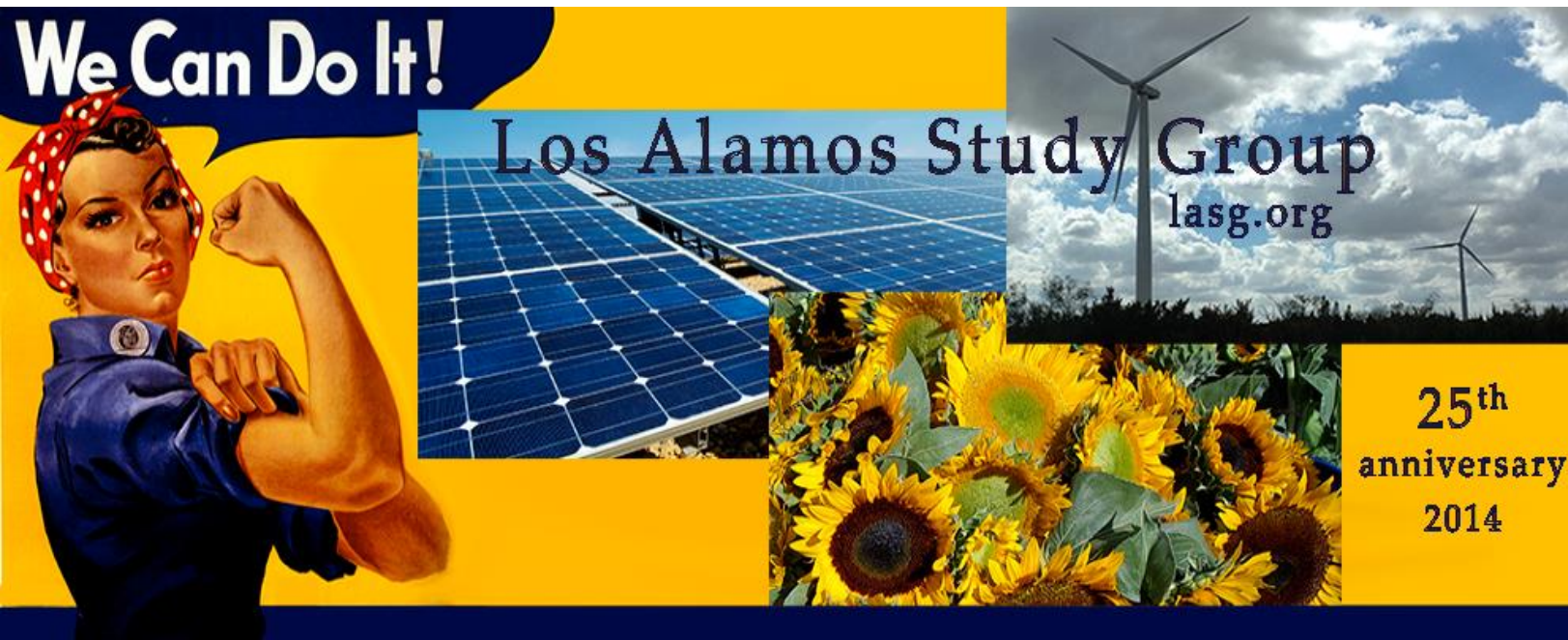


'Crawl Out through the Fallout, Baby': Los Alamos National Laboratory (LANL) and the Future of Santa Fe Greg Mello, 7/10/16

Now, more than ever, technological, social, and political interdependence urgently calls for an ethic of solidarity..., which encourages peoples to work together for a more secure world, and a future that is increasingly rooted in moral values and responsibility on a global scale.

Pope Francis, message to Humanitarian Impact of Nuclear Weapons Conference, Vienna, 2014



Los Alamos Study Group
2901 Summit Place NE
Albuquerque, NM 87106
www.lasg.org, 505-265-1200

To subscribe to the Study Group's main listserve send a blank email to lasg-subscribe@lists.riseup.net
Facebook: [Los Alamos Study Group](https://www.facebook.com/LosAlamosStudyGroup);
Twitter: [@TrishABQ](https://twitter.com/TrishABQ); Blog: [Forget the Rest](http://forgettherest.com)

Let's start at the end, with "what you can do." (slide added 7/12/16)

- This presentation, as originally given, focused more on the deeper aspects of this question. That follows below. It is not at all a trivial problem. We need more than business as usual now, more than occasional actions. In this regard please see ["The Crisis at Hand, the Emergency Mode, & the Need for Full-Scale Mobilization,"](#) June 27, 2016 talk at the New Mexico chapter of 350.org. More suggestions and perspectives can be found in some of our [local letters](#), especially [3/26/15](#), [4/21/15](#), [5/16/15](#), [6/14/15](#), [6/8/16](#).
- Nonetheless we will shortly send a list of possible actions to our local lists, building on the excellent discussion we had at Collected Works. The Study Group will help in various ways but with our tiny staff we cannot always lead. We need many leaders, with many styles, approaching from many angles (*but see caveats in the letters above*). Our multifaceted predicament has common roots. We don't need to agree on everything to be friends and allies!
- For most people it is probably best to start with mobilization and action in the public realm, learning by doing. Dotting the "i"s and crossing the "t"s can come later.
- We need full-time commitments from more people, young and old. Look within your communities and friendship networks. The commitment that was not "cool" or supported yesterday may be very much supported today. Let's make some of the trends our friends.

Question 7:

What can I, or what can we, do?

First, try changing the question, from "What can I do?" to "Who am I and what will I become?"

Soon our "I" will be no more. Even now "I" is a living metaphor, a figure of speech that stands for someone we do not know so well ourselves, a story which is told, and will be told, by others. Our "I" presupposes a context, a cosmos. We are not alone.

Before we answer, "What can I do?" we would do well to recall Whitman: "I am large. I contain multitudes."

If you want to save the world, be a world-savior. If you want to save bears, be a bear-savior. That is your identity, who you are or will become. Constellate everything around that. Then you will do what you need to do.

Usually the question we ask is really, "What can I meaningfully do that is not very hard?", or "What can I do to [transform our society, or whatever] within my present commitments?" The question is contradictory.

Vows can help transform identity and as such are high-leverage, transformative actions. I am begging you to consider pledging your life to protecting humanity and nature, and to renew such vows daily. Personal, political, and social transformation is of a piece. Such revolutionary changes generally require daily interaction with others similarly engaged.

Vows and promises, like contracts, extend the vital present moment in which action can be taken (cf. Arendt) and as such comprise an essential asset in the struggle of people and nature against the idolatry of property. Redefining our values means that many monetized assets will lose value. Many debts will never be repaid and many contracts will be broken. Whose? Will we share, or will we let a very few starve the many? This struggle requires constancy, character, identity.

Second, we need full-time citizens and leaders and we need to arrange our lives and commitments so this is possible. There are actions that say "No!" and actions that say "Yes!" but both need more full-time leadership than we presently see.

Working full time means withdrawing energy and attention from the old order. This is kind of general strike and the Gandhian constructive program, in one.

Many of our civil society institutions are weak or compromised and some are missing altogether. To have better journalists we need to help them, or complement them, or replace them if necessary. We need to build parallel institutions. Or wrest ownership from some present hands.

There are surprisingly few lobbyists providing legislative support and education on our side of the issues. Very few.

Building parallel community renewable energy (RE) infrastructure, with alternative governance and ownership, or arranging for renewable transport (RT), is also needed. Individual RE (e.g. PVs on one's home or business) is very valuable but only to a limited degree. We are not aiming at feeling good about ourselves.

We are right to say, "Live simply, so that others may simply live." The main group of "others" we now need to think about is the age-balanced, diverse cadre of citizen activists who will change government policy – or change the government. Government sets and enforces most of the rules by which private enterprise operates. It is coercive. Criminals for example are stopped coercively, because of laws that are established nonviolently, through persuasion. Some corporations can also be influenced directly and (it goes without saying) nonviolently. But it will take some full-time commitments, which we need to support and guide.

Third, we need to quickly enter the public realm and successfully communicate two main things to key audiences (and to the wider public): a) business as usual (BAU) cannot continue (because the crisis is very grave and urgent, and BAU has no means of addressing it), and b) there are attractive alternatives, which we are also demonstrating.

To communicate that BAU cannot continue, we need to symbolically halt BAU in various appealing, nonviolent ways. We will not have legitimacy if we are not doing so ourselves *and also* showing a way forward. We aim to redirect societal investments of time, attention, commitment, and money, starting with our own.

We should read our Gandhi and our Gene Sharp, in the context of our own action. Mobilize first, not second or third. We aim for our own "color revolution," a Green Revolution, not just a "Green New Deal" *within the present growth model and Empire*. A true, sufficient "Green New Deal" is incompatible with US imperial realities and aspirations -- fiscally, socially, politically, structurally, morally.

This revolution will inevitably occur partly by ballot, and partly not.

We need to exert real power, which is ours now although we are not aware of it, not merely advise, cajole, and petition. Real power comes in many forms. It can mean running for office. It can mean taking over local government, which is necessary one way or another. It means building up a party or a company. It means organizing community solar. There are constructive alternatives, there is resistance, and there are other forms of power as well.

We need to understand that there will be winners and losers. Damaging activities will need to wind down, and somebody's assets will become worthless. Some old jobs will disappear; others need to be built up. The match between the two won't be perfect.

Since the crisis is all-encompassing, actions can in principle be anywhere, and can in principle take up many themes.

Background: What is LANL and what does it do?

Our mission is to sustain the current stockpile, to provide future stockpile options, and help shape a globalized nuclear world

- 1. Sustaining the current stockpile
 - How long can the current stockpile be sustained?
 - What are its failure modes?
- 2. Providing options for life extension of the stockpile
 - What are options that can be developed and underwritten without further nuclear testing?
- 3. Shaping a globalized nuclear world
 - What are other countries pursuing regarding nuclear weapons?
 - What are potential developments (avoidance of technological surprise)?
 - What response options should the US have available?

UNCLASSIFIED

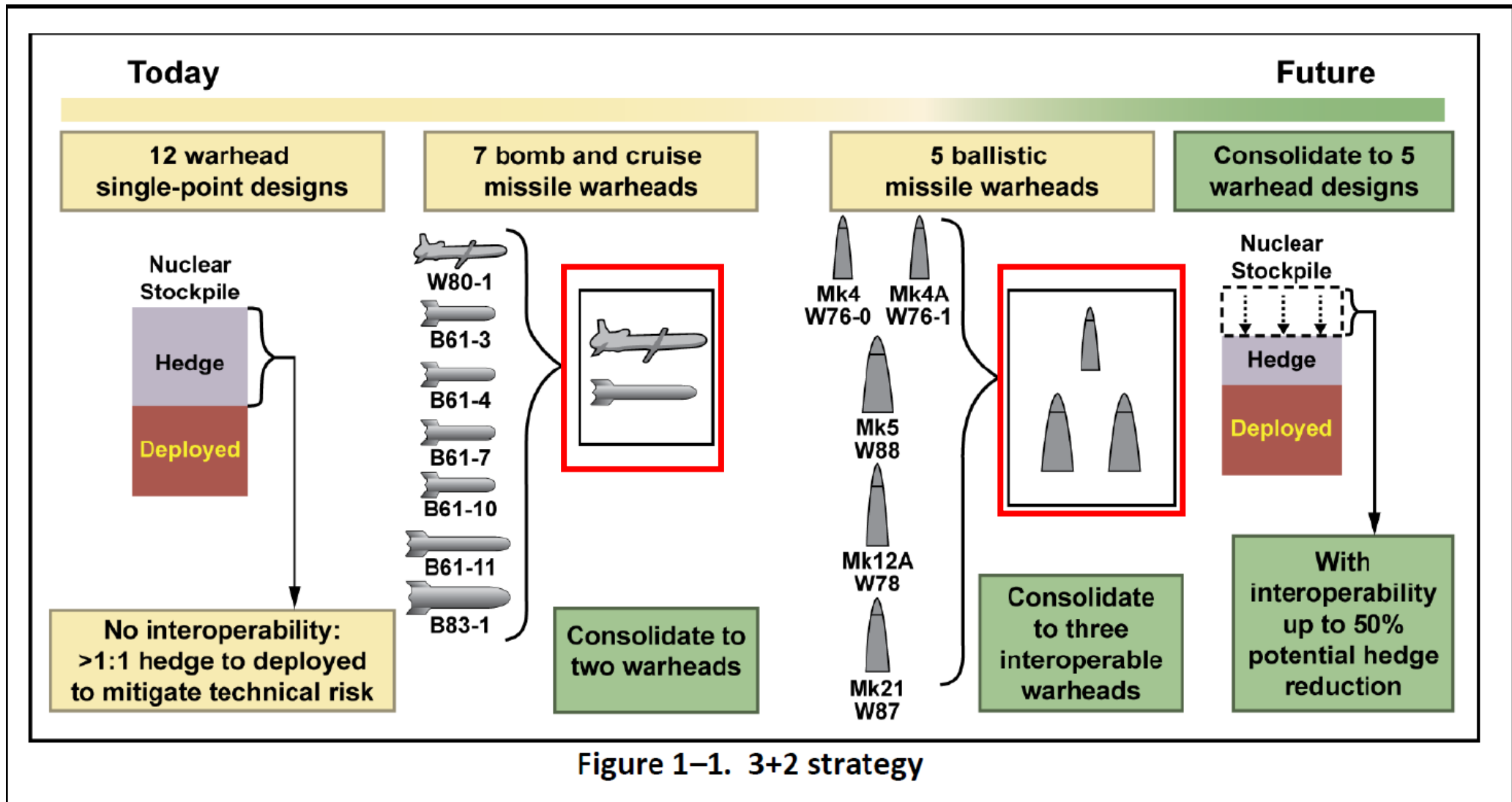


Figure 1-1. 3+2 strategy

Red boxes = 4 new-design warheads plus 1 renewed bomb with great accuracy, stealth delivery platforms, low- and high-yield options

Use your smartphone to scan the QR code to see how DARHT works.



