CHEMISTRY
METALLURGY
RESEARCH
REPLACEMENT

CMRR Public Meeting, March 10, 2009

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I. Agenda

CMRR Public Meeting

Tuesday, March 10, 2009
Best Western "Hilltop House", Los Alamos, NM
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6:30 – 6:40	Welcome	B. MacAllister
6:40 – 7:10	CMRR Project Presentation	
	• Project Overview and Background	S. Fong
	• Project Update	R. Holmes
7:10 – 7:30	Questions	B. MacAllister
7:30 – 8:00	Settlement Parties Presentation	Settlement Parties
8:00 – 8:25	Questions	B. MacAllister
8:25 – 8:30	Closure & Adjourn	B. MacAllister

II. Handouts

Detailed Geologic Cross-Sections Using ArcGIS

Richard E. Kelley, Emily Schultz-Fellenz, Jamie Gardner, Mary Greene, Florie Caporuscio
Earth & Environmental Sciences Division, Los Alamos National Laboratory LA-UR-07-3963
Los Alamos, New Mexico

Standard photographs are orthorectified in the vertical plane to provide a template for detailed logging and production of geologic cross-sections of the walls of a large excavation in New Mexico.

BACKGROUND

Because Los Alamos National Laboratory (LANL) lies on the active western margin of the Rio Grande rift, seismic hazards including the potential for seismic surface rupture, must be assessed before construction of any new facilities housing nuclear or other hazardous materials.

Geologic mapping to determine the location and magnitude of faulting at LANL has primarily focused on the Tshirege Member of the Bandelier Tuff, which is made up of a complex sequence of ignimbrites that were erupted from the Valles Caldera 1.2 million years ago. Individual subunits within the Tshirege Member are defined by variations in welding, mineralization, and lithology. These contacts between the subunits of the Tshirege Member serve as useful markers for determining the presence or absence of faulting.

A new LANL facility, the Chemistry and Metallurgy Research Facility Replacement (CMRR), requires an excavation into the upper Tshirege Member, and provides a unique opportunity for detailed study of these units in cross-section view.

FIELD PROCEDURES

CLEANING

The first step of the process was to expose the excavation wall faces by scraping them clean of debris that obscured the geologic relationships; this provided a clean exposure for detailed geologic mapping. Geologists used ladders and articulating boom-lifts to reach high elevations along the excavation walls.

FLAGGING

Nails with color-coded flagging were then placed on geologic features of the excavation wall to help serve as a reference grid. Appropriate color-coding for different geologic relationships (e.g stratigraphic, structural) were developed in the field and used consistently throughout the project. For aid of digital orthorectification and to eliminate image distortion, color-coded flagged nails were also placed in large (>20 ft²) regions containing no geologic features or relationships.

SURVEYING

Once unit relationships were flagged and defined, a Geodimeter total station was used for geodetic surveying of all of the flagged points on the walls. X, Y and Z coordinates were saved into an Excel spreadsheet for later importation into ArcGIS.

PHOTOGRAPHY

Digital photographs for the purpose of generating a mapping base and a photomosaic were taken after the exposure had been cleaned and flagged. The photos were shot as close to orthogonal to the exposure face as possible and as close to a 1:1 zoom as was possible to minimize distortion in the image. The photos were then printed on 16" by 20" sheets for use as base maps (photologs) for detailed field geologic documentation.

GEOLOGIC DOCUMENTATION

Team member investigators logged (mapped) the exposure by documenting the detailed geologic information on the excavation wall to the photo using the surveyed information and the photographic detail as a reference.

Pocket transit compasses were used to measure strikes and dips of units, as well as orientations of linear and planar features (including faults and fractures). This information was also recorded on the photographic print.

ArcGIS PROCEDURES

SCANNING

The logged and documented photo prints were then scanned on a large-format, high-resolution scanner and saved to a working directory for use in ArcGIS.

SURVEY DATA PREPARATION

The X-Y-Z survey data was imported in ArcGIS and displayed into standard X-Y map view to verify the accuracy of the surveyed points.

The walls of the excavation are not oriented in cardinal directions. Therefore, ArcGIS Editor's Rotate tool was used to rotate the dataset into a best fit north-south or east-west direction on the map. New X-Y coordinates were then calculated, and the new data was plotted in the X-Z or Y-Z plane to create a cross-sectional dataset while preserving line length and relative position of the surveyed points.

PHOTO RECTIFICATION

The scanned photo logs were placed into the ArcGIS data view using the Georeferencing toolbar. The photographs were then georeferenced to the associated survey data through application of spline fit transformation by matching each flagged point on the photo to the associated survey point in the dataset. The work was performed at a scale of ~1:10 to ensure a high degree of accuracy. This results in a photograph that is orthorectified in the X-Z or Y-Z plane, resulting in a photographic geologic cross-section.

ARCSCAN

The data presented on the photologs was then vectorized, using ArcScan, into a shapefile and attribution was added (feature type, orientation, etc.).

RESULTS

The cross-sections presented below are the results of these processes. These cross-sections are being used as important interpretation tools to aid in determining potential seismic hazards at the site.

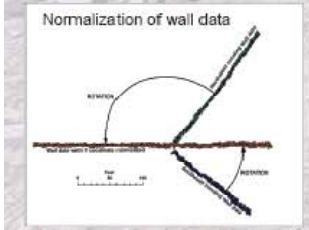
FUTURE WORK

The CMRR seismic hazards study is on-going, so the information presented on this poster is part of a "work in progress". Future work will include measuring offsets and orientations along any identified faults and determining the age of faulting, if possible. Future applications of ArcGIS will include the use of ArcGlobe or ArcScene to project the data into three dimensions to get a better look at the relationships of features on one wall with features on other walls, thus aiding in the overall understanding of the geologic nature and history of the site.

Cleaning the wall in preparation for flagging and surveying.

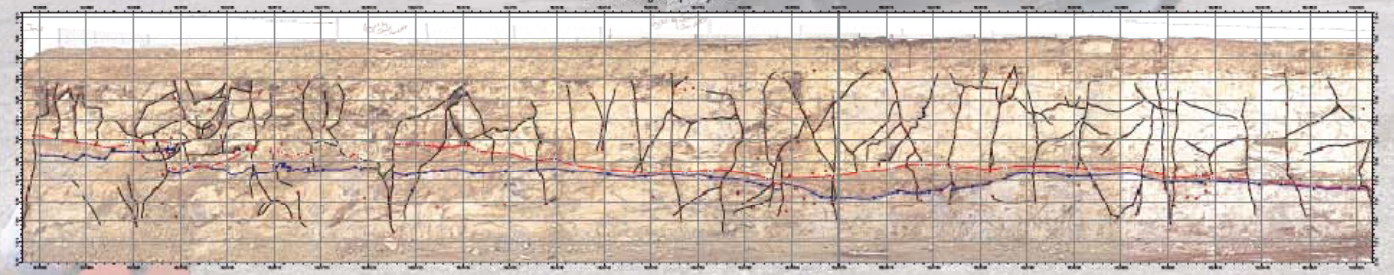
Selecting important control points and flagging the wall.

Surveying and photographing the wall.

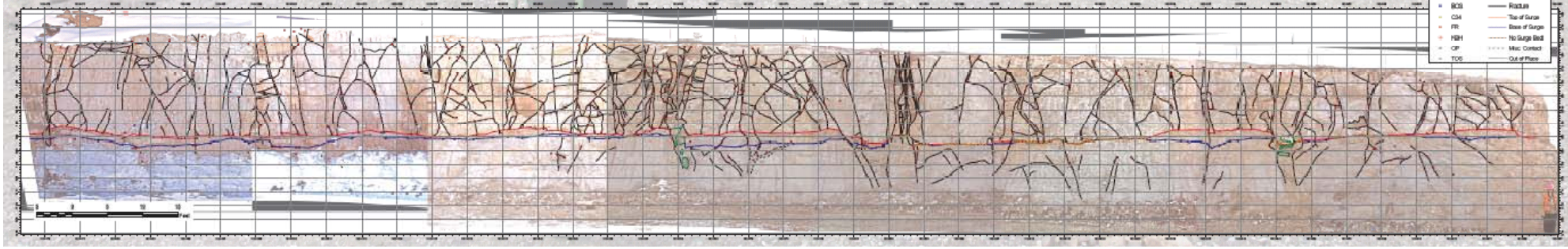


Re-calculated X-Y data

South-facing Temporary Wall



Northeast Temporary Wall



III. Transcript

Chemistry and Metallurgy Research Replacement (CMRR) Project
March 10, 2009

[The meeting was called to order at 6:30 p.m. in the Hilltop House, Los Alamos, NM, by Meeting Facilitator Bruce MacCallister.]

[LANL Slide 1]
[BRUCE MACALLISTER, FACILITATOR]
Good evening folks. My name is Bruce MacAllister. I'll be facilitating the meeting for you. I am a business consultant and community facilitator located in Santa Fe, New Mexico. And, uh, I would like to review the agenda with you for starters, and, uh, remind everybody, if you will please, to sign in on the sign-in sheet. It's very helpful for us. Uh, and uh, because the meetings are being recorded, the meeting is being recorded, if you'll please identify yourself and wait for a mike so that we can get you on the recording, because we will be posting the transcript.

[BRUCE MACALLISTER, FACILITATOR]
We've had a little bit of difference in the way that we are handling information now from previous meetings. You'll see that there's not as much "stuff" out at the other table. That's because we've basically been migrating all this information relating to the meetings, the frequently asked questions, other issues that, uh, we agreed need to be posted and made available, are located on the website. Uh, if you have any questions about how to locate that website, we'll explain that in the course of the meeting for you.

[LANL Slide 2]
[BRUCE MACALLISTER, FACILITATOR]
Um, if, ah— You'll notice, the format for the meeting has returned to the original format. Last meeting, as I understand it, we tried a, uh, a table session that was designed a little differently. The feedback on that was that people were more comfortable with the original format.

[BRUCE MACALLISTER, FACILITATOR]
You'll notice from the agenda that there's a bit of a difference in the agenda tonight in that there has been time allotted for a, uh, presentation by the parties, uh, the settlement parties. We will be providing a project overview and update. There will be time for question and answer after that update and project overview. Those questions, what we intend there, basically is to have the questions track, um, more relevant to the project overview and update while we have our experts kind of in that zone. There'll be the settlement presentation, and then we've allotted a good chunk of time, 25 minutes, for questions and answers of general nature relative to the project.

[LANL Slide 3]
[BRUCE MACALLISTER, FACILITATOR]
For those of you who are new to the meeting, if you'll look at the, uh, page two of your handout, right after the agenda, you'll see that, ah, this meeting was, has been set up to allow for, uh, as a result of a settlement agreement, to allow for information exchange. For the, in response to, uh, questions emerging around the project development for the, uh, for this new, for the project of the Chemistry and Metallurgy Replacement Building. The parties include the New Mexico Environment Department, the US Department of Energy, the University of California, Concerned Citizens for Nuclear Safety, the Nuclear Watch of New Mexico, Peace Action New Mexico, the Loretto Community, Tewa Women United, Embudo Valley
Environmental Monitoring Group, the New Mexico Environmental Law Center. This is a meeting that was agreed to as a settlement, uh, to uh, uh, pending legal action. And so these meetings are held every six months.

[BRUCE MACALLISTER, FACILITATOR]
We will be— We do have flexibility internally with the agenda to flex it a little bit here and a little bit there. But we do have no flexibility as far as our landing point, at the conclusion of the meeting. So, I will be drawing the meeting to a close and wrapping it up at 8:25 so that we can capture any final issues, things that we may need to deal with in the next go 'round, and, uh, will be exiting the room no later than 8:30 because of our arrangements with the, uh, with the hotel here.

[BRUCE MACALLISTER, FACILITATOR]
So, are there any questions about the agenda? Are there any questions about why we're here? All right. Let me move into some ground rules. Um, this is, uh, a meeting where we, it's important that, because it's taped, and because of,—

[BRUCE MACALLISTER, FACILITATOR]
[aside] thank you

[LANL Slide 4]
[BRUCE MACALLISTER, FACILITATOR]
—and because of the importance of making sure that everybody gets heard, and to enable the Los Alamos staff to be able to incorporate answers into the Frequently Asked Questions section [of the CMRR Project website], it really is important that we have one voice at a time, that we conduct the meeting in some semblance of order. Uh, I will be trying to be as inclusive as possible of all the questions and comments in the time frames allotted. Please, since it is being recorded, and since people are trying to concentrate, if you will, turn your beepers and cell phones to "mute" or shut them off so that we are not interrupted in that process. That will be very helpful.

[BRUCE MACALLISTER, FACILITATOR]
Um, it's very important to me, and I think all the participants in the room, that we keep the meeting focused on the issues, um, and avoid personal insults, personal attacks. Things like that. Let's keep us all on a professional community-focused footing. Um, and, if there are issues that we can't address at this point that are important, or other questions that we wanna make sure don't fall through the cracks for future discussions, I'll be boarding those on the flip charts. Those of you want to make other points, and if I am not, you know, attentive to that, in your perspective, let me know. And I'll make sure that I get that down as well.

[BRUCE MACALLISTER, FACILITATOR]
Are there any other issues or ground rules that we should be talking about? [Pause] Yes, Morrison?

[MORRISON BENNETT, TRANSCRIBER]
Ground rule. I'm Morrison Bennett. I'm your transcriber. Please, everyone, say who are every time you start to speak. And that'll help me out a lot.

[BRUCE MACALLISTER, FACILITATOR]
And I will try to remind everybody as the mike is passed around. And it's also important to wait for a mike, or to come up to the microphone, because we are recording it, and, uh, any time you transcribe these types of things, it's a real challenge when you have multiple voices going, ya'know, and try to keep track of who said what. So, without further ado, if there are no other questions, at this point, uh, I'd like to turn it over to Steve Fong [Project Manager, Los Alamos Site Office (LASO), National Nuclear Security Administration (NNSA), DOE]. And, uh, Steve, I'll let you, as the timing is right, turn it over to Rick [Richard A. Holmes, Division Leader, CMRR Division Office, LANL].

[LANL Slide 5]

[STEVE FONG, PROJECT MANAGER, LASO, NNSA, DOE]
Okay, sure. I was wondering, maybe we should— One of these mikes?

[UNIDENTIFIED PERSON]
Yeah, they're on.

[STEVE FONG]
Okay, I'll go like this, and I'll try not to handle too many things. And I'll tell you why—
I thought since everybody's signing in, it might as well, we might as well go around the room here real quick, and have everybody introduce themselves. I'm Steve Fong. I'm with the NNSA [National Nuclear Security Administration] project team located here in Los Alamos.

[RICHARD A. HOLMES, CMRR DIVISION LEADER, LOS ALAMOS NATIONAL LABORATORY]
Rick Holmes. I'm the project manager for the project.

[MORRISON BENNETT, TRANSCRIBER]
Without the mike, I won't catch that. Okay.

[TOM WHITACRE, PROJECT MANAGER, LASO, NNSA, DOE]
Tom Whitacre. I'm on the NNSA CMRR project team.

[George C. JOHNSON, LANL ENGINEERING SERVICES, DESIGN ENGINEERING DIVISION]
Chris Johnson. I work at the project.

[MARIAN NARANJO, HONOR OUR PUEBLO EXISTENCE (HOPE)]
Marian Naranjo. Honor Our Pueblo Existence, HOPE Director. And I'm here as an interested and concerned citizen from the Pueblo of Santa Clara.

[SCOTT KOVAK, NUCLEAR WATCH NEW MEXICO]
Scott Kovak with Nuclear Watch New Mexico.

[SUSAN GORDON, ALLIANCE FOR NUCLEAR ACCOUNTABILITY]
Susan Gordon, Alliance for Nuclear Accountability.

[JEANNE GREEN, CITIZEN]
Jeanne Green, citizen.

[PAM GILCHRIST, CONCERNED CITIZENS FOR NUCLEAR SAFETY]
Pam Gilchrist, volunteer with CCNS, and on the board of directors for the New Mexico Conference of Churches.

[JENNIFER CATECHIS, (SANTA FE) DISTRICT DIRECTOR, CONGRESSMAN BEN RAY LUJAN]
Jennifer Catechis, District Director for Congressman Ben R. Lujan.

[RICHARD YUNKER, EMBUDO VALLEY ENVIRONMENTAL MONITORING GROUP]
Richard Yunker, Embudo Valley Environmental Monitoring Group.

[GAIL RABORN, CITIZEN]
Gail Raborn, citizen, very interested in this whole— all of this, and from Taos.

[PHIL WARDWELL, LABORATORY LEGAL COUNSEL]

Phil Wardwell. I'm with the Laboratory Legal Counsel's office here at Los Alamos.

[SHERI KOTOWSKI, EMBUDO VALLEY ENVRONMENTAL MONITORING GROUP]
Sheri Kotowski, Embudo Valley Environmental Monitoring Group.

[NICOLE SEQUIN, CMRR PROJECT AND SECURITY AND ENVIRONMENTAL COMPLIANCE, LANL]
Nicole Sequin, CMRR Project.

[PENELOPE MCMULLEN, LORETTO COMMUNITY]
Penelope McMullen, Loretto Community.

[STEVE STORY, ECOLOGY AND AIR QUALITY GROUP, LANL]
Steve Story. I'm with the Lab's Ecology and Air Quality Group.

[CHARLES WILLIAM (BILL) BLANKENSHIP, CHEMICAL ENGINEER, ECOLOGY AND AIR QUALITY GROUP, ENVIRONMENTAL PROTECTION DIVISION, LANL]
Bill Blankenship, the Lab's Ecology and Air Quality Group.

[KEN REHFELDT, EARTH AND ENVIRONMENTAL SCIENCES DIVISION, LANL]
I'm Ken Rehfeldt. I'm in the Earth and Environmental Sciences Division at LANL.

[ROSEMARY REHFELDT, COMMUNICATION ARTS AND SERVICES, INFORMATION RESOURCE MANAGEMENT DIVISION, LANL]
I'm Rosemary Rehfeldt, and I'm a writer/editor on the CMRR project.

[ROGER SNODGRASS, LOS ALAMOS MONITOR]
Roger Snodgrass, Los Alamos Monitor.

[TIM NELSON, PROJECT DIRECTOR, INTEGRATED NUCLEAR PLANNING, LANL]
Tim Nelson. I'm from Los Alamos National Laboratory in Integrated Nuclear Planning.

[BETTY ROMERO, OFFICE OF NATIONAL SECURITY MISSIONS, LOS ALAMOS SITE OFFICE, DOE]
My name is Betty Romero. I'm with the Office of National Security Missions here at the Los Alamos Site Office.

[JONATHON VENTURA, LANL PRINCIPAL ASSOCIATE DIRECTORATE FOR WEAPONS PROGRAMS]
Jon Ventura, Los Alamos National Lab.

[TONY LADINO, SECURITY AND ENVIRONMENTAL COMPLIANCE MANAGER, LANL]
I'm Tony Ladino. I work on the CMRR project in the Security and Environmental Compliance Area.

[JEFFREY H. BERGER, OFFICE LEADER, COMMUNICATIONS & GOVERNMENT AFFAIRS, LANL]
I'm Jeff Berger with the Lab's Communications Office.

[EVERETT TROLLINGER, PROJECT MANAGER, LOS ALAMOS AREA OFFICE, NNSA]
Everett Trollinger. I'm part of the federal team with NNSA.

[AMY WONG, INTEGRATED NUCLEAR PLANNING, LANL]
Amy Wong. I work with Integrated Nuclear Planning Office in Los Alamos.

[SUSAN TERP, RISK REDUCTION OFFICE, ENVIRONMENTAL PROTECTION DIVISION, LANL]

I'm Susan Terp. I'm with the Environmental Protection, Risk Reduction Office.

[TRISH WILLIAMS-MELLO, LOS ALAMOS STUDY GROUP]
Trish Williams-Mello with the Los Alamos Study Group.

[GREG MELLO, LOS ALAMOS STUDY GROUP]
Gregg Mello, Los Alamos Study Group.

[UNIDENTIFIED PERSON]
Thank you, Greg.

[DAVID FUEHNE, ECOLOGY &AIR QUALITY, ENVIRONMENTAL PROTECTION DIVISION, LANL]
I'm David Fuehne with the Lab's air emissions monitoring program.

