Presentation to the

Radioactive and Hazardous Materials Committee of the New Mexico Legislature

Can we disenthrall ourselves, and save our State?

Greg Mello, Los Alamos Study Group, November 14, 2022

Only he who knows the empire of might and knows how not to respect it is capable of love and justice...Thus it is that those to whom destiny lends might, perish for having relied too much upon it.

Simone Weil

We do not believe any group of men adequate enough or wise enough to operate without scrutiny or without criticism. We know that the only way to avoid error is to detect it, that the only way to detect it is to be free to inquire. We know that in secrecy error undetected will flourish and subvert.

Robert Oppenheimer

A new generation will have to be taught a new way of harmony, mutual respect, common interest, and love for each other and the planet.

Herman Agoyo, Ohkay Owingeh

It is not "can any of us imagine better?" but, "can we all do better?" The dogmas of the quiet past, are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise -- with the occasion. As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country.

Abraham Lincoln

Prior testimony to this committee:

- November 12, 2021; Nov. 13 follow-up letter; September 9, 2020; August 15, 2018. It is difficult to further summarize these presentations, so I won't, or repeat (much of) the information provided.

The situation is always evolving. For further background since 2021 see:

- Congressional briefing on plutonium pits, Nov 14, 2022
- Final, initial scoping comments on the LANL SWEIS, Oct 18 and Sep 11, 2022
- LANL's pit production to be delayed with cost increases, Oct 6, 2022
- Secret master plan for LANL entails massive investments, Aug 28, 2022
- Fire safety deficiencies at LANL plutonium facility, Jul 27, 2022
- GAO: current LANL contractor improving safety, more improvements needed, Jun 16, 2022
- Budget request for LANL "pit" project adds five proposed plutonium support buildings, May 9, 2022
- Warhead plutonium modernization spending, actual & proposed by site, May 6, 2022
- NNSA: early pit production a "hedge," not strictly necessary; is there a "pit gap?", May 3, 2022
- Troubled logistics of LANL pit production: how will LANL staff and contractors get to work?, Mar 26, 2022
- Los Alamos warhead "pit" production preparations begin dangerous 24/7 work in struggle to meet deadlines; STRATCOM: "unlimited money" would not be enough to meet 2030 pit deadline, Mar 10, 2022
- Can Santa Fe survive as a nuclear weapons suburb?, Mello, *Santa Fe New Mexican,* Jan 16, 2022

Fundamental recommendation: demand candor and transparency

- LANL's unprecedented new pit production mission will require over 4,000 full-time employees, not including subcontractors. LANL has two other plutonium (Pu) processing missions as well; both of those are growing also, as is the burden of transuranic waste (TRU) from these missions. Pu missions are now central to LANL and northern NM. It is critical to understand NNSA's plans for NM. As we see it, you must demand transparency on behalf of the State, tribes, local governments and citizens. Don't settle for PR presentations, the purpose of which is to put you to sleep and engineer your passivity and compliance with the agendas of NNSA and its contractors. To sufficiently understand the situation, you need:
  - The actual *LANL Campus Master Plan*, not the public relations summary;
  - The annual 5-year LANL staffing plans;
  - LANL plans for regional transportation and housing, if any;
  - The current status of and prospects for, the LANL pit production mission as portrayed in, for example, the LANL "Plutonium Operations Program Management Plan" or "Integrated Strategy for Plutonium Missions"; and
  - NNSA's overall Pu plans, including plans for pit production, heat sources, and surplus Pu processing.
  - Independent reviews of these plans, e.g. the 2019 review by the Institute for Defense Analyses.

The pending draft LANL Site-Wide Environmental Impact Statement (SWEIS) will not provide any of this information. It will likely be necessary to contest spurious redactions.

More challenging recommendations related to transparency

- Ask the Attorney General to file litigation to obtain this information, or join existing and planned litigation by the Los Alamos Study Group to obtain this information as a party or a friend of the court.
- Request a pause to authorizations and appropriations pending release of these and any other plans pertaining to the future of northern and central New Mexico, and pending subsequent public meetings regarding these plans.
- Demand that NNSA conduct public meetings once these plans are available to interested parties.
- What's key is to realize that you do have ample political power, if you use it.