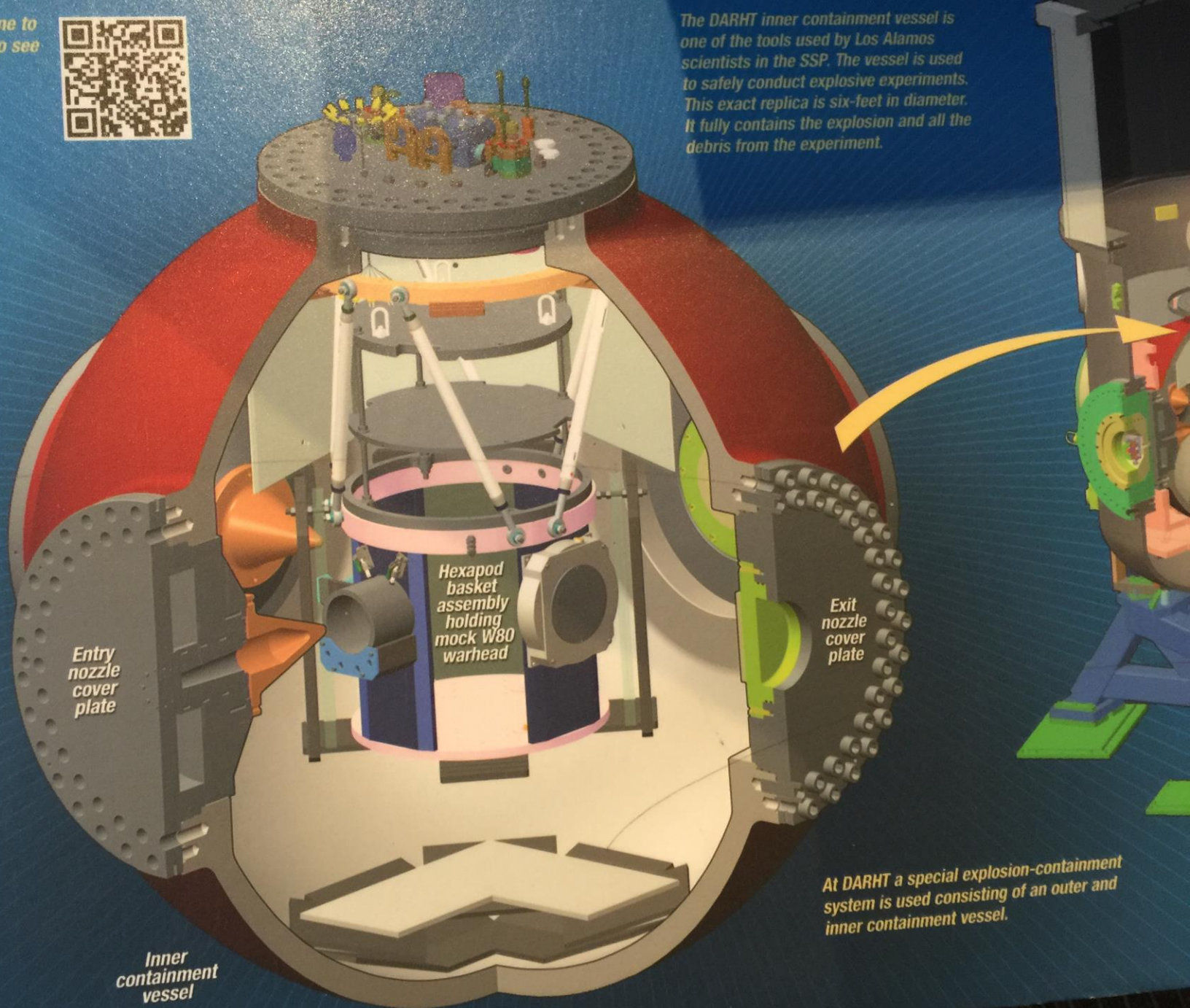
The DARHT inner containment vessel is one of the tools used by Los Alamos scientists in the SSP. The vessel is used to safely conduct explosive experiments. This exact replica is six-feet in diameter. It fully contains the explosion and all the debris from the experiment.

In the LANL museum

duct
ments

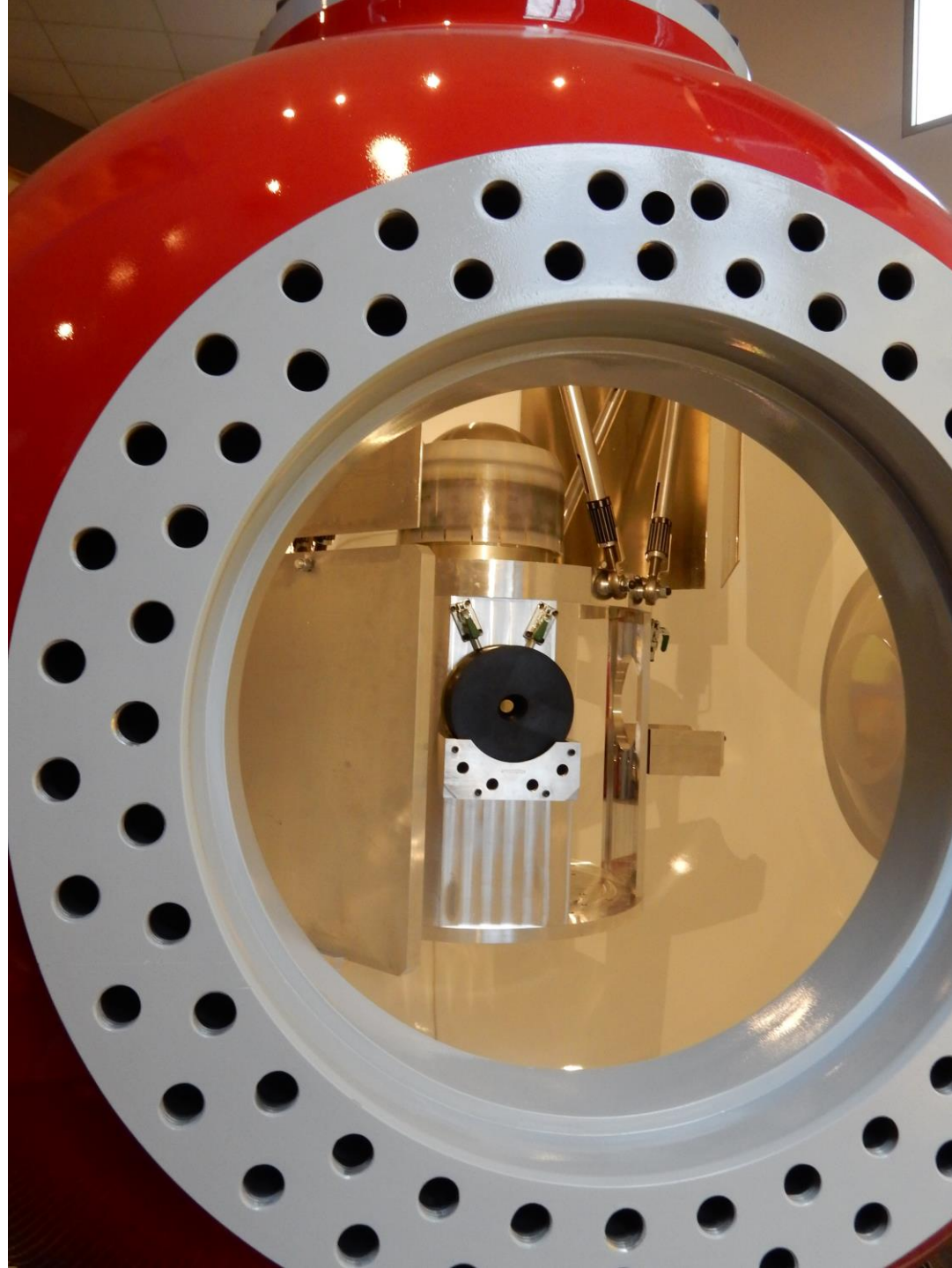
diographic
(DARHT,
facility

nuclear weapons
The nation halted
g in 1992 and
s (in partnership
ear weapons
velop the Stockpile
am (SSP), a
ram that would,
elp to ensure the
ecurity, and
tion's nuclear



At DARHT a special explosion-containment system is used consisting of an outer and inner containment vessel.

LANL museum
display of W80 in
testing
configuration

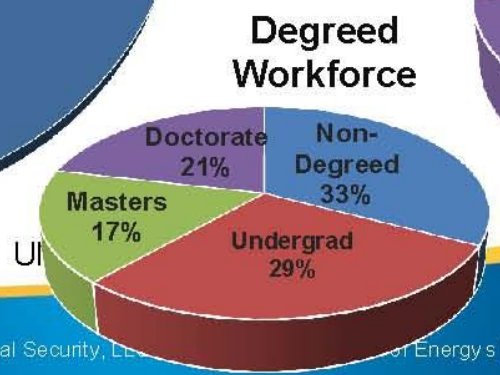
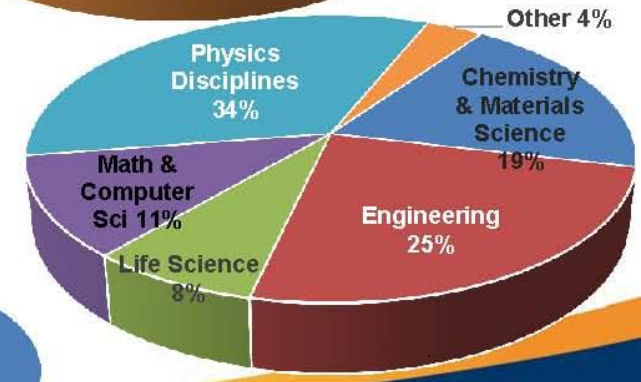
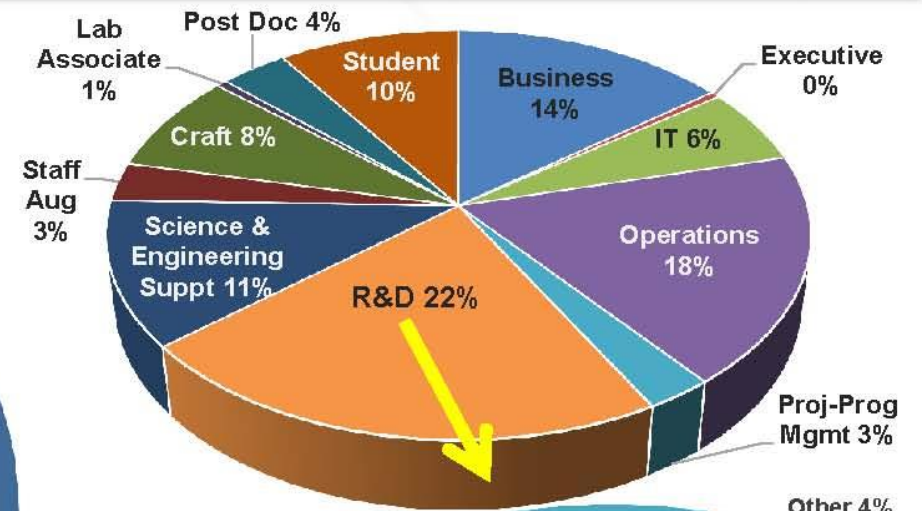
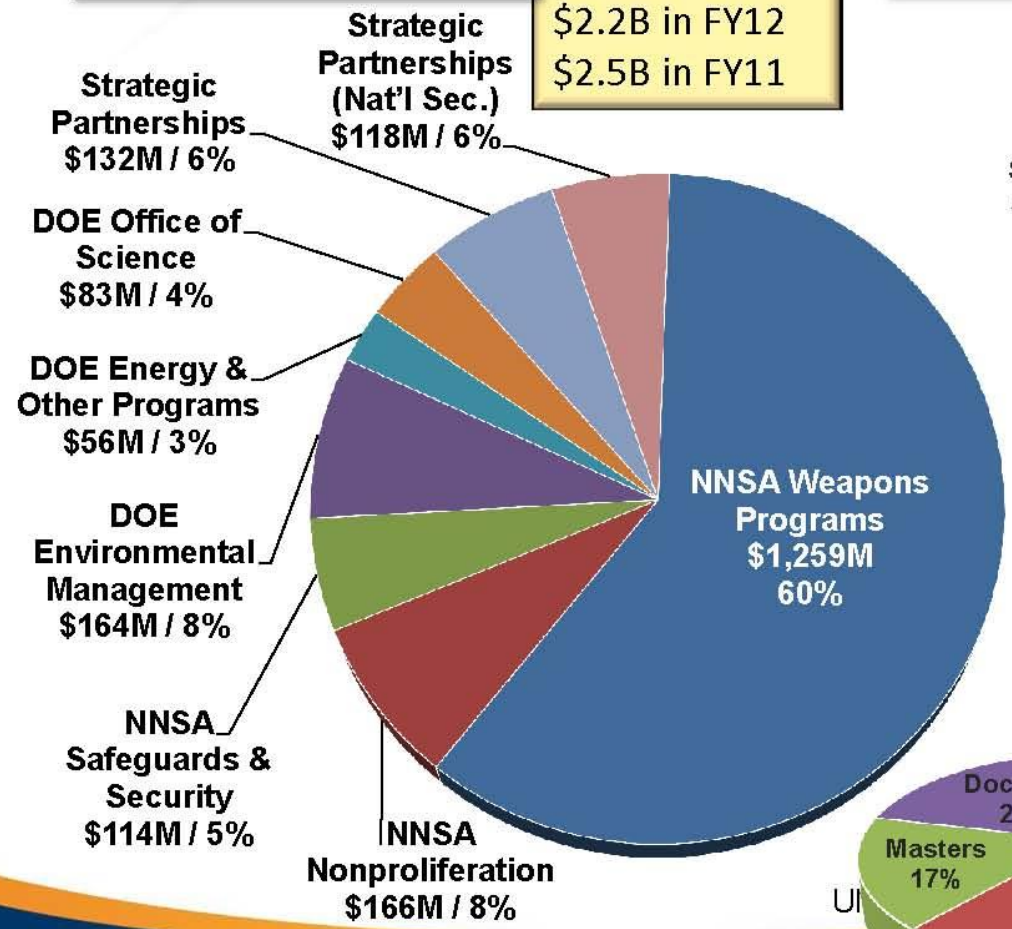


As a National Security **Laboratory**, applying multidisciplinary capability is inherent in our broad funding and workforce base

FY15 est. Budget Authority: \$2.15B

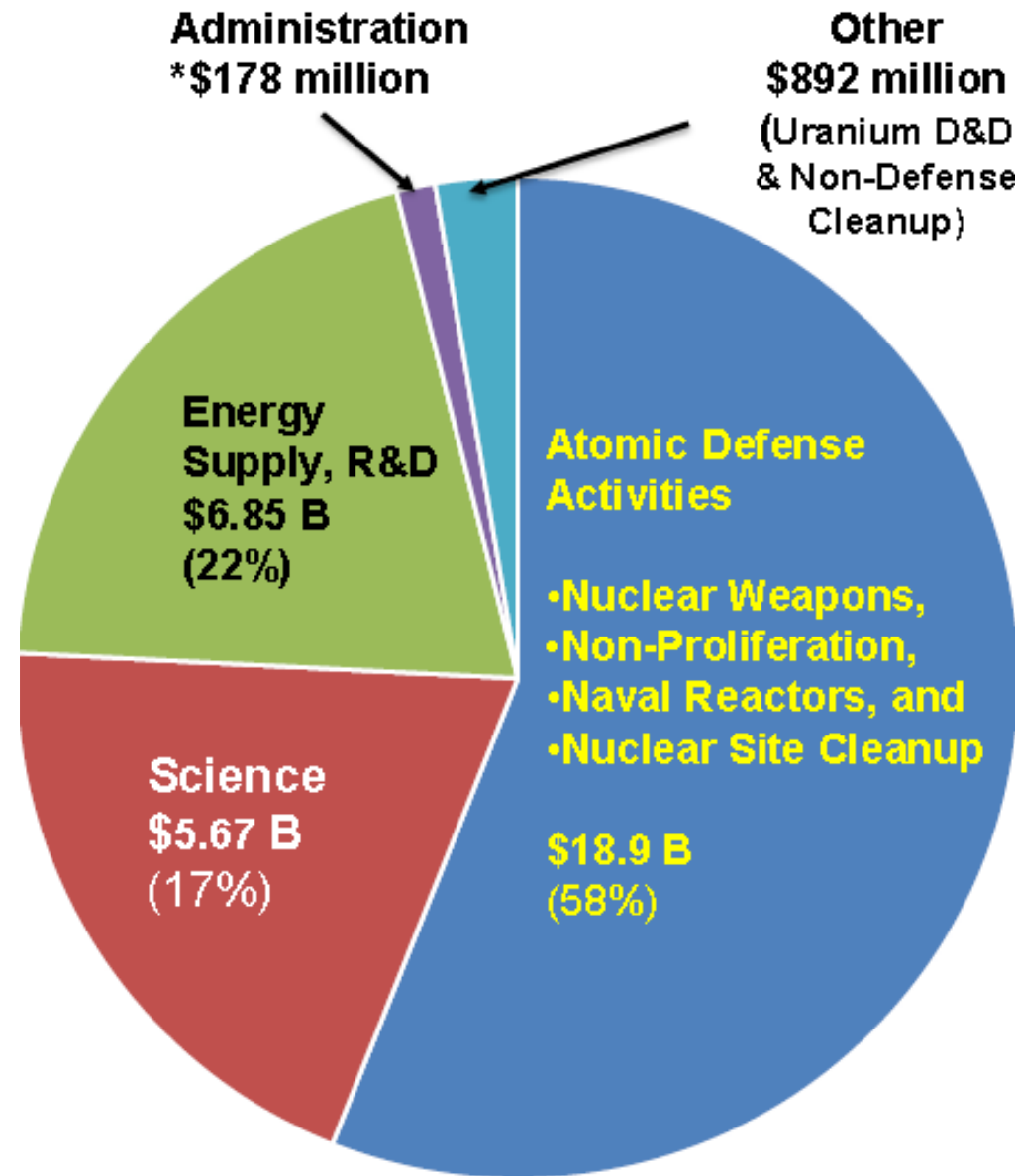
\$2.37B in FY14
 \$2.1B in FY13
 \$2.2B in FY12
 \$2.5B in FY11