[EARL DUDA, LOS ALAMOS RESIDENT]
Earl Duda. I'm a resident of Los Alamos.

[BILL SLOAN, CITIZEN]
Bill Sloan. An interested citizen.

[TAUNIA WILDE, CMRR PROJECT]
Taunia Wilde, the CMRR Project.

[ROGER SNYDER, ACTING DEPUTY SITE OFFICE MANAGER FOR BUSINESS, ENVIRONMENT, AND SECURITY, LASO, NNSA]
Roger Snyder, here with the NNSA Site Office.

[DAVE JANECKY, ECOLOGY AND AIR QUALITY GROUP, ENVIRONMENTAL PROTECTION DIVISION, LANL]
Dave Janecky with the Ecology and Air Quality Group, LANL.

[TERRY WEBB, CMRR PROJECT]
Terry Webb. I work on the project at the Lab and am also a citizen of Los Alamos.

[UNIDENTIFIED PERSON]
Thank you Terry.

[BRUCE MACALLISTER, FACILITATOR]
Have we missed anyone? [Pause] Well, thank you for showing up this evening and we've got one other person. How can we forget?

[JONI ARENDS, CONCERNED CITIZENS FOR NUCLEAR SAFETY]
Joni Arends, Concerned Citizens for Nuclear Safety.

[STEVE FONG, PROJECT MANAGER, LOS ALAMOS SITE OFFICE, DOE]
Good evening. Um, the CMR[R] project. Well, first, about the acronym. Chemistry and Metallurgy Research Building replacement project. CMRR. And we'll be using "CMRR" throughout this discussion. Uh, CMRR is a major systems acquisition. It's a large project for this site. We haven't seen anything of this sort, this size, for quite some time.

[STEVE FONG]

I'm on the NNSA team with Rick Holmes [Richard A. Holmes, Division Leader, CMRR Division Office, LANL]. We team together. Uh, and, we, uh, are real happy to be able to communicate this project here tonight. Frequently we have a number of visitors, throughout, that come and visit. Uh, seems like it's monthly that we have congressional visits to see how we, we're coming along. Rick [Holmes] and I, we're, we're responsible, we're accountable for the management planning and execution of the project. Being such, uh, we take our job very seriously. Uh, we find it very challenging and rewarding, and, uh, look forward to going on and communicating more about this.

[LANL Slide 6]
[STEVE FONG]
A little bit, uh, I wanted to say that also that, uh, being that, we're on a team, that means Rick [Holmes] and I, we actually live in a transportable complex just across from, uh, current construction on the project. And, being such, closely integrated with the project team, sometimes you communicate germs, and I've got a cold this evening. So, uh, that's what happens when you are in a, in a tight bunch like we are. For that reason, I'm gonna cut my presentation I was planning on a little bit short. But Rick's [Holmes] gonna come up and, and take over the rest. But I'll be here to go over questions and answers after I put down this mike.

[STEVE FONG]
Uh, so Rick [Holmes] and I weren't here the last time we, we've met. But we've read the results and we've heard from you about the suggestions for this audit, uh, er, not audit, but this presentation. We, um, are providing some time for you all to come up also, the interested parties that wanted to come up and express their views. Uh. We have returned to this format, but wanted to let you know that, I want to keep it—keep the alternative to actually change back to the round tables. I think you'll find that Rick [Holmes] and I are pretty much generalists, and we know a lot about everything that's going on in the project, but, there's nothing like having the specialists, the SMEs [subject matter experts] here, to see them, to understand, to interact with them, and see the passion that they have, their expertise in the areas. So, it's a little bit of a give and take. Um, we're happy to go back to this format. But, depending upon the circumstances, maybe we do want to keep things flexible and go back to the round table discussion. And that will allow a lot of time for you to interact, actually, at a, at a detailed level and ask those questions specifically with the subject matter experts.

[STEVE FONG]
We have updated, please see our website. Adam Orr [CMRR Division Office] if you want to raise your hand back there. He's our, sort of our web guy, and he knows a lot about what's there, and, I would say, go tap Adam for information and how to access the site. We invited the, uh, the Defense Board [Defense Nuclear Facility Safety Board (DNFSB)]. And I'm not sure if I saw any representatives here this evening. I didn't hear of any. But the invitation went out. Um, I skipped one [bullet on the slide]. We do have some slide presentation on the, on the air permitting that will come up later. Um, and with that, I'm gonna turn it over to Rick [Holmes], and we'll go from there.

[STEVE FONG]
Rick, do you want the remote?

[LANL Slide 7]
[RICK HOLMES]
Yeah, I'll click, I guess.

[STEVE FONG]
Or I can.

[RICK HOLMES, CMRR DIVISION LEADER, LOS ALAMOS NATIONAL LABORATORY]
No, I'll get it. Thanks. So, Steve or I introduced myself before. I'm Rick Holmes. I've been on the project for the last, almost two and a half years, now. And moving forward. For,

[aside] figure out which button works which,—

[STEVE FONG]
The right arrow. Yeah, there you go.

[RICK HOLMES]
There we go. Every one of these is different.

[LANL Slide 8]
[RICK HOLMES, CMRR DIVISION LEADER, LOS ALAMOS NATIONAL LABORATORY]
So, for those who are essentially new to this: the mission need statement remains as it had been published for a number of years. We're responsible for developing the infrastructure to replace the capabilities that are in the existing CMR facility. And that's what we are still doing. That has not changed.

[RICK HOLMES]
Uh, some history has changed since the last meeting in terms of the NNSA issuing a Record of Decision on complex transformation, which essentially says that, um, plutonium operations need to stay at Los Alamos, and that NNSA will construct and operate a, the CMRR nuclear facility. And that decision stands as it is, and that's all I know about that.

[RICK HOLMES]
The capabilities that we have inside the building—these are still the same, but these represent the replacement, either analytical materials characterization capabilities that support anything to do with the nuclear weapons stockpile. If that's surveillance, or insuring that things can remain, life extension forever, support to the nonproliferation programs, uh, the waste management activities to make sure that things are disposed of properly. Um, we'll provide a, a method to safely sustain those overall missions. I think that's the bottom line. Uh, and essentially create a responsive infrastructure.

[RICK HOLMES]
The scope remains as it has been. Um, the Radiological Laboratory Utility Office Building, or the RLUOB. The facility is in construction. I have some, some photos, where we can talk about the progress that we have made. Um, very, very low hazard in that facility. Plus, an 8.4 grams of plutonium, total, inside of that facility. And construction will be done in September of this year on the facility itself. Uh, we will start sometime this summer on the procurement for the gloveboxes and other specialty equipment that'll be installed inside of the rad lab. That paid phase of the project is called the "Rad Lab Equipment Installation." And that'll take about two and a half to three years to finish all of the things necessary to put in place the equipment and other, other items, the security systems, the telecommunications systems inside the building, and other things necessary to make the rad lab fully usable and into operations.

[LANL Slide 10]
[RICK HOLMES]
We are in design on the nuclear facility, and I'll talk more about where we are in terms of timing of things and interactions with the Defense Board [Defense Nuclear Facility Safety Board (DNFSB)] that we've had on the certification process in a later chart. But the scope of the project essentially remains as it has been for some time.

[LANL Slide 11]
[RICK HOLMES]
The building location—this is the Parajito Corridor Road, and the rad lab is under construction, and then the nuclear facility will sit, it actually will sit a little bit further to the south of where it is now in order to support the, the ability to excavate to the depth we need to, to put in the foundation and maintain the security systems that'll surround the PF-4 Building. The building is moving a little bit to the south, um, right adjacent to the existing Parajito Road. But generally the same location and footprint for both buildings as it has been.

[LANL Slide 12]
[RICK HOLMES]
The last direction that we've received as a project from the defense programs is to, is to keep working on the rad lab facility to get that done. That'd been fully funded, and, again, like I said, it'll be finished in this September. [Clears throat] Excuse me. Prepare to move into the rad lab equipment installation. We have been designing that equipment. The equipment design is complete, and the installation design will be finished this month. And then we will start now going out for proposal to vendors to build the gloveboxes and to deliver the instrumentation that'll go in those gloveboxes, uh, over the next couple of years.

[RICK HOLMES]
Keep working on the nuke facility design and the safety strategy and be prepared to go into final design. Keep continuity of the nuke facility design teams because if you stop it's, it's gonna be very, very difficult to restart those particular activities because of that loss of, the, the loss of continuity.

[RICK HOLMES]
For the budget, um, there was a hundred million dollars in the president's budget for Fiscal Year '09. The Senate, about two hours ago, passed the Omnibus Legislation unchanged. And in that Omnibus Legislation, the project has 97.2 million dollars included in it. And so that is the funding that we will have moving forward for the rest of this fiscal year once it flows down. And the president has already said that he's gonna sign it, so I'm gonna assume he's good to his word. And we don't know what Fiscal Year '10 funding profile is gonna be, to be yet.

[LANL Slide 13]
[RICK HOLMES]
Some of the high level, in the schedule, I'm not gonna go over the history of things that have been done. You all can see that. Coming forward, is sometime this summer, we should see the authorization by the Department [of Energy] to start the rad lab equipment installation. A CD-2,3 is a decision threshold, "CD" means critical decision. "Two" is you establish the cost and schedule baseline for the execution of that work. And a "three" is you are authorized to start construction activities, which includes buying equipment from suppliers. So that decision has been reviewed by the Department [of Energy] and we are just going through the final elements of getting that decision signed out. And that should probably occur sometime this summer.

[RICK HOLMES]
Uh, we continue, and I'll talk more about this on the reviews with the Defense Board and others, to make sure that we have a good understanding of the safety basis, uh, and how that's integrated with the design. And sometime this summer or in the early fall the Department [of Energy] has said that they wanna be in a position to authorize the start of final design. And, in reality's sake, we are in design today. Some of the things that we are doing, and some of the questions that we're answering is all design work. We're just not yet to the point where we're delivering completed design to go buy equipment for the nuke facility or go into construction-type activities. And as I said, in September, we will finish the rad lab facility

construction. And then out into the future, that equipment installation in the rad lab will take until in the early half of 2013 to be finished. Uh, and then that facility would be ready to start the radiological level of operations. And then, depending upon, again, the funding flow and decisions that the Department [of Energy] needs to make, we'll then lay out what the schedule will be for the nuke facility.

[LANL Slide 14]
[RICK HOLMES]
So, a little bit of progress on the rad lab is, for those of you who don't have access to the Parajito Corridor, the building is completely enclosed. It was enclosed before, substantially enclosed, before winter.

[LANL Slide 15]
[RICK HOLMES]
It started so we could move inside and work effectively. We have today about 200 craft working on site. And you can see some of the, the different textures of the, of the size of the building.

[LANL Slide 16]
[RICK HOLMES]
Inside the building there is a, a significant installation of quantities of ventilation ductwork. These buildings have a **lot** of ventilation ductwork, um, inside of them. And, uh, the equipment, and, even though it's not really as clear, this is the, this is the laboratory floor level. And you can see the overhead service carrier that will support ventilation and electrical equipment. And under the equipment installation, we will install the walls and put in the equipment and then tie it in to the utilities that are inside the building.

[LANL Slide 17]
[RICK HOLMES]
Um, heat exchangers and pump, ah, in the first floor of the center utility building,— The rad lab in reality is two buildings; it's two buildings separated by one foot, for fire. The nuke facility, you could almost consider as three buildings that are all essentially attached. You've got the auxiliary building, the Haz Cat-2 structure, and then the vault. So there're really not two buildings. There're really, I think you could consider them to be five. And some of these utilities that are installed in the center, in the CUB [central utility building] support both, have the capacity to support both, a nuclear facility and a radiological laboratory.

[LANL Slide 18]
[RICK HOLMES]
One of the things we use as a tool to make sure that we know that we can get the job done is, is commodity tracking and tracking the number of craft hours that you have to work off. And these are by disciplines that are out here working, and we've worked with the subcontractors to put together this detailed integrated schedule because you wanna make sure that you get the commodities, meaning ventilation duct, electrical conduit, cable tray, pulling cable, all those things, done in the right sequence. And this is just a roll-up representation which shows that, as of about a month ago, we had a hundred and eighty-four thousand hours to work off. And that may seem like a really big number, but it's about 200 people for less than six months. So, when you have that number of craft, this tells you the number of people that need to be working, how many people you need to get next month for craft to go ahead and go do that particular work. And then we track each of the commodities— meaning cable, conduit, pounds of ventilation duct, and all those metrics—to make sure that we know when is the right time that we think that we are gonna be done and to make sure that things are getting installed in the right sequence.

[TIM NELSON, PROJECT DIRECTOR, INTEGRATED NUCLEAR PLANNING, LANL]

Let me point out that it's the craft hours [inaudible words] ...

[RICK HOLMES]
No, as Tim [Nelson] brought up, this is just the craft. Um, the project team working on the, to oversee the craft, the contractor's oversight staff, the engineering staff necessary, is over and above this. But in these kind of jobs, when you get into physical construction in the field, it is about making sure the craft, meaning the pipefitters, the electricians, all those people who work with their hands every day, can get in and get their work done.

[JONI ARENDS, CONCERNED CITIZENS FOR NUCLEAR SAFETY]
... for clarification, H-R-S?

[RICK HOLMES]
Hours. So, cumulative full-time equivalent, or hours for bulk installation, so you can see the number of people total. And we're actually ahead of this curve in terms of the number of craft we have on site. 'Cause today we have 200. Uh, and so that means we'd actually be ahead of this particular— Think about it like a work-off. It's a commitment. I know the building's done when I've worked people doing the right level of productivity a certain number of hours.

[MARIAN NARANJO, HONOR OUR PUEBLO EXISTENCE, SANTA CLARA PUEBLO]
How many months, could you say?

[MORRISON BENNETT, FACILITATOR]
Say your name, please.

[MARIAN NARANJO]
Oh, I'm sorry. Marian Naranjo, Santa Clara Pueblo. You have said that 200 people for how many months?

[RICK HOLMES]
We'll be done with this work in the beginning of August. So all the equipment will be— all the piping, all the "stuff" in the building will be installed by the first week of August. And the number of months is a function of whether you are working 50 hours a week or 40 hours a week, and sometimes you'll work those, just because that's a good way to attract craft, particularly when you get into the summertime. The way that we attract people to come work is you put, you work 50 hours a week, which is not hard for craft to do. It's five 10-hour days. Um, and they wanna do that because they wanna make—they don't make money unless they come up, come up and work.

[LANL Slide 19]
[RICK HOLMES]
On to the nuclear facility.

[LANL Slide 20]
[RICK HOLMES]
Uh, a pretty significant level of dialog between the, the project team, ah, the NNSA Site Office, the safety folks, and the, and the DOE NNSA headquarters, and the Defense Board and their staff, to ensure that there's a common understanding and agreement on the safety systems that are to be in the building. And, what the Defense Board is essentially looking for, is, I'm gonna classify it as "certainty of outcome." And I'm certainly not trying to speak for the Defense Board. They're adults, they can talk for themselves. But in the dialog that we've had, they're looking for confirmation that if we say the building will survive the design-based earthquake, they want to see the level and a depth of analysis so that they can say, "Yes, we

agree." And that becomes part of the certification to [the US] Congress. And, and they communicate with the Department [of Energy], the Defense Board communicates with the Department and with the project on information that they need by issuing "Findings." And they say, "We need this information. Please give it to us by this particular date," or we commit to a date to give it to them. And then we talk to them about giving them that information.

[RICK HOLMES]
So, if you hear about a "finding" that the Defense Board has, that is merely a communication tool for them to formally ask for information from us, so that then we give it to them, and then they use that as part of their review.

[RICK HOLMES]
Um, they have issued officially three findings. Uh, two of them related to seismic. One is on making sure that we understand the seismic demand that would be placed on the building and the equipment that is to be installed in the building and to make sure that we can have confidence, so that we can go buy that equipment, that'll respondm or have a strategy to go qualify that equipment, to know that it will continue to— for that equipment that has to work during the event and after the event, that it certainly will.

[RICK HOLMES]
And there has been a dialog on the, on the safety analysis. Uh, and, and we actually had a phone call with them this morning, talking about exactly what they are looking for, and what we need. In a lot of cases, we are the first of, again, in implementing the safety analysis under a new standard called "1189." And at DOE, they just number things. But if you hear, okay— "1189" deals with how you do safety analysis. And that's what we're working with them [on], because they are looking for certain tools in the design, or in that document, so that they can be sure that there's traceability of the accidents that are analyzed to the safety systems that have to be, into, designed into, the building. So you,— There's a lot of dialog going on with the Defense Board. I don't think any of it is, at this point, contentious. I think we are looking and they're looking to do the certification process. And, and trust me, they'll tell you, they are not gonna certify until they're ready, um, sometime this summer. Whether it's early summer or later in the summer, remains a function of how fast they can digest the information that we feed them, and partly how fast we can generate some of the information that we need to give them to help them with their particular process.

[RICK HOLMES]
In parallel with that, NNSA also is working a certification process, because the [US] Congressional language that came down in the, in the budget, that got carried forward in the Omnibus [legislation] that was passed today, says that both the NNSA and the Defense Board have to certify that the Defense Board's issues have been effectively answered. And so, lot of information exchange. If you hear about it; it's a lot of dialog going on with the Defense Board. If you hear the word "finding," because a lot of times "finding" has a lot of negative connotation associated with it, that's merely a tool for them to communicate that they need certain information to help them with their portion of the process.

[RICK HOLMES]
That ties to about 50% of the money that was just allocated by Congress. So, that certification process has to occur before roughly half of the 97 million dollars can come down into the project in order for us to use it to continue, either on the rad lab equipment installation activity, or on the nuke facility design activities. So, sometime this summer I think we will, we will reach closure on that. I, having done this before, I'm pretty comfortable that we have, we've got the smartest people engaged. If you go to, if you try to find anybody who's a top expert in seismic response, in this country, you'd be hard-pressed to find one that hasn't had some influence, review, participation, or support of this particular project. So, we've got the best minds working through this, making sure that we are doing things properly, and I think we're pretty close to being there.

[LANL Slide 21]
[RICK HOLMES]
One of the, one of the questions that has been asked, is, "What space goes away, and how much space do you have?" And, and there's a lot of ways to slice and dice work spaces. And so, if you take the nuclear facility, which will have about 22,500 square feet of work space, and then the rad lab, which will have 19,500 square feet of space, and then compare it, it's overlaid on top of the existing CMR Building. And, think about the work space that would be in that structure. And there are a lot of ways to do the math. You can fig–It's a reduction. Okay. But, one of the things I wanna point out is this pie chart down in the bottom [of the slide]. Because the building size and the content in the building is not driven by the laboratory square feet. And that almost seems counterintuitive. But the corridors for, or the space necessary for the structural features, the columns, the thickness of the floors, etcetera, in the building is pretty significant.

[RICK HOLMES]
Also very significant is the space that's necessary, more than half the building, in terms of total volume of space, is necessary for the support equipment. Air handlers that supply air, air filters, ventilation duct that'll be, in some cases, six or seven feet in diameter, uh, the stack for the building is physically inside the building, the diesel generators, the safety class fire water pumps and the safety class fire water tanks—all those things occupy pretty significant footprint in the building. And a lot of those are housed either in the auxiliary building or underneath in the basement area underneath the laboratory floor. And so, if you were to say I want to take out some of the laboratory space, you are not going to see any change in the total building size because the utility systems don't change all that much. And I don't think we've had that portion of the discussion before. We've talked about building sizes and everything else, and why [does] it have to be so big. But you can see that of the total footprint of the building, the laboratory space, which is in green, and the vault space, which is in the orangish-yellow color, is a pretty small percentage of the total footprint in the building. And, we offer this up because we've had some questions about "well, how big is big," and, and "what goes away," and there's a lot of ways to slice it. But we're just trying to make a cut at saying, "Here's the work spaces that—and how they change."

[SUSAN GORDON, ALLIANCE FOR NUCLEAR ACCOUNTABILTY]
So, in looking at your pie chart green compared to the, um, graph on the left, when you're showing the lab in the green on the right, that is actually including both parts of the lab that you're showing, the, um, the RLUOB as well as the nuclear facility lab?

[RICK HOLMES]
No. This green is on— This pie chart is the footprint for the nuclear facility.

