National Ignition Facility Fails

Three, two, one… Nothing. The countdown to failure at the National Ignition Facility (NIF) is complete. After more than 16 years and $8 billion taxpayer dollars, on September 30, 2012, the NIF missed its last, and final, deadline to achieve the ignition that is its middle name.

Tri-Valley CAREs had long called NIF the National Almost Ignition Facility, or NAIF. But, to tell the truth, we were wrong. It never reached “almost.” The NIF was only able to achieve 10% of its most crucial parameter, the IFTX or “ignition threshold factor,” which is a function of target area density and yield.

NIF missed ignition by a mile. So many things were awry that scientists are unsure why it failed. They have a long list: ablator getting into the fuel, low implosion velocity, asymmetries, and so on. Moreover, the physical experiments at NIF did not match the computer predictions for them. None of these problems happened suddenly. Some were known for years, but were minimized or denied by NIF management.

For those new to NIF, it is a stadium-sized laser built at Livermore Lab with 192 beam lines converging on a target chamber. Inside the chamber sits a small “can” with open ends, and inside that is a radioactive fuel pellet filled with deuterium and tritium. The scientific goal was for the laser beams to hit the open ends of the can, bathe the pellet with intense x-rays and compress the fuel until a self-sustaining thermonuclear reaction occurred, as happens in the sun and in exploding nuclear weapons.

NIF’s original mission was to push the envelope of physics knowledge for nuclear weapons design and to train the next generation of bomb designers. Yet, NIF management has shamelessly promoted the laser as all things to all people; for example, overselling it for years as an energy machine - with ignition as the crowning achievement that would unlock fusion as a viable commercial enterprise. Whatever one thinks of nuclear fusion energy, the laser could not have ushered in that era in any case.

And, now, with the energyspiel in tatters, NIF management is again touting its role in maintaining the U.S. nuclear weapons stockpile. Yet, NIF is being oversold for that, too. The inconvenient fact is that the nation does not need a giant laser to maintain the safety and reliability of the existing arsenal until such time as it is dismantled.

Further, there are hazards associated with using NIF as a “Stockpile Stewardship” tool, as Tri-Valley CAREs has long stated. NIF’s utility is to bomb design, not maintenance, and its use will walk the weapons away from the “pedigreed” designs that were fully tested prior to the 1992 testing moratorium. At the same time, NIF-generated data will be used to “improve” the weapon design codes, moving them also incrementally farther away from actual test data.

These issues are again front and center. Recently, we obtained a draft report by the NIF “Fusion Program Execs” that will be finalized and sent to Congress later this month. Given that it is written by the entities that receive NIF funding, it is no surprise that it requests an increment of $577 million for three years, despite the laser’s failure to reach ignition and the complete lack of certainty as to whether it could ever achieve ignition - at any budget level or timeframe.

Also troubling is the draft report’s repeated assertion that NIF will attract new talent to weapons. As Dr. Stephen Bodner, former head of lasers at the Naval Research Laboratory, points out in his critique, the authors fail to analyze the type of talent the modern-day program needs. He states: “To maintain our existing stockpile, rather than develop new weapons, we need cautious, conservative scientists, who will not make unnecessary changes to the physical behavior of the weapons… We don’t need scientists who are overly confident… we don’t need scientists who will hide scientific problems… [as occurred with NIF].”

NIF stands at a crossroad. It did not and likely will not achieve ignition. It is of limited value to any of the purposes for which it has been promoted. Any future use in Stockpile Stewardship may bring far more - and bigger - problems than it solves.

Its proponents want nearly another half-billion per year for it with no end in sight. The real question is therefore whether the U.S. Congress will, finally, demand accountability at NIF and cut its funds - or buy into the new hype (just like the old hype) and throw good money after bad.
Tri-Valley CAREs’ board, staff, and members gathered for the annual August strategic planning retreat. A skilled facilitator led us through a number of exercises to help us focus and plan priorities for the coming year.

We began with a look back at last year’s priorities and what the group has accomplished on them. Then, looking forward, we moved into a strategic discussion using a format called SWOT (strengths-weaknesses-opportunities-threats).

The strategic opportunities for each potential program area were presented and discussed. Participants voted on the programs they felt were strategically most important for making progress on our mission in the coming year. The top three are:

1. Act to transform Livermore Lab and Sandia, Livermore to “Green Labs;” Uphold the termination of bomb-usable plutonium activities at Livermore.
2. Act to stop new bomb plants and shrink the nuclear weapons complex, arsenal and budget.
3. Act for environmental justice by obtaining full cleanup of toxic and radioactive pollution at the Livermore Lab Main Site and Site 300.

