The Growing U.S. Nuclear Threat

Spending on "modernization" increases the nuclear danger
Lack of accountability wastes billions and puts the public at risk

Alliance for Nuclear Accountability

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More Money, Less Security

The Department of Energy's budget is set to increase this year as in years past. The increased spending will undermine efforts to make the nation more secure. New, provocative investments in weapons programs and infrastructure will undermine nonproliferation efforts and introduce uncertainties to the U.S. stockpile. At the same time, cuts to the cleanup budget and failure to hold DOE and the NNSA accountable leave health risks unaddressed, environmental damage unrepaired, and urgent waste challenges unmet.

Dangerous technological failures. Large cost overruns. Misplaced priorities. Bad management. These are terms one might expect to hear used to describe the local school's fifth-grade science fair, not the United States nuclear weapons programs.

The United States currently plans to spend over $1 trillion over the next 30 years to "modernize" its nuclear arsenal. At the core of this modernization plan is the National Nuclear Security Administration (NNSA), which is responsible for the facilities that design and construct U.S. nuclear weapons. As we lay out in detail in the following pages of *The Growing U.S. Nuclear Threat*, most of NNSA's flagship programs are over budget, years behind schedule, and in many cases, completely unnecessary.

Nuclear "modernization"

The rapidly escalating annual costs of the U.S. nuclear stockpile are due primarily to elective changes that NNSA is introducing through Life Extension Programs (LEPs). The Alliance for Nuclear Accountability has identified three LEPs in particular that demand to be reconsidered: a warhead for the Long-Range Stand Off weapon; the B61-12; and the interoperable warhead, NNSA's so called 3+2 strategy.

Putting aside questions about how these LEPs relate to international law, they should be canceled simply on the grounds of sky-high costs and lack of reliability. Each B61-12 nuclear gravity bomb, for example, will cost about twice its weight in solid gold. It will introduce significant modifications to the design of a weapon that was already tested. The first of the proposed interoperable warheads, the W78/88-1, is estimated to cost at least $12 billion. Congress wisely deferred this program in FY2015 for five years, recognizing that it was extremely expensive, overly ambitious, and unnecessary.

NNSA's programs do not stop at Life Extension Programs, however. It also includes the Uranium Processing Facility, originally proposed in 2005 to cost $600 million–$1.5 billion with a completion date of 2016. Ten years and $1.5 billion later, NNSA still has no approved design plan for the UPF. There is no documented national security need for this facility and, equally important, no public accountability for its myriad expensive failures.

In New Mexico, plans for a plutonium pit production facility were wisely scrapped in 2013. Even so, Los Alamos National Laboratory is preparing to spend billions to upgrade facilities and equipment for full-scale plutonium pit production by 2027. NNSA has not shown a "need" for plutonium pits to maintain the stockpile, yet the plans move forward with inexplicable momentum.

The National Ignition Facility, now 850% over budget, is—in the words of some former DOE officials—"worse than worthless." NIF missed its breakeven milestone by a factor of 100. NNSA now proposes plutonium experiments in NIF, presenting unanalyzed health and environmental threats as well as proliferation questions.

Dismantlement, nonproliferation and cleanup

Funding for dismantlement of the U.S. nuclear stockpile has remained flat over the past years at around $50 million, less than one percent of the NNSA's budget. Meanwhile, funding for Life Extension Programs has increased 30% over the past two years and is projected to rise an additional 22% over the next four years. With thousands of warheads awaiting dismantlement, the snail's pace of work combined with the paltry funding offered is inexcusable. It is incumbent upon the United States to deal efficiently and completely with the legacy of old and retired nuclear warheads.

"Modernized" nuclear weapons will not enhance our national security against today's global threats, but a comparatively small investment in nonproliferation programs almost certainly would. Why, then, does the Obama Administration's proposed FY2016 budget give NNSA nuclear weapons programs an 11.2% increase while nonproliferation programs receive only a 3.7% increase? That question would be valid on its own. But add to it the fact that last year nonproliferation programs were cut by 21%, and this becomes a glaring problem.

