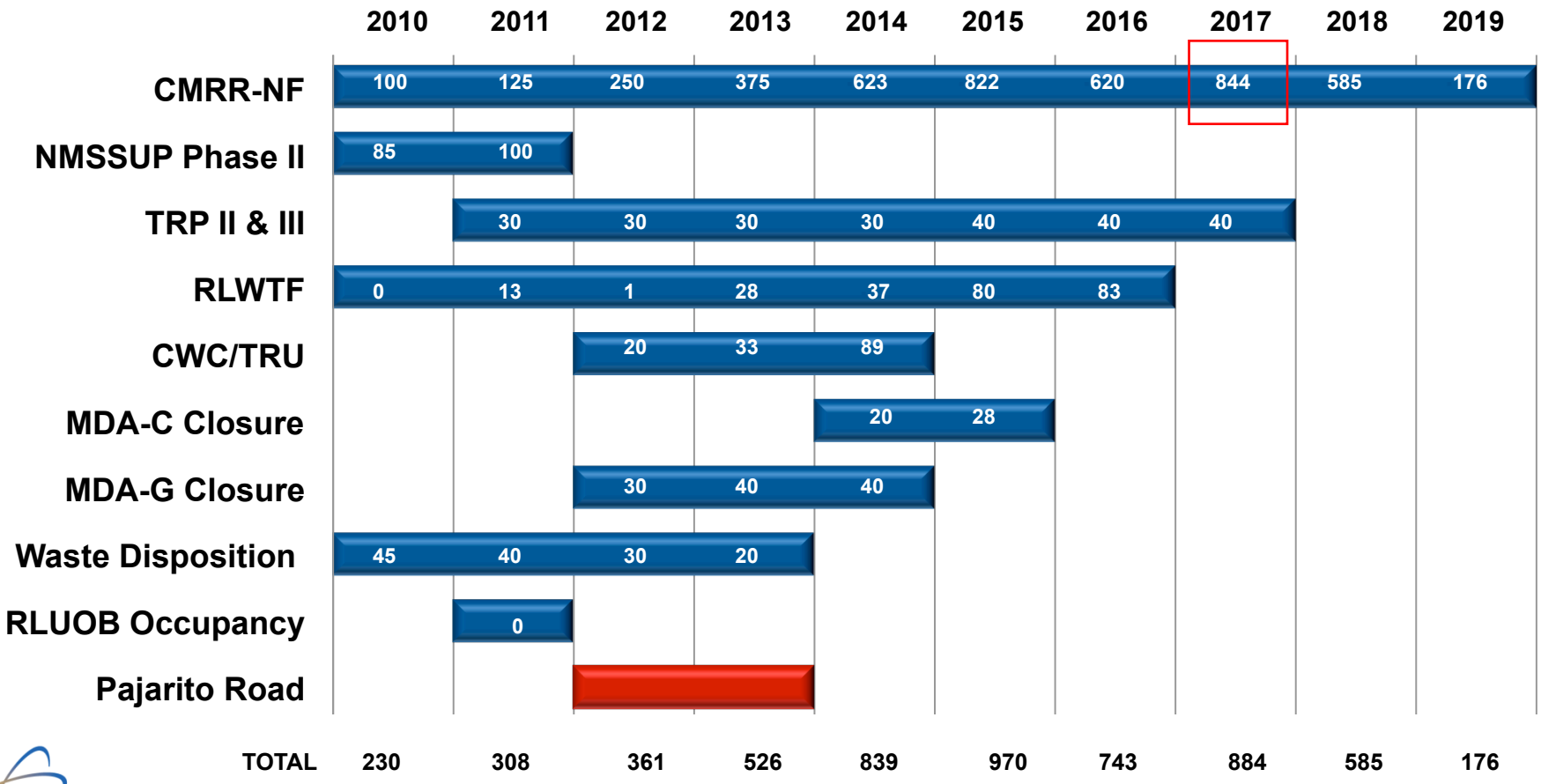
John Bretzke, Deputy Associate Director

Project Management & Site Services, LANL

June 16, 2010

LA-UR-10-04023

Project Construction Craft Personnel



Mello Aff#2 Par 14b (note: sub-paragraph reads 14a in Affidavit but should have been headed 14b).

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Cultural Resources (continued)			
	Construction of TA-50 parking lot will result in loss of several historic features related to pre–Manhattan era homesteads. Data recovery would mitigate loss of these resources. Concurrence of SHPO obtained prior to start of construction (DOE 2005).		
Socioeconomics			
	Construction: 300 workers (peak), 135 vehicles per day during construction period Operations: 550 resident workers	Construction: 1000 workers (peak); 552 workers (average) per year for 8.5 years Operations: 550 resident workers (no change)	There would be some short-term increase in local economic benefits due to longer construction period and larger temporary workforce. Remains bounded by the CMRR EIS and the 2008 SWEIS.
Human Health & Radiological Inventory			
Facility Accidents	Accident analysis related to radiological inventory in the vault and the configuration.	No changes to radiological inventory or configuration.	There would be no impacts on human health and radiological resources associated with the planned and proposed actions beyond those bounded by the CMRR EIS and the 2008 SWEIS.
Environmental Justice			
	There were no environmental justice concerns identified in the CMRR EIS analysis.	No change from CMRR EIS conditions.	There would be no impacts on environmental justice associated with the planned and proposed actions beyond those bounded by the CMRR EIS and the 2008 SWEIS.

Mello Aff #2, Par 15

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, water, and manpower to support transition activities during this period may be higher than what 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 change 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 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.

CMR Building and CMRR Facility Disposition Impacts

All action alternatives would require some level of decontamination and demolition of the existing CMR Building. Operational 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.

Mello Aff #2, Par 15. Erratum: affidavit understates waste generation by omitting hazardous waste quantity.