The day continued with an amazing potluck lunch, choosing internal priorities to strengthen the organization, several break-out sessions for in-depth planning, skill training and an exciting game of “pass the pit.” (If it explodes while you’re holding it, you’re out.)

We thank all of the participants for their wisdom, dedication and wonderful energy. We are already moving toward success on our priorities this year. And, we look forward to long-time and new participants carrying the tradition forward next summer.

Print Bites: All the News that Fits to Print

Livermore Safety Ignored. The Defense Nuclear Facilities Safety Board performs the only independent technical oversight of operations inside the U.S. nuclear weapons complex. On August 30, the board charged Livermore Lab and the Dept. of Energy’s Livermore Site Office with “applying insufficient rigor” to safety. The board’s letter detailed three distinct deficiencies. First, in the Lab’s tritium (radioactive hydrogen) facility, the board cited an “approved glovebox leak rate [that] is two orders of magnitude greater than rates recommended by national consensus industry standards... and existing DOE guidance.” Further, the board said, the Lab “relies on the tritium room monitors alerting workers to a tritium release.” Visualize this: when the room alarm goes off, the workers have already been dosed. Second, the board found that the Lab applied a faulty safety analysis (potentially understating the spread of plutonium) as part of its readiness procedure to perform a classified experiment involving the use of high explosives near special nuclear material. Finally, the board cited the Lab for allowing continued operations in the plutonium facility when its fire suppression system was inoperable. Read the board’s letter and additional detail on Livermore Lab safety deficiencies on our web site.

$640 Billion for Nuclear Weapons. In September, the Ploughshares Fund updated its cost estimate for U.S. nuclear weapons programs over the coming decade. The Fund projected that current plans for nuclear weapons and related programs could cost taxpayers about $640 billion over the coming decade. Ploughshares’ analysis may actually be conservative because it does not include programs that do not presently have cost estimates, such as the proposed new ICBM. The analysis does include Ploughshares’ estimate of the costs associated with U.S. nuclear weapons development, production, operation, maintenance, pollution cleanup, missile defenses and programs to prevent nuclear proliferation. Pie charts and a detailed breakdown are available on our website and at www.ploughshares.org.

Foreclosing on the Bomb in Livermore. About 200 participants gathered at in the park across from Livermore Lab. At the precise August moment when 67 years ago the U.S. dropped an atomic bomb on Hiroshima, sirens wailed in Livermore and participants observed a moment of silence before Mr. Takashi Tanemori, a Hiroshima bomb survivor, spoke. A powerful program followed with great speakers, musicians and Taiko drummers. This was followed by a march to the Lab’s West Gate – where peace advocates symbolically and literally foreclosed on the bomb by placing FORECLOSURE signs on the gates and stringing multiple strands of paper chains and locks across the 4-lane-wide entrance into Livermore Lab. You will find photos, videos and more on our website.

Plutonium Bomb Plant. In passing a 6-month Continuing Resolution (CR) this fall to fund the government through March 2013, neither the House nor the Senate specified any monies to be spent on the new plutonium bomb plant, called the CMRR-Nuclear Facility, at Los Alamos Lab. As we reported earlier, the Obama Administration had requested a 5-year delay in the project, which is intended to enable production of up to 80 new plutonium bomb cores each year. While the CR’s lack of specific mention may not kill every last dollar for the project it does trend in the right direction, and the proposed bomb plant’s design team is reportedly being disbanded. However, the House and Senate Armed Services Committees have leapt into the breach to express their dissatisfaction with the delay, and they have vowed to resuscitate the CMRR-NF in their authorizations bills, which have yet to be finalized. We will continue to oppose any funding for the new bomb plant. Stay tuned for the final outcome!

Uranium Processing Facility. Recently, Tri-Valley CAREs and more than 65 colleague organizations across the country, sent Congress a hard-hit-
DANGEROUS CARGO:
Plutonium Bomb Cores on the Road

Public Action Now Can Stop These Shipments

Tri-Valley CAREs launched a new campaign this fall against a dangerous and potentially unlawful government proposal to transport plutonium bomb cores from the Los Alamos National Lab in New Mexico to the Lawrence Livermore National Lab in California.

Plutonium bomb cores, often called pits, are Category I/II special nuclear material, requiring the highest level of security. However, the security designation at Livermore Lab was formally downgraded from Category I/II to the lesser Category III on September 30, 2012, meaning the facility is not authorized to handle the pits that could begin arriving as early as “within the next year or so” according to government sources we interviewed.