[SUSAN GORDON]
Oh, just the nuclear facility.

[RICK HOLMES]
The nuke facility. And the footprint for the rad lab— There are three floors of either office space or training space in the rad lab. So very little of the fa— A lot of that building is, is office space. So, so this green in the pie chart corresponds to this green for the 22,500 square feet.

[SUSAN GORDON]
And then the miscellaneous, which is the support systems, you're saying, is all of those other wings and stuff underneath—

[RICK HOLMES]

No, this is not,— this is the old CMR Building. So, this is just, this is the footprint for the new nuclear facility. So there's two things, two messages on this chart: work space goes down, whether it's, by what number you want to say how much it goes down by; there's a lot of different ways to do the math and come up with a conclusion that you want to have. I think that the one thing I'm trying to communicate in this chart is, (a) where is— how big is big? And [(b)] that the work space gets less. Then if you think about, how is the footprint in the nuke facility allocated, meaning how much is where, cause the building is a lot bigger than just 22,500 square feet, is, of the nuclear facility space, how is it allocated? And a lot of it is in the utility systems and the footprint you have to have for, for ductwork. 'Cause when you have ductwork that's six or seven feet in diameter, you put it on the floor and you essentially, it occupies that space. You don't hang it in the air.

[BRUCE MACALLISTER, FACILITATOR]
So, just to make sure everybody's clear on this. This [points on slide] is the existing CMR Building.

[RICK HOLMES]
Correct.

[BRUCE MACALLISTER, FACILITATOR]
And there's no effort to overlay for comparison, graphically, the new building. The comparison is, this is what the old building looks like with the square footage. This is what the new building looks like, as far as the proportion, and the overall square footage, uh, we've discussed in the package— Correct? Is that, is that an accurate—

[RICK HOLMES]
I think that's right.

[STEVE FONG]
Yes.

[RICK HOLMES]
Now Steve's gonna tell me what I said again.

[Laughter]

[STEVE FONG]
Possibly. But we did overlay, just the laboratory space that's associated with the CMRR nuclear facility, which is in the green, and the rad lab, which is in this teal blue color.

[BRUCE MACALLISTER]
Okay, so there was some overlay.

[RICK HOLMES]
This is the overlay.

[UNIDENTIFIED PERSON]
Right. Okay.

[UNIDENTIFIED PERSON]
Very little.

[BRUCE MACALLISTER]

Uh, are you ready for a question? I'm sure—

[RICK HOLMES]
We're already into questions.

[A few words. Persons talking over each other.]

[RICK HOLMES]
And interpretations.

[JONI ARENDS, CONCERNED CITIZENS FOR NUCLEAR SAFETY]
So, Steve [Fong],— Oh, Joni Arends, CCNS. Steve, so the old CMR Building has many floors. So, when you have the schematic, is that just one floor that you are comparing it to, or are you comparing it to the basement? I mean, are you doing it square footage to total square footage? I see that you have 180,000 square feet for the old CMR here, so, yeah—

[UNIDENTIFIED PERSON]
[Inaudible words without mike] ... can answer ....

[STEVE FONG]
No, that's a good question. Lemme take this perhaps slowly, Rick [Holmes], and you can help me too. Um, the CMR facility, the old CMR facility, has seven wings. And, you can see, perhaps you can see on the, your paper slides, we got some of those labeled. The only one that isn't labeled is this wing here, and that's Wing 1. But there are seven wings. And yes, there are three floors to the CMR facility. But, you know, the, the upper floors, the middle floors and the basement, all kinda occupy the same shape. And what we did was just overlay it on top of a generic floor. And so we just were comparing the lab space in CMRR to the overall space of CMR. Now we all know that within the CMR facility, that there are labs and there are offices. And, but what we really wanted to do is compare, uh, simply the lab space, in this discussion, to the overall CMRR, CMR facility. Now the CMR facility, yeah you could say it's roughly, half of that floor space is, is lab space, in the main floor area. But again, there are attics, and there is a basement, [in] which there [are] also labs. It's just one way we were trying to compare, provide some comparison between the two facilities. But overall, the amount of lab space is going down significantly between the old CMR facility and what we're replacing with the CMRR. I hope that helped.

[JONI ARENDS]
I think it would be helpful to— I understand what you're saying. But I think it would be helpful to put it in these other colors in terms of that relationship as well, perhaps, in the pie chart.

[BRUCE MACALLISTER]
Perhaps a scaled set of pie charts.

[RICK HOLMES]
Compare the utility spaces between the two? Yeah, we can do this.

[JONI ARENDS]
Yeah. You know, to lay the big half of that area onto the CM—, the old building, but then also maybe have another pie chart that shows the old CMR. And maybe I'd make two different slides.

[RICK HOLMES]
We can do that.

[JONI ARENDS]
Yeah. I—

[STEVE FONG]
I understand your point. And, uh, things get kinda complex once you start comparing things as you get three levels versus how many levels do we have. And it becomes difficult to communicate that, and I appreciate your comments. So, we'll take a better shot. Maybe we could do a better, try a better go at it next time. So—

[JONI ARENDS]
Much easier than trying to explain that to Congress.

[RICK HOLMES]
Well, the other aspect is to think about that— the state of the art in understanding safety systems is substantially different from what happened in the 1940s to today. But we can, we can take another cut. We're just trying to start the dialog to answer the questions that people have.

[SCOTT KOVAC, NUCLEAR WATCH NEW MEXICO]
Isn't it true that each wing has three floors ...

[BRUCE MACALLISTER]
Excuse me. Let's— There we go.

[SCOTT KOVAC]
Scott Kovac. Nuclear Watch New Mexico. Um, isn't it true that the, each wing of the CMR has three floors. The top floor is like the utilities, the middle— the main floor is the lab, and the basement is storage or more utilities or something. So, um, I, you know, I see what you are saying here. But my question is, isn't, hasn't part of the CMR already been evacuated? I mean, how much of the current floor space of the existing CMR is currently being used?

[STEVE FONG]
So, first of all, you are generally correct in your description of the outlie of three floors in the CMR. And, yes, it's true that we're taking actions to reduce, uh, the space used within the CMR facility. I'm gonna look over to Tim [Nelson], and maybe he could describe a little bit better what's going on in the CMR facility in that regard.

[TIM NELSON, PROJECT DIRECTOR, INTEGRATED NUCLEAR PLANNING, LANL]
Thanks Steve. So, you're right. In fact, one of your questions had to do with, if I remember correctly, had to do with, uh, CMR Building, and what's being, what's operating right now. Essentially Wings 2 and 4, the laboratory floors, there's no operations in those floors. And, Wing 3. Uh, there continue to be operations in Wings 5, 7, and 9.

[SCOTT KOVAC]
Five, seven, oh—

[SCOTT KOVAC]
Five, seven, and nine. Yeah. Okay. Um, the operations in Wing 9 are, are they gonna be transferred to either, any, either of the buildings in CMRR?

[TIM NELSON]

There's a component in Wing 9 called Large Vessel Handling, that, um, is included in the scope of the CMRR Building. That the project is, essentially in the program requirements document, requested to provide space to do large vessel handling. But the hot cells, which you might be familiar with, are not in the CMRR project, as an example.

[SCOTT KOVAC]
Thank you.

[STEVE FONG]
I think there was one more slide. Yeah.

[RICK HOLMES]
One more slide.

[STEVE FONG]
Yeah.

[RICK HOLMES]
The other question that, that came up that we included in your package is on the, the likely schedule of what we know today, and again this is a best estimate, ah, depending upon how fast funding flows and, and other decisions that might be made. I think the message here is that the, the preparation of the air permitting for the Lab's new source review, and then, included in that would be a batch plant for concrete to provide to the project, because the project needs a fairly significant amount of concrete at a fairly significant delivery rate, which that capacity does not yet exist on The Hill. And so, because of that, and for control, uh, we would put for the duration of the project, the, a batch plant in. And so that application would go in parallel with the laboratory process, or separate from it if one of those two gets changed. The bottom line is that, that preparation and discussion would occur sometime next year, based upon the, based upon the schedule we have. And in the input for construction of the building would occur late in calendar year '10, late next year.

[Pause]

[GREG MELLO, LOS ALAMOS STUDY GROUP]
Just another angle— Oh, Greg Mello, Los Alamos Study Group. Just another line of questioning that gets at the relationship between the two, um, buildings, the old one and the new one. Um, at the CMR, uh, we, the material at risk, material present in the building, let's say, in kilograms of plutonium, is in the single digits, let's say? Is that, you can't say, right? Um, how would you—

[RICK HOLMES]
I don't know what's in CMR.

[GREG MELLO]
Can, how would we characterize the number of orders of magnitude difference between the plutonium in the new building and the plutonium in the old building? I have three orders of magnitude. Is that about right?

[RICK HOLMES]
I, uh, think that's more a Tim—?

[STEVE FONG]

Yeah. It's probably more of a Tim question, but, to say that the CMR facility was currently designed, was designed as a nuclear facility in its own terms. And the standards and how you categorize them have changed over the years. We're replacing that, that old, the nuclear level of categorization in the CMRR facility. And what's, what's new, new capability in the CMRR facility, are vault spaces, and what you saw there, and which we've outlined in our, in our environmental impact statements, is six metric tons that we are going to store in the CMR[R] facility, CMRR facility. I have to get one more "R" out. I have to apologize. But, uh, Tim [Nelson], did you want to add to any more of that?

[TIM NELSON]
Tim Nelson. So, um, I'm gonna iterate a little bit of what Steve [Fong] said to try to answer your question. And, essentially the CMR Building was Security Cat-I, Hazard Category 2 facility. As the Laboratory and NNSA recognized the limitations of that building, relative to safety, they've reduced the quantities of material substantially, which is essentially what you are reflecting in your question. Um, but the charters of the project is "replace that original capability," which is in a Security Category I, Hazard Category 2, um, kind of nomenclature. In the EIS [Environmental Impact Statement] document, the six metric tons, total, is the limit in the building.

[UNIDENTIFIED PERSON]
Um hm.

[GREG MELLO]
Would it be, um, I mean, Scott [Kovac] brought out that some of the CMR's shut down now. Um, and, we keep on being able to certify the stockpile, and do other things that the Laboratory's supposed to do. Wouldn't you say that the CMR, excuse me, the CMRR, ahm, reflects more a replacement of the aspirations, the original aspirations for the use of the CMR Building, rather than it's current level of use?

[TIM NELSON]
So, I'm gonna turn that over to NNSA. You're actually asking for an opinion.

[UNIDENTIFIED PERSON]
Um hm.

[STEVE FONG]
For one, you have to always remember, we're the project. And, uh, there are programmatic requirements we're assigned by, at a headquarters level, and this information is analyzed and discussed. What is needed in terms of its work, its support capabilities, that, uh, the outside agencies that we support, uh, we try to meet their, their demands and their wants. Uh changes. Uhm, there's also— we also have to support, not only the nuclear weapons complex, but we hafta, we're the main chemistry support for the entire Laboratory. So anything that's nuclear chemistry, this is the facility that's gonna take, that is gonna take place. Even just with that mission, just the current mission of maintaining, uh, doing the surveillance, and doing the chemistry at this facility, you need this floor space. Now I say that. I'm not the one, I'm not the program that's there. I do know that our program has gone through many validations to assess that. Somebody might say, "Well, how many would you need to —if you were gonna just build one pit,— support?" We don't do that manufacturing in this facility. We simply support it. But then again, the floor space does not change. We find that, after you start getting up into the, the tens, or so, and that's well beyond what we're at, then you gotta start modifying looking at the floor space. But I'm not even gonna go there. I mean, that, it's just, we are the same mission that was assigned to us at the onset. Now, I'm probably bouncing all around this question, Greg [Mello], but, uh, again, the floor space has been validated. It's been validated to meet the requirements that have been assigned. It's just not me, from a project guide, but we had independent folks that are— that look at the needs, the needs of the Department [of Energy], the needs for NNSA, and they have validated that our floor space is judicious. It's not overly

extreme in terms of amount of square footage. They think it's about right for the current missions that have been assigned to NNSA. Now that's about all I can really say, being a project guy. And if you wanna pursue this further, I think we probably need to get some of the, the mission folks on it. Okay. That's about as far as I can go on that.

[GREG MELLO]
Okay.

[BRUCE MACALLISTER]
Before I take another question, uh, we kinda segue-wayed rather seamlessly into the questions? Are we okay?

[STEVE FONG]
We're good.

[UNIDENTIFIED PERSON]
Okay. So—

[STEVE FONG]
We're good.

[UNIDENTIFIED PERSON]
This is for the group—

[BRUCE MACALLISTER]
Sir?

[JAY COGHLAN, NUCLEAR WATCH NEW MEXICO]
Thank you. Um,

[BRUCE MACALLISTER]
Your name sir?

[JAY COGHLAN]
Yeah. I'm Jay Coghlan with Nuclear Watch New Mexico. Um, I came in late, so forgive me if, uh, if my question's already been asked. So, Steve [Fong], I heard you loud and clear, you know, you got the CMRR nuclear facility essentially sized to requirements. Um, takes no genius to surmise that requirements are probably gonna change. Ah, and perhaps change dramatically. Um, now specifically, to give credit where credit's due, I think NNSA made a wise decision to postpone expanding pit production until the Obama administration conducts a, a new nuclear posture review. So, to get to the sizing, and why you need a nuclear facility at all, um, correct me if I'm wrong, but I believe the main missions for the nuclear facility would be materials characterization and analytical chemistry in support of pit production at PF-4. So, Tom D'Agostino [Undersecretary of Energy for Nuclear Security and NNSA Administrator] wrote to the Defense Nuclear Facility Safety Board that materials characterization has already been moved to PF-4. To get to my specific question, why can't analytical chemistry also be moved to PF-4? Especially, this is my understanding, but each pit that is produced can require up to a hundred AC [analytical chemistry] samples. So if you are not expanding pit production, the need for analytical chemistry goes down exponentially. So all of this circles around to, what's the true need for the nuclear facility?

[STEVE FONG]
I'm gonna defer over to Tim Nelson, but to first say that— it's the, again, programmatic requirements were, again, validated and reviewed. And that was all part of the SPEIS [Supplemental Programmatic Environmental Impact Statement] to take a hard look at, at the right sizing of the nuclear facility. So, I think Tim's gonna help me out on this one.

[UNIDENTIFIED PERSON]
Program guy.

[Laughter]

[BRUCE MACALLISTER]
Glad we have Tim here.

[UNIDENTIFIED PERSON]
Yeah.

[TIM NELSON]
So, Tim Nelson. First thing I think we need to clarify is: the construction of this building is not directly related to pit manufacturing, like you are suggesting. So if you wan—

[UNIDENTIFIED PERSON]
Can you speak this way also.

[TIM NELSON]
Sure.

[UNIDENTIFIED PERSON]
[Inaudible words]

[TIM NELSON]
Sorry. So, what I said was, um, there's not a direct correlation that Jay [Coghlan] is suggesting relative to pit manufacturing and the CMRR building.

[JAY COGHLAN]
NNSA says there is—

[TIM NELSON]
The pit manufacturing—

[BRUCE MACALLISTER]
Hold on. Let's let the thought be finished. And then, we, because we are recording this, so we wanna make sure we catch every comment.

[TIM NELSON]
So, if pit manufacturing went away, I'd still need this building. For the analytical chemistry and the materials characterization. For essentially all the nuclear programs that are going at LANL. If I went back to your third slide, second slide? Then the analytical chemistry slide [LANL Slide 9] ....

[Few words missed as the audio tape was turned over.]

[TIM NELSON]
... management activities, materials disposition, which would be ARIES, those kinds of programs. Nonproliferation programs, uh, nuclear forensics would be an example of that. There's your materials and manufacturing technologies which have to do with pit manufacturing. Stockpile management, which has to do with certification of the stockpile. And, in general, nuclear materials. Handling, processing, and fabrication. You could put actinide R&D [research and development] in there as well. So, I can take one of these lines out. Pick one, pick this one, which is the one that you suggested, but I still need the analytical chemistry and materials characterization to do these other activities.

[JAY COGHLAN]
All of it?

[TIM NELSON]
Sure. Okay.

[JAY COGHLAN]
Uh, thank you. Now, first of all, in response to one thing,—and I apologize for my outburst,—but in the complex transformation SPEIS, NNSA stated over and over again that the nuclear facility was needed, was key to expanded pit production of 50 to 80 [pits per year], and with additional 9,000 square feet, then you could also go to 125 pits per year. But, you know, I can't help but regard this as a bit of a bait and switch. NNSA starts saying it's necessary, uh, for pit production. Now there's not pit production. Granted that there are other programs, but why can't those programs be housed in the light labs, for example, or at TA-48, or in PF-4? Uh, the nuclear facility, the need, is not clear to me. And [to] Congress as well.

[BRUCE MACCALLISTER]
... response.

[TIM NELSON]
That sounds like an NNSA question to me.

[Laughter]

[STEVE FONG]
... go back and forth. Uh, Jay [Coghlan], I think the SPEIS speaks for itself. Uh, again, I wanna speak for the project. We talk about project status. We do not assign the, the mission or the programmatic requirements. We're simply here to answer project status, project discussions. Uh, I realize this is the front end of the project, which we are all about. But again, all levels of assignments are contained within the SPEIS, and I think that speaks for itself. And I guess I'm not gonna be the one to speak for those. That would really be at a headquarters, mission-level.

[BRUCE MACALLISTER]
Uh, based on our agenda, we're at the point where we wanted to give the, based on the agenda, the opportunity for, the, uh, presentation from the concerned citizens, concerned parties. Uh, are we comfortable that we can transition and retain the questions for later? Or, are there some that are so burning to this that we need to—

[GREG MELLO]
One burning question.

[BRUCE MACALLISTER]
Can we agree on one burning question? Or—

[GREG MELLO]
[Inaudible words] right.

[BRUCE MACALLISTER]
—maybe two?

[Laughter]

[BRUCE MACALLISTER]
We'll, we'll move this along with dispatch, then, so we don't cheat the other presentation starting. Okay?

[GREG MELLO, LOS ALAMOS STUDY GROUP]
Greg Mello, Los Alamos Study Group. Jay's [Coghlan] comment was— I agree very much with the comment about TA-48. Missing from the analysis here is, uh, a look at the Laboratory's overall analytical capabilities. Its other radiological facilities, its other labs, and their missions and how those all shake down, and, uhm, it is not fully clear, I mean, it's not clear you need them all. And, so.

[UNIDENTIFIED PERSON]
Thank you [Inaudible word or two].

[GREG MELLO]
And, finally, about ARIES. Um, I'm not sure that any of us know what the missions of this building are. And I know you guys are really conscientious, but, uh, we don't know that the pit conversion and disassembly facility is gonna to be built at Savannah River. We don't know the future of that facility. We don't know the future of many things. And, the model we use after nineteen years of involvement in this, in the CMR-related issues, Joni [Arends] also nineteen years, and Jay [Coghlan], um, that these buildings, as you've explained, are sort of like big boxes. Most of the effort, most of the square footage, is in the core utilities that make them operate at all. So, um, they become flexible boxes into which missions can be put, and those can change.

[BRUCE MACALLISTER]
And one last comment and we'll—

[SCOTT KOVAC]
My name's Scott Kovac, with Nuke Watch New Mexico. I'm actually giving the interested parties presentation, so I think we're all fine.

[BRUCE MACALLISTER]
Okay.

[SCOTT KOVAC]
There's time for one more question.

[Laughter]

[SCOTT KOVAC]
Um, I'm sorry. I missed part of the discussion about, that there was actually five different buildings as part of the CMRR complex. Could you restate that again, or go over that

[RICK HOLMES]

Yeah.

[SCOTT KOVAC, CONTINUING]
—one more time for me, please?

[RICK HOLMES]
It's Rick Holmes again. The, if you take the rad lab itself, it's physically two buildings that are separated by one foot. You have the rad lab itself, and then you have the center utility building. If you think of the nuclear facility, it is like— there is a utility, or there's an auxiliary building that has the utilities in it, the generators, the safety class fire water pumps, the safety class fire water tanks. Then you have, the middle part of that building is the laboratory's modules as well as the utilities that are underneath that. And then there's the vault. And so, they are all kinda conjoined, they are all part of that particular complex, um, but you can think of them as separate places because they are, they are analyzed differently. And you may hear some things about, well I'm worried about this happening in the auxiliary building, or its size got adjusted to make sure that you could fix all the equipment in, and all those kind of things. Because we did that as part of the stiffening exercise we did last summer. So I make that distinction because sometimes we wind up having the discussion as we dive deeper on some of these things into portions of the building. Because they really are, they have separate, they are together but they are separate because they have separate missions.