Further recommendations can be found in following slides.

(Placeholder for discussion of any misconceptions in previous presentations.)

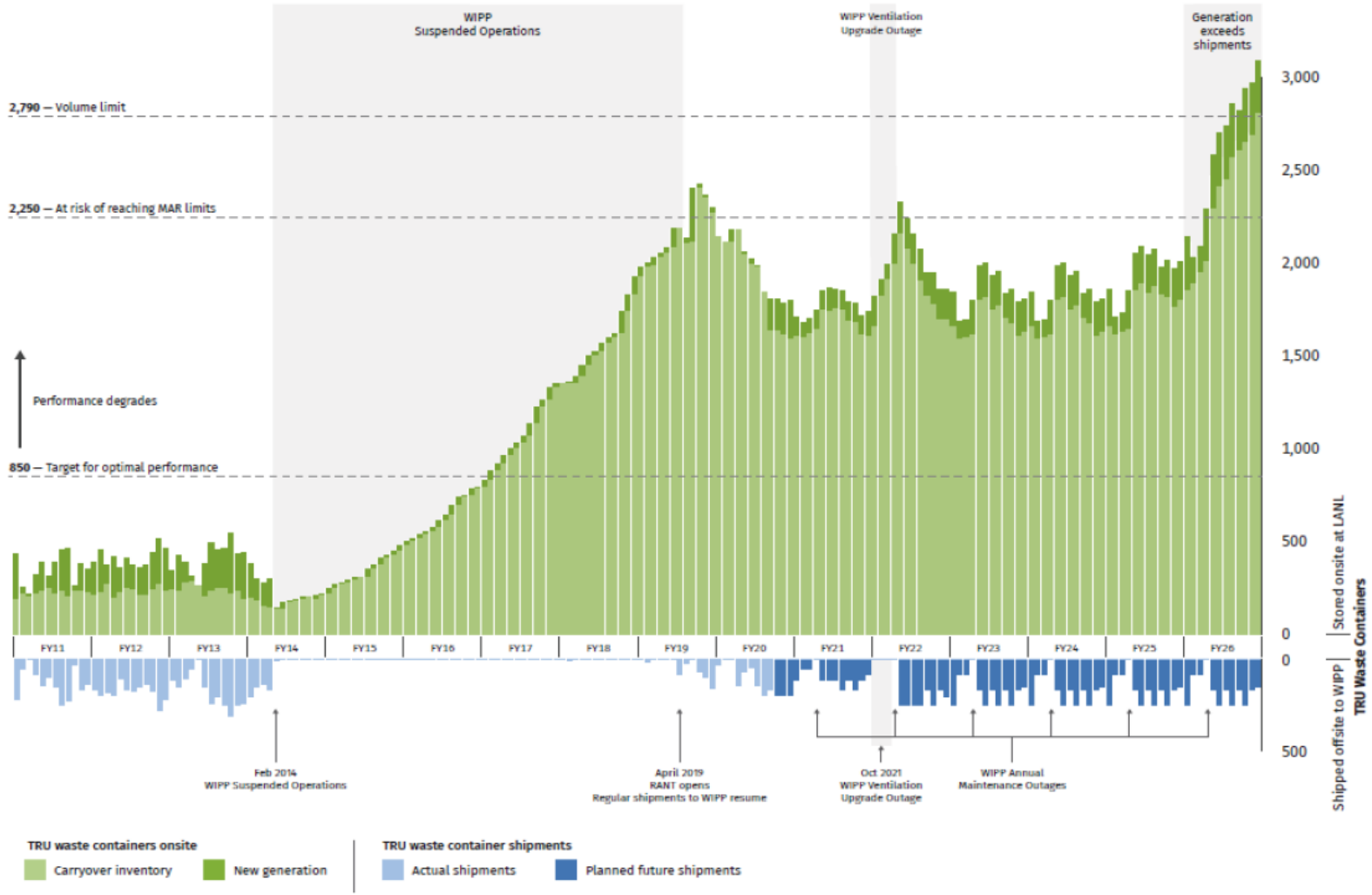


Figure 2: Transuranic (TRU) solid waste containers stored onsite and shipped offsite at LANL, based on forecasting included in the LANL Integrated Strategy.