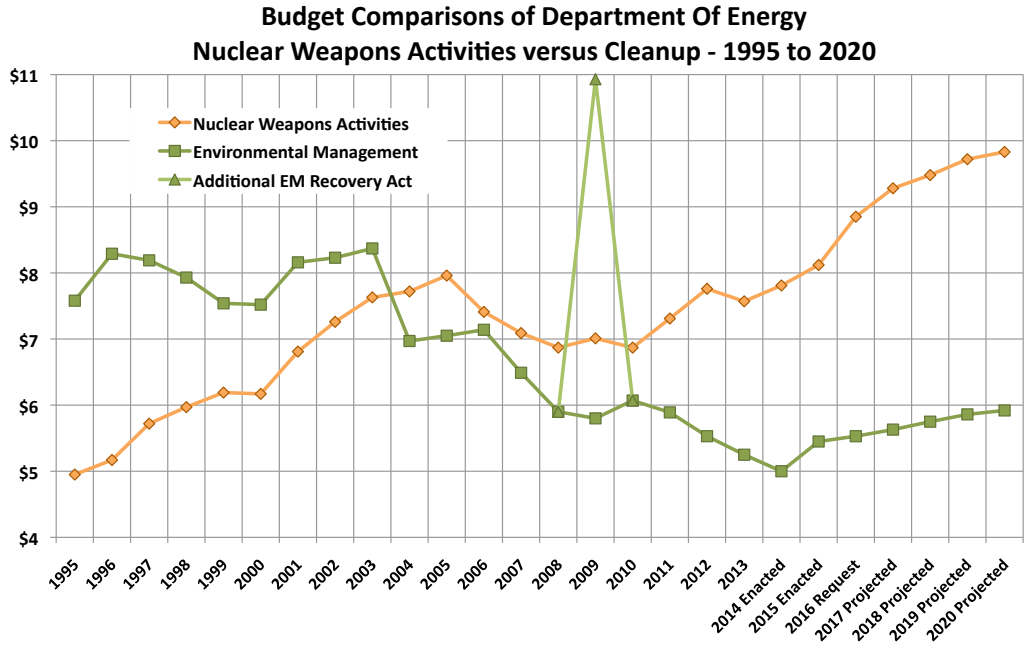
The Mixed Oxide (MOX) fuel program is a poster child for inefficiency, government pork and bad economics. MOX fuel is dangerous and creates tons of new plutonium waste, and no nuclear utilities have expressed interest in using the experimental fuel in their reactors. Pulling the plug on this unwanted and dangerous program would save taxpayers more than $47 billion.

The disastrous fire and radiation leak at the Waste Isolation Pilot Plant (WIPP) in 2014 showed the extreme dangers inherent in storing nuclear waste. Renewed Congressional efforts to resurrect Yucca Mountain as a repository for spent commercial nuclear fuel will waste time and taxpayer money. New laws for nuclear waste storage and disposal must be developed as the current ones have been unsuccessful. While some are attempting to shovel more money into the hole in Yucca Mountain, major problems with high-level waste continue at Hanford, Savannah River, and Idaho. Leaking tanks pose an immediate and long-term threat to the environment and millions of people. Addressing waste tank stabilization and disposition should be DOE's highest priority, and should be funded as such.

What can congress do?

The Alliance for Nuclear Accountability makes recommendations about each issue and program highlighted here. It boils down to a simple formula: fiscal responsibility, common sense, and public accountability. The programs detailed in *The Growing U.S. Nuclear Threat* are what our allies and enemies alike use to contrast the United States' words and deeds. When the U.S. states its unequivocal dedication to Article VI of the NonProliferation Treaty, which requires an end to the nuclear arms race and nuclear disarmament, what does the FY 2016 NNSA budget say? When government officials proclaim to care about the health and well-being of its citizens, what do the funding levels for Nonproliferation programs and waste cleanup say?