[STEVE FONG]
They have different functionality.

[RICK HOLMES]
Different functionality. Thank you. That's what I was searching for.

[TOM WHITACRE]
[Inaudible sentences about the rad lab]

[MORRISON BENNETT, TRANSCRIBER]
I won't hear what you said.

[TOM WHITACRE, NNSA]
Tom Whitacre, NNSA, so Scott, the rad lab, the Rad Lab Utility Office Building has a single foundation, and you have the rad lab, office building, right next to it is the CUB, even though it's on the same concrete foundation. And then the, the nuclear facility has the same foundation, but there's kinda three components. Like Rick [Holmes] talked about, the auxiliary building, the laboratory space, and the support, and then the vault. So there are kinda three separate functions, but all on the same concrete base mat. The nuclear facility, and then the rad lab has the central utility building and the radiological laboratory and office spaces. So.
Two buildings. Ya'know, maybe we could go back to that picture or we could talk later. Or—

[RICK HOLMES]
With different functionalities between them.

[TOM WHITACRE]
Yeah.

[BRUCE MACALLISTER]
Okay. All right. Then we— take a moment to get set up here, and—

[UNIDENTIFIED PERSONS]
[Mixed voices as setting up for next presentation.] Let me just butt in—
This one— [More mixed voices and muttering.]

[SCOTT KOVAC]
What's that? Oh. Just practicing. I would have brought a flash drive, but I'm told we can't use those on these computers around here. So I brought my own computer. Um, welcome everyone. Um, yes, um, we're the, uh, this is our first presentation of the interested parties. Welcome to our seventh meeting. We are all here to a, uh, per a settlement agreement that included public involvement and some other things.

[SCOTT KOVAC]
Brief outline of our presentation. Um, tonight we're gonna kinda some seismic issues and some DNFSB issues.

[SCOTT KOVAC]
Um, one thing that we noticed is that, uh, well, going back to early twenty-oh, 2005, LANL released a hydrogeologic synthesis report. This was the culmination of four year— er, six years, from '98 to '04 of hydrogeologic excavation characterization under the Laboratory. There was about thirty regional characteristics, regional characterizing wells drilled across the Laboratory. And, what we've realized, is that the um, um, the probalistic seismic hazard analysis that was released in May 2007 does not reference this very valuable hydrogeologic report. We're just wondering about that. Because, you know, it seems like if you are trying to do a, uh, you know, have some sort of understanding of what's under the Laboratory, um, the hydrogeologic synthesis report would have been a good place to go. Um, for instance, the hydrogeologic synthesis report has many wonderful pictures of the conceptual cross sections under the Laboratory.

[Interested Party Slide 6]
[SCOTT KOVAC]
Um, this is a picture of one. I have inserted a CMRR approximate location into this slide. This slide is a cross section basically west to east down Mortendad Canyon, which is the canyon just north of the CMRR. Um, the big dip you see on the right side there is the Rio Grande. And you can see the— each of the colors under this, um, you know, in this area, each of the colors represents a different type of rock underneath the Laboratory. And this basically— this cross section basically travels the whole east-west section of the, of the, underneath the Laboratory. Right down the center. And, um, you can see all the different shapes, different rocks, and this is a conceptualized drawing, you know, that they put together.

[Interested Party Slide 7]
[SCOTT KOVAC]
The next— there's one for the next canyon, the Parajito Canyon, which is the canyon just south of the CMRR. And you can see that it's very, very similar. Lots of different shapes. And it's even different than the canyon, that's, Mortendad Canyon, just a mile away. I'll just flip back and forth here a couple of times.

[Interested Party Slides 6 and 7 interchanged]

[SCOTT KOVAC]
So there's a lot going on underneath there. And, ya'know, to, to, ya'know, characterize this, very complicated job, no doubt. No doubt. And, um, one thing that the uh— So the probabilistic hazard analysis, um, was released in May 2007. And I forgot to ask, has there been a new one out lately? You guys have a new seismic report? I'll ask that, I'll ask that again later. Just remind me.

[Interested Party Slide 8]
[SCOTT KOVAC]
Um, one of the, one of the things that came up in the probabilistic hazard analysis is the term “kappa.” And kappa is the fundamental seismic property that is determined from a large collection of time series data. And, uh, kappa, in the, in the probabilistic seismic hazard analysis, kappa was the key parameter in calculating the seismic hazard at, at LANL.

[Adjusting slides]
[SCOTT KOVAC]
Uh, uh oh. Um, sorry, I didn’t know how this happened.

[Interested Party Slide 9]
[SCOTT KOVAC]
So, one of the tasks was to, um, one of the tasks of the probabilistic seismic hazard analysis was to estimate the valuation of kappa. Um, you know, basically, it’s, it’s normally kappa is derived from earthquakes recorded from several seismic stations. LANL only operates two to three seismic stations at a time.

[Adjusting slides]
[SCOTT KOVAC]
[Inaudible words] Okay, there we go.

[Laughter]

[SCOTT KOVAC]
Sorry. I would handed out copies of this report, but, that would have required finishing it before I drove up here.

[Laughter]

[Interested Party Slide 10]
[SCOTT KOVAC]
Sorry. Ah, okay. Um, and they state that, because kappa was, there was so few seismic events, and there were so few seismographs, that the estimates of kappa were, that they were unable to estimate this important, this important, y’know, characterizing seismic function.

[Interested Party Slide 11]
[SCOTT KOVAC]
Uh, one of the reasons that they’ll say is that this is just a list of all the seismic events. And you’ll see that really the only difference were the last, were the bottom two between the ’07 probabilistic seismic hazard analysis, which was an update of the ’95 one. And you can see that uh, the date there, the bottom two entries, March 1998 and August 2000, were basically the updates from the 1995 report.

[Interested Party Slide 12]
[SCOTT KOVAC]
So, it was hard to, it was very hard to— the kappa values are still unknown.

[Interested Party Slide 13]
[SCOTT KOVAC]

The reason I'm bringing this up is that the, uh, we're gonna be talking about the DNFSB, the Defense Nuclear Facility Safety Board, a congressionally mandated independent safety board. They do weekly reports. They're— They do a lot of stuff there, um, on top of it. Um, they're in— that's their web site.

[Interested Party Slide 14]
[SCOTT KOVAC]
In January, [the] 23rd, the, the report stated that the current design response spectra, for the LANL engineering standards manual is based on the 2007 updated probabilistic seismic hazard analysis. And it provides a bounding spectra, the, you know, how the earth was moved, the seismic spectra applicable anywhere on site at LANL. Um, and you saw, back from those pictures, that, you know, how difficult that must be, or how, you know, what that must be like.

[Interested Party Slide 15]
[SCOTT KOVAC]
Um, we are concerned that the site-wide, site-specific seismic spectra for the TA-55 and CMRR are going to reduce some of the conservatism in the bounding site-wide spectra. There's, I believe that what they are saying is that, they can do enough studies at CMRR to have its own site-wide spectra, which, uh, we believe would be very difficult and, and very hard.

[Interested Party Slide 16]
[SCOTT KOVAC]
Because, as we said before, look at all the colors. It's just, even under, directly under CMRR, I mean, where does the seismic spectra end? Ya'know, it's, it's, uh, many different layers and colors. So.

[JONI ARENDS]
I just want to point out—

[BRUCE MACALLISTER]
Let's get you a mike.

[SCOTT KOVAC]
Okay. Thank you.

[BRUCE MACALLISTER]
Here.

[JONI ARENDS]
We wanna— You go ahead.

[SCOTT KOVAC]
Go ahead.

[SCOTT KOVAC]
No, 'cause I can't point it out from here. Okay. That's the Rendija Fault Canyon, or fault zone. Okay. Um, pretty close to the Lab. So, anyway, the —um, moving right along— I'm not sure how much time I have.

[Interested Party Slide 17]
[SCOTT KOVAC]
But, um, as, um, Tim [Nelson] or some— I believe we mentioned before earlier today, that the 2009 National Defense Authorization Act required the DNFSB and DOE to submit certification to the

Congressional defense committees that the seismic concerns raised by the Board have been resolved before certain funds for CMRR are made. And it's like, the, so half of, approximately half of the 97.2 million is being— uh, it will not be released to LANL until the DNFSB certifies some seismic issues.

[Interested Party Slide 18]
[SCOTT KOVAC]
And, um, I'm— So, I would like to, here in January, 16th, the Board issued two findings, which we have learned are "communication tools" [derisive laugh] that concerning the seismic safety and the design of the CMRR NF [nuclear facility]. The DNFSB finding stated that the CMRR NF should not proceed into final design until there's a high confidence that its structural capacity is adequate for the seismic design and ground motions. And it also referred to the ventilation system.

[SCOTT KOVAC]
We believe, we are not sure, that— I'm sorry. We believe that this is the first time that a limitation of funding has been, —that the DNFSB has had a limitation on funding. I can't, I can't verify that. But I'd like to know. If this is raised to the level of, you know, the first time that the DNFSB has, has been, if a limitation on funding has been given to the DNFSB by [the US] Congress for any, on any, on any site.

[Interested Party Slide 19]
[SCOTT KOVAC]
Um, the news is that these increased seismic hazards have been known since at least July 2006. Yet the design for the nuclear facility pushes on.

[Interested Party Slide 20]
[SCOTT KOVAC]
Um, more has been spent on the design of the nuclear facility than the construction of the RLUOB. Here's our breakouts from the Fiscal Year '09, '08 budget, I mean Fiscal Year '08 budget. I had to estimate for '09 when I did these numbers. I'm three million dollars off, because they'd asked for 100 million. Um, so, the preliminary design and engineering and design, 65 million. You can read the numbers. The total estimated cost, which I didn't hear tonight, again an updated cost, um, still may be 2.6 billion. I, I, we should verify that. Um, you can see that the RLUOB construction is almost finished. It totaled up to 158 million out of the propos— out of the 164 million that was originally, um, allotted for it.

[Interested Party Slide 21]
[SCOTT KOVAC]
Um, I did a little graph. The black hole on the right side of the graph is the estimated cost for the NF construction, um, starting at 2009, 2010. This is off of the Fiscal Year '08 budget. And, um, you can see that the spending on the CMRR has just started. The Fiscal Year '08 budget, and the Fiscal Year '09 budget request gave some of these numbers. Basically they were estimating 250 million per year for the CMRR NF. And um, I know this is getting re-baselined, and we don't have the final cost yet, but, um, it's probably somewhere around here. [Points on graph]

[Interested Party Slide 22]
[SCOTT KOVAC]
Um, LANL's required— LANL and NNSA have worked out a little performance award fee, and this is based on a contract performance evaluation plan. And for, for 2008, Fiscal Year 2008, LANL only received 120 thousand out of a 600 thousand fee for execution of the RLUOB construction and transition of the facility equipment. Also, was awarded 220— 220 thousand out of a possible 400 thousand. LANL received an increase in its Fiscal Year 2009 budget despite, budget request, despite this performance. Um, —I did ask— why, why these award fees were so low. And maybe I'll ask again. But we don't know exactly why. But it, it, uh, well maybe we'll find out.

[Interested Party Slide 23]
[SCOTT KOVAC]
Um, the complex transformation record of decision claims there's little difference in the size of the facility needed to support production rates of between 1 and 80 components per year. Uhm, the NF design, in the complex transformation record of decision was still being designed to support an annual production of 20 to 80 pits. And then they said, well, you know, you know, doesn't matter, you need the same equipment for 1 to 80 pits, you know, components per year. Nowhere in the record of decision, nowhere does the record of decision say that the CMRR NF is needed for less than 20 pits per year. NNSA has not identified a need to manufacture pits beyond 2010.

[Interested Party Slide 24]
[SCOTT KOVAC]
Um— Los Alamos has been given a directive to form an exit plan, out of the old CMR into PF-4 and the CMRR rad lab, even though the CMRR nuclear facility would not be available. This shows, this is, ya'know for two reasons: first off, the CMR is very old and very, and it's also very contaminated. We didn't get into that earlier. Ahm, many of the basements are, claim, are very contaminated. Um, it's gonna be a very difficult building to D&D, to demolition and, and take out.

[SCOTT KOVAC]
Um, but in the short term, extending the life of the CMR, um, is, is questionable. Also, and so, NNSA requested that the Los Alamos Site Office, you know, form this exit plan out of CMR in advance of CMRR NF. Now if they can do it in advance of the CMRR NF, I think they can do it, you know, it kind of leads one to believe that CMRR NF is not needed.

[Interested Party Slide 25]
[SCOTT KOVAC]
Um, I forgot to ask again tonight. The, in a previous slide from the last meeting, the Lab was only planning to equip four of the twenty-six lab modules in the RLUOB. Um, is this still true? No? Okay. Remind me to ask that question of my own presentation here in a minute.

[Interested Party Slide 26]
[SCOTT KOVAC]
Um, we have an artist rendering of uh, of the lab space in the basement showing extra room.

[Interested Party Slide 27]
[SCOTT KOVAC]
Um, the nuclear facility stands in the way of LANL's future. To build the CMRR NF or not is ultimately about future mission diversification, or not, at LANL. LANL should be seeking a slice of the mission diversification pie rather than building for the future re-entrenchment of receding nuclear weapons business.

[Interested Party Slide 28]
[SCOTT KOVAC]
"And those of us who manage the public's dollars will be held into account— to spend wisely, reform bad habits, and do our business in the light of day— because, only then can we restore the vital trust between the people and their government." By President Obama in his inauguration speech. And I appreciate you guys very much having these meetings. This is a good, good step, and I really appreciate it.

[Interested Party Slide 29]
[SCOTT KOVAC]

And that's all, except for, in memory of Ed [Grothus].

[BRUCE MACALLISTER]
Thank you.

[SCOTT KOVAC]
So, can I ask myself some questions?

[BRUCE MACALLISTER]
Uh, before we go into the questions, are there questions of the presentation and are there comments that were, that arose as a result of the presentation that folks from LANL or others would like to make? If so, just raise your hand, let me know— Rick [Holmes]?

[RICK HOLMES]
This is Rick again. I'll save Scott the trouble of asking the question of a rad lab. I'll take the back, and we'll go backwards first.

[SCOTT KOVAC]
Okay. Sure.

[RICK HOLMES]
The four modules will be done under the facility scope. And those four modules, and a module is 60 feet long, 12-1/2 feet wide, and sometimes modules are put together to make up a laboratory. Sometimes they stand alone. So four modules will be done under the facility scope. And addi—

[TIM NELSON]
Under facility construction scope.

[RICK HOLMES]
Under the facility construction scope. Thank you. So, under the facility construction scope, which is done in September, four modules are done. Which essentially have benches in them like a college chemistry laboratory.

[RICK HOLMES]
In the equipment installation scope, which we are about to get approval to go forward and do, equips a vast, not in terms of space, but in capacity, an additional nine modules are outfitted. And the remaining modules are available, so half, by the time we are done in the rad lab under the current project scope, before we deliver, half the modules will be equipped and outfitted with instrumentation. At some point down the future, the remainder half of the modules will have equipment put in them, but that equipment is not driven by increasing in capacity to a large extent. There are some, there's a laboratory to support waste processing. And the reason for that structure is because of the degree of, of integration between the rad lab and the nuclear facility. Half of the modules were gonna be reserved to support getting equipment staged and ready, gloveboxes to then be installed in the nuclear facility, and then at some point in the nuke facility completion, those last thirteen of the twenty-six modules would be outfitted and equipped. So, it is intended to all be done, but just in stages. So, four by, under the facility construction scope, an additional nine under the equipment installation scope, and then the balance, the other half, would be done some point during nuke facility construction. Although under the current plans, there's not a lot of additional analytical capacity in those other thirteen modules. There's some waste processing, some other things, and some of the studies that the program office looked at, and said, what if you wanted to reconfigure it, and do something a little bit differently, still living within a total 8.4 grams of plutonium in that building, which is not a lot, then, that's the, that's the plan.

[SCOTT KOVAC]
Thank you.

[UNIDENTIFIED PERSON]
[Inaudible words] ... what about it Tim?

[TIM NELSON]
This is Tim Nelson. So, some of the reasons why those nine modules were picked, were as part of that exit strategy associated with the CMR Building. So when you asked the question earlier, I'm pretty sure it was you Scott, —

[SCOTT KOVAC]
Yeah.

[TIM NELSON]
—about the wings being closed, which ones are being closed. That has to do with the ability to move some of those processes into the rad lab.

[SCOTT KOVAC]
That makes sense.

[BRUCE MACALLISTER]
Okay, other questions, comments? We've got plenty of time right now.

[GREG MELLO]
Great presentation Scott. Um, let's see, you guys have a plan— Oh, my name, Greg Mello, Los Alamos Study Group. You guys have a plan for converting the RLUOB to a nuclear facility? And, can we have it?

[RICK HOLMES]
I don't have a plan— This is Rick. I don't have a plan

[Laughter]

[RICK HOLMES]
NNSA and the Lab have a plan. They have a plan, but—

[BRUCE MACALLISTER]
Here Steve. [Handing microphone]

[RICK HOLMES]
We know that.

[STEVE FONG]
Lot of options are considered, especially when you look at the balance of facilities. Right now. So I can say, yeah, there was some speculation on it. Can we increase the rad lab? But I can tell you directly, explicitly, that we are building a radiological facility as of today. We have not been given any direction, nor have we developed any plans for [the] rad lab to be anything other than a radiological facility. RLUOB is a radiological facility. Did I answer— Did I miss the question?

[GREGG MELLO]

I'm pretty sure there is an UCNI plan. Or, either you have it, or it's under development? It's UCNI?

[STEVE FONG]
Not that I'm aware of.

[Pause]

[BRUCE MACALLISTER]
Okay. Other questions? Comments? [Pause] Yes ma'am? We have—

[GAIL RABORN]
Gail Raborn from Taos. Scott [Kovac], do I understand, I was a little confused about all the seismic stuff. You are saying that the current design for the CMRR is not taking into account seismic dangers or seismic activity?

[SCOTT KOVAC]
I wouldn't go that far. I would just say that the, um, I would just say that it's a very complex setting, and that it would be, it's very difficult, they're— It's making, it's driving the cost of the building way up, I think. And in order to put that building in that geological setting. And, you know, all, and in the end, it's all of the seismic, um, precautions are gonna be based on models done of, of the setting underneath. Because it's so complex, that I, it's gonna be difficult to actually know exactly what's there.

[JONI ARENDS]
So why don'cha' go back to the picture?

[Slide 16]

[BRUCE MACALLISTER]
Scott, and the lady from Taos, would like to have the summary from NNSA, the response back? That might be helpful. I gotta pass it over to Tom Whitacre.

[TOM WHITACRE]
Tom Whitacre, NNSA. So I've been involved in the hydrogeologic drilling programs. And Joni [Arends] and Scott [Kovac] know, as well, as on the CMRR project here. And I've been following some of the seismic issues here on the project, you know. And it is a challenge. So as far as, uh, data collection for drilling, at the CMRR site, there is a very extensive geotechnical drilling program done. You know, 30, 40, 50 boreholes. I think we spent about five million dollars. A lot of shallow boreholes, some intermediate boreholes, I think a couple of boreholes down to six or seven, eight hundred feet. And there was a, a borehole drilled, I think, back in the seventies, Scott, called SHB-1, that went about a thousand some feet. So we have some deep information at the CMRR site.

[TOM WHITACRE]
They did use other regional well data in developing their seismic hazards. Kinda what they do, it's a very complicated process as you can imagine, it's probabilistic. So basically what that means is that they use statistics. So they generate for the earth model, the geologic model at the Laboratory. What we ended up doing is developing seismic response spectra at, I think at five different locations. There's a location for TA-3, TA-16, TA-55, CMRR, and site-wide. So we could use some of the, what really drives a lot of the seismic response from an earthquake is kind of the near-surface geologic units. You have a lot of seismic energy generated from earthquakes down below, and then the stuff right near the surface kinda really drives the seismic response of buildings. You know, kinda keeping it at a high level.