Key issue: waste production and legacy TRU removal (I)

From NNSA, Assessment of Pit Production at LANL, Office of Cost Estimating & Program Evaluation (CEPE), May 2021, obtained by LASG FOIA appeal.

The Enduring Mission Waste Management Plan for LANL, LA-CP-20-20577, Sep 2020, obtained by LASG FOIA, provides no clarity because of the obviously-political redactions. LANL doesn't want the public to know.

Key issue: waste production and legacy TRU removal (II)

- As of June 2022, there were 12,820 55-gal. drum-equivalents ("drums") of TRU buried at Area G, roughly 3,000 drums above-ground in tents (insert better number) at Area G, and ~400 drums of Triad TRU stored there also. In addition Triad was/is storing ~2,250 drums, making ~18,470 drums in all.
- New TRU from LANL Pu programs are the primary reason for the remaining large inventory of legacy TRU. Historically, most TRU shipped from LANL to WIPP has been new, not legacy.
- In the event of conflicts, disposal of new TRU from NNSA must be prioritized over legacy TRU. We do not believe NNSA has any realistic plan to remove the legacy TRU from LANL, let alone one that is funded.
- The new Radioactive Liquid Waste Treatment Facility (RLWTF) and Transuranic Liquid Waste Facility (TLWF) are not yet operational (RLWTF) or completed (TLWF). These have been under study and construction for 25 years.
- The new TRU (solid) waste facility was badly designed, inadequately sized, overpriced. Two of these, not just one, are needed to support pit production, according to NNSA in 2017.
- Demolition and disposal of contaminated buildings, e.g. CMR, Sigma, Main Shops, Radiochemistry (TA-48), Ion Beam building and many more. LANL projects over 1,000,000 sq. ft. of building demolition overall. Where will the construction waste go? The low-level waste (LLW)? How much TRU will be generated? When will NNSA budget for this? Eventually, PF-4, WETF, and other nuclear facilities will need to be demolished and disposed.
- To these waste streams, other operational wastes and environmental cleanup wastes must be added.
- What is the future of on-site disposal and closure at LANL? After 30 years, these questions remain up in the air, to keep NNSA's options open.
- Please note: environmental contamination at LANL was intentional, at every point in time. LANL knew better.

Key issue: hiring (I)

In its October 2017 and April 2018 studies (here, at p. 13, and here, at pp. 2-6, 2-7), NNSA assumed that LANL could produce 30 pits per year (ppy) during a single production shift. [note 2].

By February 2020 that had changed. In its congressional budget request for FY2021 NNSA admitted for the first time that LANL's plutonium facility would need to run "24/7" to meet its 30 ppy production goal (p. 194).

In March 2020, NNSA again spoke of "24-hour operations" with the addition of 1,600 full-time-equivalent (FTE) staff members *to reach just 20 ppy* (p. 12). Another 400 FTEs would be necessary to reach 30 ppy (p. 14).

Federal sources told us that as of January 2020 LANL employed about 2,000 full-time equivalents (FTEs) in pit production. By May 2020 LANL employed 2,316 FTEs in pit production (p. 9). In August 2020 NNSA stated it needed to hire an additional 1,900 FTEs to reach a 30 (ppy) capacity (p. 15, 17), bringing the total LANL future pit production workforce needed for the 30 ppy mission to at least 4,216 FTEs.