The current status quo—where contractors exploit lax oversight practices to enrich themselves with taxpayer dollars and, to add insult to the theft, fail to deliver on the projects for which they are responsible—is unacceptable. A conservative Congress should apply conservative fiscal principles, starting with increased oversight and rigorous accountability.



In Billions of 2015 dollars. Additional budget ($5.1B) in 2009 EM is due to Recovery Act.
Sources: White House Budget Authority and DOE Budget in Brief.

The drive to "modernize" the U.S. nuclear weapons stockpile and expand production capacity with new infrastructure invesments creates a direct competition with funding for cleanup dollars.

There are other results, not measured on a graph. Health risks continue for people in nuclear weapons communities. The environment suffers further injury. And, in some cases, pending environmental catastrophes are left looming.

Life Extension Programs

The Department of Energy's expensive program to modify and refurbish the existing U.S. nuclear stockpile wastes billions of taxpayer dollars on unnecessary changes to tested weapons and erodes confidence in the U.S. nuclear arsenal.

The escalating cost of maintaining U.S. nuclear weapons is not due to the difficulty of the task or the aging of the stockpile. It is caused by increasingly exotic elective changes the DOE's National Nuclear Security Administration (NNSA) is introducing into the stockpile through its Life Extension Programs (LEPs). Three LEPs in particular need close Congressional scrutiny. In the end, Congress should save money and roll back unnecessary add-ons that move the weapons away from their fully tested designs.

Cancel or delay the LRSO

The Air Force has requested around $1.8 billion over the next 5 years to develop a new Long-Range Stand Off (LRSO) weapon for the air-launched cruise missile. The NNSA is in charge of developing a new warhead for the Air Force's delivery vehicle. The proposed LRSO warhead, dubbed the W80-4, would be a variant of the W80 that arms current cruise missiles.

The FY 2016 budget request asks for $195 million, up from $9 million in FY 2015. LRSO warhead funding is slated to increase to $312 million in FY 2017, $407 million in FY 2018, and to continue on an upward trajectory. Independent estimates of LRSO missile and warhead costs come in at about $20 billion.


B-61

A new, stealthy, radar-evading LRSO weapon able to launch a sneak nuclear attack from up to three thousand miles away is a potential first-strike weapon. The new LRSO missile will be capable of carrying conventional and thermonuclear warheads. According to reports, the nuclear version will be indistinguishable from the conventional one, a potentially destabilizing situation.

The chief rationale given for the LRSO warhead is to offer the President an "additional option." Yet no one has proposed a scenario in which an LRSO would be uniquely required. Given the provocative nature of this new warhead, and absent any compelling need, Congress should cancel the LRSO program.

Scale back and cost share the B61-12 LEP

The new B61-12 nuclear gravity bomb introduces significant modifications to the design of an already tested weapon. The B61-12 creates a new all-purpose nuclear gravity bomb that will erase the distinction between tactical and strategic weapons. Of the approximately 480 B61s slated to become B61-12s, about 180 will be forward deployed at six bases in five NATO countries, with the remainder housed at four bases in the U.S. Currently, U.S. taxpayers alone are footing the bill.

The B61-12 LEP comes with a price tag upwards of $10 billion, which will make each bomb worth twice its weight in solid gold. The NNSA FY 2016 budget request for the B61-12 is for more than $643 million. The LEP will top the $700 million annual mark by 2018, rising to more

RECOMMENDATIONS

- Limit all LEPs to refurbishment of components necessary to maintain existing safety and reliability. Fully tested designs should be retained with original parts as much as possible to ensure the arsenal remains safe, secure, and reliable until it is dismantled.
- Delay the development of a new LRSO weapon by 3 years or cancel the program.
- Cancel the plan to design three new "interoperable" warheads and constrain the costly 3+2 strategy. In the interim, Congress should continue to refuse funding to develop the first "interoperable" warhead and maintain the 5-year delay imposed last year.
- Retire the W78 warhead since the more modern W87 is available to sit atop Minuteman III ICBMs for as long as ICBMs remain in the stockpile.
- Ensure that any FY 2016 funding for the B61-12 LEP includes a NATO cost sharing agreement before funds are released.

than $760 million in 2020. A guided tail fin kit, being designed separately by the Defense Department will add another $1.8 billion overall. The B61-12's new tail fin guidance kit will create the world's first nuclear smart bomb. Its continuing forward deployment in NATO countries is provocative.