Approx. 10,000 National Security specialists collaborate in a wide variety of technical disciplines



(Slide by Bob Alvarez)

U.S. Department of Energy FY 2017 Budget \$32.49 Billion



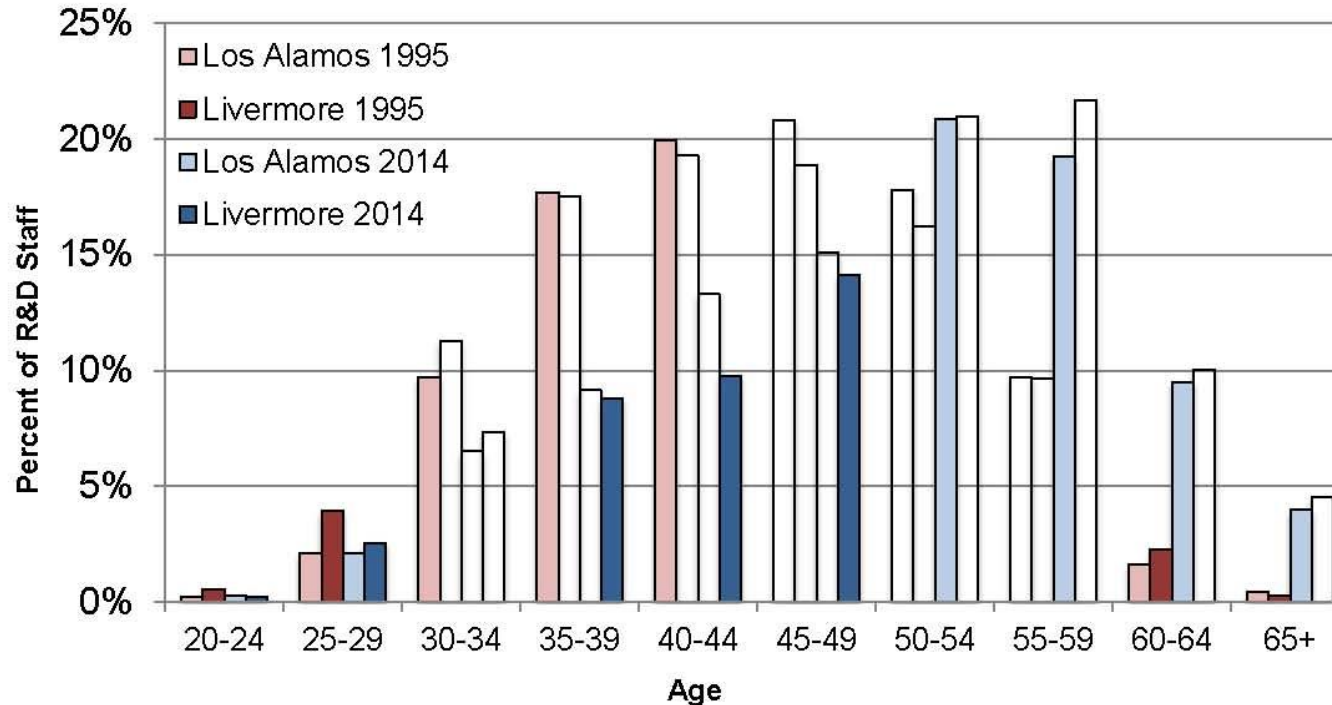
Energy Activities Include:

- **Energy Efficiency and Renewable Energy: \$2.9 Billion**
- **Fossil Energy: \$638 Million**
- **Nuclear Energy (fission): \$994 Million**
- **Electric Transmission: \$263 Million**
- **Energy Information Administration: \$132 Million**
- **Power Marketing Administrations: \$84 Million**
- **Energy Loan Guarantees: \$5 Million**
- **21st Century Transportation: 1.34 Billion**
- **Office of Indian Energy - \$22.9 Million**

Aging laboratories, people, and missions

Human capability: A critical asset at risk

A generational turnover is upon us: the workforce at the NNSA laboratories is aging, and a new generation of talented scientists and engineers must be recruited, trained, and retained



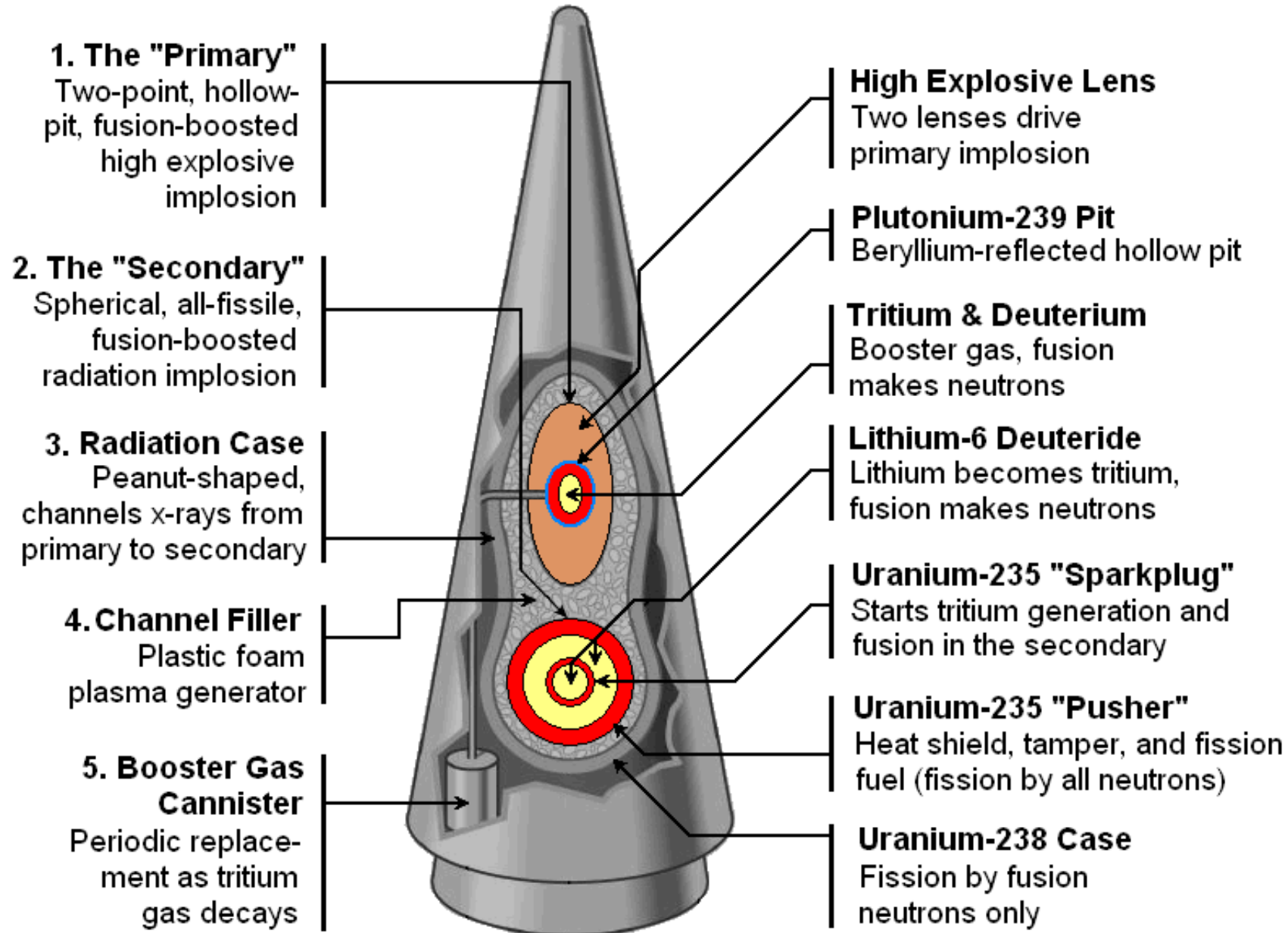
- Competition for talent from industry and academia is fierce
 - Similar generational pressures
 - Mobile career trends

At Sandia, 25% of the R&D workforce is eligible for retirement.

UNCLASSIFIED

W88 Warhead for Trident D-5 Ballistic Missile

From Wikipedia; schematic only. This is the “nuclear explosive package” (NEP) or “physics package.”



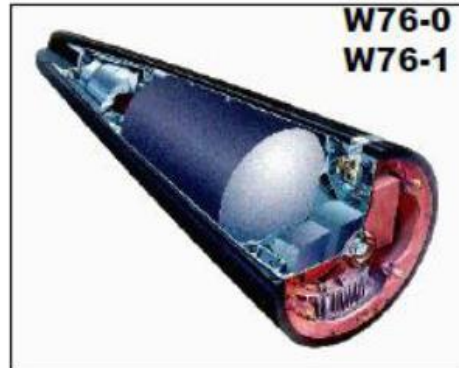
Today, the US has 11 nuclear weapon types, and Los Alamos has responsibility for 8 of the weapons

LANL Weapons

B61-3,-4,-7




B61-11



LLNL Weapons



What LANL designs and builds: effects



800 kt nuclear blast (e.g. Russian SS-18)

Fireball: 5,774 feet diameter (shown roughly at scale in plane of "Big I")

Center of fireball ~ 3,000 feet above ground zero in this picture

At 6 miles the fireball would appear more than 300 times brighter than the desert sun at noon

Blast wave travels 3 miles in about 13 seconds

Certain mass fires ($\geq 20 \text{ cal/cm}^2$) radius 5.35 miles

Probable mass fires ($\geq 10 \text{ cal/cm}^2$) radius 7.5 miles

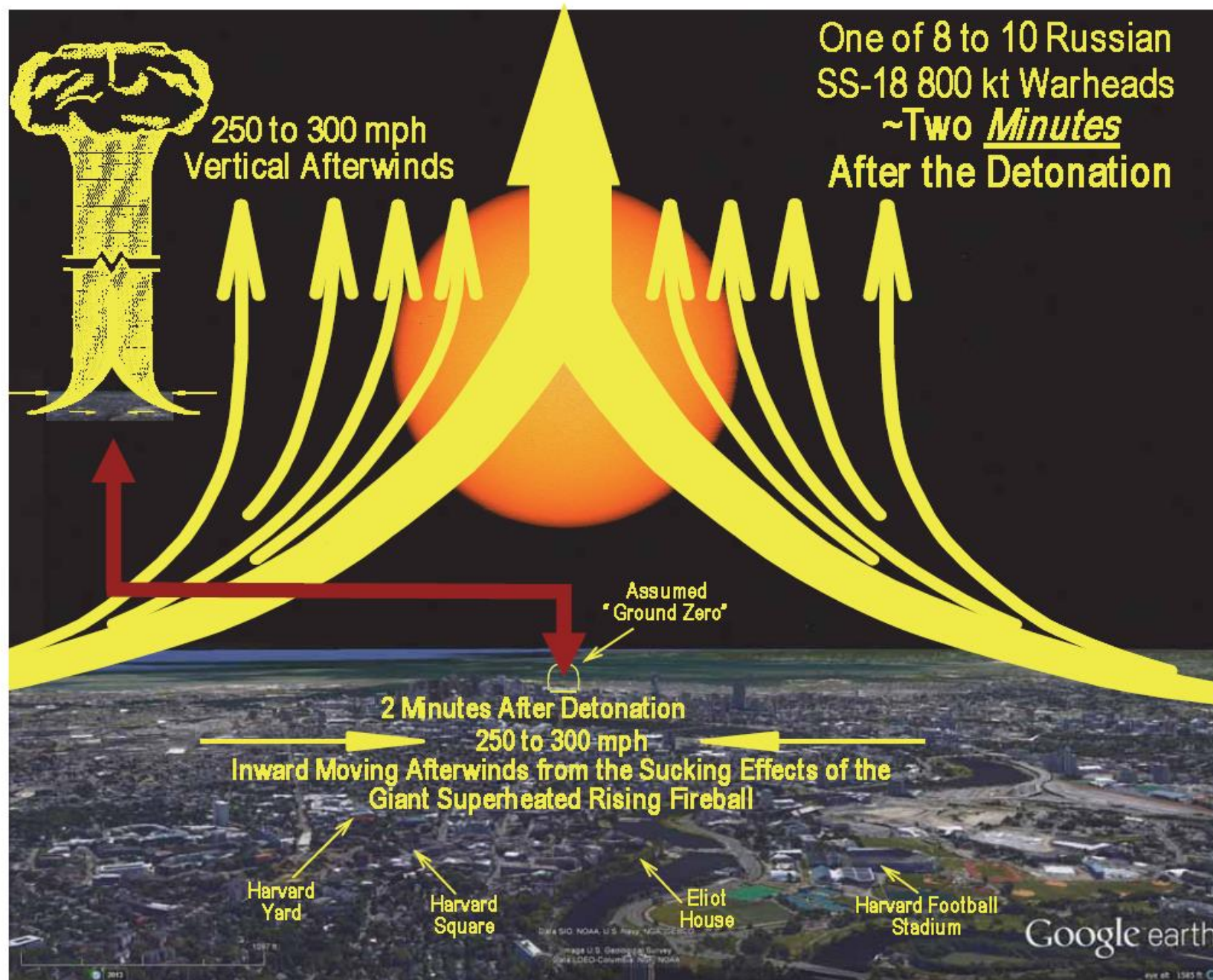
Airblast $\geq 5 \text{ psi}$ out to 4.0 miles on the ground; $\geq 1.5 \text{ psi}$ to 9.3 miles