By contrast the 2018 Engineering Assessment (EA) for pit production estimated that to produce *all 80 ppy* at LANL, LANL would need from 833 to 1,156 total FTEs, including both direct- and indirect-funded activities. Thus, *LANL's estimated staffing requirements have grown by more than a factor of four over the past four years, for 38% as many pits. LANL's staffing needs have grown by a factor of 11 per prospective pit produced. Never before in U.S. history has planned baseline pit production been dependent on multiple production shifts.* [3]

Key issue: hiring (II)

LANL struggles with employee retention. Voluntary attrition exceeded 7.5% for most of 2019. According to GAO, it was "below 7.5% for all of calendar year 2020 and the majority of calendar year 2021" (p. 24). About half of this is retirements (p. 24). Involuntary attrition will add to this "below 7.5%". Students, postdocs, and craft employees are apparently not included in LANL's headcounts (p. 23). Of note, in its internal review of LANL pit production plans, NNSA reported that LANL had an annual attrition rate of 8% in 2021 (p. 4).

We have complied hundreds of negative individual reviews of work at LANL from open sources. And as noted in previous testimony, the Department of Labor has paid survivors of approximately 2,000 unique LANL workers death benefits. Cumulative EEOICPA benefits paid at LANL approach $1.5 billion. This is suffering and grief, not economic development.

Quoting again from GAO:

> …[NNSA] officials also acknowledged several challenges to attracting and retaining new talent. For example, **NNSA officials stated that Triad has already depleted the local talent pool in northern New Mexico.** Triad is targeting other geographic areas for recruitment, such as the city of Albuquerque. However, it is also competing with large technology companies moving into such areas that can offer high salaries and that do not require staff to commute long distances, according to NNSA officials. DOE's Human Reliability Program also places unique requirements on certain employees, including that LANL staff with access to certain materials, nuclear explosive devices, facilities, and programs meet high standards for reliability and physical and mental suitability. NNSA officials also said that having to maintain security clearances and be subject to random drug testing can deter some potential employees. [emphasis added]

Key issue: hiring (III)

According to a recent NNSA report ("Evolving the Nuclear Security Enterprise," Sep. 2022), "[t]he NSE is experiencing tremendous workforce attraction and retention issues" (p. 3) nationwide. Further,

> One overarching theme from virtually all [of 250 federal and contractor management] interviewees is the challenge of remaining competitive in the current job market, and the difficulties in both attracting and retaining qualified personnel…Some recruitment and retention factors cannot be completely changed, such as **moral dilemmas about nuclear weapons**, desires to transition to full-time remote or work-from-home status, the complications of acquiring or maintaining security clearances, and specific locality preferences. (p. 10, emphasis added)

We will return to the moral issues involved in promoting and producing weapons of mass destruction shortly, as it centrally affects New Mexico's politics, social development, environment, and economic development.