Resource/Material Categories	*No Action Alternative*	*Alternative 1 (relocate CMR AC and MC operations to TA-55)* [a]	*Alternative 2 (relocate CMR AC and MC operations to TA-6)* [a]	*Alternative 3 (relocate CMR AC and MC operations to TA-55)* [b]	*Alternative 4 (relocate CMR AC and MC operations to TA-6)* [b]
Accidents (Maximum Annual Cancer Risk, LCF)					
Population	0.0024	0.0005	0.00048	0.0005	0.00048
MEI	4.3×10^{-6}	1.5×10^{-6}	3.3×10^{-7}	1.5×10^{-6}	3.3×10^{-7}
Noninvolved worker	0.00019	5.0×10^{-6}	0.000054	5.0×10^{-6}	0.000054
Environmental Justice	No disproportionally high and adverse impacts on minority or low-income populations				
Waste Management (cubic yards of solid waste per year unless otherwise indicated): Waste would be disposed of properly with small impact.					
Transuranic waste	19.5	61	61	61	61
Mixed Transuranic waste	8.5	27	27	27	27
Low-level [f] radioactive waste	1,217	2,640	2,640	2,640	2,640
Mixed low-level radioactive waste	6.7	26	26	26	26
Hazardous waste (pounds per year)	10,494	24,692	24,692	24,692	24,692
Transportation					
Accidents [g]	***Dose***	***Dose***	***Dose***	***Dose***	***Dose***
MEI (rem per year)	7.7×10^{-7}	0	0.00015	0	0.00015

LCF = latent cancer fatality; MEI = maximally exposed individual member of the public.

[a] Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of an administrative offices and support functions building and Hazard Category 2 and 3 buildings.

[b] Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of only Hazard Category 2 and 3 buildings.

[c] Construction impacts are based on Construction Option 1, which is bounding.

[d] Acreage reflects building footprints, parking lot, and new roads as applicable.

[e] CMR operations would require no additional workers beyond what was projected by the Expanded Operations Alternative analyzed in the *LANL SWEIS*. Increased CMRR Facility operations at LANL would require up to 550 workers. This would be an increase of 346 workers over current requirements. The Expanded Operations Alternative presented in the *LANL SWEIS* addressed the impact of this increase in employment.

[f] Volumes of low-level radioactive waste includes solid waste generated by the treatment of liquid low-level radioactive waste generated by CMR operations.

[g] Population transportation impacts would be bounded by the normal operation and accident impacts evaluated for the various alternatives.

Mello Aff #2, Par 15

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.

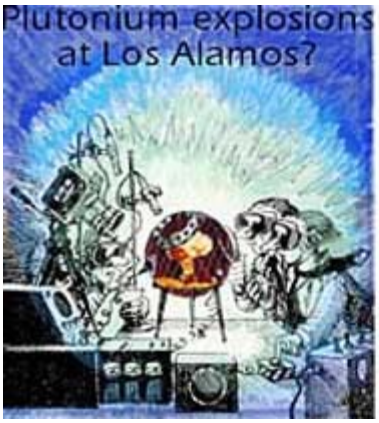
Project-specific analyses indicate that operation of one exhaust fan for Zone 1, one exhaust fan for Zone 2, and one supply fan for Zone 2 would be adequate to maintain a cascading flow and negative pressure with respect to the atmosphere during a fire event (with one door left open for emergency response 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.

Mello Aff#2 Par 15 from http://www.lasg.org/technical/lanl-hydrotest-index.htm



The Plutonium Hydrotesting Program

Subcritical Nuclear Testing at Los Alamos National Laboratory

Los Alamos National Laboratory (LANL) has begun a secret program of subcritical nuclear tests--code-named "Appaloosa"--using plutonium in steel vessels. (Subcritical means that no self-sustaining fission reaction takes place). A special isotope of plutonium (Pu-242) is used in at least some of the tests, making it possible to test a exact copy of any fission explosive (or nuclear weapons "primary"). The imploding devices are photographed using high-powered X-rays and the resulting sequence of precision images are analyzed to produce a very exact physical history of the implosion. This history, in turn, is used to predict the nuclear performance of the device with unprecedented confidence. At present, three or four photographs can be taken in rapid succession along a single axis. By late 2002, repeated simultaneous photos along two axes will be possible using the Dual-Axis Radiographic Hydrotest (DARHT) facility, now under construction at Los Alamos. A six-axis machine is under design. This web page provides readers with background documents on this evolving method of testing primaries with high confidence in the absence of nuclear explosions.

Vessels previously used for plutonium hydrotests.
(Click image for full screen version.)

- Background Information
- Safety Concerns

June 1999 Update

- January 1999 Press Release
- May 1997 Press Release
- News Articles
- Hydrotesting Image Gallery
- LANL & DOE Hydrotesting Document Archives
- Explosive Above-Ground Contained Plutonium Experiments Make Test Ban Verification More Difficult

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^ back to top

2901 Summit Place NE Albuquerque, NM 87106, Phone: **505-265-1200** , Fax: 505-265-1207

Mello Aff #2, Par 15, "LANL Comprehensive Site Plan 2000"

6. *Revitalization Strategies – Four Primary Areas*

Revitalization of physical facilities focuses on four primary areas of the Laboratory. A brief discussion of revitalization needs for each area follows.

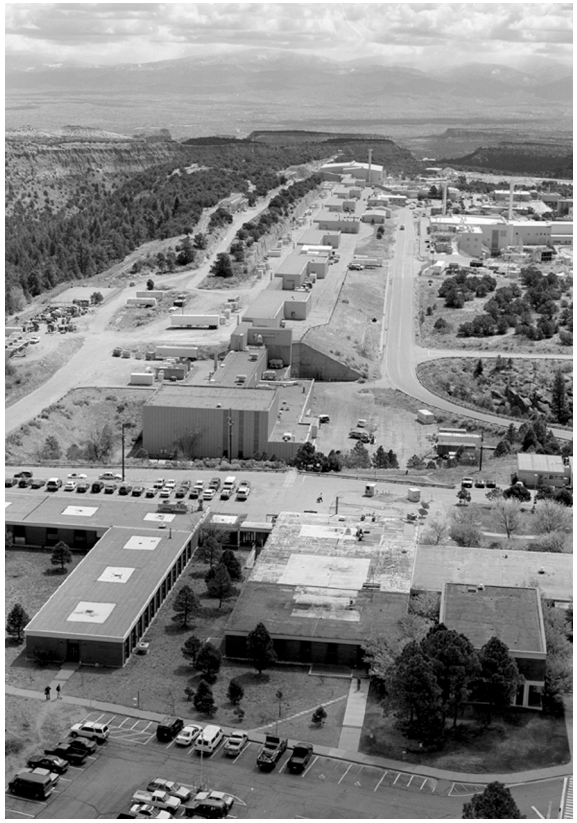
Experimental Engineering Planning Area: This area of the Laboratory constitutes the heart of the Hydrodynamic Test Program. DX and ESA Divisions are working together on the development of upgraded facilities for high explosives (HE) handling/processing/assembly, etc. The science based stockpile stewardship (SBSS) and stockpile management (SM) programs cover this work. DP-1, The Assistant Secretary for Defense Programs, must support the activities at these sites.