[TOM WHITACRE]
But uh, we collected all that information, and what they do is they develop a kind of a geologic model of each of these locations where they generated the spectra, and they do a probability analysis. They take a mean value, a lower bound and upper bound, because it is really unknown, a lot of this. And so they kinda bound the uncertainties, a kind of a bounding condition. And all the uncertainties, from the geology and all the other inputs into that model are all incorporated. So your final answer includes those bounding assumptions. You know, very conservative or very unconservative, and an average. So it's a very complicated statistical process that incorporates, you know, if you, if the velocities,— 'cause what really drives a lot of the seismic response is how fast seismic energy transmits through these different geologic units. So you can image, when you go from one unit that's very hard,— The seismic energy, you know, if you hit a hammer on a concrete, you can hear that ping, right? You hit a hammer on a piece of sand, it's a thud. So the seismic energy in those concrete, or those hard units travels much faster than it does in the softer units. And so, when you have changes from harder to softer units, you can generate a lot of shear-wave energy, which is the energy that is an issue for buildings.

[TOM WHITACRE]
So, the long, short answer of this discussion is, they do a probabilistic approach where they bound the uncertainties. So, the very unconservative and the very conservative numbers for these velocities and all these seismic inputs are all incorporated into that calculation. So, because, how can you ever actually know? That's the whole probabilistic, that's what that means, it's not deterministic where you calculate an actual number based on actual inputs. You have a variety of inputs with a variety of errors that could be incorporated. So, that's kinda how the seismic works here. So we incorporate all those different, different geologic units, all those different uncertainties, in the, in the analysis.

[TOM WHITACRE]
And that whole process has been peer-reviewed. We have an independent panel of folks from the USGS [US Geological Survey] were involved. The University of Utah. We had folks from the Defense Board who were all part of this long process to develop that PSHA [probabilistic seismic hazards analysis]. It was about a two-year process. So we had a lot of different inputs. There's kind of a structured process called the SSHAC [Senior Seismic Hazard Analysis Committee] level two process. Seismic hazards— I can't remember what the exact acronym is— but there's a process developed by DOE and the Nuclear Regulatory Commission for generating these PSHA, probabilistic seismic hazards assessments [analyses]. So that whole thing has been peer reviewed and vetted, with the informed community as far as all the SME [subject matter expert] experts. So we've kinda gone through and had that pedigree on that process. So, we had those spectra generated for the site.

[TOM WHITACRE]
And then you guys have had some other discussions, [inaudible words] talk about the kappa and everything else. You kinda want to get a status on that. So, as part of the PSHA, we generated a seismic spectra that we use for the project, that had a lot of conservatism and some unknowns. And the recommendations made in the PSHA to kinda further refine that. And one of them, for example, was kappa. There's also some other ones for some long-term trenching studies. There's another one to do some calculations using some different attenuation models of the earth, called the "next-generation attenuation models." Those are just kind of computational things that can done.

[TOM WHITACRE]
So there's some activities that we can do in the short-term, and some that will take longer, six, you know, six months to twelve months. So, some of the short-term work that involves just strict computation has been done. And so there's some evidence that the seismic hazard has been reduced somewhat by using these next-generation attenuation models. But some of the longer-term stuff to re—, to collect additional

field data, is on-going. The Laboratory is developing a program to go ahead and collect some of that data. And one of those would be that kappa that you talked about.

[TOM WHITACRE]
The kappa basically is earthquake at depth. It's in traveling through the rock and through the different units that energy kinda gets attenuated, gets absorbed by the units, different geologic units as it travels up towards the surface from the event, which can be several kilometers below. So, same kind of thing, if you have real hard rocks, the amount of attenuation you expect from that seismic energy probably wouldn't be as much as you would expect that, if you had really hard granites, like the hard concrete, it would transmit that energy pretty much uninterrupted, or unattenuated to the surface. So you have a lot of surface motion if you had something on hard rock like a granite or something. But if you have something in softer materials like sediments, sand and clay, a lot of that energy is absorbed. So the amount of high frequency energy kind of at the surface is a lot less. So it's attenuated somewhat. So, that's what that kappa kind of, they can calculate that in a method.

[TOM WHITACRE]
So, there was an earthquake in Chama, I think, about eight months ago, that they tried to collect this kappa. But the unit that they had— they have different seismic stations here at the Laboratory. And they are looking at upgrading those. I've been working with the Laboratory on that. So we are making good progress there. But what happened is the one station, the special kind of seismic array to collect this data, ah, that station is operational, but it was down at the time for repair. And it's in kind of a remote area up in the Jemez, in the winter time. And if it goes down, they can't really get to it for quite a while. So, they got some seismic data, but not enough to calculate this kappa. So that's one of the long-term studies here in the next few months, is to see, put in some instruments, actually bury some sensors at depth, in some deeper, these deeper boreholes, and collect that data. So, there is a program here with the Laboratory, I've talked with management, and they are developing a program to try to collect some of this longer-term data, that kinda help refine the seismic hazards.

[RICK HOLMES]
Can I—

[TOM WHITACRE]
Sorry about that.

[RICK HOLMES]
Can I add one, lemme add one short— I won't, I won't be able to be as long as Tom.

[UNIDENTIFIED VOICES AND LAUGHTER]

[RICK HOLMES]
What we did for the design of the structure, is, over the last, for the nuke facility, over the last year we went through and did some stiffening exercises, or evaluations. Um, and actually used the computer at the Lab, the supercomputer at the Laboratory, to help get an answer faster as we tried things: thicker floor slabs; bigger, thicker columns; a much thicker base mat to put the building on; and actually analyzed the building and said the design was good for the broader structure spectra. Of which the TA-55 is a piece of it. That structure, we are not gonna change. And it did add concrete into the design because now it's on a ten-foot thick base mat, which is not [a] lotta concrete, but it's pretty straightforward and easy to put in. So, the structural design that we have is robust. If somebody— It's robust enough that if somebody said, "You must assume that the building is anywhere at Los Alamos, it must meet all those conditions in the bigger spectra." Using the specific portion of the TA-55 spectra might reduce the seismic demand on the equipment that you have to put in place. But we're not gonna change the structure. We're gonna leave it

as is because that's the best pathway to give the best building. And that way then there's no doubt that if you looked at the bigger spectra, then it will still meet— meaning it will survive, any of those earthquakes that are in that spectra. So, there's some conservatism built into the design of the structure itself that we're not gonna change. Doesn't make any sense.

[TOM WHITACRE]
So, this kind of modeling, this is kinda how this process all works. We generate this earthquake, and there's kind of a seismic response at the foundation level of the building that we have in here. And then they develop a model of the structure of the building and take that earthquake, and kinda propagate it through the structure, and you get actual seismic responses at different floor locations in the building. And so that's what you have to account for in the design. You design for the structure like Rick [Holmes] talked about, thick walls, thick base, thick floors, and then if you account for the actual equipment, experiences seismic accelerations too, because the building starts kinda moving up and down, and so that's the equipment qualification portion, where you have to have a certain response, that you have to make sure a fan would survive a certain type of a seismic energy, based upon our model.

[BRUCE MACALLISTER]
Question here.

[GAIL RABORN]
I'd like to ask another, make another effort at a question. So, it sounds to me like, I mean I didn't hear anything clear about how strong this building is in terms of how big an earthquake? I hear an awful lot of data, which was very confusing, but no one's really said, "If we had an earthquake that was, ya'know, four or five or six, whatever those factors are, —

[BRUCE MACALLISTER]
Vectors.

[GAIL RABORN]
—what it would actually do to the building, and the building withstand that kind of thing?

[TOM WHITACRE]
So, DOE has a process for categorizing facilities based on their hazards, performance categories. Performance Category I is like a regular office building; Performance Category II is like the structure for the radiological facility, it's kind of an essential type important building. And then there's like the nuclear facility, is called a Performance Category III facility. And each of those performance categories have different seismic criteria. And kind of the way the earthquakes work in seismic is, you don't know when the earthquake is gonna happen, so it's a kind of a probability or a statistic. So what you have is a twenty-five-hundred-year event earthquake. It's [like] when I think of a five-hundred year flood or something like that. So there's a performance requirement for a PC-II to account for the twenty-five-hundred-year earthquake. That it has to survive that earthquake.

[GAIL RABORN]
How strong would that be?

[TOM WHITACRE]
I think we're somewhere in the ballpark of a like a six magnitude, six or seven, somewhere.

[GAIL RABORN]
So below a six or seven the buildings would be all right?

[TOM WHITACRE]
Yeah, the building won't collapse. The nuclear facility will, the nuclear facility [is] even built to a higher nuclear, higher earthquake hazard than that. So, in round numbers, it's probably somewhere in a magnitude of, magnitude six or seven that the building would not collapse or fail. You know, that's something like you would have in San Francisco. So, there's, —so, kinda of at the high level you have, that's probably about where it's at. But it, it's kind of a statistical analysis that they do for— safety significant, I don't know, it's—

[UNIDENTIFIED PERSON]
The biggest one here has been.

[RICK HOLMES]
Yeah, the biggest one here,— in the PSHA we collected a lot of data from trenching and mapping that was done. And I think that the biggest they saw in the last ten thousand years was estimated around a magnitude seven. Uh, what they did— done, is they can actually find the fault traces up in the mountains, and they can map fire events and carbon-date those events and they can measure what the offset was between those two fire events — how many meters. And then you assume that all that offset happened at one time, if you can't tell that there were smaller movements, because, you could have one earthquake that had maybe a three-foot offset at one time or was it a lot of little earthquakes over a period of time that had offsets of a couple of inches. And those would be much weaker earthquakes. So you assume the worst-case scenario.

[BRUCE MACALLISTER]
Okay. Thank you.

[BRUCE MACALLISTER]
Question over here.

[JAY COGHLAN]
Jay Coghlan with Nuclear Watch New Mexico. Wanna, wanna switch subjects. Enough seismic, okay? Let's uh, let's get back to the need for the nuclear facility. Um, now clearly all of the real estate in Technical Area 55 is quite valuable, either pro or con, but, uh, certainly unique. And in that valuable real estate you've got a building, PF-41, sitting there. And, that's an interesting facility that I like to make fun of, um, — but that's that, it was to be a vault for special nuclear materials built in the last half of the 80s, and the Laboratory and the contractors, uh, screwed it up so bad that, you know, you never could put plutonium or highly enriched uranium in it. Um, my favorite example is how the loading dock for the safe and secure trailers was not designed wide enough to open the doors so that you could take the plutonium pits out of the SSTs, and the pits were actually gonna have to be hauled on handcart through office space. And then the roof wasn't seismically qualified with a couple of feet of dirt on it. You put Lucite paint on it in the vault, so to clean for contamination, and that paint promptly peeled off.

[JAY COGHLAN]
Um, so, I'm making fun of this, but where I'm going with it: I have to wonder how much of the claimed need and rationale for the nuclear facility is driven by the need for a vault for special nuclear materials, given that the Lab screwed up the last one so badly, almost, uh, twenty years ago. And then, in combination, I wanna suggest, uh, it's been mentioned, uh, that, that it's being studied, or considered, to raise the status of the RLUOB from being a radiological facility, and nobody's said it, but I'd like to suggest y'all ought to look at making it a Hazard Category 3 facility. And if you went ahead and built the vault, which you probably need. I'm prepared to concede that special nuclear materials across the Laboratory here probably ought to be consolidated, plus I'm in favor of removing plutonium from

Lawrence Livermore [National Laboratory]. So you probably need that vault. And if you were to raise the Hazard Category classification of the RLUOB, you *do not need* the nuclear facility.

[JAY COGHLAN]
And then finally, um, we're running out of money as a country. Y'know. We, we just have to be far more discerning about where we are putting the US Treasury into, and, y'know, you're going two billion, and, and climbing. *We don't need it.*

[RICK HOLMES]
This is Rick. Lemme just touch on one point. PF-41 has been demo-ed. It's gone.

[JAY COGHLAN]
It's gone?

[RICK HOLMES]
Gone. Gone gone.

[JAY COGHLAN]
Gone?

[JAY COGHLAN]
Okay. So put a vault in.

[JAY COGHLAN]
Build it right this time.

[JONI ARENDS]
[Inaudible words]

[RICK HOLMES]
You know, I, I, I will say, one of the things that— there are specific things that one would do to classify the safety pedigree for the equipment that's already in the rad lab if you want to make it do more than it's currently designed to do. None of that work has been done or contemplated yet. So I don't know, as the guy who is delivering all that equipment, 'cause it's not bought to the pedigree for, those higher categories, because it's, none of it is safety significant, none of it is accredited for hazard, because at 8.4 grams you don't have any hazard where you need those kind of systems.

[RICK HOLMES]
We made sure that the building was built very well from a quality perspective. Remember back more than a year ago I started talking about quality of the work being done and, and the craft here do very good work. We've had to make sure that the contractor made sure all that the re-bar steel was in the walls. And we did. And so, that building will have the right quality for it's radiological mission, but no one has asked the project or anybody to do anything differently for the pedigree of the equipment in order to up its particular hazard. And so all that work, if somebody wanted to contemplate it, would have to be done. And I don't know where those paths would ultimately lead, uh, because it's a building which has office space for 350 people above the laboratory level. Which has to be thought about.

[BRUCE MACALLISTER]
Okay? We have about four minutes before we need to start wrapping up, so,—

[ROGER SNODGRASS, LOS ALAMOS MONITOR]

Just one little question. I, I'm—

[BRUCE MACALLISTER]
Your name just for the—

[ROGER SNODGRASS]
Yeah. Roger Snodgrass, Los Alamos Monitor. Uh, I'm kind of a fan of the DNFSB, and I had to laugh at Scott's [Kovac] comment about the "finding," which, uh, becomes a "communication tool." Because the way you describe it, is, um, basically that you have the final word and they will inevitably come on board, but the, the comment was that there was a kind of equivalence between the two certifications. And so, I'm, ya'know, why is it that you just assume that they are going to agree with you?

[Scott Kovac puts up Interested Party Slide 17]

[RICK HOLMES]
Oh, I don't assume that in the least. Um, there's two— Let's talk about the language that's in the, from the Conference Committee that, on the appropriations side. It said that both the administrator and the Defense Board separately had to certify to the, to the committees, the Senate committee and the House committee, that the Defense Board issues had been resolved. Having been in discussions almost every day with the Defense Board staff, they're not gonna certify just because Rick Holmes says so. Um, they want an awful lot of data and we've been giving it to them to include specific calculations for a column to show them that, yes, we can design a column to meet the seismic criteria that we know the building must survive. That gives them confidence that ultimately the project will be able to deliver on the commitments for the safety systems that will, that are written down to date in the building. Safety class fire suppression system, etcetera. So, the language didn't say anything about a peer relationship at all between the Defense Board and NNSA, it just said separately, and they each have their own processes, they have to each, each together, do certification. And the Defense Board is not gonna certify— I was at an actual Board meeting last week on this particular topic. They, they have their own mind, and they are not gonna certify until they are ready. Because they, all they have is their reputation. And they are not gonna spend it without thought.

[TIM NELSON]
One thing we need to clarify. This goes back to actually Scott's [Kovac] briefing, but also your question, Roger [Snodgrass] —this is Tim Nelson— Um, and Rick [Holmes] mentioned this a little bit, but he didn't go into a lot of detail and Tom [Whitacre] actually mentioned it a lot, but not specifically related to the question that you asked. Which is, you essentially made a statement that said, "How can you proceed in nuclear facility design if there's these questions about seismology?"

[TIM NELSON]
And the answer that these guys have alluded to but haven't stated is, we're going through a process where you essentially design the building, you, you do the modeling and check it's seismic response. If it's not acceptable, you go beef up the columns and the floor mat, and stuff like that, and then model the building again. So it's an iterative process and they are going through those stages and what Rick [Holmes] is talking about is, the Board is looking for that final iteration, if you will, correct me if I'm wrong, um, that says, "Yeah the building will stand up relative to the seismic response induced into it." And that's why people are feeling comfortable about moving ahead, because they're seeing the right responses. But the data isn't exactly final and that's what the Board's asking for, to do that confirmation. Does that make sense?

[SCOTT KOVAC]
Yes. Yes. Thank you. So you would say that, um, I'm sorry. You are just saying that all that's gonna be done before, I mean, all that has to be done before the final design is in place? Right? I mean, everybody has to sign off on everything before the final design is, can proceed, right?

[TIM NELSON]
That was Scott [Kovac] and this is Tim [Nelson]. But I'm going to turn it to Rick [Holmes] because Rick's actually having discussions with the Board.

[Laughter]

[RICK HOLMES]
So the—

[UNIDENTIFIED PERSONS]
[INAUDIBLE COMMENTS AND LAUGHTER]

[RICK HOLMES]
And the Defense Board has to be satisfied. So the Defense Board has to be satisfied that they have adequate information so that they can say that they are comfortable that their issue has been resolved. And, I'm not sure exactly how many stacks of paper they'd need to do that. This is,— and, and the answer from your other question from before, I don't know of any other time when the Defense Board had to do this process. This is pretty early in the life cycle of a project for the Defense Board to formally issue this type of declaration, particularly to Congress. And so, I, they don't have a template in terms of how they've done this. It really becomes a "How much information do they think they need," so that they can be comfortable, not only that things are right, but as, as we proceed through final design, 'cause there's an awful lot of design work to go, to work out the details, there's an awful lot of vendor equipment to go learn about, and make sure that it can be qualified, etcetera, that we and the Department [of Energy], meaning the project end of the Department, are not going to go back and say, "Well we thought that it was going to have this kind of pedigree, but we learned that it can't." And that's—

[Few words missed as audiotape was changed.]

[GREG MELLO]
I, um, Steve [Fong] knows, and Tom [Whitacre] and, um, I really appreciate the quality of work which, um, has taken place on this project, on many other projects, we would all be a great deal less safe, and more money would be wasted if it wasn't such high quality work. But I want to express an opinion based on many years, um, of work, not just on the implementation of policy, but on vetting what missions are actually necessary for the overarching mission that drives this Laboratory, and that is that I am pretty sure that this building, the nuclear facility, or the five buildings, and, and the radiological facility, *are not needed now or ever*, to maintain a US nuclear deterrent, a very large and diverse deterrent for many decades. I don't think this building is needed now, at the very most, I don't think we can be sure that it's needed now. As you know, this is the view of the House of Representatives for the last five years, so it's not exactly a marginal view.

[GREG MELLO]
Ahm, it's a very large project you guys are doing, and, in fact, it's, using constant construction dollars, it's five times larger than any other public works project in the history of the State of New Mexico. Other than the two Interstate Highways which were done in pieces, and it's kinda hard to get those numbers so I don't have those, but, um, it's five times bigger than the next biggest, actually, uh, it's kind of a tie between DAHRT and the Rail Runner. But it is much bigger than the San Juan Chama project, Cochiti

Dam, Elephant Butte Reservoir. Um, it's three times bigger than the Golden Gate Bridge, in constant construction dollars. And, as Jay [Coghlan] said, the country's broke, and we, I'll be going to Washington next week, and we're gonna try to kill this project again. And, we don't think this is the right thing to do in this country at this time. Even though I don't mean to criticize any of you. But, *we don't need it*. Even if you wanna maintain a nuclear arsenal. So. Thank you.

[BRUCE MACALLISTER]
Thank you. And we are at the point of closing. I did promise that I would be hard over on the closing time. So, I'd like to give you guys the opportunity though, uh, I want to remind everybody that we have a feedback sheet where you can give suggestions for additional topics, uh, post questions that will be vetted, and frequently asked questions— the responses to those will be posted on the website. Ahm, you know, basically the communication channels are there so that we can have a, a[n] on-going dialogue between these meetings, and we'll very much appreciate your input for design of the next meeting, including feedback about the format of the meeting, what worked in this meeting, what didn't work, time frames, the presentations, everything along those lines. So with that, unless there's burning closing statements, I will bid everyone adieu. Joni [Arends], did you have one thing you wanted to say real quick.

[JONI ARENDS]
I guess— The DNSFB has raised a lot of issues with regard to the ventilation systems. So you showed a slide of the ventilation system. So, is that a passive, a passive or an active ventilation system?