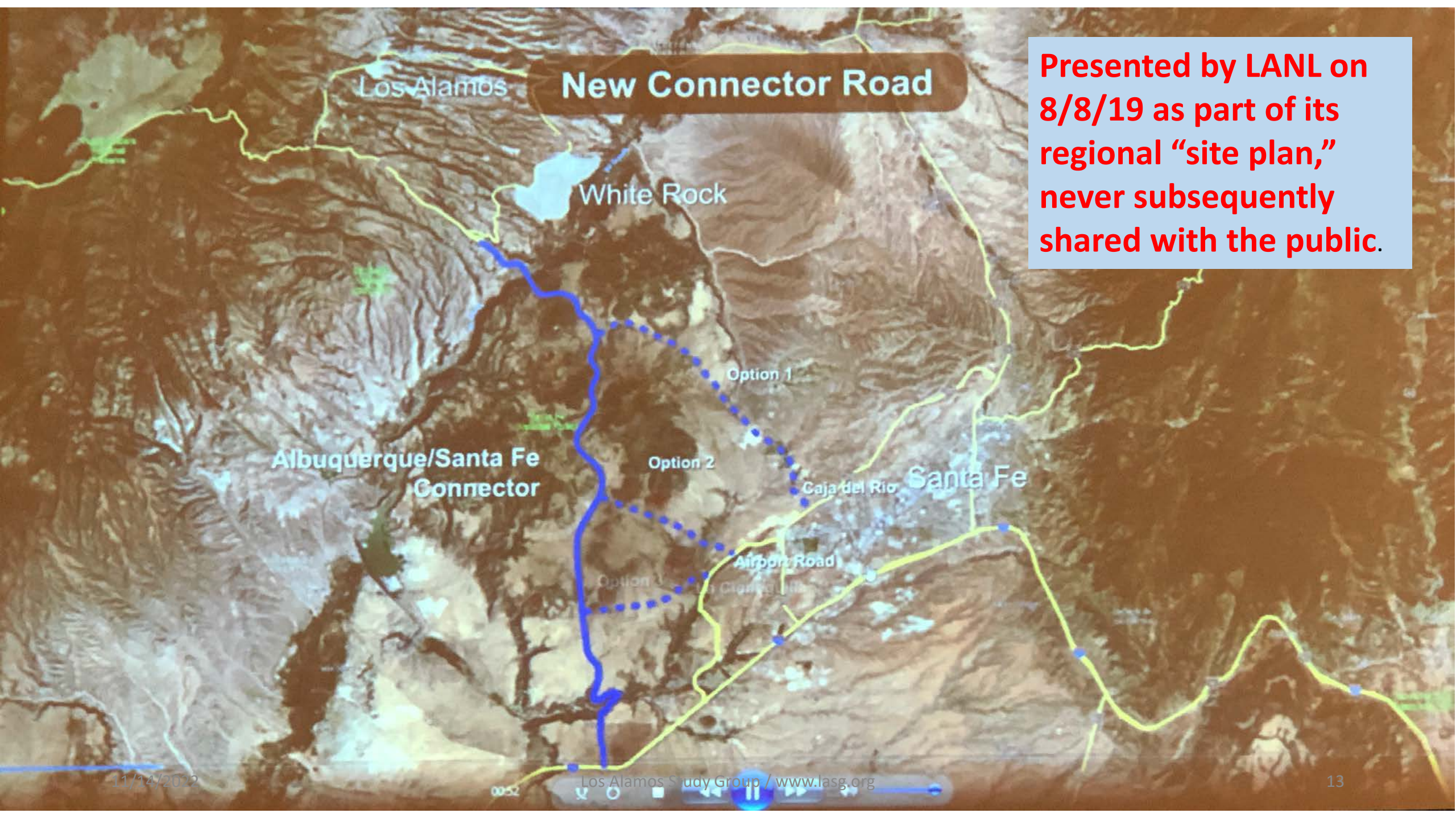
In the meantime it is important for activists to realize that the moral dimension of nuclear weapons has practical implications, here and now.

Key issue: economic development

- LANL has never created "economic development" and never will, for many fundamental reasons. LANL spends a lot of money, of course, and many individuals get rich – few, compared to those who don't and are impacted by higher costs and regional inequality. Spending money isn't the same as economic development, let alone social development, which is the real governmental goal.
- LANL is an economic and social inequality engine. Economic and political inequality are much more damaging than poverty per se.
- Please see Does Los Alamos National Lab Help or Hurt the New Mexico Economy?, Jul 2006 and Weapons Labs and the Future of New Mexico: Problems, Prospects, Messages, May 15, 2007.
- New Mexico has implicitly decided to remain a lesser, not-quite-sovereign state, a "peripheral zone" (Andre Gunder Frank) or colony. We retains a highly-destructive, adulatory attitude toward the military and the nuclear labs – and a studious lack of conscience as regards its leaders' promotion of weapons of mass destruction. This has badly damaged our public morality, which is "burned as if with a hot iron." Our social imaginations and ambitions are abridged. Our loyalty to nuclear weapons and the money they bring to a few people supersedes more wholesome loyalties. Our ability to throw ourselves wholeheartedly into the political, social, and environmental innovation we need to thrive is harmed.
- Unless these fundamental loyalties change, New Mexico will remain underdeveloped. Our dependence on nuclear weapons is useful to many parties. Given official State passivity and acquiescence, LANL's head of government relations said to some us in circa 1992, "LANL will be the dirty lab."

Key issue: transportation (I)

Please see: [The troubled logistics of LANL pit production: how will LANL staff and contractors get to work?]



Presented by LANL on 8/8/19 as part of its regional "site plan," never subsequently shared with the public.