3rd degree burns (11.2 cal/cm^2) with 100% probability to 7.1 miles

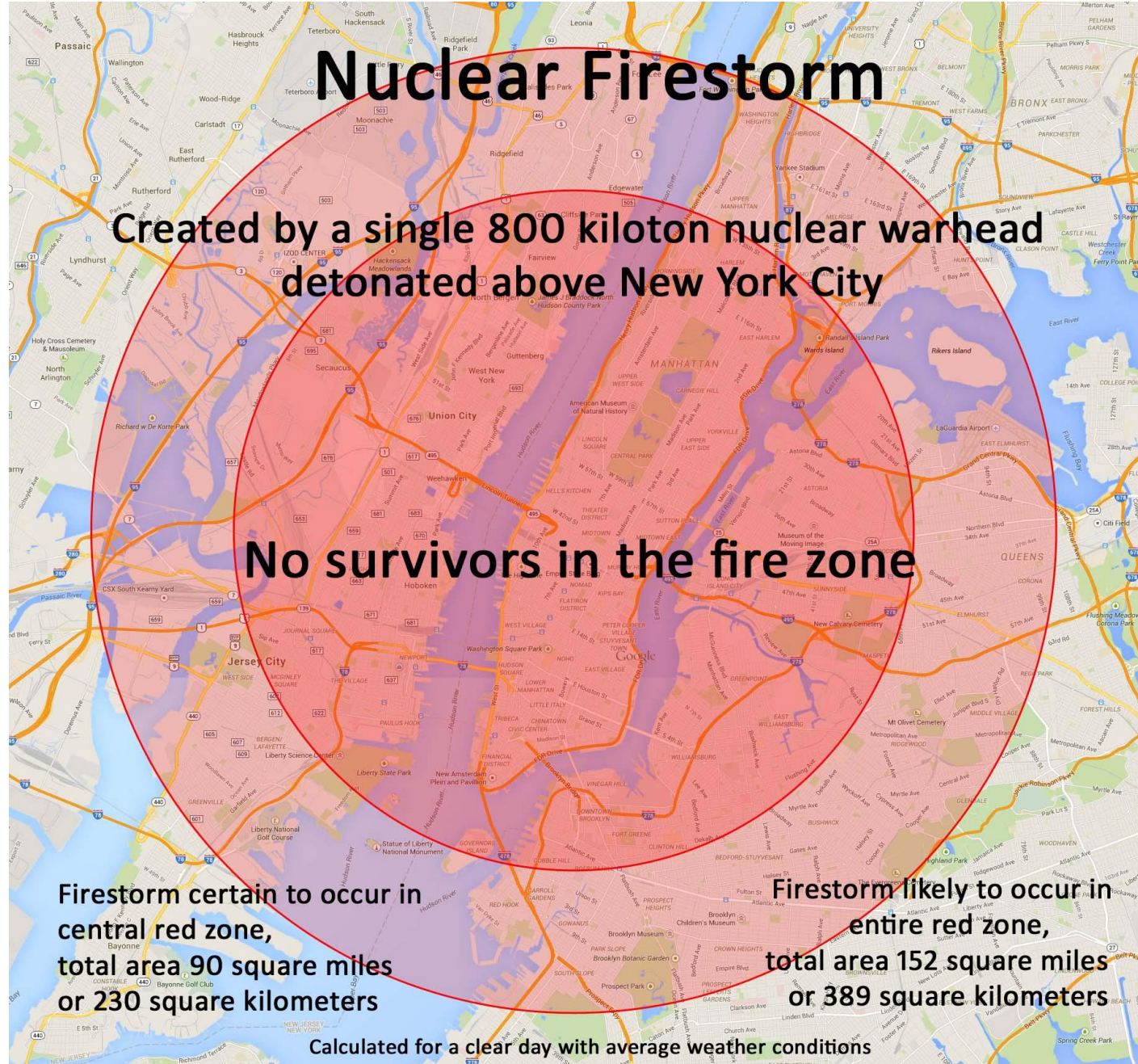
Modern thermonuclear warheads have far larger energy yields than the primitive nuclear explosives used at Hiroshima and Nagasaki.

One large nuclear explosion would utterly destroy all of Albuquerque, or Santa Fe.
The purpose: terror (de-terr-ence).

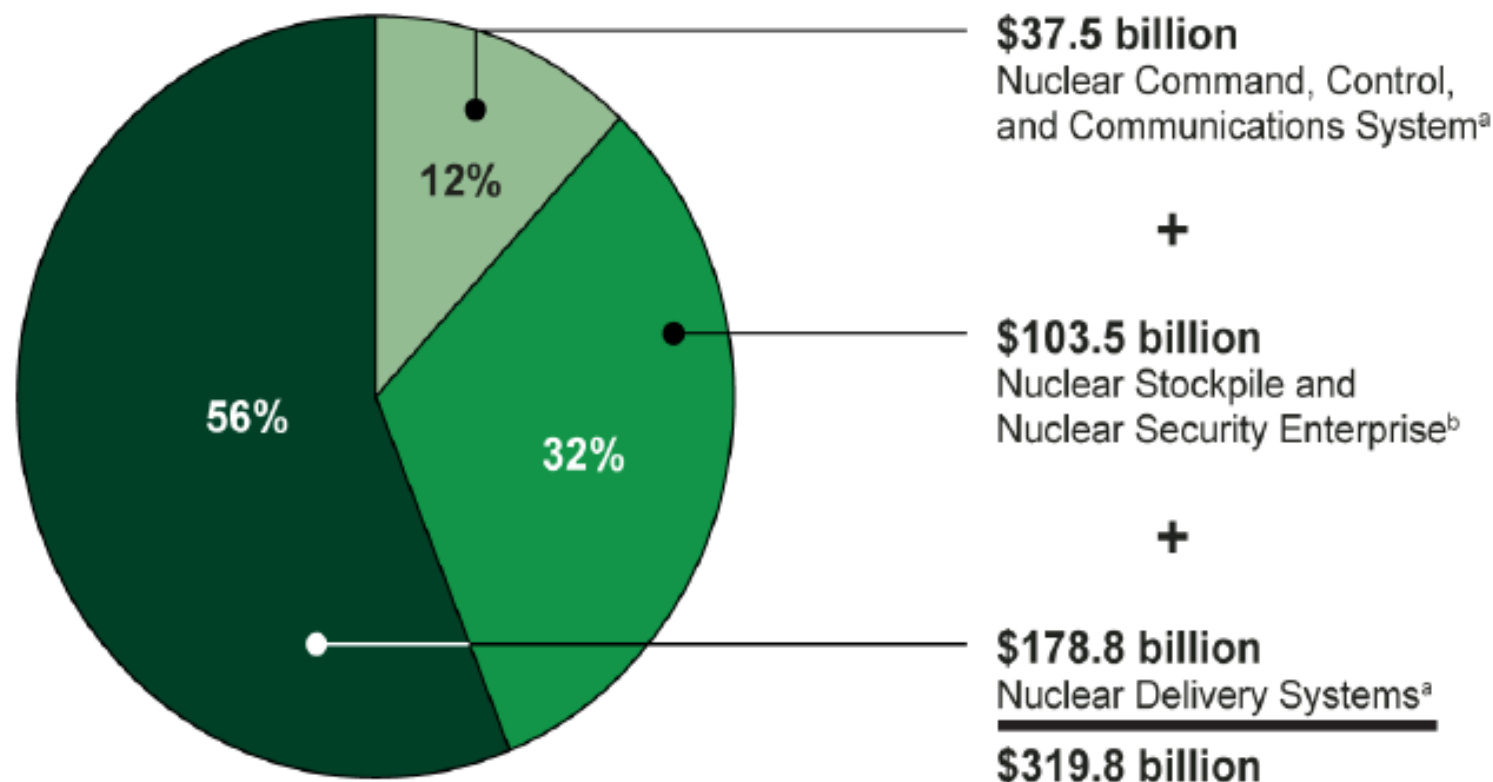
Slide
from [Ted Postol, Harvard Peace Action talk, Feb. 25, 2016](#)



Analysis and graphic from Steven Starr; see <http://www.nucleardarkness.org/nuclear/nuclearexplisionsimulator>



Estimated cost for U.S. nuclear weapons from FY 2015 to FY 2025



Source: GAO analysis of Department of Defense (DOD) and Department of Energy (DOE) data. | GAO-16-23

Over 30 years the cost for U.S. nuclear weapons modernization is estimated to cost up to \$1 trillion.

<http://www.nytimes.com/2016/01/12/science/as-us-modernizes-nuclear-weapons-smaller-leaves-some-uneasy.html>

[From: NNSA
FY2017
Stockpile
Stewardship
and
Management
Report](#)

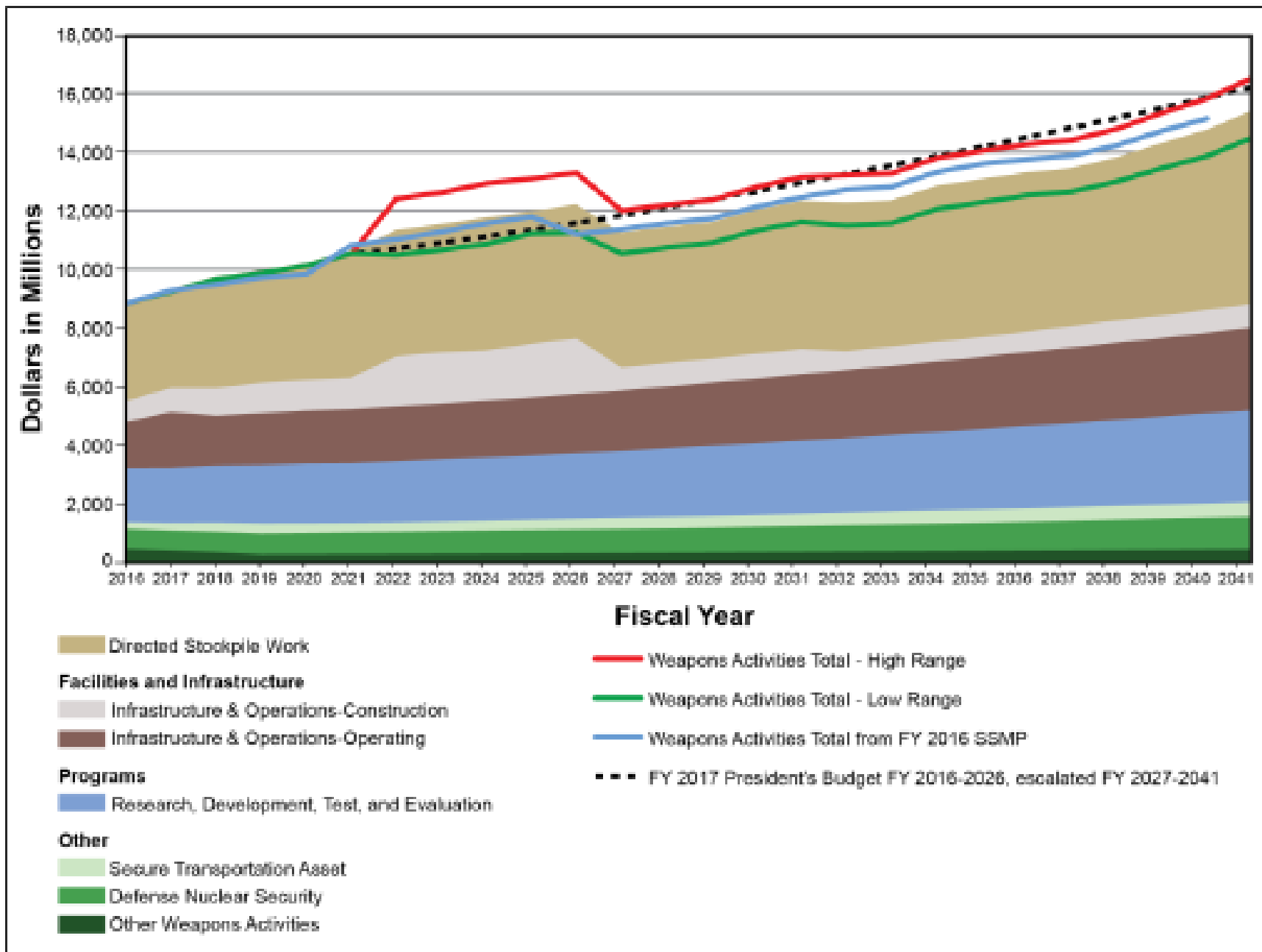


Figure 4-22. Estimate of out-year budget requirements for NNSA Weapons Activities in then-year dollars

“The Trillion Dollar Nuclear Triad,”
 James Martin Center for Nonproliferation Studies
 Jon Wolfsthal, Jeffrey Lewis, Marc Quint, January 2014

Average Annual Cost/30-Year Projected Strategic Triad Costs

Program/Element	Annual Cost (Billions)	30-Year Cost (Billions)
Current Triad	\$8-9	\$240-270
NNSA weapons activities	\$11.66	\$350
Command, control, and communications	\$4	\$120
Minuteman follow-on	N/A	\$20-120 ¹³
Long Range Standoff missile	N/A	\$10-20
Ohio-class ballistic missile submarine	N/A	\$77-102
Long Range Strike Bomber	N/A	\$55-100 ¹⁴
TOTAL		\$872-1,082

These estimates are by now three years old. They assume all goes reasonably well and in particular, that there are no big problems, and no resource crises which stretch out acquisitions and make them more expensive overall. Right...