Core Planning Area: The Strategic Computing Complex (SCC) is the very heart of the SBSS mission and must be supported by DP-1. In the future, this capability will be critical for Bioscience and other leading-edge research at Los Alamos.

LANSCE Planning Area: LANSCE is the main driver for the Proton Radiography (P-RAD) program at the Laboratory, See Figure IV-2. It is one of the two main components of the Laboratory's integrated strategy. LANSCE hosts multi- and mixed-program, multiorganizational activities. The various groups that occupy and use the site must integrate their facility needs to accomplish their individual missions. There is a critical need for both classified and unclassified laboratory and office space by all occupants at the site.

Pajarito Corridor West Planning Area: This site is primarily a nuclear stockpile management (SM) and materials disposition (MD) site. The site is indispensable for SBSS.

Figure IV-2: LANSCE Facility



7. *The Proposed Advanced Hydrotest Facility (AHF) Includes the Following Components*

DARHT will need a major assembly support building with the capability to handle very large containment/confinement vessels for various hydrodynamic shots and dynamic experiments. Large radiographic capabilities that can do static radiography on "full-up" assemblies is also needed (See Figure IV-3).

TA-53 - PRISM/Proton Radiography Facility needs the same capability or a way to share this capability.

Advanced Hydrotest Facility (AHF) support from TA-55 is essential for the program at DARHT or PRISM. There is a programmatic need justifying the replication of at least three modules of PF-4 as being driven by the need to support the AHF Program for SBSS by DP-10 and DP-20 needs. This facility is very important to the SBSS Program, and will need support at the highest levels of DOE and the Congress.

Mello Aff #2, Par 15

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

Program Requirements

NF shall include laboratory and research capabilities for:

- Missions assigned to LANL for Analytical Chemistry and Materials Characterization
- Special Nuclear Material long-term storage
- Capability to handle Large Vessel Handling Mission in future
- Mission support operations necessary to perform the above including, material handling, short-term storage, waste management, sample management, and sample preparation

WALATOWA

PUEBLO of JEMEZ

Mello Aff #2, Par 18

October 4, 2010

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

Thomas Paul (Tom) D'Agostino
NNSA Administrator
NA-1/Forrestal Building
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Dear Secretary Chu and Administrator D'Agostino:

I am writing to express my concern about environmental impacts, and the lack of analysis and public discussion of those impacts, from the proposed Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility at Los Alamos National Laboratory (LANL).

The multi-billion dollar CMRR project appears to have quietly grown through recent years to the point that local officials and Pueblo leaders like me are almost completely in the dark about it. This proposed semi-underground facility for storing, handling, and processing plutonium would have a big impact on our region – and it has no applicable Environmental Impact Statement (EIS).

The National Environmental Policy Act (NEPA) requires that Indian tribes be offered notice, review, and comment opportunities regarding this facility. The facility described to the tribes in 2003 is not the same facility being proposed today.

If built, this facility would be the most expensive project ever built in New Mexico by far, except for the interstate highways. Its primary purpose is to increase production capacity for new plutonium warhead cores ("pits").

In 2003 NNSA wrote an EIS outlining plans for a much smaller and quite different facility. That earlier EIS described a facility that would cost only one-tenth as much as today's, use one-fiftieth as much concrete, take one-fourth the time to build and be ready a decade sooner, as well as entail far fewer environmental impacts across the region. Then NNSA changed the project dramatically without telling anyone, and without any analysis of alternatives to the new aggrandized project, its design, or its proposed construction methods.

The project now includes:

- A new planned excavated depth of 125 feet and replacement of a 50 foot layer of volcanic ash beneath the proposed building with 225,000 cubic yards of concrete and/or grout, vs. an original depth of at most 50 feet;

- Vastly larger quantities of structural steel (now more than 15,000 tons) and concrete (now 347,000 cubic yards);

- Greatly increased acreage to be affected, now involving many LANL technical areas;

- Greatly increased climate-altering greenhouse gas emissions, including more than 100,000 tons of carbon dioxide from concrete production alone;

- Anywhere from 20,000 to 110,000 heavy truck trips just for concrete ingredients and disposal;

- A decade-long construction schedule;

- Multiple new project elements including a warehouse, electrical substation, temporary worker housing, worksite shelter(s), traffic modifications, road relocation or closure, truck inspection facility, temporary facilities for displaced workers; and possibly temporary housing;

- Various "connected actions" – at least eight other major nearby construction projects with cumulative impacts;

- A variety of unknown road and traffic modifications, including closure of Pajarito Road for two years; and

- Generation of up to 400,000 cubic yards of excavation spoils, which are to be dumped on existing nuclear waste sites (material disposal areas "C" and "G") in lieu of removing the shallow-buried waste.

At the end of this facility's useful life it would be contaminated, and would very likely be closed in place as a permanent hazard, being too large to break up,

transport, and dispose of elsewhere. Over its life this building is expected to generate millions of pounds of radioactive and hazardous chemical wastes.

Many circumstances surrounding this project have changed since it was proposed. It may not even be needed. It may not be worth the cost. Quicker, safer, and cheaper alternatives may exist. I understand that there isn't even a preliminary design or projected cost at present. It seems premature to proceed without these. This is a good time to thoroughly and publicly check for better alternatives which may have become available during the long period when the cost and impacts of this one have grown so much.