The U.S. Department of Energy (DOE) National Nuclear Security Administration is currently planning to truck these plutonium bomb cores across three states to Livermore Lab in order to utilize a relatively small set of diagnostics located in Building 334. The three pieces of diagnostic equipment are a “shaker pit,” “thermal chamber,” and “drop test.” They simulate the conditions a pit may encounter in a “storage, transportation or use environment.”

Following the diagnostic tests in Livermore, we are told that the plutonium bomb cores will be put back in trucks and taken on the road again to Los Alamos. One government official told us that the plutonium bomb cores could crisscross back and forth through New Mexico, Arizona and California “around six times per year.”

This plan raises a host of questions, including whether the diagnostic tests are necessary. According to the DOE Inspector General, this set of diagnostics sat dormant at Livermore Lab from 2005 to 2011. During that period, Los Alamos produced plutonium pits for the arsenal without it. Hence, our valid inquiry into whether it is really needed. The DOE has not yet publically answered that key threshold question.

Next comes the question of whether the diagnostic suite could be moved to the pits rather than repeatedly putting the plutonium bomb cores on the road to the diagnostic. We know that DOE considered permanently relocating these diagnostics in 2008 and concluded it would take four trucks to do so.

The facts lead us to ask, also, whether the Livermore Lab weapons designers may be clutching these diagnostics as their last chance to retain a “full-service” bomb design mission following the permanent removal of Category I/II quantities of special nuclear material in September. If true, it would mean that the weapons designers are putting millions of people at risk of a catastrophic nuclear accident, theft or release to serve their personal “plutonium envy.”

Hauling plutonium bomb cores around and operating this diagnostic at a site that lacks the absolutely essential Category I/II security infrastructure, puts the public in the gravest possible danger.

Further, this DOE plan has never undergone any analysis pursuant to the National Environmental Policy Act (NEPA), our nation’s basic environmental law. Like all federal agencies, the DOE is required to integrate NEPA into its activities at the earliest possible time. Due to the steps already taken with this novel and dangerous proposal to bring plutonium pits to Livermore Lab after completing security reductions there, we believe that the agency is out of compliance with the law. The DOE must either change its plan, or, at a minimum, undertake a full Environmental Impact Statement before proceeding.

Moreover, it is essential that potentially affected communities - from Los Alamos to Livermore and beyond - act now to oppose the unnecessary transport of plutonium bomb cores. In November, Tri-Valley CAREs and Nuclear Watch New Mexico sent a joint letter to DOE detailing our opposition to the proposal. Forty-six national, regional and local groups signed the letter, representing hundreds of thousands of their constituents.

Tri-Valley CAREs is also beginning a petition drive to give you and the people you know a direct say. Turn the page to find yours. We urge you to sign and return it. We will take your signature to meetings in Washington, DC with key officials to get this bad decision changed! We will go to Washington in mid-December, January and April, so please return your petition as soon as possible. THANK YOU!
PETITION

To Prevent the Transport of Plutonium Bomb Cores Back and Forth Between Los Alamos, New Mexico and Livermore, California

WHEREAS, these nuclear bomb cores will be transported back and forth on trucks through three states - New Mexico, Arizona and California.

WHEREAS, the government lowered the security at Livermore Lab on September 30, 2012 so that the facility has no authorization to handle, test or store nuclear bomb usable quantities of plutonium, including these bomb cores.

WHEREAS, the U.S. Department of Energy (DOE) National Nuclear Security Administration has proposed trucking plutonium bomb cores from its Los Alamos Lab in NM to Livermore Lab in the Bay Area, despite its lack of security.

WHEREAS, the bomb cores would undergo diagnostic tests at Livermore Lab that involve a “shaker pit,” “thermal chamber,” and “drop test” that simulate conditions during the bombs’ “storage, transportation or use environment.”

WHEREAS, after completing these diagnostic tests in Livermore, the plutonium bomb cores would be loaded back on trucks and sent on the road again to Los Alamos.

WHEREAS, publically available DOE documents state that it would take only 4 trucks to move the diagnostics from Livermore Lab to a more secure location at or near the bomb cores, thus reducing or eliminating their transport.

WHEREAS, these diagnostic tests were not performed on any of the nation’s plutonium bomb cores for a period of about six years, from 2005 to 2011, and the DOE has not publically justified a “need” to resume them now.