Photo:
LASG

**LANL TA-54, Area G
Nuclear & Chemical
Waste Disposal**

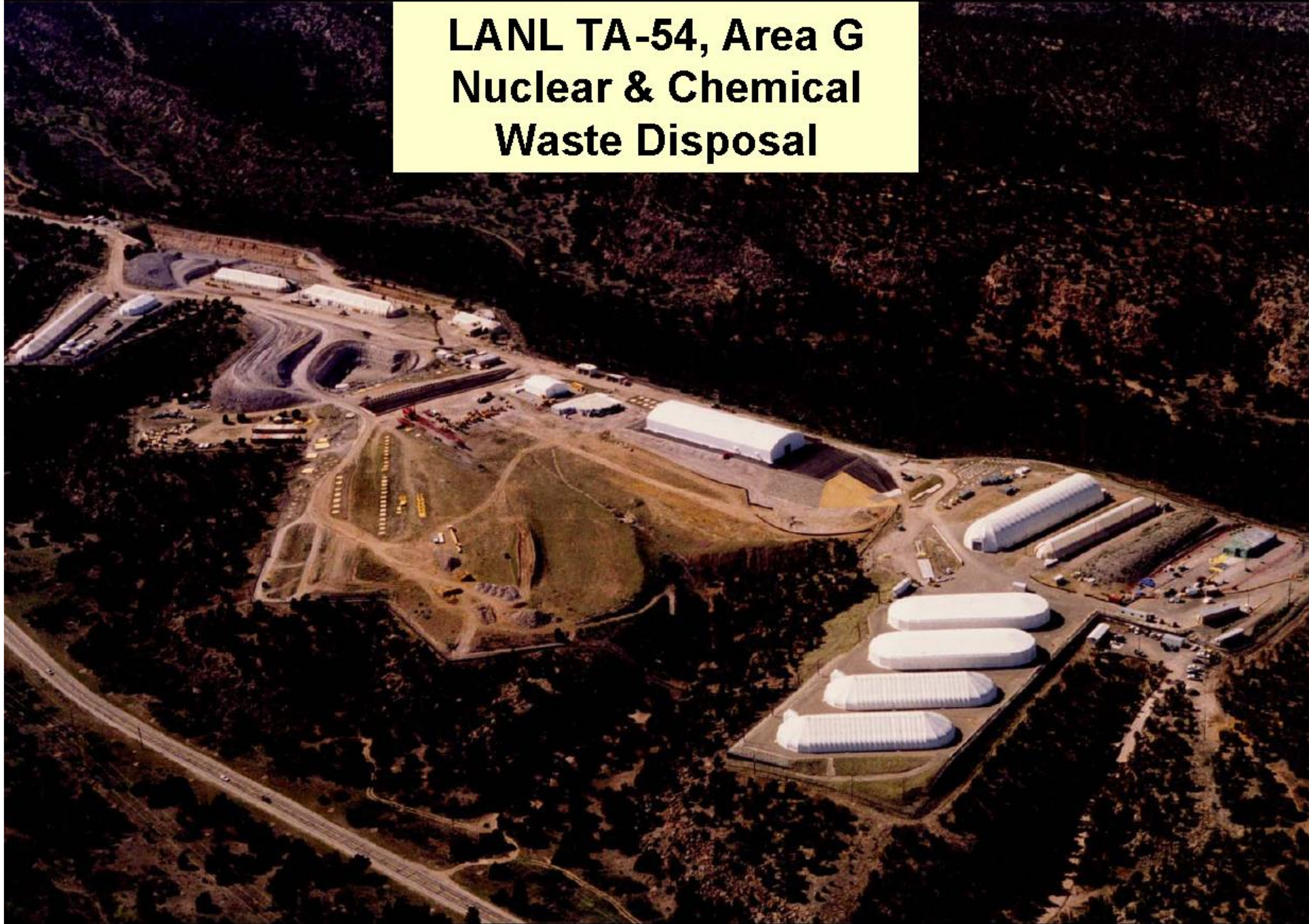
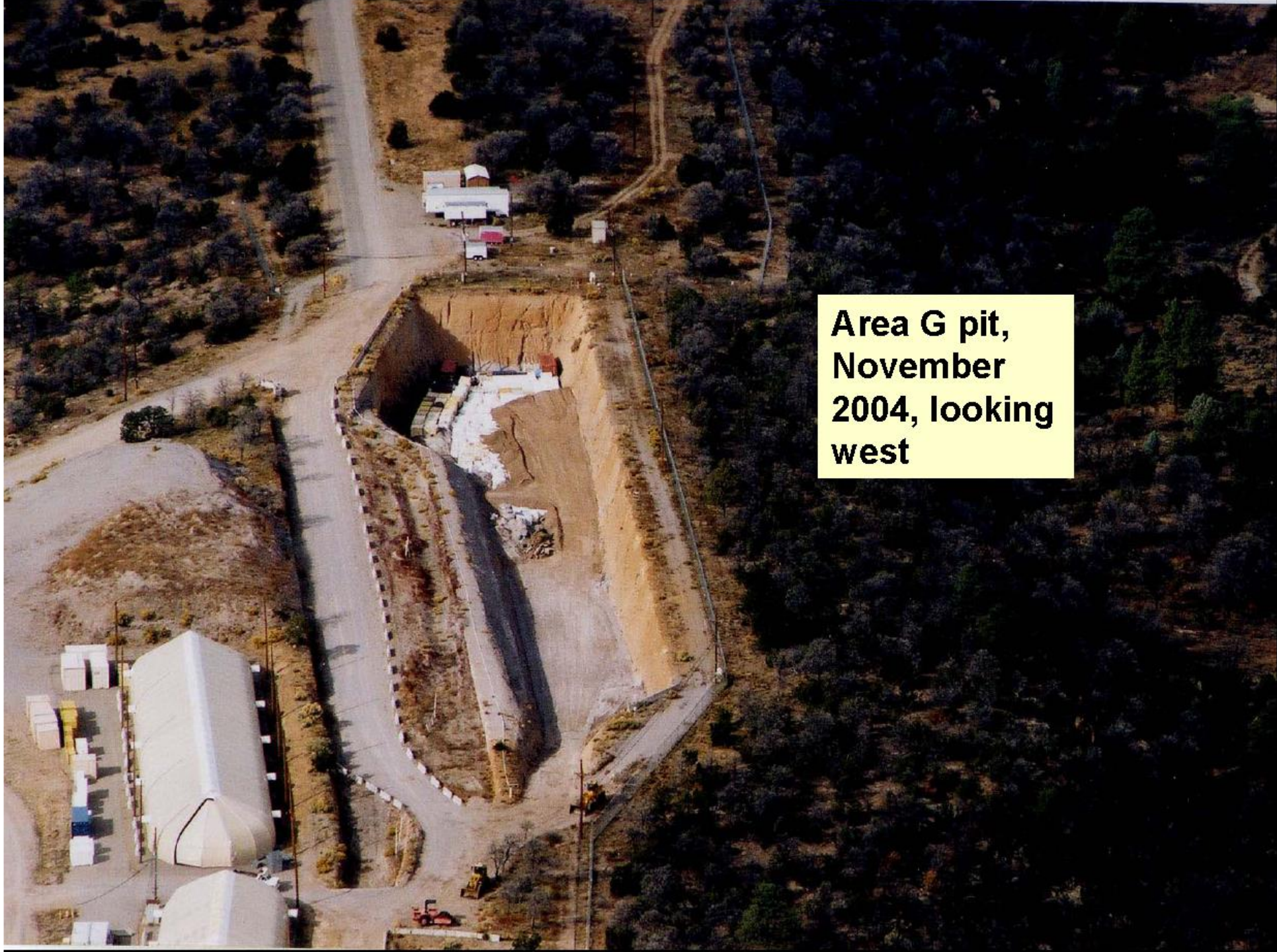



Photo:
LASG



Area G pit,
November
2004, looking
west



LANL Area G pit,
from National
Geographic

Question 1:

The Obama administration and Congress would like to spend billions of dollars in new construction for industrial-scale plutonium processing, waste handling, and weapons manufacturing – dirty and risky work, on a scale never before seen in Los Alamos.

Is such a future compatible with a sustainable, attractive, and economically-resilient "City Different?"

TA-55 Plutonium Programs

- Stockpile Stewardship
 - Pit Manufacturing Program
 - Pit Certification Program
 - Surveillance Program
 - Plutonium Experimental Program
 - Other Plutonium Programs

 - Other Pu Programs-Activities
 - ARIES
 - Plutonium Heat Sources-238 programs
 - Materials Recycle and Recovery
 - Milliwatt Generator Fabrication
 - Actinide Science
 - Nuclear Forensics
- Support of LLNL Missions UNCLASSIFIED



Slide 31

Pantex Zone 4 surplus pit and warhead magazines (plus more storage in Zone 12)



July 12, 2016

16,000 or more pits are here

Bunkers in Zone 4, Pantex



Pit production for the stockpile

Purposes

- “Capability-based deterrence”
- Retention, transmission of skills
- Emergency production (technical and geopolitical “surprise”)
- “Interoperable” Warhead (IW) #1, *non-deployed (“hedge”) warheads for ICBMs only*
- Subsequent new warheads in 2030s

Legislated program goals (FY15 National Defense Authorization Act, NDAA)

- Make 10 war reserve (WR) pits in FY24
- 20 WR pits in FY25
- 30 WR pits in FY26
- 50-80 pits/yr demonstration production rate for 90 days in FY27, can delay 2 yrs maybe

Also: recover Pu-238 for warheads and “invest in Pu-238 capabilities for the stockpile.”

Plutonium Sustainment Program spending

- FY16: \$ 175M; FY17 requested \$ 185M
- Outyears: FY18: \$ 153M rising to \$ 194M in FY21
- Aims to fabricate 4-5 development W87 pits in FY17; continue to acquire and install equipment to make Pu and non-Pu components of pits, and assemble pits
- Pu-238 investments for warhead power supplies
- Fabrication of pit prototypes “with new design features,” fabrication of Pu “devices” for experiments
- Miscellaneous supporting activities *but not facilities*
- Roughly 10% of LANL total warhead budget

Capital projects required for pit production

- **Chemistry & Metallurgy Research Replacement (CMRR)** (7 subprojects: 2 done, 1 [huge] canceled)
- TA-55 Reinvestment Projects (TRP I, II, III, no end?)
- TRU Waste Facility (finishes FY17)
- Radioactive Liquid Waste Treatment Facility (RLWTF)
 - LLW (finishes FY17, *cost unknown*)
 - TRU LW (TLW): began FY11, ends FY21; \$103M
- **“Plutonium Modular Approach” (PMA, “modules”)**
- Other waste management & other infrastructure

CMRR Project (to finish FY2024, \$ 2.877B)

- RLUOB: finished (CD-4) FY10; \$ 199M spent
- CMRR Nuclear Facility: canceled FY14; \$ 495M spent
- RLUOB Equip. Install. (REI): finished FY13; \$ 197M spent
- REI Phase 2 (REI2); began (CD-1) FY14, ends FY20; \$ 675M
- PF-4 Equip. Install. Ph. 1 (PEI1): began FY14, ends FY20; \$ 315M
- PF-4 E.I. Ph. 2 (PEI2): began FY14, ends FY2024; \$ 685M
- RLUOB Re-categorization to Hazard Category 3 (RC3): to begin FY2017, ends FY2024; \$ 365M
- RLUOB to cost \$ 199+197+675+365 M = \$ 1.436 B

Modules (“Plutonium Modular Approach”, PMA)

- Proposed line item for FY17 rejected by OMB last year
- Earliest CD-1 FY17, earliest line item FY18 (Feb 17 request) unless reprogramming granted in meantime
- Expected/required completion FY2027
- Cost up to “\$3B” (for 2 modules?), for ~5,000 sq. ft. usable, ~10,000 sq. ft. total, or \$300,000/sq. ft.
- Seismically-fragile tunnel connections to PF-4, RLUOB
- Bare-minimum mechanical, HVAC, fire equipment
- For Pu casting, Pu-238, what else?
- Decreased air emissions, but increased worker hazard?



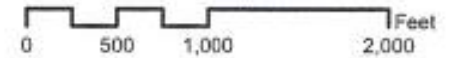
Pajarito Corridor Project Planning 2010 - 2020 DRAFT December 2, 2010

Legend

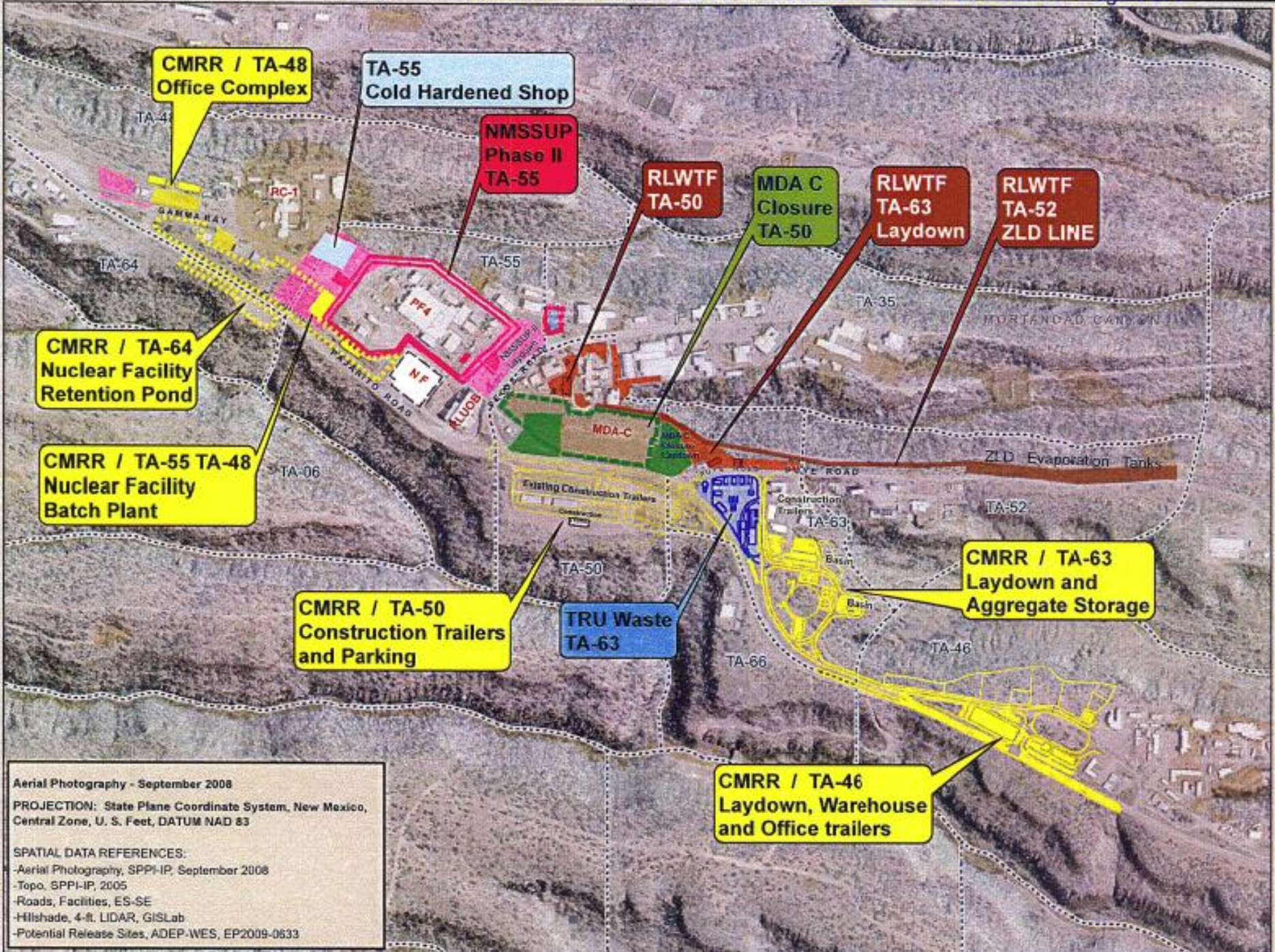
- Potential Release Site
- Technical Area Boundary



1 inch = 1,000 feet



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



Aerial Photography - September 2008
 PROJECTION: State Plane Coordinate System, New Mexico, Central Zone, U. S. Feet, DATUM NAD 83
 SPATIAL DATA REFERENCES:
 -Aerial Photography, SPPI-IP, September 2008
 -Topo, SPPI-IP, 2005
 -Roads, Facilities, ES-SE
 -Hillshade, 4-ft. LIDAR, GISLab
 -Potential Release Sites, ADEP-WES, EP2009-0633



Los Alamos Study Group, artist's conception of plutonium modules



RLUOB: The most expensive construction project in the history of New Mexico (\$ 1.4 B, est. total cost)



Main issues NNSA faces w/ pit production

- Lack of solid mission need
- Bad conceptual design (esp. the “modules”)
- High and uncertain cost
- Recurrent poor facility management
- Long project duration (construction ends FY27)
- Recurrent poor project management
- Numerous fiscal “time bombs” in DOE and USA
- Competition for funds in government (DoD, others!)
- Instability of contract, work compatibility issues
- Poor morale; hiring & retention issues; bad location

Why pit production is important to us

- Would halt a major new warhead planned, end “3+2”, halt ALL new warheads not using existing pits
- Hugely symbolic, morale-crushing win
- Large environmental impacts and risks, legacy of permanent contamination
- If it proceeds, would permanently stigmatize SF & northern NM

Large-scale pit production would harm Santa Fe and New Mexico (I)

- The exigencies of pit production and related industrial-scale Pu processing and waste handling would take over more of LANL's culture, affecting reputation, recruitment, and morale. Even without (more) accidents and safety scares, **a "plutonium" identity and reputation would be shared to some extent throughout the metro area and beyond.** Already the SF metro area is home to unregulated nuclear waste disposal and partially-regulated nuclear waste storage and processing, mostly generated by plutonium programs.
- The area's economic development potential is based in substantial part on perceptions of environmental and cultural amenity, and a relative lack of pollution. This is the goose that lays the golden eggs, but it's sick. It would be a mistake to grow some of the dirtiest and most dangerous aspects of the morally repugnant, treaty-violating, and dysfunctional nuclear weapons industry in our back yard. That growth would be politically, economically, and socially incompatible with any vibrant, sustainable, and just future.