We are very concerned that the Valles Caldera not be adversely impacted by LANL activities, including the proposed CMRR. Because the Valles Caldera which is an integral part of Jemez Pueblo's traditional use and aboriginal Indian title area, lies immediately adjacent to LANL to the west and southwest. Radionuclide contamination of the air, water and soil in the Valles Caldera affects our Pueblo directly because our all-important domestic and agricultural water supply originates in the headwaters of the Rio Jemez, in the Valles Caldera. We are particularly concerned that plutonium refining and machining operations that will be conducted in the CMRR will increase fugitive radionuclide emissions from LANL. We have measured radioisotope analytes, Pu-238 / 239 and U-235/236 in the Valles Caldera that exceed their respective mean regional concentrations, as measured by LANL, by a factor of three. I have attached the April 9, 2008 study prepared by our Pueblo Department of Resource Protection titled, "Sampling for Radioisotope Impacts from Los Alamos National Laboratory in the Valles Caldera National Preserve", which reports this data. The probability of increased regional radionuclide contamination from the proposed CMRR is one of many environmental impacts of the greatly enlarged project that have not been analyzed.

We therefore respectfully request that the Department of Energy (DOE) prepare a new EIS for the CMRR Nuclear Facility and its alternatives, pursuant to the National Environmental Policy Act (NEPA) and its implementing regulations. It's important to us that this EIS be preceded by the required scoping process, so that my constituents and I, and other governmental agencies, tribes, and independent technical experts, can fully participate in the development and discussion of project alternatives and scope of analysis. Given the enormous size of the presently proposed project as compared to the project proposed and reviewed in the 2003 EIS, a Supplemental Environmental Impact Statement (SEIS) based upon the 2003 EIS will not be adequate. We believe that full NEPA compliance is required based on the reality that the CMRR as presently proposed is essentially a new project.

An EIS is a pre-decision analysis intended to guide the decision-making process, not a justification for a decision that has already been made. It is critically important to stop obligating funds while this analysis is going on. If DOE doesn't

stop committing and expending irretrievable resources, there is no point in conducting an analysis.

As you are aware, NEPA requires federal agencies to provide notice and comment opportunities to local governments and Indian tribes regarding proposed major federal actions, including enabling them to help analyze alternatives, and including analysis of the direct, indirect, and cumulative impacts upon the human environment. None of this has happened.

I want to help DOE reach a sound decision on the proposed CMRR Nuclear Facility. A new EIS, including scoping and accompanied by halting investment in the project alternative being finalized today without an adequate EIS, is required to facilitate public participation and result in a sound final decision.

Sincerely,

Joshua Madalena

Joshua Madalena, Governor
Jemez Pueblo

c: Larry Echohawk, Asst. Secretary for Indian Affairs, Dept. of Interior
Pueblo of Acoma – Governor Chandler Sanchez
Pueblo of Cochiti – Governor Vernon M. Garcia
Pueblo of Isleta – Governor J. Robert Benavides
Pueblo of Santo Domingo Tony Tortalita
Pueblo of Laguna – Governor John Antonio
Pueblo of Nambe – Governor Ernest Mirabal
Pueblo of Ohkay Owingeh – Governor Marcelino Agunio
Pueblo of Picuris – Governor Manuel Archuleta
Pueblo of Pojoaque – Governor George Rivera
Pueblo of San Felipe – Governor Feliciano Candelaria
Pueblo San Ildefonso – Governor Perry Martinez
Pueblo of Sandia – Governor Joe M. Lujan
Pueblo of Santa Ana – Governor Bruce Sanchez
Pueblo of San Clara – Governor Walter Dasheno
Pueblo of Taos – Governor James Lujan Sr
Pueblo of Tesuque – Governor Frederick Vigil
Ysleta Del Sur – Governor Frank Paiz
Pueblo of Zia – Governor Marcellus Medina
Pueblo of Zuni – Governor Norman Cooeynte
Tom Luebben, General Counsel
David Yepa, General Counsel

Mello Aff #2, Par 19

Pajarito Group of the Sierra Club
Los Alamos, New Mexico

November 1, 2010

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
U.S. Department of Energy, National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, TA-3
Building 1410, Los Alamos, New Mexico, 87544
NEPALASO@doeal.gov.

Mr. Tegtmeier:

The Pajarito Group of the Sierra Club is pleased to submit our scoping comments on the U.S. Department of Energy (DOE), National Nuclear Security Administrations (NNSA) Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory, Los Alamos, New Mexico (SEIS). Our comments are presented on behalf of over 350 Pajarito Group members who reside primarily in the Los Alamos and White Rock areas.

As Congress declared in Title 1 of the National Environmental Policy Act *it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.* Furthermore, *it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources…*" The Pajarito Group is a public and local organization whose members will be detrimentally affected by the proposed action.

1. Scoping Comment Period Extension and Involved Communities Expansion:
This SEIS is of national importance with the proposed project requiring significant fiscal resources, estimated by various sources as between 3.4 to 5.0 billion dollars and, in consideration of the connected actions, could exceed 6.0 billion dollars. Given the history of DOE fiscal management of other large projects, both locally and nationally, costs would be expected to exceed even the $6 Billion cost estimate. The material and infrastructure requirements (including housing, schools, transportation, building supplies, etc.) of such a substantial project

are beyond the capacities of Los Alamos and neighboring communities to provide without their making tangible sacrifices, or providing expedient solutions, that may indeed become long lasting liabilities. As required by Council on Environmental Quality NEPA implementing regulations Section (Sec.) 1506.6 *In the case of an action with effects of national concern notice shall include publication in the Federal Register and notice by mail to national organizations reasonably expected to be interested in the matter… Agencies shall maintain a list of such organizations.* Did the NNSA provide notification to national organizations (e.g. National Park Service – Bandelier National Monument); including communities as identified and maintained in NNSA's list of organizations to contact? The issue we identify here is a concern that impacts are not and will not be limited to a specific site.

Given the significant changes to the original project, as defined and compared to the 2003 EIS, other communities may now provide and have an interest in offering a more appropriate project location (i.e., Nevada Test Site, Pantex, Savanna River, etc.). Without receiving proper notification and scoping meetings, these alternate communities have had their ability and right to provide scoping comments foreclosed. It should not be a foregone conclusion that Los Alamos is the sole site for the expanded proposed action. As explained in point 2 below the Pajarito Group advocates an EIS, not simply an SEIS, be undertaken because of the profound and significant changes to the originally proposed project. Those project changes now open the door to identifying and defining reasonable alternatives that include construction and operation at other DOE sites. Thus, EIS notification and scoping meetings should be held in those locations that have the capacity to support a pit production facility. Therefore, we are requesting that NNSA integrate the NEPA process with other communities and provide the national audience with an opportunity to provide scoping comments. To this end, the scoping comment period requires meaningful extension. The time extension and inclusion of other potentially affected communities will ensure that planning and decisions reflect environmental values, avoid major delays later in the NEPA process and head off potential litigation.