WHEREAS, the proposal to bring plutonium bomb cores to Livermore Lab, with its reduced security status, has never been analyzed under the National Environmental Policy Act, our nation’s most basic environmental protection law.

WHEREAS, this proposal may, therefore, be illegal as well as dangerous.

THEREFORE, WE CALL ON THE U.S. DEPARTMENT OF ENERGY TO CANCEL ITS PLAN TO TRANSPORT PLUTONIUM BOMB CORES TO LIVERMORE LAB. WE FURTHER CALL ON THE AGENCY TO PRIORITIZE ALTERNATIVES THAT WOULD REDUCE OR ELIMINATE TRANSPORTATION RISKS.

Your Name (print or write clearly) Address/City/State/Zip Email √ for updates

1.

2.

3.

4.

Send to/Request more from: Tri-Valley CAREs, 2582 Old First St., Livermore, CA 94550 • www.trivalleycares.org
THE STATE OF THE LIVERMORE LAB:
RADIATION, PUBLIC POLICY & YOU

Exploring How the Public Can Influence Decisions when
Politics, Secrecy & Ethics Collide with Science

DATE: Jan. 30, 2013
    Mark Your Calendar

TIME: 7 PM to 9 PM

PLACE: Livermore Main Library
       1188 South Livermore Ave.
       Large Community Room

TOPICS:

• Plutonium: the plan to bring nuclear bomb cores to Livermore from Los Alamos to “shake and bake” them

• Security: what the downgrade does and does not mean for nuclear safety

• Superfund cleanup: the latest on the Lab’s main site and site 300 pollution in our land and water

• National Ignition Facility: science failure, nuclear weapons research and the toxic impacts

• Biowarfare: what documents obtained under the Freedom of Information Act tell us

PRESENTERS:

• Marylia Kelley, Executive Director, Tri-Valley CAREs

• Jay Coghlan, Executive Director, Nuclear Watch New Mexico

• Peter Strauss, Environmental Scientist & Superfund Technical Advisor

• Scott Yundt, Staff Attorney, Tri-Valley CAREs

To RSVP or to obtain more information: Tri-Valley CAREs 2582 Old First Street, Livermore, CA 94550 • 925.443.7148 • www.trivalleycares.org

Particle of Plutonium: The black “star” in the photo shows the tracks made by alpha rays emitted from a particle of weapons-grade plutonium in the lung tissue of an ape. Each alpha ray can rip through 10,000 cells. The damage shown here occurred over an 18-hour period. The radioactive half-life of the plutonium is 24,400 years. This photo is from the Dept. of Energy’s Berkeley Lab, Sept. 20, 1982.
Tri-Valley CAREs
Member Appreciation & Holiday Party

We would like to thank you for your support and all you do for peace, justice and the environment!

Thursday, December 6, 2012
5:00 - 8:00 PM
Tri-Valley CAREs Office
2582 Old First Street, Livermore

Drop in and enjoy wonderful food, drinks, music, great company and maybe a game or two!
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Thursday, December 6

Member Appreciation & Holiday party
5 PM – 8 PM, Tri-Valley CAREs
2582 Old First St., Livermore
(925) 443-7148 for details

Drop in for great food, drink, friends, music and fun! We would like to thank YOU for all you do to promote peace, justice and a healthy environment throughout the year. Come on by! (See our holiday flier in the enclosed insert)

Monday, December 10

Tri-Valley CAREs Board meets to conduct its bi-annual evaluation
(925) 443-7148 for details

If you would like to be considered for future board membership, please contact the 2012 Board President, Janis Kate Turner, or the group’s Executive Director, Marylia Kelley.

Thursday, December 13

Connect U.S. policy meeting
Washington, DC
(925) 443-7148 for details

Tri-Valley CAREs has been invited to a foreign policy gathering in Washington, DC, hosted by the Connect U.S. Fund. Tom Donilon, national security advisor to President Obama, and Senator Bob Corker (R-TN) are among the invited speakers. Marylia will represent Tri-Valley CAREs at the gathering, and she will conduct additional meetings with administration officials and congressional leaders on nuclear policy.

Thursday, January 16

Legislative Strategy Retreat
Washington, DC
(925) 443-7148 for details

Each year, our colleague groups in the nation’s capital host a 2-day strategy retreat. This is an opportunity to share information and strategy - and to plan joint activities for the coming year. In 2013, we also will be taking your petitions (see insert) to meet with key elected officials and the administration.