Large-scale pit production would harm Santa Fe and New Mexico (II)

- These identity and reputational impacts – continuing and new – would combine synergistically with our lack of business clusters and skills, with our floundering social, political, and educational failures, and with the regional impacts of global warming. We have plenty of problems without more plutonium. LANL and its plutonium are *economic development problems, not solutions*.
- New Mexico's political system and civil society institutions would continue and deepen their subaltern relationship with the nuclear laboratories, uranium enrichment plant, current and planned nuclear waste disposal and storage sites, and the military.
- As Dr. William Weida (Pentagon, Air Force Academy, Colorado College) once said, “New Mexico's greatest economic development problem is its failure to realize that The Bomb has been a mistake.”

Large-scale pit production would harm Santa Fe and New Mexico (III)

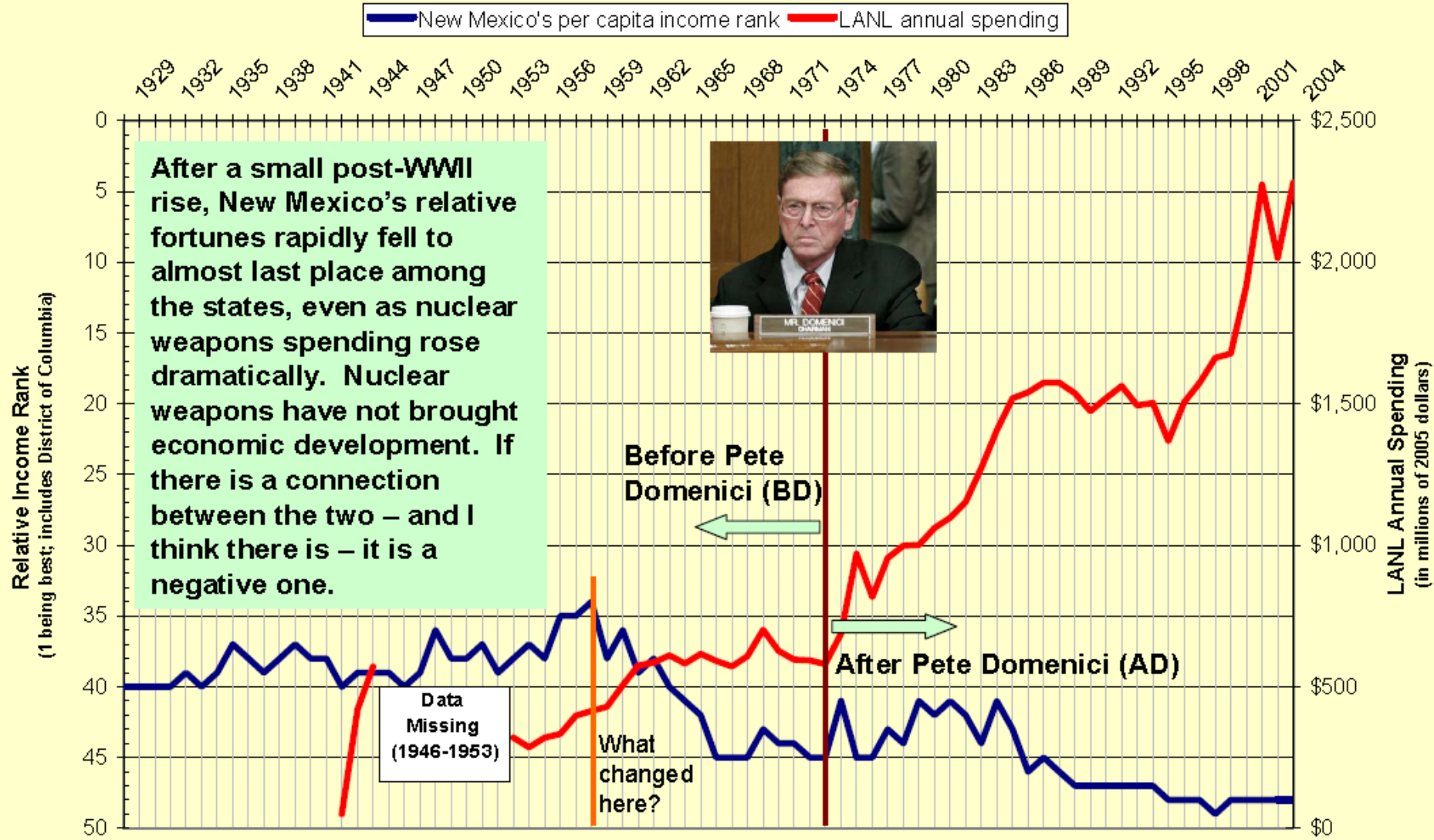
- *As the state's politicians continue to depend on nuclear and defense thinking and contractors, they continue to ignore realistic solutions to the state's economic, social, and environmental problems. These same politicians are (continue to) forestall development of sound national defense, energy, and climate policies.*
- *"Plutonium-induced" degradations in the state's identity, culture, reputation, politics, and civil society institutions lower the barriers to more nuclear investments in a mutually-reinforcing downward spiral, further investing the state in injustice, unsustainability, and continuing to stunt its democratic institutions.*

Question 2:

Does Los Alamos National Laboratory (LANL) benefit Santa Fe? If not, could it do so under different policy scenarios?

[We had very little time to discuss this question. For more see "[Does Los Alamos National Lab Help or Hurt the New Mexico Economy?](#)" July 2006 and "[Weapons Labs and the Future of New Mexico: Problems, Prospects, Messages,](#)" May 15, 2007 briefing.

**Per Capita Personal Income in New Mexico relative to the U.S. as a whole (1929-2004)
with Los Alamos National Labs (LANL) annual spending (1943-2004)**



Sources: Bureau of Economic Analysis; Schwartz, S. *Atomic Audit* (1998); Los Alamos National Laboratory; and Los Alamos Study Group.

Federal spending patterns in three NM counties near LANL (2004)

Taos

- \$222 million (M) total federal spending
- \$8.3 M (3.7%) from LANL commuters + procurement
- \$7.7 M (3.4%) other military spending
- 11% of federal spending was military (all sources)
- \$197 M in non-military federal spending
- LANL contributes only 1% of total personal income (TPI) in Taos County.

Rio Arriba

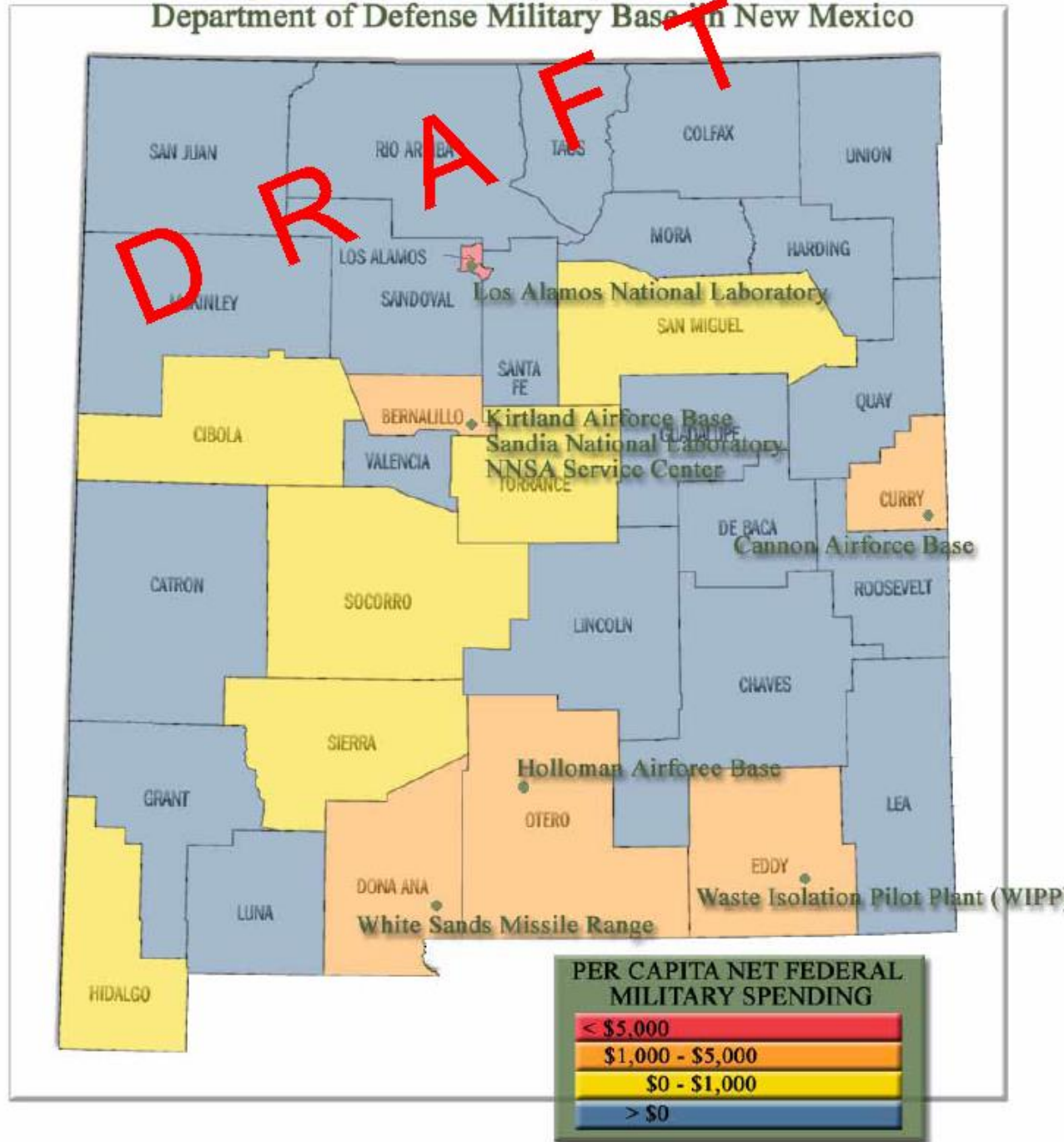
- \$491 M total federal spending
- \$175 M (36%) from LANL (commuters + procurement)
- \$316 M non-military federal spending
- LANL spending is 20% of TPI in County; non-military federal spending is 36% for a total federal TPI share of 56%, a high number.
- Non-military spending is much more important than military spending (including LANL) in Rio Arriba County.

Santa Fe

- \$1,430 M total federal spending
- \$246 M (17%) from LANL commuters + procurement
- \$60 M in other military spending
- \$1,124 M in non-defense federal spending
- Of Santa Fe County TPI of \$4,300 M, LANL spending is 5.1%.

- All three counties are less dependent on military and LANL spending than on non-military federal spending.
- If LANL dried up and blew away tomorrow, and nothing at all was done to mitigate or turn this event to advantage, how long would the economic impact linger in Taos County? In Santa Fe County? What if a decline in LANL's fiscal fortunes were accompanied by growth in other federal priorities, e.g. education, public infrastructure, or energy efficiency?
- LANL is not solving Rio Arriba County's woes. It may exacerbate them.

Department of Energy Weapons Facilities and
Department of Defense Military Base in New Mexico



Military spending is localized; military taxation is everywhere.

Most NM counties LOSE in the military "pork game."

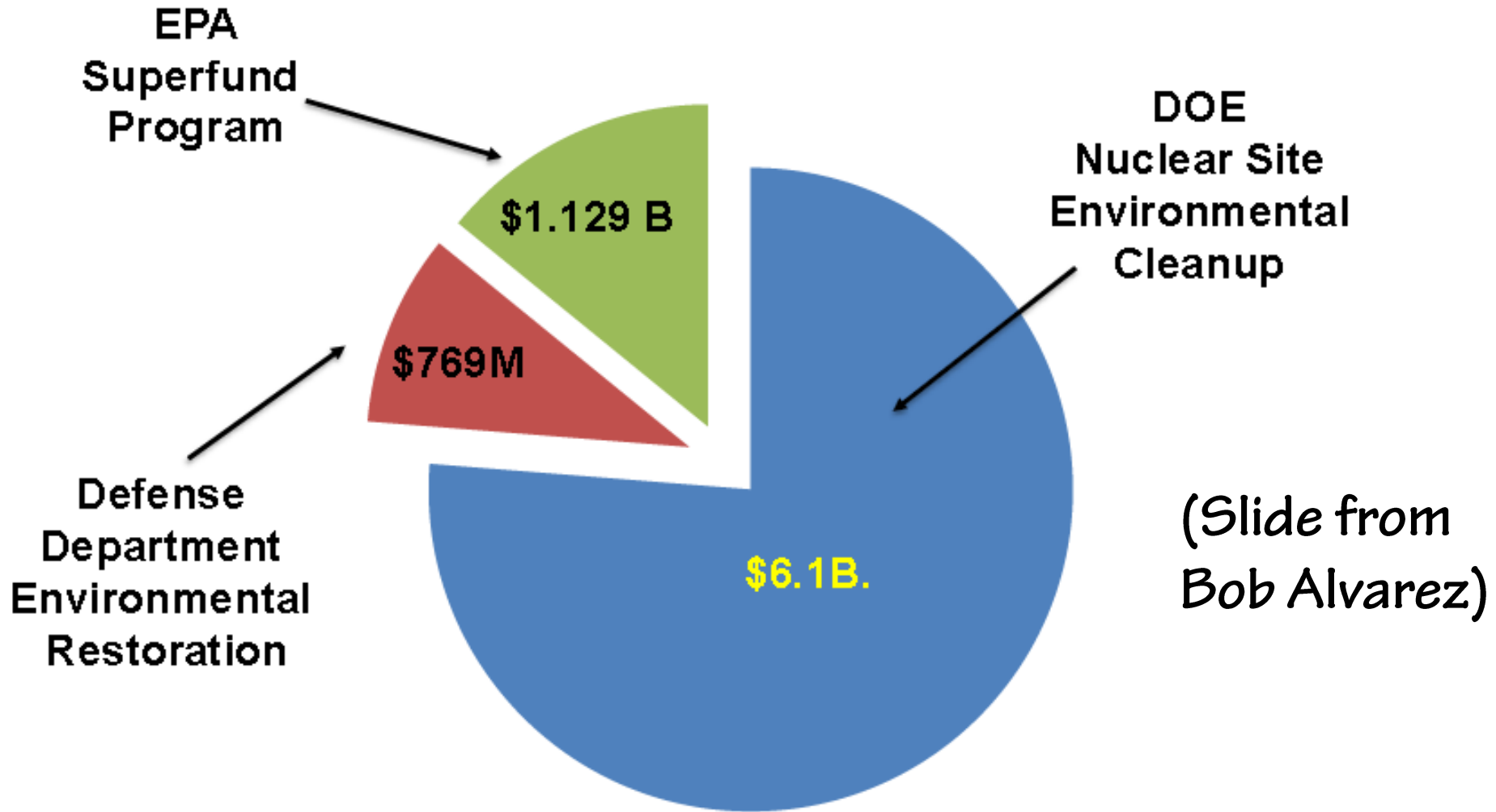
(This DRAFT analysis and map does not include the effects of commuting.)