2. An EIS is Required

Given the significant, substantial, and profound changes in the original project proposal the Pajarito Group's position is that a new EIS is required. Based on a comparative analysis of information provided in various documents including the original 2003 EIS it is evident that construction costs have escalated to the point that requires the prudent and reasonable action to consider other site locations. Additionally, given that pits are now known to remain viable for a century or more and that the production of new weapons is prohibited; the need and size of a "CMRR" requires analysis. It is unclear what role CMRR plays in pit production and whether it is sized to meet current or future needs. The reasonable alternatives should be, at a minimum:

- No Action – Continued Use of CMR
- Use of other facilities at LANL

- Other site locations
- Facility size requirements

Again the project conditions have significantly changed and it is our position that a SEIS is no longer appropriate and is not NEPA compliant nor in the best interests of the nation.

3. Cease Physical Modifications

The continuing expenditure of funds and physical actions in support of the CMRR at Los Alamos has introduced an unacceptable bias in favor of the Los Alamos location and is, thereby, a violation of NEPA regulations. Until such time as a new Record of Decision is issued, based on the preparation of an EIS as defined in point 2 above, all physical modifications in support of the "proposed" CMRR should cease and only very limited planning in support of mission implementation definition, cost assessment, and development of alternatives in support of the NEPA analysis be performed. To do otherwise is prejudicial and not in the best interests of the Country. As stated in NEPA implementing regulations *Sec. 1506.l Limitations on actions during NEPA process:*

> (a) Until an agency issues a record of decision as provided in Sec. 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.

We note Thomas P. D'Agostino's (Under Secretary for Nuclear Security & Administrator, National Nuclear Security Administration) October 28, 2010 speech in which he is quoted *That is why is it is critical that we complete the design and construction of key facilities like the Uranium Processing Facility at Y-12 and the* ***Chemistry and Metallurgy Research Replacement (CMRR) project at Los Alamos.***
(Bolding added for emphasis)

Comments such as this continue to provide us with a concern that DOE NNSA is treating NEPA as only a *pro forma* exercise. Until the Record of Decision is issued DOE and NNSA personnel should cease their prejudicial comments that are at best indicative of a perceived disdain of the NEPA process.

We appreciate the opportunity to provide our comments. Should NNSA have any questions or comments to our position we would be pleased to participate in discussions with the NNSA.

Sincerely,
Executive Committee of the Pajarito Group of the Sierra Club
P.O. Box 945, Los Alamos, New Mexico 87544
Ibleck@yahoo.com

Mello Aff #2, Par 20

10-9-10

LOS ALAMOS NATIONAL LAB

Facility design may proceed

By Roger Snodgrass
For The New Mexican

Officials at Los Alamos National Laboratory say they can advance the design phase of their multibillion dollar nuclear facility, while at the same time deciding where and what should be built.

"There are a lot of things we can do that don't prejudice the outcome," said Rick Holmes, division leader for the lab's Chemistry and Metallurgy Research Replacement facility.

More information emerged during and after a public meeting Wednesday evening in Los Alamos.

Although it is only 22,500 square feet, the nuclear facility makes up the bulk of the CMRR project, and at $4 billion or more, it may become the largest federal project in New Mexico history, apart from the interstate highways.

Jay Coghlan, executive director of Nuclear Watch New Mexico, asked officials if the project had a total cost yet. "No we don't," said Steve Fong, who heads the CMRR project for the Department of Energy.

In a presentation, Scott Kovac also of Nuclear Watch, illustrated one of the dimensions of the rising costs.

Including next year's budget, which has not yet been approved, $420 million will have been appropriated for the design of the CMRR alone, with $580 million in the plans through 2013. The estimate for the original design was $55 million in 2003.

Not all has gone awry.

Fong said the first two phases of the project, the $164 million radiological laboratory and the associated equipment installation, budgeted at $199.4 million, are on course. The 19,500-square-foot Rad Lab is complete and the equipment project is under way and ahead of schedule. The smaller of two buildings at the facility, the Rad Lab will be ready to be occupied by a staff of 350 next year.

The nuclear facility is a different story.

Last week, the Department of Energy began a review of the 2003 environmental impact statement for the nuclear facility portion of the Chemistry and Metallurgy Replacement Research project.

Under pressure from watchdog groups and a lawsuit by the Los Alamos Study Group to halt the project because of a seven-year-old environmental study that might no longer be valid, the government decided to continue working but to prepare a supplemental analysis on the project and possible impacts.

Roger Snyder, deputy manager of the Los Alamos Site Office, which oversees the LANL contract for the National Nuclear Security Administration, said the question was, "Are we covered by the 2003 environmental impact statement?"

"We are partially covered," he said, "but in light of the public interest we elected to go ahead and do the supplement."

Much has already been invested in the current plan, including an exploratory excavation of the nuclear facility foundation for seismic studies.

Construction had been scheduled to begin on the infrastructure package by mid-2011, but Snyder said, "There will be no construction associated with the nuclear facility during that period."

Holmes said the design contracts were in place with Sargent & Lundy, a power plant construction company based in Chicago. Merrick & Co., with headquarters in Aurora, Colo., has the design contract for the gloveboxes and equipment.

The scoping meetings for the environmental analysis will begin with at least two meetings later this month, and is expected to take at least nine months to July 31. A decision paper could be issued 30 days after that.

Joni Arends, executive director of Concerned Citizens for Nuclear Safety, requested a time extension and additional venues in Taos, Albuquerque and Santa Fe for the scoping sessions. She also gave a presentation detailing rising water-usage levels at LANL, which will be aggravated by the additional water demands of the 225,000 cubic yards of concrete called for in the plans for the nuclear facility at its current site.

Two different locations have been included in the scoping alternatives. One set of alternatives calls for either refurbishing or making do with the existing Chemical and Metallurgy Research Building, a 60-year-old structure located in the main administrative area of the laboratory.