Drop the "Interoperable" warhead

The NNSA's grandiose and wrong-headed proposal is to redesign the entire U.S. nuclear weapons stockpile by creating three warhead types that could be launched from both land- and sea-based platforms (i.e., be interoperable) and two new air-launched weapons. NNSA has dubbed this the "3+2 strategy."

The first of these interoperable warheads, the W78/88-1, is estimated to cost $12 billion. Technical uncertainty and changes in the nuclear weapons complex necessary to implement the program will add tens of billions more. The FY 2015 budget request and congressional action deferred funding for the W78/88-1 for at least five years. The FY 2016 budget request follows suit. Still, the NNSA insists the interoperable concept is on track, and the agency's FY 2016 Stockpile Stewardship and Management Plan shows development of the W78/88-1 in FY 2020.

Currently, there is no need to perform a LEP on the W78 or the W87, and no need to tinker with the proven design of the W88. The many problems associated with the interoperable concept can be avoided simply by maintaining the status quo indefinitely. The Navy has questioned NNSA's capacity to accomplish this "new emergent work" and has expressed a concern that the radical changes that could ensue from the mash-up of designs and components may compromise the weapons' reliability, leading to pressure to resume full-scale nuclear testing.

A conservative approach: curatorship

What is the nation getting for the estimated $42 billion for these three LEPs? Not a stockpile required for deterrence, however one defines it. The U.S. already possesses highly accurate, long-range land-based and sea-based ballistic missiles as well as nuclear gravity bombs.

The problems with these LEPs are myriad. The LEPs do more than is needed to maintain original safety and reliability. NNSA's ambitious program to modify weapons systems under the rubric of "life extension" is provocative; it will press other nations to modernize their stockpiles.

A more conservative stewardship approach, one that carefully preserves original designs, is preferable to elective changes that add cost and could compromise reliability.

A curatorship approach would be based on ongoing surveillance of the existing stockpile. Component replacement would be limited to parts which would compromise the performance or safety of the warhead if degraded. Replacement parts would conform as much as possible to the original design. Elective changes to upgrade the stockpile would be curtailed.

The curatorship approach would not only save tens of billions of taxpayer dollars, it would be more supportive of U.S. global nonproliferation objectives. While curatorship falls short of the disarmament required of the U.S. by the Nuclear Nonproliferation Treaty, it is more consistent with our treaty obligations than introducing new concepts through Life Extension Programs.

A context for thinking about new weapons systems

It is helpful to view proposals for new weapons systems in historical perspective. In decades past, several major proposals have been stopped by political and budgetary concerns. All started out as "necessary programs." When subjected to close analysis, however, they turned out to be expensive electives that could be terminated.

Robust Nuclear Earth Penetrator

Mission: NNSA proposed a new nuclear weapon designed to destroy hardened, deeply buried targets.

The 2001 Defense Authorization bill enabled studies into the feasibility of an earth-penetrating nuclear weapon. DOE's 2005 budget included a five-year projection, totaling $484.7 million, to produce a completed warhead design and begin production engineering in 2009.

Due to technical and policy concerns over new-design nuclear weapons and studies demonstrating that significant uncontained fallout would result, Congress terminated funding in 2005.

Reliable Replacement Warhead

Mission: Congress originally established the Reliable Replacement Warhead (RRW) program to "improve the reliability, longevity and certifiability of existing weapons." NNSA and the weapons laboratories used the program as an opportunity to expand their mission from existing warhead "refurbishment" to wholly new "replacements." They proposed to develop a new RRW design for the stockpile every 5 years.