[RICK HOLMES]
The ventilation system— This is Rick again. The ventilation system is an active ventilation system. It is designed to the safety significant PC-III criteria, which means it survives, the active portion survives the earthquake event. And it, and it holds containment. And I think, y'know we've had a lot of discussion with the Defense Board on how you credit that system from your safety analysis, as you reduce you go through the accident analysis, and then you reduce the hazard, and there was a lot of discussion. In last March we reached, almost a year ago, we reached agreement with the Board on how we would credit that. But they are comfortable, at least I think if you asked them, they'll say that they are comfortable, with the current pedigree of the system.

[BRUCE MACALLISTER]
Again folks, thank you very much for your attendance [mike or recorder shuts off].

[The meeting then adjourned.]

CERTIFICATION

I hereby certify that the foregoing is a true and correct transcription of the audio recording of the public meeting on the Chemistry and Metallurgy Research Replacement project at Hilltop House, Los Alamos, New Mexico, on March 19, 2009.

/s/ Morrison Bennett
Transcription completed April 20, 2009

IV. Presentation Slides – CMRR Project

Chemistry and Metallurgy Research Replacement (CMRR) Project

Welcome

CMRR Project Update

Los Alamos, New Mexico
March 10, 2009

Bruce MacAllister, *Meeting Facilitator*

Los Alamos NATIONAL LABORATORY EST.1943

NNSA National Nuclear Security Administration

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

Agenda

6:30-6:40	Welcome Background and Purpose Ground Rules Introductions	*Bruce MacAllister*
6:40-7:10	CMRR Project Overview & Update	*Steve Fong,* *Rick Holmes*
7:10-7:30	Questions/Comments	*Bruce MacAllister*
7:30-8:00	Settlement Parties Presentation	*Settlement Parties*
8:00-8:25	Final Questions/Comments	*Bruce MacAllister*
8:25-8:30	Closure, Thank You and Adjourn	*Bruce MacAllister*

Background and Purpose of Meeting

- Settlement allowed for air permitting to be segmented to match phased project-development and for public involvement
- Parties include
  - New Mexico Environment Department
  - Department of Energy
  - University of California
  - Concerned Citizens for Nuclear Safety
  - Nuclear Watch of New Mexico
  - Peace Action New Mexico
  - Loretto Community
  - TEWA Women United
  - Embudo Valley Environmental Monitoring Group
  - New Mexico Environmental Law Center
- Meeting is held every six months to update the public on CMRR construction progress

Ground Rules

- Listen respectfully
- Share the conversation time with other participants
- Turn cell phones off or place on mute
- No personal attacks
- Topic requests for future meetings can be left on the flip chart at any time

Chemistry and Metallurgy Research Replacement (CMRR) Project

CMRR Project Update

Los Alamos, New Mexico
March 10, 2009

Presented by
Steve Fong, NNSA
Los Alamos Site Office
&
Rick Holmes, LANL
CMRR Division Leader

Los Alamos NATIONAL LABORATORY EST. 1943

NNSA National Nuclear Security Administration

LA-UR 09-01408

CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

From Last Meeting and Recent Public Comment

- Meeting agenda suggestions
  - Provide time for settlement parties on the agenda
  - Return to previous meeting format
  - See meeting proceedings on CMRR website
  - Status on air permitting
  - Invite Defense Nuclear Facility Safety Board (DNFSB) site representatives
  - Allow more time for meeting attendee questions, answers, and information exchange

CMRR Mission Need Statement

"The CMR Replacement (CMRR) Project seeks to relocate and consolidate mission-critical CMR capabilities at LANL to ensure continuous support of NNSA stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and directed stockpile work and campaign activities at LANL beyond 2010."

1949 CMR Construction Site

Existing Chemistry and Metallurgy Research Building

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CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

NNSA's Complex Transformation Supplemental Programmatic Environmental Impact Statement

Mission Highlights

The Los Alamos National Laboratory will be the *Center of Excellence for Nuclear Design and Engineering* and the *Center of Excellence for Plutonium*, and its mission will be enhanced by:

- Supercomputing platform host site
- Plutonium pit production research & development (R&D) with TA-55, including Chemistry & Metallurgy Research Replacement (CMRR), Nuclear Facility (NF)
- Detonator production and contained High Explosive (HE) R&D
- Materials research with Matter-Radiation Interaction in Extremes facility as potential science magnet

Complex Transformation Record of Decision (12/19/2008)

"Plutonium manufacturing and R&D will remain at LANL, and NNSA will construct and operate CMRR-NF"

Analytical Chemistry & Material Characterization (AC/MC) Capabilities

CMR's AC/MC capabilities support core LANL Programs

- Nuclear materials handling, processing, and fabrication
- Stockpile management
- Materials and manufacturing technologies
- Nonproliferation programs
- Waste management activities – environmental programs
- Materials disposition

CMRR will replace CMR's AC/MC capabilities and…

- Provide physical means for accommodating continuation of the CMR building's functional and mission-critical capabilities in a safe, secure, and environmentally sound manner
- Seek opportunities to modernize CMR operations co-located with similar existing operations
- Enhance security posture and reduced security costs

CMRR – Project Scope

CMRR Project

Radiological Lab Utility Office Building (RLUOB)

Facility Performance Baseline ($164M TPC):

- 19,500 square feet radiological lab space (<8.4g 239 Pu equivalent)
- Centralized utilities/services for all CMRR facility elements
- Office space for 350 CMRR workers
- Consolidated training facility
- Facility incident command; emergency response capabilities

Status: In construction

RLUOB Equipment and Installation (Performance Baseline submitted)

- Operational equipment to complete functionality of RLUOB

Status: Pending Authorization

Nuclear Facility (NF)

Baseline under Development:

- CMR Chemistry Replacement Capability
- Security Category 1/Hazard Category 2
- 22,500 square feet lab space
- Special Nuclear Material storage (6M tons)
- Special Facility Equipment

Status: Interim Design

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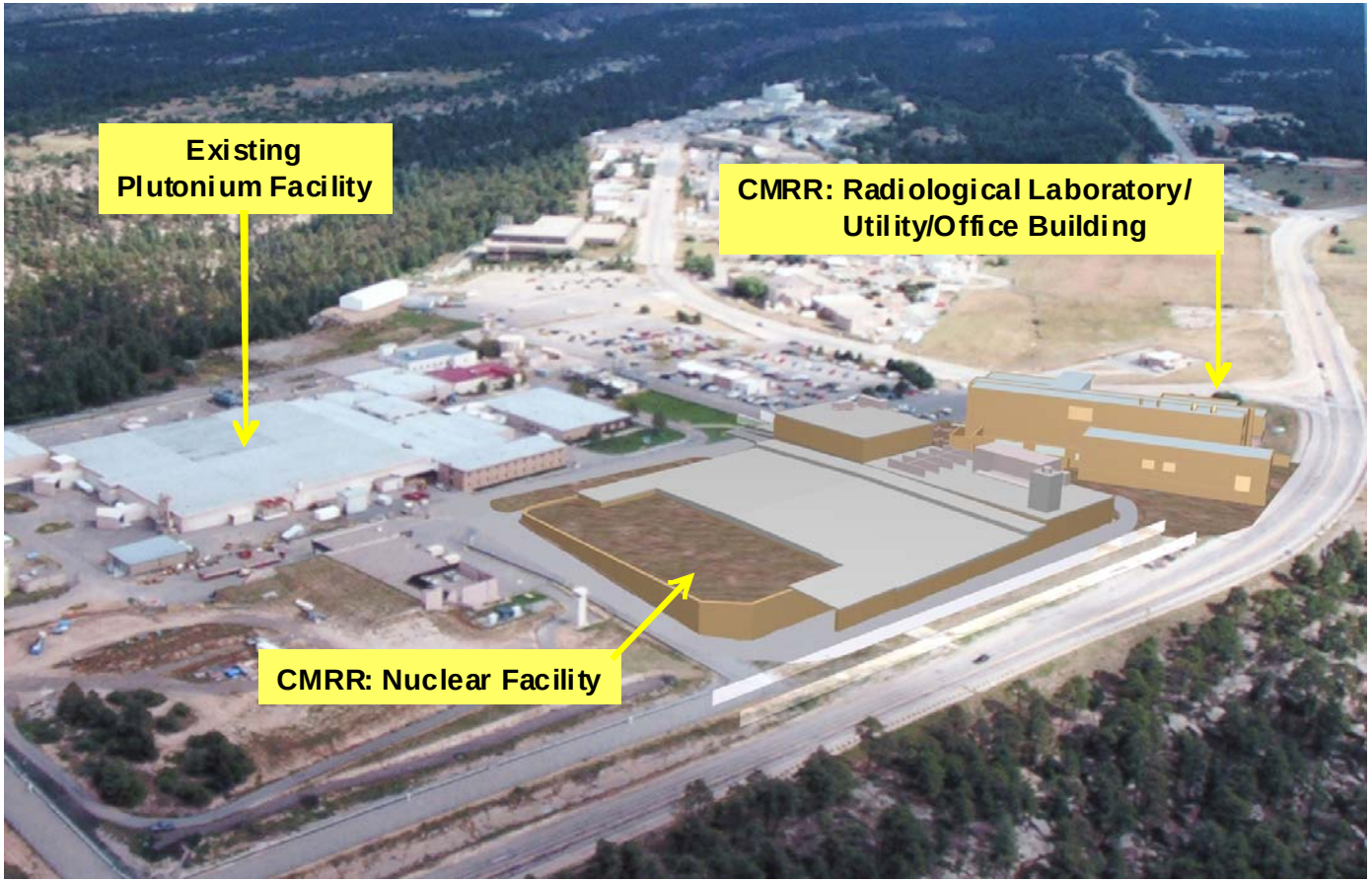
CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

CMRR at Technical Area-55



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CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

NNSA Direction & Budget Update

- NNSA Direction
  - Fully fund RLUOB performance baseline
  - Prepare RLUOB equipment and installation work activities for procurement/installation approval
  - Advance Nuclear Facility design/safety to minimize risk and prepare for final design initiation
  - Maintain continuity for Nuclear Facility design teams
  - Mission scope/program requirements unchanged
- Allocation of Fiscal Year (FY)09 budget authority
  - $100M requested
- Future Planned Funding
  - FY10 - FYXX funding profile is under evaluation and development

High Level Schedule

Complete

- 2002 CMRR Critical Decision (CD) - 0 (*Approve Mission Need*)
- 2004 CMRR EIS Record of Decision signed
- 2005 CMRR CD - 1 (*Approve Alternative Selection and Cost Range*)
- 2005 CMRR RLUOB CD - 2/3 (*Approve Performance Baseline/Construction*)
- 2007 CMRR RLUOB Equipment, Final Design Authorization

This Year

- 2009 CMRR RLUOB Equipment/Installation CD-2/3
  (*Approve Performance Baseline/Procurement Installation*)
- 2009 CMRR Nuclear Facility Safety Basis and Design Integration, and Technical Reviews
- 2009 CMRR Nuclear Facility Final Design Authorization
- 2009 CMRR RLUOB Facility Construction complete

Future Years

- 2013 CMRR RLUOB Radiological Laboratory Operations
- 2010~201X CMRR Nuclear Facility Construction

Radiological Laboratory/Utility/Office Building

RLUOB Progress Photos

RLUOB – Lab Level & Lab Support

Laboratory level duct work

Laboratory support room

RLUOB – Utility Runs

1st Floor Central Utility Building – Installation of Heat Exchangers and Pumps

2nd Floor Central Utility Building – Installation of Duct and Large Bore Pipe

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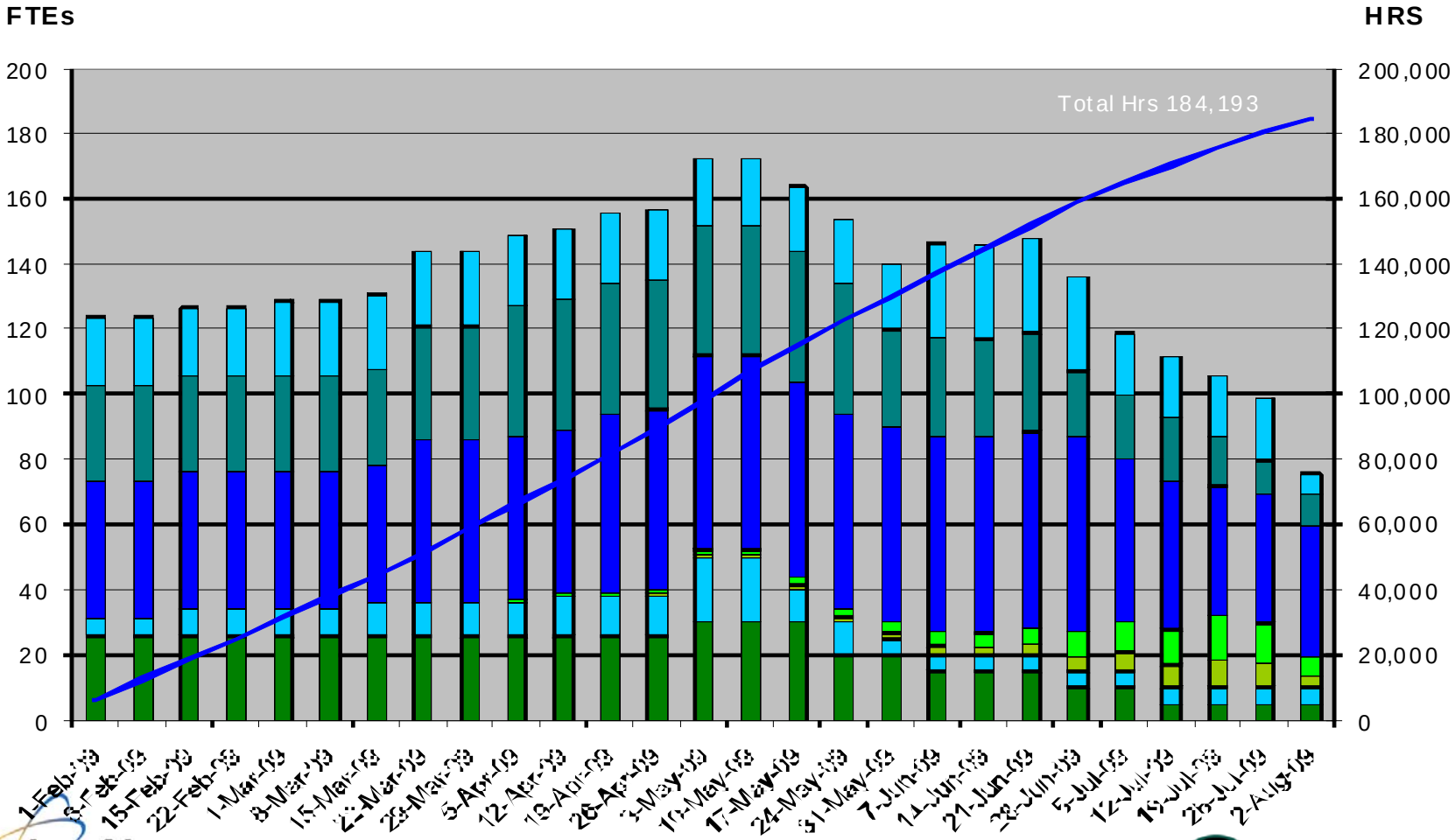
Cumulative FTE / HRS – Bulk Installation

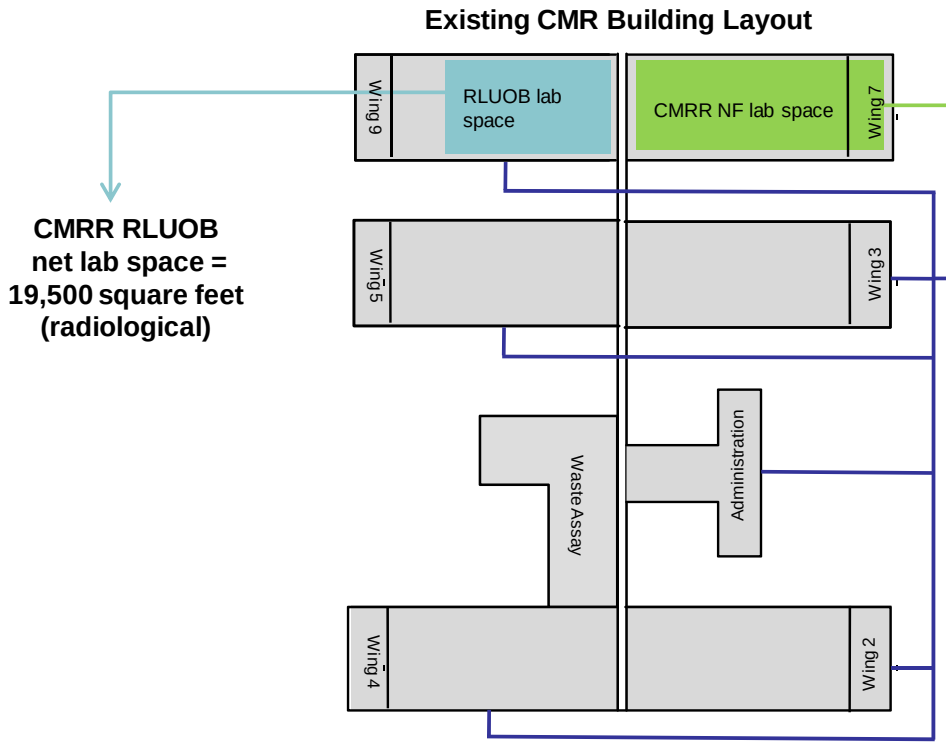


Nuclear Facility

Integration of Safety into Design

- Nuclear safety design
  - Codified into law
  - Primary design consideration
  - Safety structures, systems, and components (SSCs) are developed and rigorously assessed
- Lessons learned from all nuclear projects within DOE
- Implementation of “defense-in-depth” safety concept
- DNFSB oversight/engagement 2009 major interactions include,
  - Certification to Congress concerns raised by DNFSB regarding safety class systems, including seismic issues, are being resolved
  - Number of technical reviews performed
  - Closure anticipated no later than July 2009

Comparison of CMRR Nuclear Facility Space to CMR

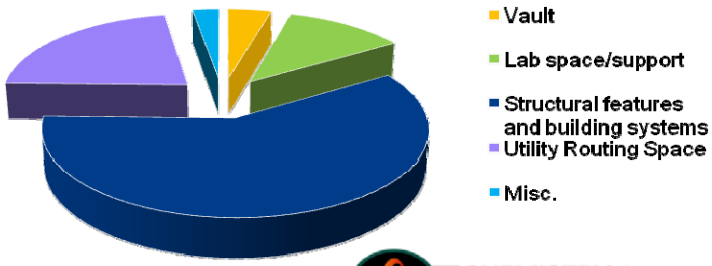


CMRR RLUOB net lab space = 19,500 square feet (radiological)