The other alternative would continue the current project while taking into account the increased safety and environmental impacts from the expanded construction program.

Snyder said that the long design phase built into the plan meant that only about 15 percent of the design work would be completed in a nine-month span.

Other alternatives may arise from the scoping process, which will be followed by a draft statement and another round of public comment, Snyder said.

Contact Roger Snodgrass at roger.sno@gmail.com.

CITY OF SANTA FE, NEW MEXICO

Mello Aff #2, Par 21

RESOLUTION NO. 2010 -

COUNTY OF SANTA FE, NEW MEXICO

RESOLUTION NO. 2010 -

INTRODUCED BY:

Councilor Bushee

Councilor Ortiz

Commissioner Kathy Holian

A JOINT RESOLUTION

IN SUPPORT OF A NEW ENVIRONMENTAL IMPACT STATEMENT FOR LANL'S CHEMISTRY AND METALLURGY RESEARCH REPLACEMENT NUCLEAR FACILITY (CMRR PROJECT).

WHEREAS, the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA) are planning to build a Chemistry and Metallurgy Research Replacement Nuclear Facility (abbreviated as CMRR) to facilitate large-scale production of additional plutonium warhead cores (or "pits") at Los Alamos National Laboratory (LANL); and

WHEREAS, the CMRR project involves significant environmental and safety risks to surrounding communities and their residents including the City and County of Santa Fe; and

WHEREAS, the CMRR project has grown significantly in scope since 2003, when it was presented as a smaller, above-ground facility; and

WHEREAS, the Governing Body of the City of Santa Fe objected to the facility in 2003, adopting Resolution No. 2003-64 “A Resolution Objecting To The Location Of A Modern Pit Facility In Northern New Mexico And Directing The City Clerk To Inform Federal Authorities

Of The Objections"; and

WHEREAS, an Environmental Impact Statement (EIS) was conducted by NNSA in 2003 for a much smaller CMRR project; and

WHEREAS, the newest underground incarnation of the proposed CMRR project has grown in magnitude from an estimated $400 million to over $5 billion, to be completed a decade hence; and

WHEREAS, a new EIS for the enlarged CMRR project is essential to reassure the citizens of Santa Fe that the safety and environmental issues entailed in this growing project are being planned for in a careful and comprehensive way; and

WHEREAS, local governments at city, county, and state levels need to be fully informed about the CMRR project at LANL, so as to make their citizens aware of potential safety and environmental hazards associated with the handling of plutonium and other dangerous materials in a timely fashion.

NOW, THEREFORE BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF SANTA FE AND THE BOARD OF COUNTY COMMISSIONERS OF SANTA FE COUNTY that that the DOE, NNSA, and LANL are urged to conduct a new, full-fledged Environmental Impact Statement for the CMRR project, as it is presently envisioned.

AND BE IT FURTHER RESOLVED that the Governing Body of the City of Santa Fe and the Board of County Commissioners of Santa Fe County respectfully request the DOE, NNSA, and LANL to keep the City and County of Santa Fe fully informed, in a timely manner, about progress on the EIS and about any other safety and environmental concerns that arise during any preliminary phase of construction that is done at the CMRR site.

AND BE IT FURTHER RESOLVED that that the City and County Clerks are directed to forward a copy of this resolution to the DOE, NNSA, and LANL.

PASSED, APPROVED, and ADOPTED this ____ day of _____, 2010.

_____

DAVID COSS, MAYOR

ATTEST:

_____

YOLANDA Y. VIGIL, CITY CLERK

APPROVED AS TO FORM:

_____

GENO ZAMORA, CITY ATTORNEY

PASSED, APPROVED and ADOPTED this ___ day of _____, 2010, by the Santa Fe Board of County Commissioners.

THE BOARD OF COUNTY

COMMISSIONERS OF SANTA FE COUNTY

By: _____

HARRY B. MONTOYA

ATTEST:

_____

VALERIE ESPINOZA, COUNTY CLERK

APPROVED AS TO FORM:

_____

STEPHEN C. ROSS, COUNTY ATTORNEY

Jp/ca/jpmb/2010 res/LANL nuclear facility CMRR

Mello Aff #2, Par 22; erratum in affidavit: should be 138,000 cubic yards of radioactive waste plus 1,235,000 lbs. of hazardous waste, over presumed 50 year life.

Resource/Material Categories	*No Action Alternative*	*Alternative 1 (relocate CMR AC and MC operations to TA-55)* [a]	*Alternative 2 (relocate CMR AC and MC operations to TA-6)* [a]	*Alternative 3 (relocate CMR AC and MC operations to TA-55)* [b]	*Alternative 4 (relocate CMR AC and MC operations to TA-6)* [b]
Accidents (Maximum Annual Cancer Risk, LCF)					
Population	0.0024	0.0005	0.00048	0.0005	0.00048
MEI	4.3×10^{-6}	1.5×10^{-6}	3.3×10^{-7}	1.5×10^{-6}	3.3×10^{-7}
Noninvolved worker	0.00019	5.0×10^{-6}	0.000054	5.0×10^{-6}	0.000054
Environmental Justice	No disproportionally high and adverse impacts on minority or low-income populations				
Waste Management (cubic yards of solid waste per year unless otherwise indicated): Waste would be disposed of properly with small impact.					
Transuranic waste	19.5	61	61	61	61
Mixed Transuranic waste	8.5	27	27	27	27
Low-level [f] radioactive waste	1,217	2,640	2,640	2,640	2,640
Mixed low-level radioactive waste	6.7	26	26	26	26
Hazardous waste (pounds per year)	10,494	24,692	24,692	24,692	24,692
Transportation					
Accidents [g]	***Dose***	***Dose***	***Dose***	***Dose***	***Dose***
MEI (rem per year)	7.7×10^{-7}	0	0.00015	0	0.00015

LCF = latent cancer fatality; MEI = maximally exposed individual member of the public.

[a] Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of an administrative offices and support functions building and Hazard Category 2 and 3 buildings.

[b] Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of only Hazard Category 2 and 3 buildings.

[c] Construction impacts are based on Construction Option 1, which is bounding.