Question 3:

Can LANL ever be "cleaned up?"

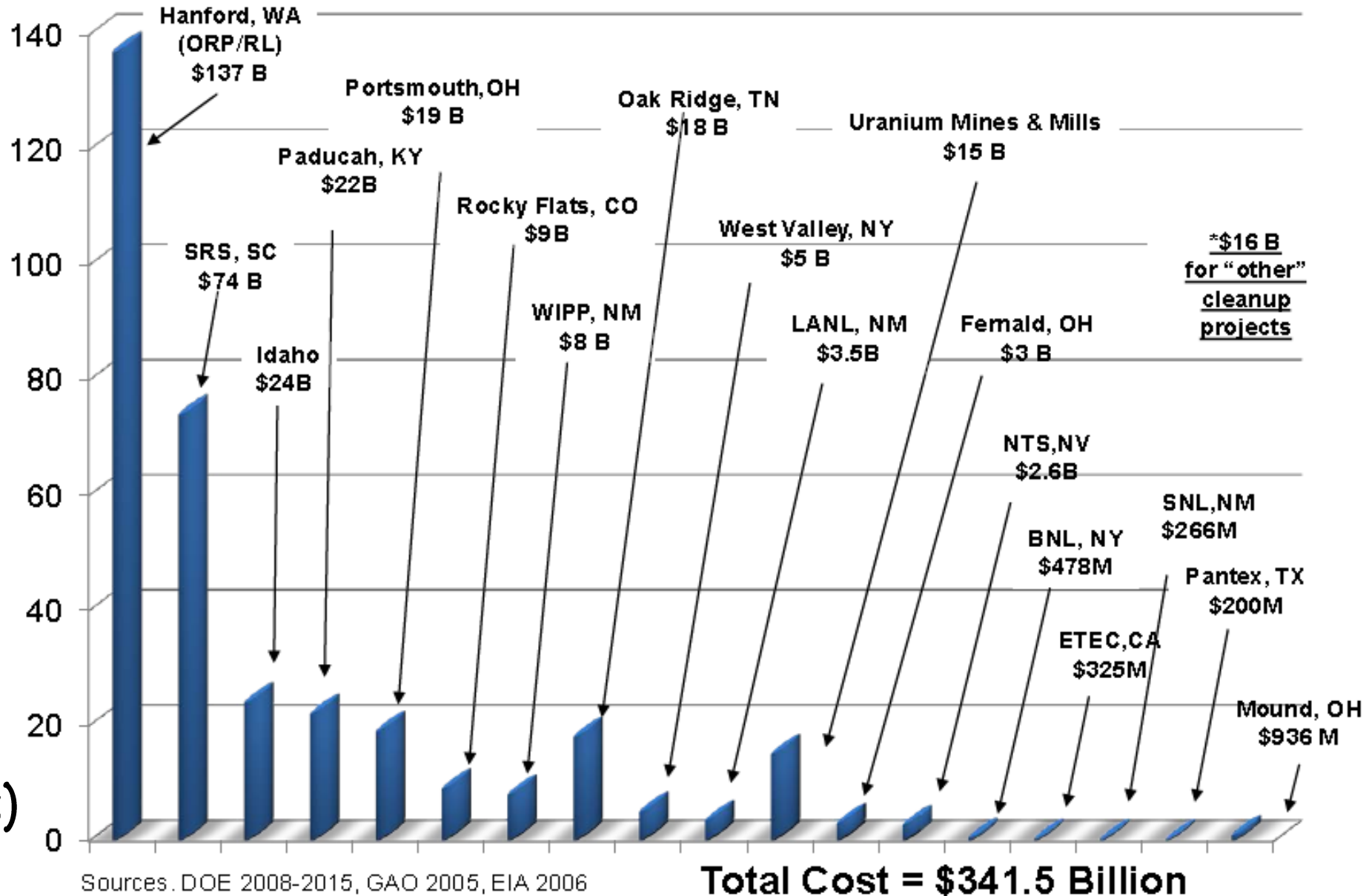
[We had very little time to discuss this.]

**Nuclear weapons production resulted in the most complex and expensive environmental cleanup effort in the United States.
(FY 2017)**



(Slide from Bob Alvarez)

DOE Site Cleanup Costs*



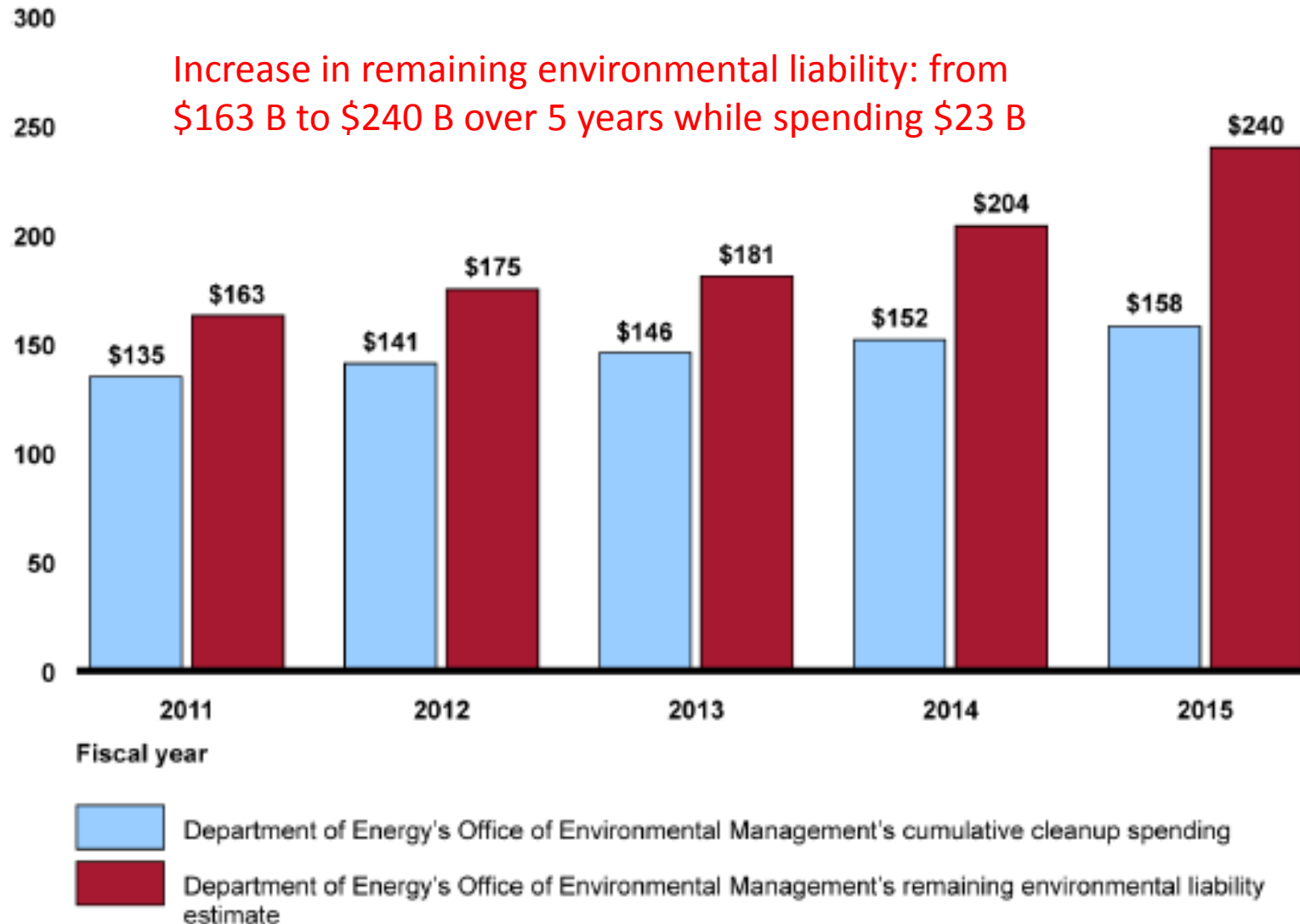
(Slide from Bob Alvarez)

2015 dollars

Does not include NNSA projects

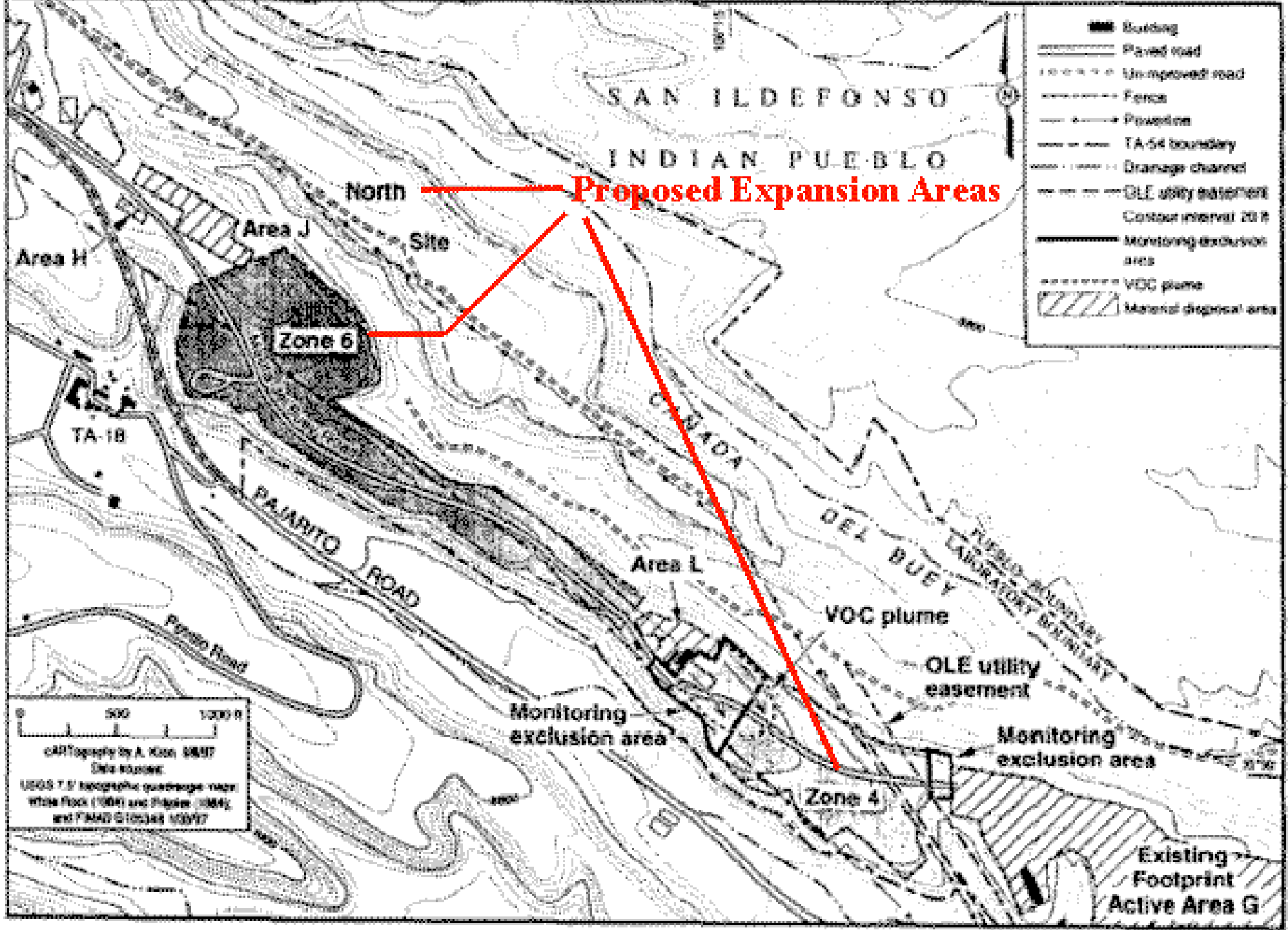
Figure 1: DOE's Office of Environmental Management's Cumulative Spending on Cleanup and Remaining Environmental Liability Estimates from Fiscal Years 2011 to 2015

Dollars (in billions)

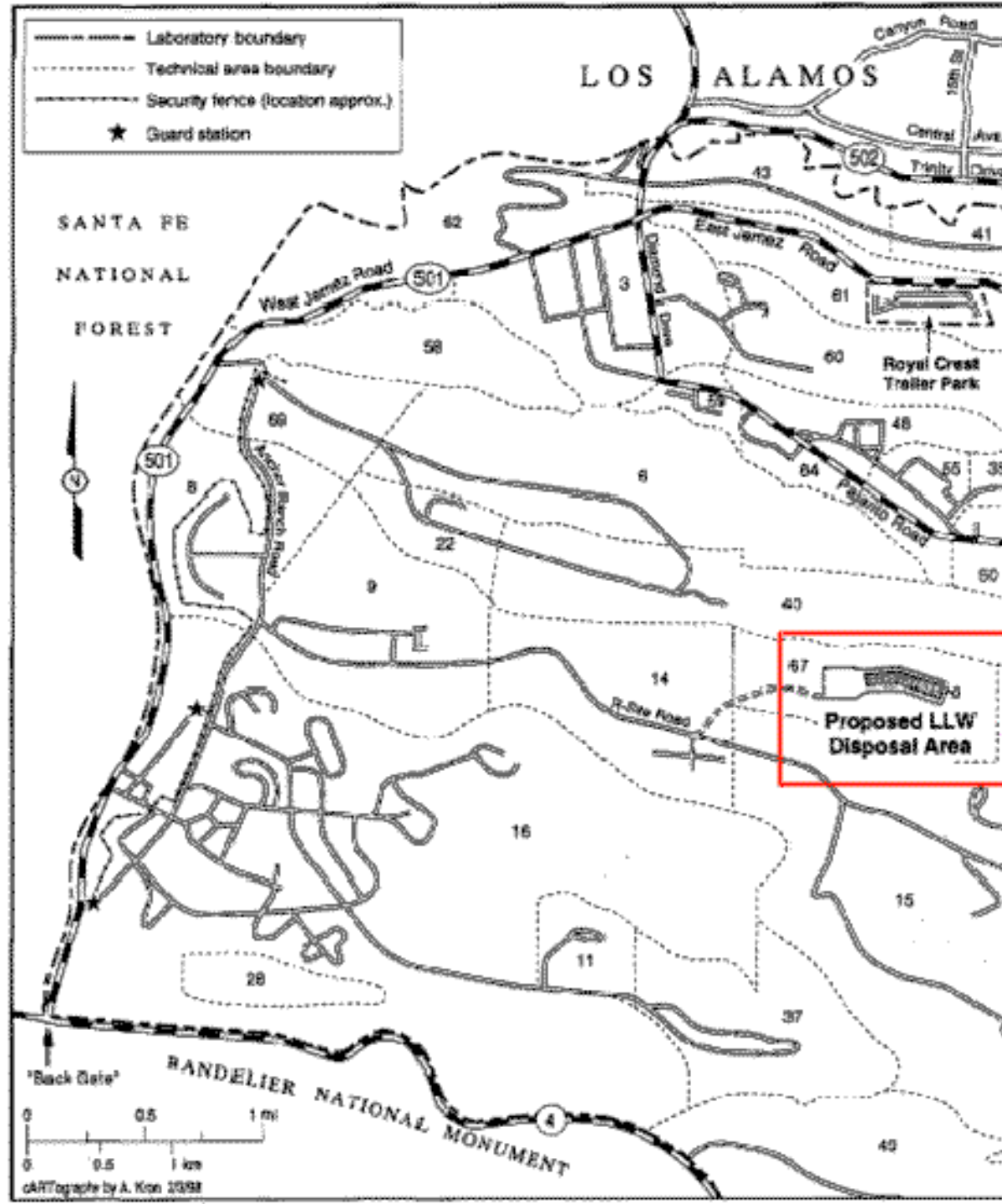


(Slide from
Bob Alvarez)