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

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

CMRR Nuclear Facility Space



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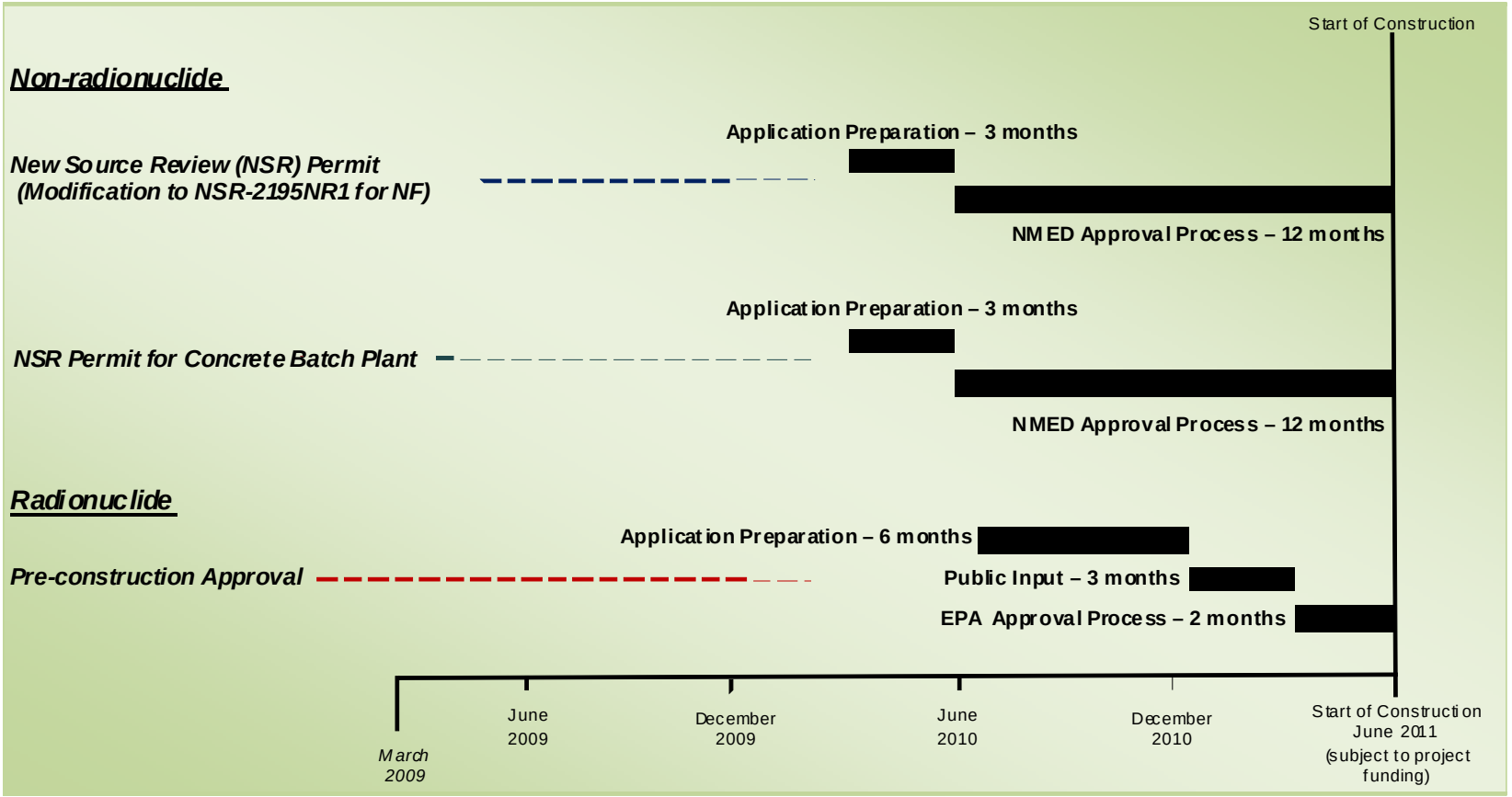
CHEMISTRY & METALLURGY RESEARCH REPLACEMENT

Air Quality Permit Schedule



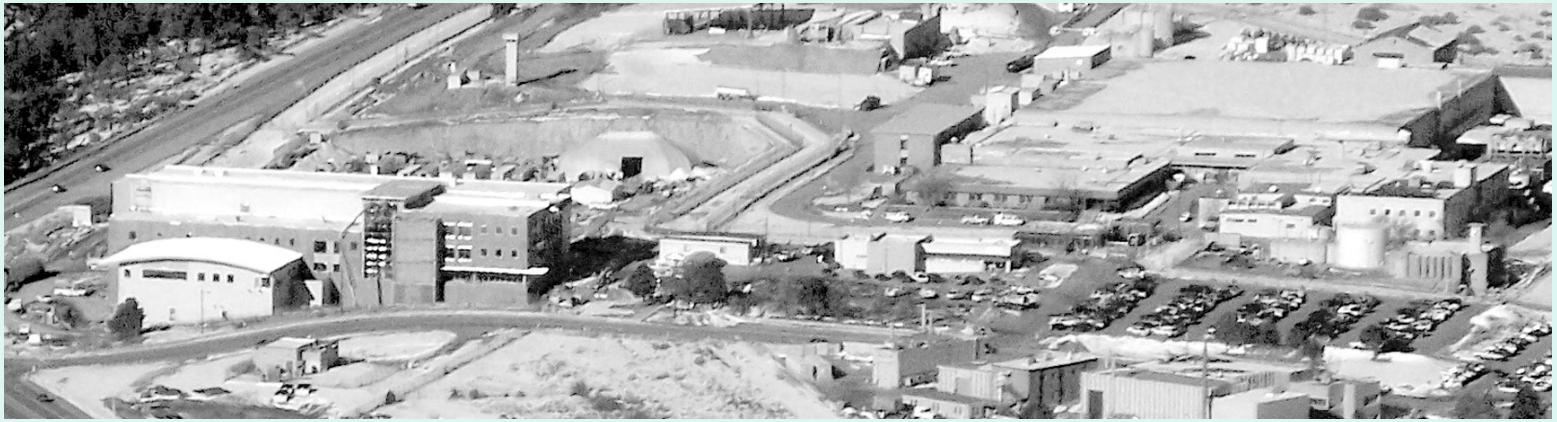
CMRR Project

Thank you for attending.

V. Presentation Slides – Interested Parties

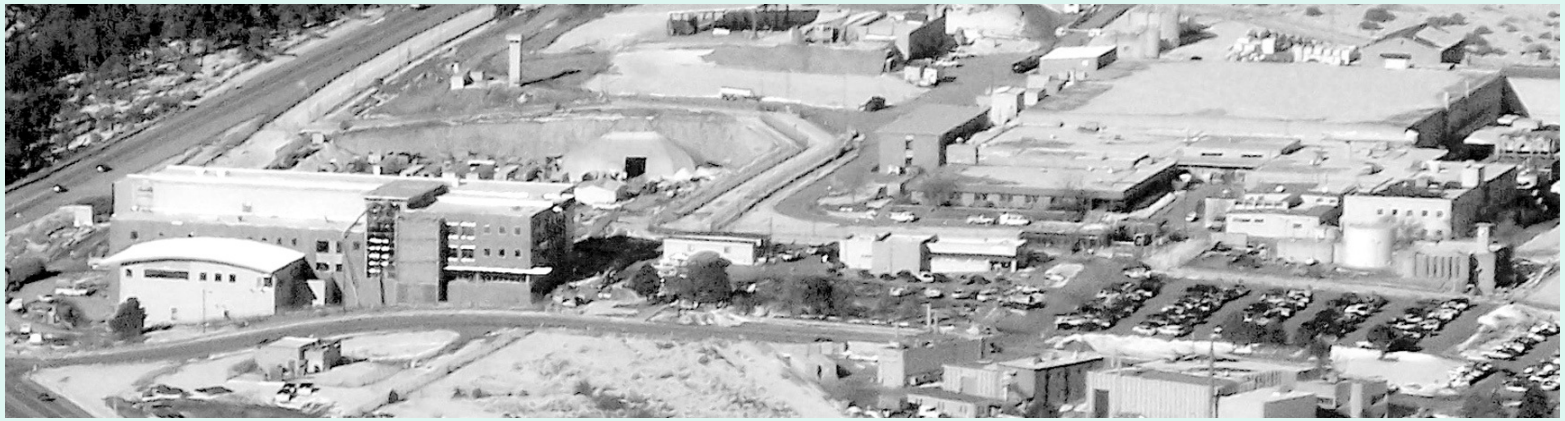
Content of the following presentation was generated by the interested parties. It was not reviewed or edited by Los Alamos National Laboratory for correctness or accuracy, and does not reflect a Los Alamos National Laboratory perspective.

CMRR Presentation by the Interested Parties
March 10, 2009



Interested Parties

- Who we are
- Public Involvement as Per Settlement Agreement
- Welcome to Our 7th Meeting!



Outline of Our Presentation

- Seismic Issues
- DNFSB - Reducing Conservatism
- Performance Evaluation Plan
- Empty Space in the RLUOB

Synthesis of Hydrogeologic Workplan Activities

- Hydrogeologic Workplan was created in response to LANL's request to New Mexico Environment Department (NMED) for a groundwater wavier. (Mid-1990s)
- LANL's Hydrogeologic Synthesis Report (1998-2004), issued in Dec. 2005, was the result of this Workplan.

Probabilistic Seismic Hazard Analysis (PSHA) May 2007

- PSHA does not include new knowledge and data obtained from wells drilled under the Hydrogeologic Workplan or from the Hydrogeologic Synthesis Report.
- PSHA does not reference the Synthesis Report.

Complex Geologic Setting Beneath CMRR

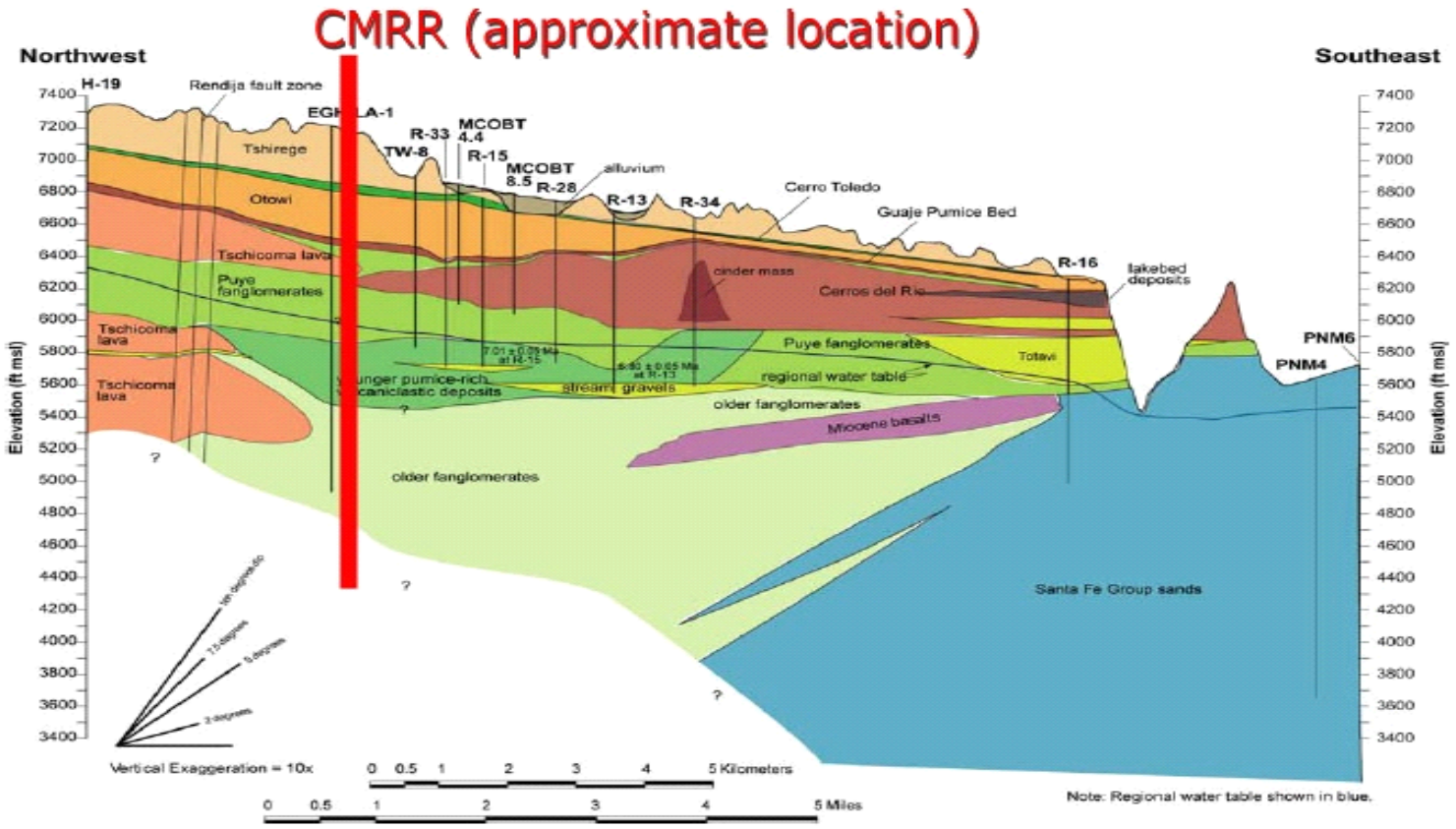


Figure 2-13. Conceptual cross-section for Mortandad Canyon. Regional water table is shown in blue.

Complex Geologic Setting Beneath CMRR

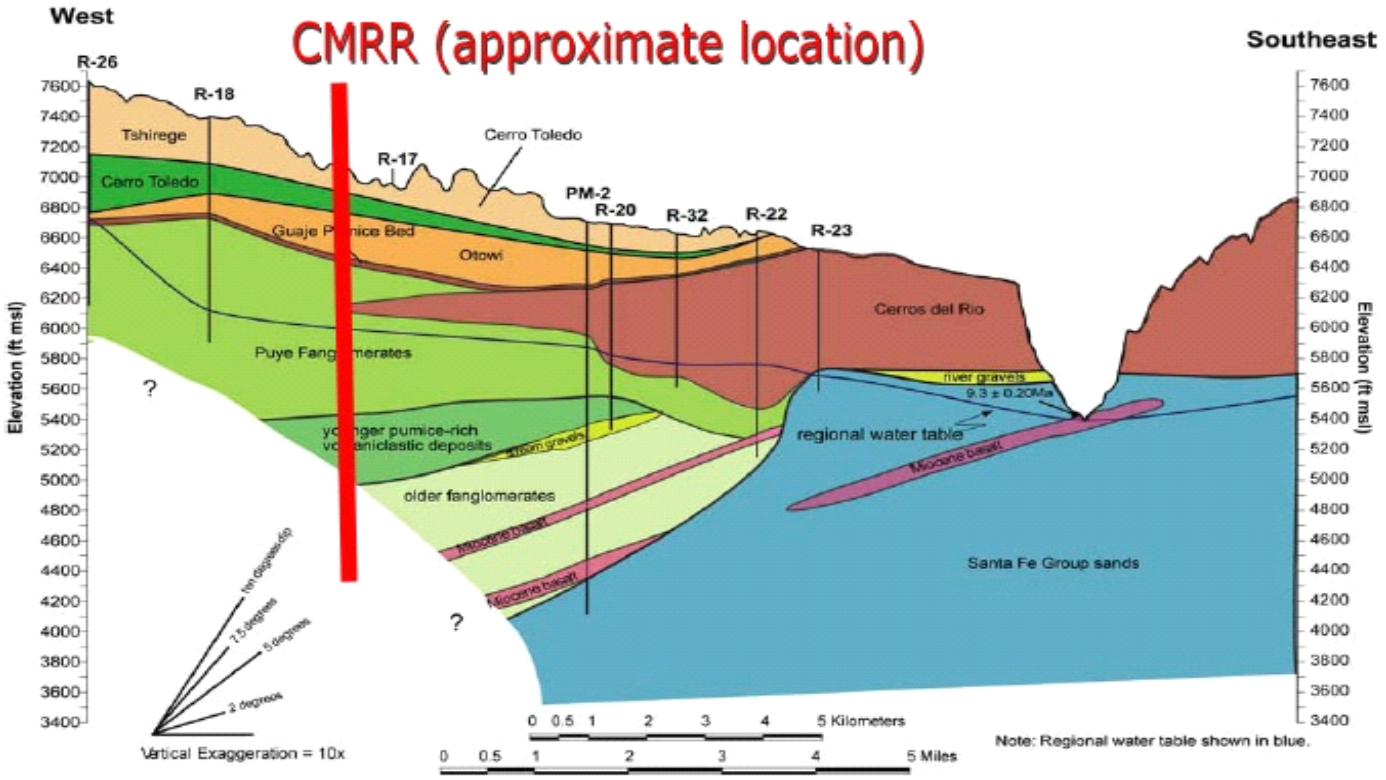


Figure 2-14. Conceptual cross-section for Pajarito Canyon. Water table is shown in blue.

Kappa & the PSHA

- Kappa is a fundamental seismic property that is determined from a large collection of time-series seismic data from a network of accurately calibrated seismometers.
- Kappa is a key parameter in calculating the seismic hazard at LANL.

Kappa & the PSHA

- ***PSHA Task 4: Evaluation of Kappa***
- Values of Kappa (?) were previously derived in 1995 from an analysis of earthquakes recorded at several stations of the LANL seismographic network whose subsurface geology was similar to that of the technical areas of interest.
- - PSHA, Pg. 1-3
- (LANL operates only 2 or 3 seismic stations at a time.)

Kappa & the PSHA

- Because any one seismic event was recorded at only a few sites (generally two, Table 6-2) and there was considerable uncertainty in the computed distances and depths as well as in the measured amplitudes (because of uncertainty in the reliability of instrumental calibrations), full inversions (Silva *et al*., 1996) to estimate kappa and stress drop were not successful.
- - PSHA, Pg. 6-2

Table 6-2
Seismic Recordings Used for Kappa Estimates

Event Date	Moment Magnitude (M)	Focal Depth (km)	Station	Epicentral Distance (km)
26 October 1989	0.0	0.0	PFM	3.6
			PLS	6.5
27 October 1989	0.5	0.0	PFM	2.1
			PSL	5.3
27 April 1990	0.9	10.0	ATE	78.4
			PFM	80.7
24 May 1990	1.2	10.0	ATE	8.0
			PFM	8.7
5 July 1990	1.5	14.9	ATE	11.4
			PFM	16.2
3 September 1990	1.0	13.7	ATE	12.3
			PFM	14.1
			PLS	13.8
13 September 1990	1.4	10.0	ATE	44.5
			PFM	48.4
19 March 1998	2.5	10.0	PFM	60.1
			PLS	62.6
31 August 2000	2.0	9.8	PFM	74.8
			PLS	71.6

PHSA Recommendation

- Conduct additional studies to better constrain kappa.
- Improvements in the seismographic network may be necessary to improve data quality.
- (Currently, site-wide Kappa values are unknown.)

Defense Nuclear Facilities Safety Board (DNFSB)

- Congressionally Mandated
- Independent
- Weekly Reports
- www.dnfsb.gov

DNFSB-Reducing Conservatism

- Los Alamos Report for Week Ending January 23, 2009 - The current design response spectra contained in the LANL Engineering Standards Manual (ESM) is based on the May 2007 Updated PSHA and provides bounding spectra applicable anywhere onsite at LANL.
- In December, LANL committed to updating the ESM to provide site-specific spectra for TA-55 and CMRR that reduces some of the conservatism in the bounding site-wide spectra.

Complex Geologic Setting Beneath CMRR

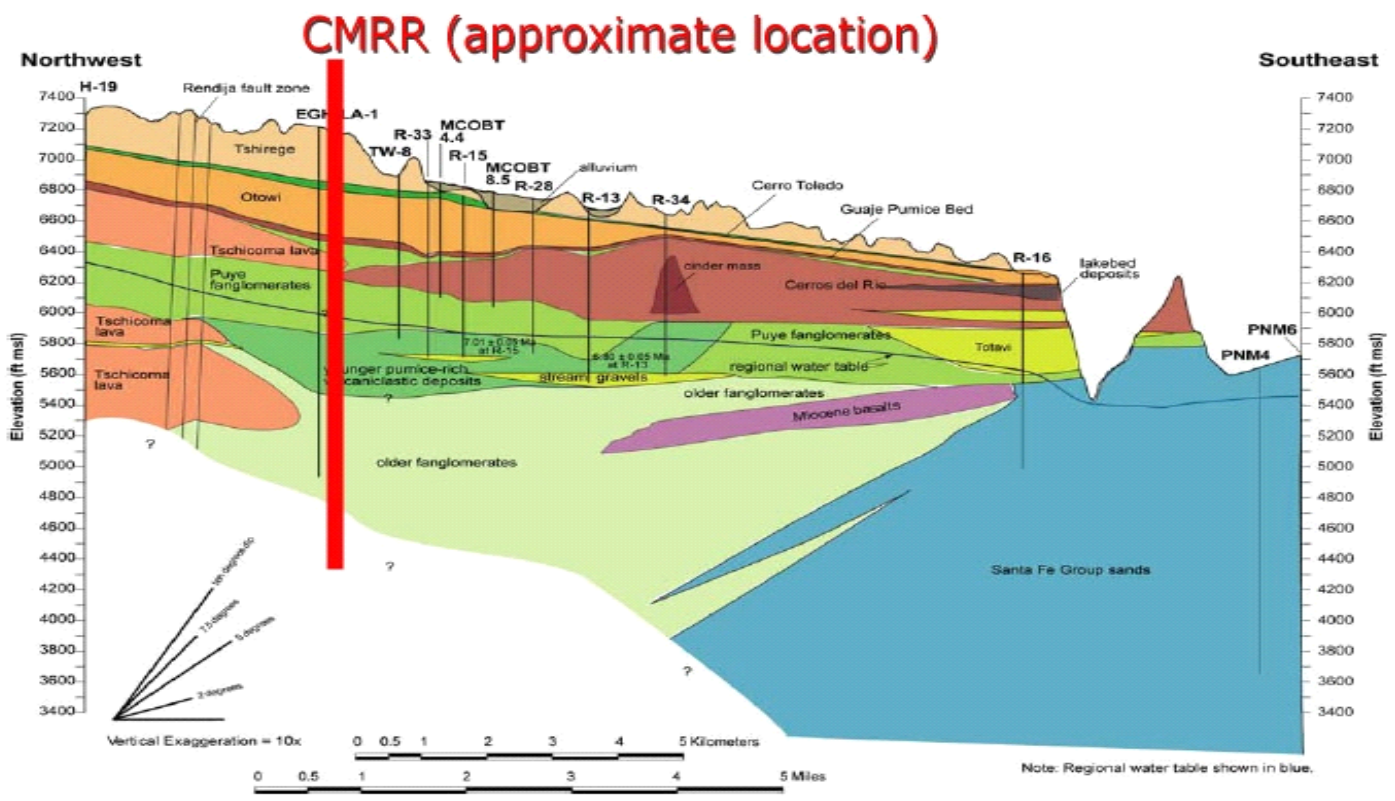


Figure 2-13. Conceptual cross-section for Mortandad Canyon. Regional water table is shown in blue.