[d] Acreage reflects building footprints, parking lot, and new roads as applicable.

[e] CMR operations would require no additional workers beyond what was projected by the Expanded Operations Alternative analyzed in the *LANL SWEIS*. Increased CMRR Facility operations at LANL would require up to 550 workers. This would be an increase of 346 workers over current requirements. The Expanded Operations Alternative presented in the *LANL SWEIS* addressed the impact of this increase in employment.

[f] Volumes of low-level radioactive waste includes solid waste generated by the treatment of liquid low-level radioactive waste generated by CMR operations.

[g] Population transportation impacts would be bounded by the normal operation and accident impacts evaluated for the various alternatives.

Mello Aff #2, Par 24

Table 2. Comparative Analysis and Potential Consequences of CMRR Proposed Action

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Land Use and Visual Resources			
Land Use	Total acres disturbed: 26.75[2] • Permanent use: 8.75 acres ◊ RLUOB: 4 acres ◊ NF: 4.75 acres • Temporary/Other Construction Use: ◊ 18 acres (laydown areas, batch plant, road shift, parking)	Total acres disturbed: 83 acres • Permanent use: 30 acres ◊ RLUOB: 4 acres ◊ NF: 4.75 acres ◊ Other (road, parking, power): 21 acres • Temporary/Other Construction (laydown areas, concrete plant, office trailers): 53 acres	There would be no significant impacts to land use. Construction and operation of the CMRR is consistent with the LANL Comprehensive Site Plan and the industrial land uses designated for the Pajarito Corridor. There would be no long-term negative impacts to visual resources. The number of above grade stories has increased by one-half story from the original proposal. Most of the areas for the planned and proposed CMRR construction have been previously disturbed and are located in areas with an industrial character. A limited amount of previously undisturbed land will be impacted (TA-48/55 laydown areas, road shift, TA-50 office trailers); however, these areas are constrained by surrounding structures and roadways and are industrial in character. The completed CMRR-NF would be visible from Pajarito Road and nearby LANL technical areas. Lighting would be designed to minimize spill into nearby canyons and to avoid sky glow in compliance with LANL Engineering Standards and the Habitat Management Plan.
Infrastructure			
Site-Wide Infrastructure Characteristic or Capacity	*Water*: Available Capacity[3]: 198 million gallons per year (MG/yr) *Power*: Total Demand[4]: 491,186 megawatt hours per year (MWhr/yr) Peak Demand: 85.5 MWhr *Natural Gas*: Site Usage[5]: 2530 million cubic feet per year (Mm cu ft/yr)	*Water*: Available Capacity[6]: 105 MG/yr *Power*: Total Demand[7]: 626,400 MWhr/yr Peak Demand: 109 MWhr *Natural* Gas: Site Projected Usage[8]: 1197 Mm cu ft/yr	There would be no significant impacts to site-wide infrastructure beyond those bounded by the 2008 SWEIS.

Mello Aff #2, Par 25

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Potential Release Sites (continued)			
		MDA C (located east of CMRR Project areas) was investigated for potential impacts to planned and proposed actions in TA-55. No contamination from this PRS exists in the CMRR Project areas in TA-55 or nearby areas currently being considered under the planned and proposed actions. There are no PRS concerns in the areas proposed for the TA-48 construction trailers. LANL activities will be managed to control impacts to the PRS.	
Resource Use and Conservation			
Concrete	Total: 11,255 cu yds of concrete required • RLUOB: 3061 cu yds • NF: 3194 cu yds • Other Construction: 5000 cu yds	Total: 387,633 cu yds of concrete required • RLUOB: 16,800 cu yds • NF: 120,833 cu yds, structural concrete • NF: 250,000 cu yds, lean concrete fill (for soil stabilization and seismic protection) Represents an additional 126,378 cu yds of structural concrete and 250,000 cu yds of lean (soil stabilization) concrete from what was anticipated in the CMRR EIS.	The CMRR-NF has a significantly higher requirement for concrete from what was bounded in the CMRR EIS, which is a direct result of unavoidable changes in the structural design to address increased seismic protection concerns. The CMRR EIS stated that the NF would be constructed to minimize risks (to workers, public, and environment) from geologic hazards including earthquakes. To meet this requirement, a site-specific seismic hazard analysis was conducted; its findings resulting in increased structural design and soil stabilization requirements for the NF, which, in turn, requires more concrete.

Mello Aff #2, Par 25

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 #2, Par 26

Table 2. Continued

Resource	*CMRR EIS Basis for Impact Analyses*	*Current CMRR Project Plans*	*Potential Consequences of Current CMRR Project Plans*[1]
Resource Use and Conservation (continued)			
Concrete (continued)			Overall, the additional need for concrete is considered an acceptable short-term, temporary commitment of resources that results in a long-term improvement in safety and reduction in risk to the public and the environment. Impacts associated with transportation of feed material, use of water for concrete production, and operations of the concrete plants are discussed elsewhere in this table (specifically in air quality, infrastructure, and transportation resource areas).
Steel	Total: 559 tons • RLUOB: 292 tons • NF: 267 tons of structural steel	Total: 19,549 tons • RLUOB: 1010 tons NF Total Steel: 18,539 tons • Structural Steel: 560 tons • Foundation and Reinforcing Steel: 17,979 tons This represents an additional 300 tons of structural steel and 18,018 tons of steel for rebar and foundation work from what was anticipated in the CMRR EIS.	The proposed and planned action has a higher requirement for steel from what was anticipated in the CMRR EIS, which is a direct result of changes in the structural design to address increased seismic protection concerns. The CMRR EIS stated that the CMRR-NF would be constructed to minimize risks (to workers, public, and environment) from geologic hazards including earthquakes. To meet this requirement, a site-specific seismic hazard analysis was conducted; its findings resulting in increased structural design requirements for the NF, which, in turn, required more steel for the foundation and the structure. There will be minimal impacts to the availability of steel to other LANL projects or to the local community as a result of the CMRR's actions. The steel will be procured from regional suppliers (within 500 miles) to the extent possible.