Seven months earlier…

New Mexico Department of Transportation
Major Investment Projects of Regional Significance
(dollars in millions)

District 5		
I-25	$ 250	Adding 3rd lane on I-25 between Bernalillo and Santa Fe.
NM 170	$ 20	Adding shoulders and performing pavement preservation on 18 miles from Farmington to the Colorado state line.
Los Alamos Bypass	$ 67	Construction of 15-16 miles of additional roadway and an additional crossing over the Rio Grande.
U.S. 64	$ 225	Improve 2-lane sections and widen shoulders on various segments from the Arizona state line to the District 4 boundary.
U.S. 491	$ 18	Pavement preservation and shoulder widening on 15 miles of roadway from Shiprock to the Colorado state line.

Source: NMDOT and LFC Files

*Project costs are based on formula calculations and are intended to provide an initial estimate only. Costs are not intended for programming or financing.

STATE OF NEW MEXICO
Report of the Legislative Finance Committee
to the Fifty-Fourth Legislature
January 2019
For Fiscal Year 2020
FIRST SESSION
Volume 3
https://nmlegis.gov/Entity/LFC/Documents/Session_Publications/Budget_Recommendations/2020RecommendVolIII.pdf

Proposed Rio Grande bridge crossing looking north, LASG photo 2012

Bigger

Same plan, 1990 version.

The workforce and congestion imperatives behind this wild plan are non-trivial, given LANL's proposed growth, low availability of skilled labor, and lack of local housing.

Nuclear materials convoy, main Hill road (photo: *Los Alamos Monitor*, Carol Clark)

Key issue: housing, briefly:

- There isn't enough. Pit production is only one expanding mission.
- Housing off The Hill creates difficult transportation problems. LANL's so-called "Campus Master Plan" offers no solutions to these problems.
- Senior federal manager to me, this fall: "If NNSA is serious about pit production it will build barracks at LANL. I see no other way."
- My opinion: there are enough LANL staff living or proposing to live in Santa Fe to have a significant effect on housing prices in some parts of the market. How much of an effect I do not know.
- Current housing proposals for Los Alamos County will help but are not nearly enough – especially if Los Alamos and White Rock seek to have a well-rounded set of business services.
- Pit production will fundamentally change Los Alamos, one way or another.
- LANL's construction workers will need to live somewhere. "Man camps" in the pueblos are not a good solution, in my opinion.
- Large-scale commuting from Albuquerque and Rio Rancho is not, and will never be, sustainable.
- The lure of a new bridge and highways to Santa Fe and I-15 at Waldo will remain.
- Success at "technology spinoffs" will exacerbate the housing problem.

Key issue: energy and resource consumption. Not even considering contamination and nuclear waste, LANL is a dirty lab.

- LANL is expected to double its energy use over the coming decade.
- LANL will fail to meet DOE goals for energy efficiency.
- LANL will fail to meet DOE goals for water use efficiency.
- LANL is unlikely to conduct any climate change vulnerability assessment, despite DOE guidelines.
- LANL may build an on-site 10 MW solar field but if so this would provide only 4% of its needs by 2031.
- More than half of LANL's electricity currently derives from coal-fired generation. There are no clear commitments to renewable energy in future, only to power purchase agreements meeting vague criteria.
- NNSA is proposing a $300 million "Electrical Power Capacity Upgrade" project at LANL (p. 365), including a new 115 kV transmission line across the Caja del Rio. LANL consumes 80% of the energy supplied to the Los Alamos Power Pool (LAPP).
- Back-of-envelope calculations suggest LANL commuting entails very roughly 175 million road miles per year. With deliveries, etc. ~200,000,000 vehicle-miles/year might be a good guess.
- We can be sure LANL is the largest single cause of greenhouse gas emissions in a wide region.
- For references and more see: LANL releases 2021 "Site Sustainability Plan" for "rapidly changing and growing mission", 2/24/21 and "Third power line proposed for Los Alamos," 4/19/21.

What is the alternative to nuclear weapons “trickle-down” anti-development? Is there one? Oh yes there is!

Questions?

Thank you for your time and attention.