Complex Geologic Setting Beneath CMRR

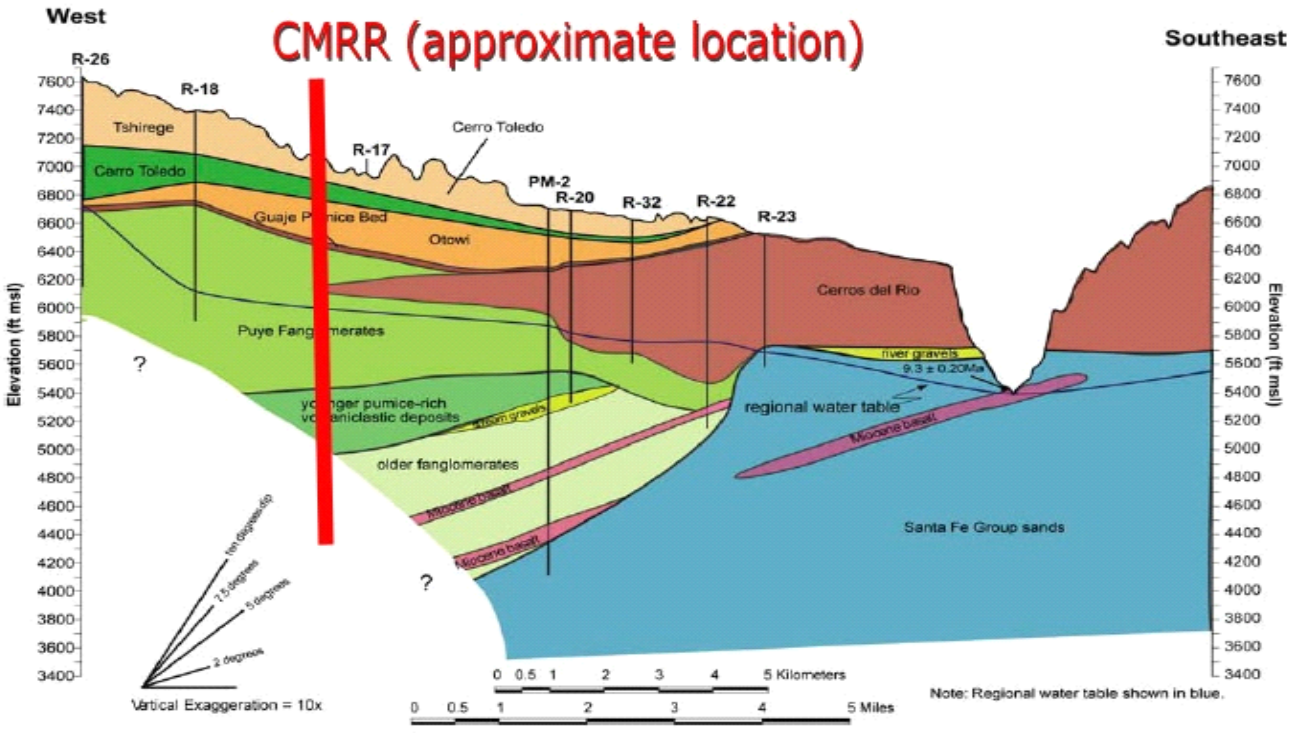


Figure 2-14. Conceptual cross-section for Pajarito Canyon. Water table is shown in blue.

Limitation on Funding Due to Seismic Issues

The 2009 National Defense Authorization Act requires the DNFSB and DOE to submit a certification to the congressional defense committees that the seismic concerns raised by the Board have been resolved before certain funds for CMRR are made available.

Limitation on Funding Due to Seismic Issues

On January 16, 2009 the Board issued two findings concerning seismic safety in the design of the CMRR-NF.

The DNFSB findings stated CMRR-NF should not proceed into final design until there is high confidence that its structural capacity is adequate for the seismic design ground motions.

Moreover, there should be not any doubt that the ventilation system can be seismically qualified.

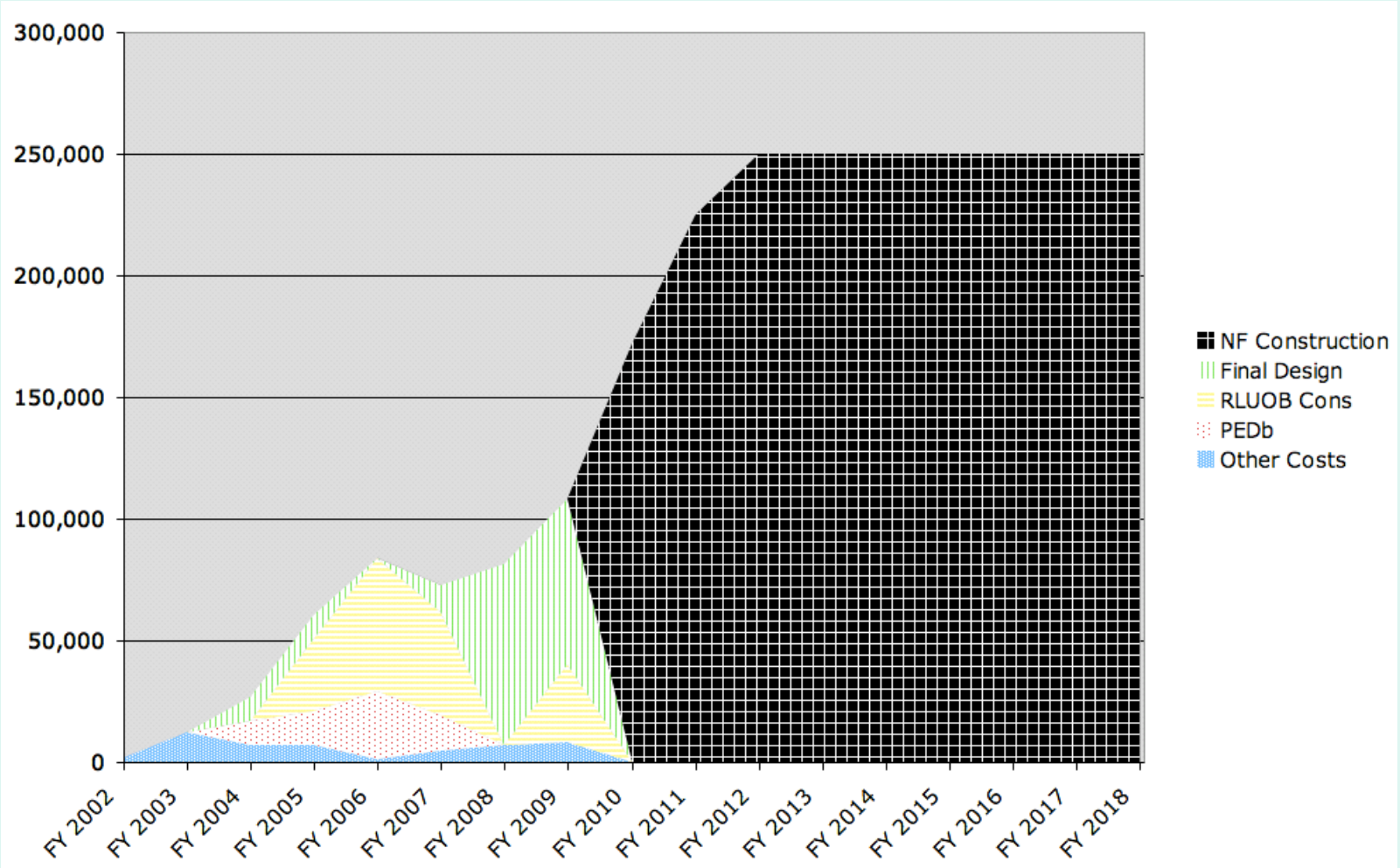
Old News

- The increased seismic hazards have been know since at least July 2006.
- Yet, the design for the Nuclear Facility pushes on.

More has been spent on the design of the Nuclear Facility than construction of the RLUOB

- Preliminary Engineering and Design - $65 million
- Final Design - $173 million
- RLUOB Construction - $158 million
- Other Costs - $49 million
- Total estimated cost (NF & RLUOB) - $2.6 billion

CMRR Total Projected Costs



LANL Contract Performance Evaluation Plan (PEP)

- On Measure 6.2.1, LANL was awarded $120,000 out of a possible $600,000 fee for execution of the RLUOB construction and transition of the facility equipment fabrication and installation contract.
- On Measure 6.2.2, LANL was awarded $220,000 out of a possible $400,000 for managing CMRR NF/SFE progress.
- LANL received an increase for its FY2009 CMRR budget request despite poor performance evaluation.

  – FY 2008 Performance Evaluation Report For The Los Alamos National Security, LLCs, Management And Operation Of The Los Alamos National Laboratory, Contract No. DE-AC52-06NA25396, Performance Period October 1, 2007 Through September 30, 2008

CMRR–NF design still supports annual production of 20–80 pits.

- The Complex Transformation Record of Decision claims there is little difference in the size of a facility needed to support production rates between 1 and 80 components per year.
- Nowhere does the ROD say that the CMRR-NF is needed for less than 20 pits per year.
- NNSA has not identified a need to manufacture pits beyond about 2010.

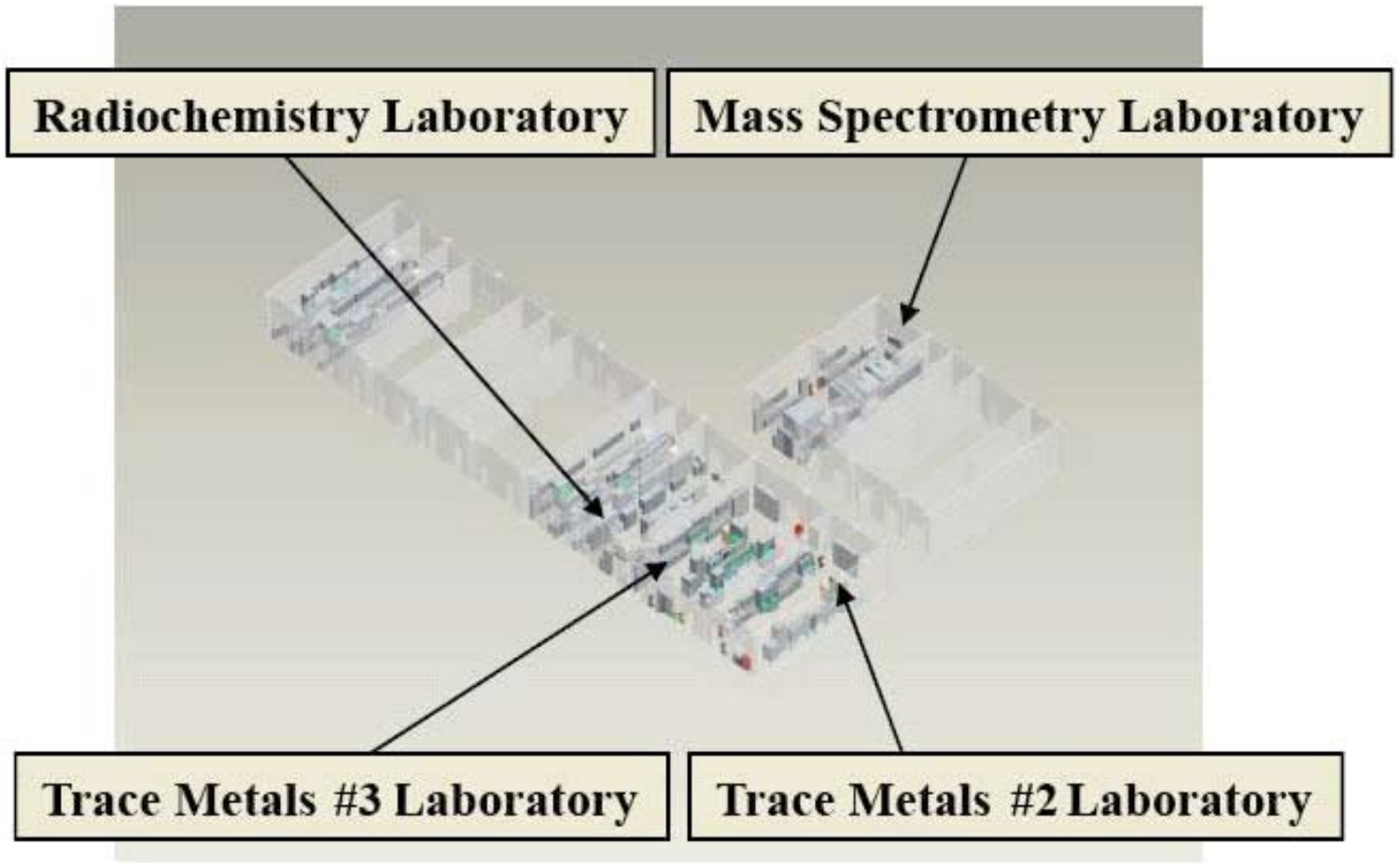
Chemistry and Metallurgy Research Building (Old CMR) Exit Plan

- In a memorandum dated August 14, 2008, Robert L. Smolen, Deputy Administrator for NNSA's Office of Defense Programs transmitted direction to the Los Alamos Site Office stating NNSA's intent to transition all program activities out of the Old CMR facility as soon as practicable.
- This guidance directed development of a Old CMR exit plan that assumed that Building PF-4 at TA-55 and the CMRR - RLUOB would be available while the CMRR- NF would not.

Empty Space in the RLUOB

- The Lab is only planning to equip 4 of 26 lab modules in the RLUOB, which will leave much of the 19,500 square feet of radiological lab space available for programs from the old CMR.
  - CMRR Project Update, LA-UR-08-06028, September 16, 2008, slide 9

Artist Rendering of Unused RLUOB Space



NF stands in the way of LANL's future

- To build the CMRR-NF or not is ultimately about future mission diversification or not at LANL.
- LANL should be seeking a slice of the mission diversification pie rather than building for further retrenchment in the receding nuclear weapons business.

Light of Day

“And those of us who manage the public's dollars will be held to account -- to spend wisely, reform bad habits, and do our business in the light of day -- because only then can we restore the vital trust between a people and their government.”

~ President Barack Obama, Inaugural Speech, January 20, 2009

In Memory of Ed Grothus

VI. Comments, Requests & Suggestions

Los Alamos
NATIONAL LABORATORY

Tuesday, March 10, 2009
CMRR Public Meeting @ Best Western "Hilltop House", Los Alamos
COMMENT SHEET

How was this event? Too technical. Speaking in acronyms is unhelpful and evasive

How were the presentation materials?
didn't address issue of mission change why do we need CMRR? That's the question

How were the presenters?
evasive & technical

What additional information would be helpful to you?
We need to hear from the people who are in charge of the mission of Los Alamos.
The mission needs to change to clean-up and life-affirming research for a green economy based on green energy and solving the global problem of climate change
We have enough nuclear bombs!

Is there anything else you would like for us to know?
schedule more time for interested parties
Thank you for holding this meeting.

May we contact you? yes

Name: Jeanne Goreen Phone/E-mail: 575-751-4130
Mailing Address: 1200 Camino de la Cruz H-2

Los Alamos
NATIONAL LABORATORY

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COMMENT SHEET

How was this event?

How were the presentation materials?

How were the presenters?

What additional information would be helpful to you?

Is there anything else you would like for us to know?
Just to add that the Loretto Community nationwide also believes that these buildings are unnecessary for the future of the U.S. + world, + that their construction is wasteful in a time of serious economic need. Also that continued nuclear weapons work continues to harm our environment + Lab workers + people living downwind + downstream. We need to spend the funds on cleanup.

May we contact you?

Name: Penelope McMullen, SL Phone/E-mail: _____

Mailing Address: _____

VII. Sign-in Sheet

Los Alamos
NATIONAL LABORATORY

Tuesday, March 10, 2009
CMRR Public Meeting @ Best Western "Hilltop House" – SIGN IN SHEET

NAME (please print)	ADDRESS	TELEPHONE NUMBER	E-MAIL
Everett Trollinger		667-0281	etrollinger@doeal.gov
Marian Naranjo	RR-5 Box 474 Espanola NM 87532	(505) 747-4652	mariann2@windstream.net
Penelope McMullen	Loretto Com.		
Jeanne Green	1200 Camino de la Cruz Taos NM	575-751-4130	innerlight52@hotmail.com
Rosemary Rehfeldt	Santa Fe, NM		
Pam Gilchrist	Santa Fe, NM		pam@dtbprojects.com
Scott Kovac	SF, NM		NWWM
Tom Nelson	White Rock, NM	505-667-7324	tor@lanl.gov
Amy Wong	White Rock NM	667-7373	wong@lanl.gov
Susan Gordon	SF		sgordon@amnuclear.org

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NAME (please print)	ADDRESS	TELEPHONE NUMBER	E-MAIL
GREG MELLO ↓TRISH WILLIAMS - MELLO	2901 SUMMIT PL NE ABQ 87106	265-1200	fwm@lasg.org gmello@lasg.org
SUSAN D. TERP	LANL	665-8889	
Jeff Berger	"	665-9178	jhberger@lanl.gov
Jon Vuntz	"	606 0170	Jonathan_V@LANL.GOV
DAVE FREELAND	"	665 3850	davef@lanl.gov
Roger K. Snodgrass		662-4185	roger@lamonitor.com
Morrison Bennett	P.O. BOX 160 LOS ALAMOS 87544	667-0701	mbennett@lanl.gov
Jennifer Catechis Congressman Ben R. Lujan	5733 Guadalupe Trail NW ABQ NM 87107	984-8950	Jennifer.Catechis@mail.house.gov
Paul Wardwell	LANL LC	665-3766	wardwell@lanl.gov
Carl Rabourn	Taos	575 751-7310	
Richard Yunker	Chamisal	689-2267	

Los Alamos
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NAME (please print)	ADDRESS	TELEPHONE NUMBER	E-MAIL
DAVID JANECKY	964 TSANKAWI LOS ALAMOS	662-9118	janecky@losalamos.com
TANNIA Wilde	—	5-9827	twilde@lanl.gov
TERRI WEBB	4761 QUEMAZON LA	6-1700	twebb@lanl.gov
Tom Beckman	228 Rover Blvd. LA	6729272	tbeckman@lanl.ga
JONI ARENDS	107 Cienega SF 87501	986-1973	jarends@nuclearactive.org
Steve Story		665-2169	story@lanl.gov
Debby Romero	NNSA	5-4418	
Sheri Kotowski	EVEM6	579-4076	Serita@cybermesa.com