BuildingGreen.com

Mello Aff #2, Par 27

Table 2 Embodied Energy for Cement and Concrete Production

Embodied Energy for Cement and Concrete Production

	% by weight	Btus per ton		Btus/yard concrete	Energy %
		Materials	Hauling		
Cement	12%	5,792,000	504,000	1,574,000	94%
Sand	34%	5,000	37,000	29,000	1.7%
Crushed Stone	48%	46,670	53,000	100,000	5.9%
Water	6%	0	0	0	0%
Concrete	100%	817,600		1,700,000	100%

Notes:

Calculations of energy requirements for cement production based on figures supplied by the Portland Cement Association, 1990 data. Aggregate and hauling energy requirements based on data supplied by PCA and based on the following assumptions:

- *Cement hauled 50 miles to ready-mix plant*
- *Aggregate hauled 10 miles to plant*
- *Concrete mix hauled 5 miles to building site*
- *Concrete mix: 500 lbs. cement, 1,400 lbs. sand, 2,000 lbs. crushed stone, 260 lbs. water/yard.*

[close window]

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]

Mello Aff #2, Par 27; Erratum: these refer to annual, presumably long-term, GHG emissions, not short-term

February 18, 2010

MEMORANDUM FOR HEADS OF FEDERAL DEPARTMENTS AND AGENCIES

FROM: NANCY H. SUTLEY, Chair, Council on Environmental Quality

SUBJECT: DRAFT NEPA GUIDANCE ON CONSIDERATION OF THE EFFECTS OF CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

I. INTRODUCTION

The Council on Environmental Quality (CEQ) provides this draft guidance memorandum for public consideration and comment on the ways in which Federal agencies can improve their consideration of the effects of greenhouse gas (GHG) emissions[1] and climate change in their evaluation of proposals for Federal actions under the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. This draft guidance is intended to help explain how agencies of the Federal government should analyze the environmental effects of GHG emissions and climate change when they describe the environmental effects of a proposed agency action in accordance with Section 102 of NEPA and the CEQ Regulations for Implementing the Procedural Provisions of NEPA, 40 C.F.R. parts 1500-1508. This draft guidance affirms the requirements of the statute and regulations and their applicability to GHGs and climate change impacts. CEQ proposes to advise Federal agencies that they should consider opportunities to reduce GHG emissions caused by proposed Federal actions and adapt their actions to climate change impacts throughout the NEPA process and to address these issues in their agency NEPA procedures.

The environmental analysis and documents produced in the NEPA process should provide the decision maker with relevant and timely information about the environmental effects of his or her decision and reasonable alternatives to mitigate those impacts. In this context, climate change issues arise in relation to the consideration of:

(1) The GHG emissions effects of a proposed action and alternative actions; and
(2) The relationship of climate change effects to a proposed action or alternatives, including the relationship to proposal design, environmental impacts, mitigation and adaptation measures.

NEPA demands informed, realistic governmental decision making. CEQ proposes to advise Federal agencies to consider, in scoping their NEPA analyses, whether analysis of the direct and indirect GHG emissions from their proposed actions may provide meaningful information to decision makers and the public. Specifically, if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000

[1] For purposes of this guidance, CEQ defines "GHGs" in accordance with Section 19(i) of Executive Order 13514 (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).

Inventory of New Mexico Greenhouse Gas Emissions: 2000 - 2007

Prepared by the New Mexico Environment Department, March 15, 2010

Mello Aff#2, Par 27

Facility Name	AI_ID	SIC	Emissions
Pump Canyon Compressor Station	1183	4922	41.7
Eunice A Compressor Station	566	4922	41.5
32-8 No2 CDP Compressor Station	1236	1389	40.9
Empire Abo Gas Plant	191	1321	40.6
32-7 CDP Compressor Station	1221	1389	40.3
Monument Compressor Station	571	1311	38.6
Trunk L Compressor Station	1037	1389	37.2
Wingate Fractionation Plant	884	1321	36.8
Afton Compressor Station	123	4922	35.0
South Carlsbad Compressor Station	218	4922	32.9
American Gypsum - Bernalillo (Wallboard) Plant	1104	3275	32.1
Los Alamos National Laboratory	856	9711	31.2
Frances Mesa Compressor Station	1038	1389	30.5
Lordsburg Generating Station	560	4911	29.9
Laguna Seca Compressor Station	1011	1389	29.8
Middle Mesa CDP Compressor Station	1272	1389	27.8
New Mexico State University Campus	144	8221	26.8
Chaco Compressor Station	1189	1389	26.3
Cedar Hill Compressor Station	1331	4922	25.7
Blanco Compressor Station A	1147	4922	24.4
Espinosa Canyon Amine Plant	21709	1311	24.2
Huerfano Pump Station	1201	4619	23.9
Williams Four Corners - 30-5 CDP Compressor Stn.	998	1389	23.8
San Ysidro Pump Station	1114	4619	23.4
Bloomfield Compressor Station	1192	4922	22.8
Trunk N Compressor Station	1303	1389	22.4
Frontier Field Services - Maljamar Gas Plant	565	1321	22.1
Pyramid Generating Station	558	4911	22.1
29-6 CDP No2 Compressor Station	1007	1389	21.3
Golfcourse Booster Station	592	1311	21.1
Monument Booster Station	593	1311	20.6
Thompson Compressor Station	1191	1389	19.8
Pump Mesa Compressor Station	1273	1389	19.4
Targa - Vada Compressor Station	613	1311	18.0
West Eunice Compressor Station	755	1311	17.3
32-8 No3 CDP Compressor Station	1168	1389	17.0
Antelope Ridge Gas Plant	621	1321	16.4
South Hat Mesa Booster Station	665	4922	16.1
San Luis Pump Station	1109	4619	16.0
Trunk B Compressor Station	1350	1389	15.4
Rosa No1 Compressor Station	1367	1389	15.0
Eunice B&C Compressor Station	669	4922	14.7
Horse Canyon Central Delivery Point	1274	1389	14.5
Trunk A Booster Compressor Station	1342	1389	14.5
Quail Booster Station	679	1311	14.3
Buena Vista Compressor Station	1315	4922	13.4
29-6 No4 CDP Compressor Station	1013	1389	13.2
Oil Center Compressor Station	668	4922	13.2
32-9 Central Delivery Point (CDP)	1226	1389	12.5

Mello Aff #2, Par28
from http:www.lasg.org/CMRR/open_page.htm

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.