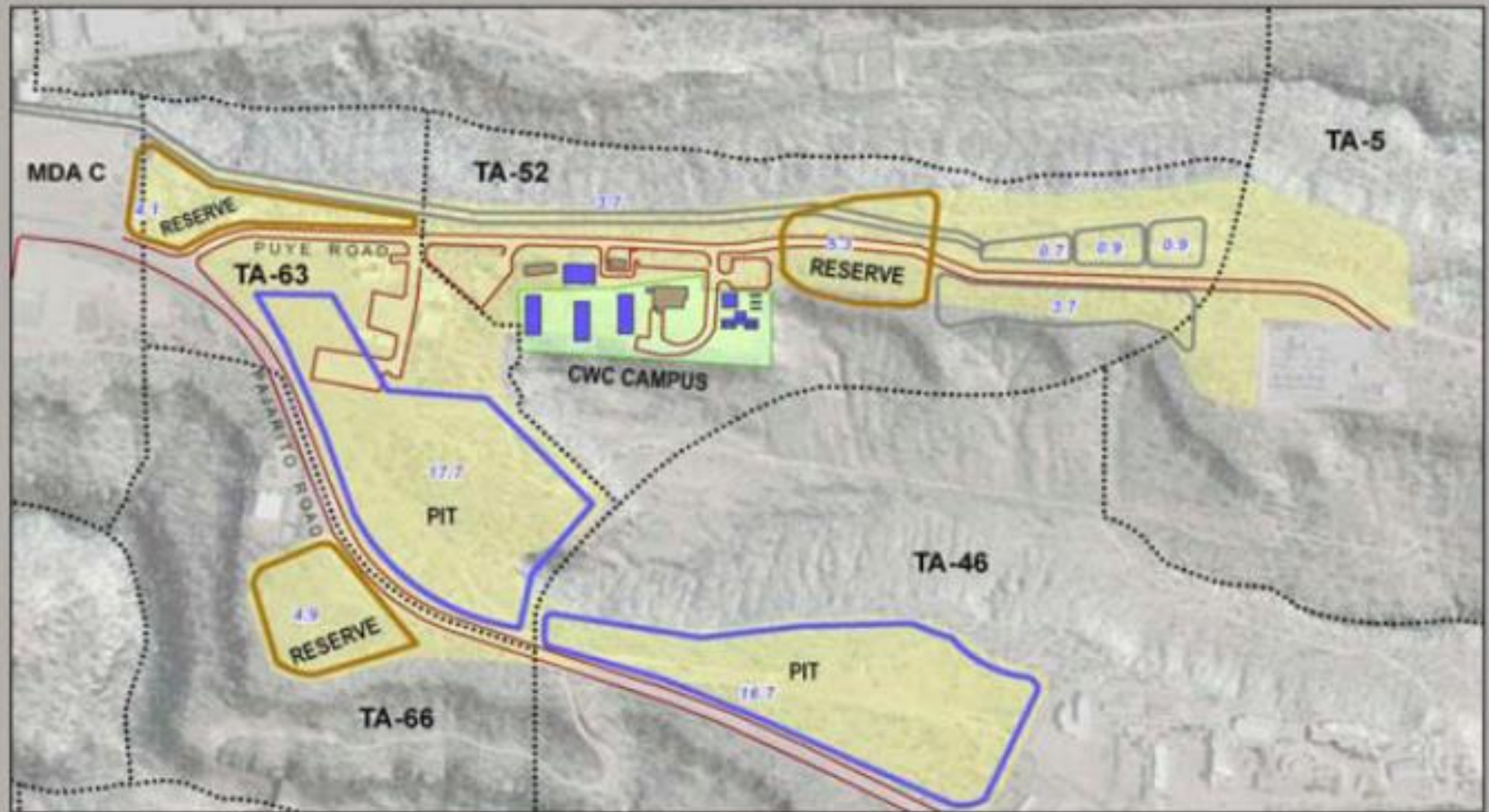
Proposed low-level waste (LLW) disposal sites at LANL; National Environmental Policy Act (NEPA) analysis already conducted, though more analysis might be necessary now.



Another proposed and approved site for LLW disposal at LANL.



More recent possible LLW disposal pit locations, from NNSA, [FY2011 Biennial Plan and Budget Assessment on the Modernization and Refurbishment of the Nuclear Security Complex, Annex D](#), May 2010, p. 34)

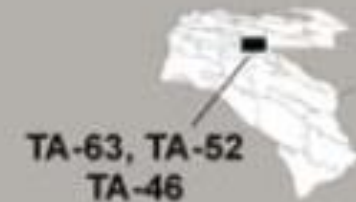


CWC Site Concept at TA-63, TA-52, TA-46

- Technical Area Boundary
- Future Reserve
- Pit
- 2-D line & basins
- Existing Building
- Proposed Building
- Fenced Area
- Previously identified CWC Area



INFRASTRUCTURE PLANNING
Site Planning & Project Initiation
February 10, 2010



Question 4:

Can the lab be converted or effectively diversified to new missions?

[We had very little time to discuss this. See the following comment.]

Manuel Garcia, former LLNL physicist, responding in the *New Mexican* to a person advocating the "conversion" of LANL to peaceful ends:

The "brilliant minds" and "use[less] infrastructure" of the nuclear labs are incapable of "work the world needs." That these nuclear weapons playpens might be "useful" to civilian purposes is a great misconception widespread among the public. Certainly, some of the individuals in these labs could apply themselves to "useful" work, applying technical skill to improve social conditions, if they were placed in the right setting (and in rare cases, on their own as lone scientist-inventors). But, such people are the exception. The vast majority are unable to conceptualize actual social needs, and few have technical expertise that is applicable to "real world" problems. Most of these "brilliant minds" need massive high-tech resources to work on arcane details of exotic physical situations with no relation to the experiences and problems that face most of humanity. Also, most of these "brilliant minds" expect lots of money for their work, and would not be cost effective to projects aimed at improving social conditions. Just like an old battleship is useless for passenger or cargo or fishing or ocean research purposes, the nuclear weapons people are similarly useless outside their niche. The only way to make the battleship useful for peaceful ends is break it up for scrap metal. Similarly, the only way to get "usefulness" out of nuclear weapons experts is to put them into civilian occupations at an entry level, and let them start over in a new "peace" mode. Few will show themselves to be brilliant.

The waste of the labs is that they suck up national resources (money and graduates of technical schools) that would be better spent on projects for the solution of real social problems (e.g., clean water worldwide, renewable energy, public health, care of the environment, etc.) and the education of new young experts to man these projects. Just as the Iraq and Afghanistan wars suck money out of the federal budget and impoverish our society (lack of funding at state and local level for social programs), so do the nuclear labs act like little fiscal black holes of war, that suck up what could otherwise be useful investment in technical education and socially beneficial research. The labs cannot be reprogrammed, only melted down and recycled.

Question 5:

Can Santa Fe emerge from the political and cultural shadow of The Bomb?

Who is Santa Fe's real patron saint now, Francesco Bernardone -- or Robert Oppenheimer?

The answer begins when we wake up and leave denial behind.

How many slides could we make of our political and opinion leaders fawning to the laboratories, the military, and their complex of dependent contractors and agents?

How far down must we slide before we awaken?

Greetings from

PLUTOPIA

*Richland USA
Ozersk USSR*

Photo:
LASG,
2015



The Prayer of St. Francis of Assisi

LORD,

make me an instrument of Thy peace:

Where there is hatred, let me sow love.

Where there is injury, pardon.

Where there is doubt, faith.

Where there is despair, hope.

Where there is darkness, light.

Where there is sadness, joy.

O Divine Master, grant that I may not so much

Seek to be consoled, as to console;

To be understood, as to understand;

To be loved, as to love.

For it is in giving that we receive,

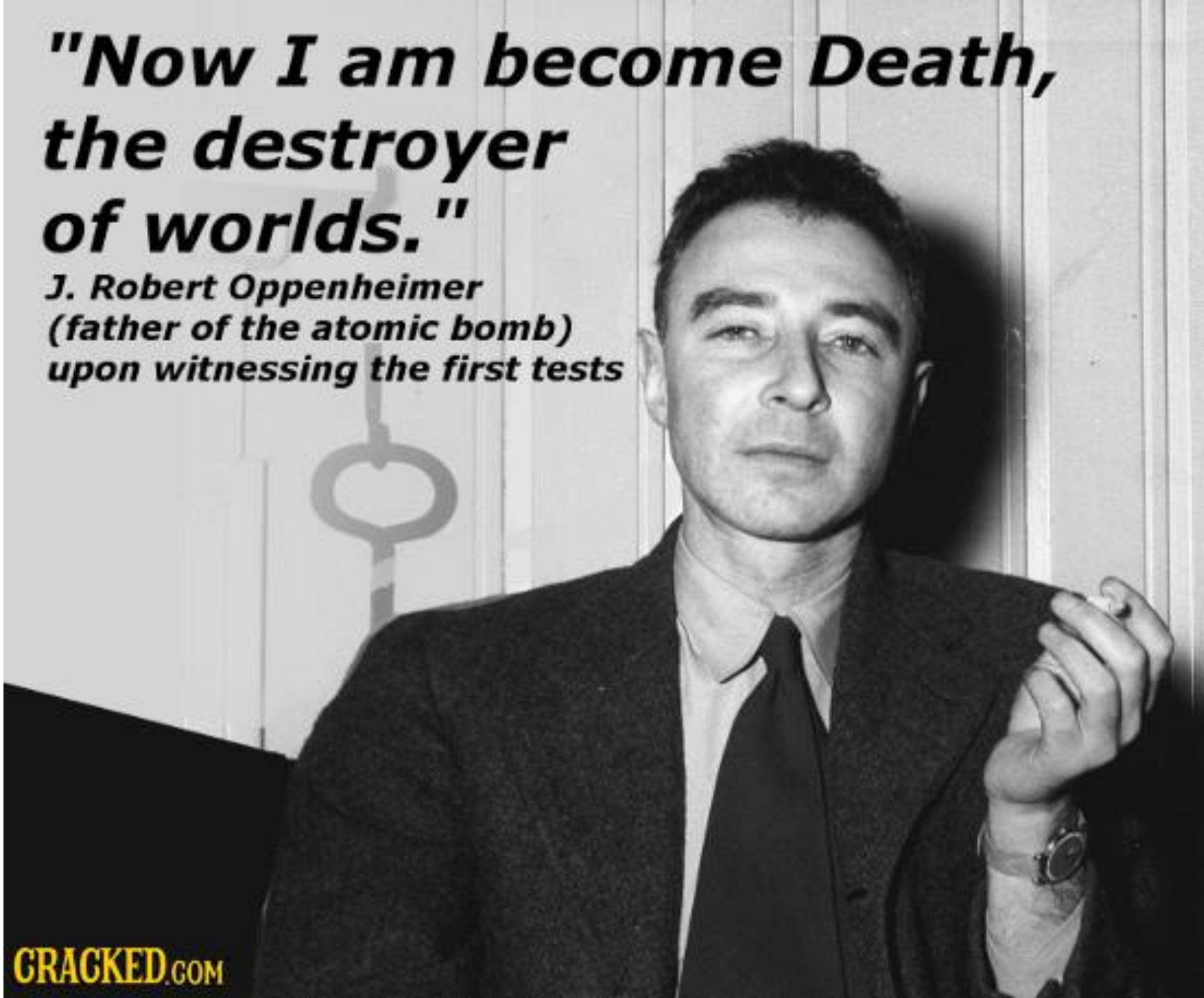
It is in pardoning that we are pardoned,

And it is in dying that we are born to Eternal Life.



***"Now I am become Death,
the destroyer
of worlds."***

***J. Robert Oppenheimer
(father of the atomic bomb)
upon witnessing the first tests***



He is Oppie on the Hill.
He is Oppie on the Hill.
We've a Gadget we
must make,
For the human race's
sake
'Cause he is Oppie on
the Hill.

[http://www.lasg.org/
MPNHP/LA_kids_11
Nov2015.mp4](http://www.lasg.org/MPNHP/LA_kids_11Nov2015.mp4)



Orbit, mascot
of the
Isotopes,
visits the
LANL
plutonium
facility





Weil on the “empire of might”

Only he who knows the empire of might and knows how not to respect it is capable of love and justice.

The might which kills outright is an elementary and coarse form of might. How much more varied in its devices; how much more astonishing in its effects is that other which does not kill; or which delays killing. It must surely kill, or it will perhaps kill, or else it is only suspended above him whom it may at any moment destroy. This of all procedures turns a man to stone. From the power to transform him into a thing by killing him there proceeds another power, and much more prodigious, that which makes a thing of him while he still lives. He is living, he has a soul, yet he is a thing. A strange being is that thing which has a soul, and strange the state of that soul. Who knows how often during each instant it must torture and destroy itself in order to conform? The soul was not made to dwell in a thing; and when forced to it, there is no part of that soul but suffers violence....

And as pitilessly as might crushes, so pitilessly it maddens whoever possesses, or believes he possesses it.

Such is the nature of might. Its power to transform man into a thing is double and it cuts both ways; it petrifies differently but equally the souls of those who suffer it, and of those who wield it.

Thus it is that those to whom destiny lends might, perish for having relied too much upon it.

Simone Weil, “The Iliad, Poem of Might”





Question 6:

The time has come when Santa Fe must choose. We cannot have it both ways. The state, nation and world face a new set of challenges completely different from those that animated the Manhattan Project and the Cold War.

Can Santa Fe adapt to this brave new world, or even thrive?

If so, what might that look like, and what role if any could or should LANL play?

[We should return to these questions another time.]

The battle we must fight, which will unite all life-affirming strands and constituencies, is for human solidarity and preservation of a living planet. **The fight is *against* militarization and empire and its associated domestic austerity and pervasive violence, and *for* solidarity and survival. In NM, this battle must be in major part nuclear.**

- New Mexico currently leads the U.S. in WMD, in both absolute and relative expenditure, in unwavering political support from Democrats, in design laboratories, and in warheads and bombs present (though not deployed). These priorities are incompatible with economic growth, climate and energy progress, and all other sound policies. They lead nowhere, in fact. We are fighting for our lives here.
- The U.S. nuclear weapons enterprise – the empire of nuclear might – needs unwavering, enthusiastic support in and from New Mexico for successful expansion of production facilities, for recruitment, retention, and motivating employees, for successful program management, and for corporate prestige and profits. Real opposition and loss of prestige is very damaging.
- The nuclear weapons enterprise is very fragile. This fragility occurs because of its immorality, its dangers, its complexity, the extensive privileges it has amassed relative to the rest of society, its secretive, cloistered wastefulness and stupidity, its irrelevance to society's real security needs, the longevity of nuclear weapons, and the competition for funds within the military and between military and non-military government objectives. These factors have combined to tip the DOE warhead complex into rolling crisis, or perhaps even to “incipient collapse” (Alvarez).