Wednesday, January 17

Tri-Valley CAREs meets
7:30 PM – 9 PM, Livermore Library Community Room A
1188 So. Livermore Ave.
(925) 443-7148 for details

Don’t miss our first meeting of the New Year. Resolve to create a more peaceful and just world, and have fun doing it with Tri-Valley CAREs! Long-time and new members alike are welcome.

Wednesday, January 30

The State of the Livermore Lab: Radiation, Public Policy & You
Community-wide Event
7 PM – 9 PM, Livermore Library Large Community Room (A+B)
1188 So. Livermore Ave.
(925) 443-7148 for details

Join us for this event with guest experts on how to influence nuclear decisions – from plutonium bomb cores to nuclear security to cleanup of toxic wastes – and more. (See our flier in the insert.)

Get Our E-Alerts!
Make sure we have your correct email address by sending us an email at: scott@trivalleycares.org

Tri-Valley CAREs Citizen’s Watch

print bites... continued from page 2

ning critique of the proposed uranium bomb plant, known as the UPF, slated for construction at the Y-12 facility in Tennessee. The joint letter was drafted by the TN-based Oak Ridge Environmental Peace Alliance and circulated by the Alliance for Nuclear Accountability, a national network of groups around DOE facilities, including ours. The co-signers called on Senator Carl Levin, as Chair of the Senate Armed Services Committee, to stem the accelerating flow of funding to this new bomb plant, which would produce up to 80 uranium “secondaries” for nuclear weapons each year. The letter highlighted the UPF’s excessive bomb production capacity, a dearth of federal oversight and the need for adequate dismantlement capability for taking apart retired nuclear weapon secondaries. Indeed, when the news broke that the UPF design was inadequate to hold all of the production capacity the nukemeisters want, the response by Y-12 officials was to throw out the dismantlement mission. We will continue to work with allied groups across the country to turn that bad UPF equation around: Dismantlement, yes. New bomb production, not so much.

MOX Folly. This October, Tri-Valley CAREs and numerous groups led by the Alliance for Nuclear Accountability submitted public comments on the Dept. of Energy’s (DOE) impact statement for plutonium disposition, which included the controversial mixed oxide fuel (MOX) program to use excess military plutonium in civilian power reactors. In submitting the comment, more than 40 groups criticized the program, highlighted its escalating costs, and recommended that DOE declare the plutonium a “waste” product and concentrate on keeping it out of the biosphere rather than making it into a commercial “product” for nuclear power plants. Moreover, thus far, no U.S. company has volunteered to use the more dangerous MOX fuel, although DOE is leaning hard on the government-owned Tennessee Valley Authority to experiment with MOX in its reactors. The comment document is on our website.
The U.S. weapons labs are intent on developing new nuclear bombs by running them through increasingly ambitious “Life Extension Programs,” or LEPs. This has an incalculable proliferation cost. In addition, there is a somewhat more quantifiable budgetary price tag. And, for the B61 LEP, that is just becoming public.

The Dept. of Energy National Nuclear Security Administration (NNSA) plans to life-extend two variants of the B61, stationed in Europe, using the cores from the B61-4 with “mix and match” components from three other B61 versions to create the new B61-12, which we and others have dubbed the “Frankenbomb.”

In 2010, the NNSA estimated the cost at $3.9 billion. The agency then upped its estimate to $6.8 billion. Earlier this year, CA Senator Dianne Feinstein disclosed that she had been told the B61 LEP might cost as much as $8 billion. Today, we know that all of those estimates are too low.

The Dept. of Defense’s assessment now comes in at around $10.4 billion for the B61 LEP. Further, the DoD projections suggest there may be a 3-year schedule slip before the first production unit is completed somewhere around 2022. To attempt to keep the program on track toward a 2019 production date will require an additional $1 billion dollars annually over its current budget for the next several years, according to the assessment.

Independent analysts point to the scope of the LEP as the reason for its exorbitant cost. First, the bomb designers are using the B61 LEP to add new military capabilities to the bomb, such as greater accuracy and longer range than the NATO variants now possess, rather than simply maintaining the present capabilities. Further, the weaponeers may be venturing into new bomb development terrain in order to “exercise” their design muscles for the even more ambitious and far-flung set of changes they envision for the W78 LEP, which is “on deck” to follow the B61-12.

Meanwhile, NATO is grappling with inconsistencies in its current nuclear posture and, also, with the desire of key decision-makers in several member nations to see the alliance move out of the nuclear bomb-hosting business entirely. It is possible that the U.S. could spend $10 billion or more to create a new nuclear bomb for NATO that will have no mission when it is ready for deployment.