The Consolidated Appropriations Act of 2005, passed in November of 2004, enabled limited work on the first RRW design. The estimated cost through 2012 was about $725 million.

Congress terminated funding for the RRW in 2008 amid concerns over new-design weapons and a report by independent experts that plutonium bomb cores would last a century or more, undercutting the rationale for "replacement" warheads.

The Uranium Processing Facility

The UPF, which NNSA proposes to build at the Y-12 National Security Complex in Oak Ridge, TN, has been plagued by stunning mismanagement, budget overruns, and schedule delays.

The UPF scorecard tells the tale.

Money spent: $1.5 billion and counting.
Designs started and scrapped: 2.
Designs completed: 0.
Years since proposed: 10.
Years until original completion date: 1.
Years until estimated completion date: 10.
Managers held accountable for $.5 billion space/fit design fiasco: 0.
Proposed budget for FY 2016: $430,000,000.
Proposed budget for FY 2020: $545,000,000.

At this rate, the beleaguered Uranium Processing Facility bomb plant (UPF) is challenging other NNSA projects for Boondoggle of the Decade honors.

No need and no accountability

Today, the UPF Project faces three crucial hurdles: there is no documented national security need for this facility; the facility is being designed around technologies that do not yet exist; and the new plan has not been subjected to required environmental analysis.

The lack of need for the UPF explains why a competent management team is not directing the project, why the project struggles for funding, why the schedule for completion is allowed to recede into the distant future, and why Congress is not requiring accountability for grossly expensive failures.

Congress has twice required studies which would assess the need for complete replacement of secondaries (the thermonuclear cores the UPF will manufacture). Those studies would either confirm or confound NNSA insistence that the UPF is vital to maintaining the nuclear stockpile in a safe and secure condition, but they have yet to be delivered. Similar claims about the necessity of new plutonium pit facilities at Los Alamos evaporated when an independent review showed pits would last eighty-five years.

The technology timeline presents a practical problem. Design engineers have been given size, space and cost limits and have been told to design a safe, efficient, state-of-the-art plant. But they do not know the precise requirements of the various technologies they have to fit in the building. This cart-before-the-horse project management scheme has already scuttled one plan at a cost of half a billion dollars and threatens to compromise current plans as well. Safety issues for the new equipment cannot be addressed without knowing what it will look like or how it will function.

Still, Congress continues to shovel money into the UPF black hole. Oversight is limited to periodic secret meetings with project staff and no actual public accountability.

Unknown environmental and safety impacts

The UPF project also faces significant public opposition based on legitimate fiscal, environmental, safety, and security concerns. These concerns are exacerbated by NNSA's apparent intent to skirt legal requirements for public involvement in the planning process.

NNSA has denied having a plan mature enough to trigger the legally required public review. Yet in its latest annual Stockpile Stewardship and Management Plan, NNSA outlines a five-step plan that increasingly relies upon prolonging operations at old, dangerous facilities in order to stay under the self-imposed cap of $6.5 billion for UPF construction. The added cost of maintaining, upgrading, and operating these deteriorating old facilities is not included in the $6.5 billion cap, so the true costs of Y-12 modernization remain hidden.

Seismic risks at Y-12 have been discovered to be much more serious than when the UPF was originally proposed, calling the plan to use aging facilities into question. The Defense Nuclear Facilities Safety Board has said it is impossible to upgrade the older facilities—once to be retired, now to be used for decades—to meet seismic standards.

In 2014, workers building a haul road to support UPF construction uncovered a field of radioactively contaminated debris, demonstrating a need for further environmental analysis.

The significant change in UPF plans, along with new environmental information, require NNSA to supplement its 2011 environmental impact statement, giving U.S. taxpayers an opportunity to review and comment on NNSA's new plan and Congress a chance to step back and reconsider this boondoggle.

RECOMMENDATIONS

- Stop funding UPF until the need for production of new secondaries is documented by the now-overdue congressionally mandated studies.
- Stop building design work until new uranium processing technologies reach maturity (Technology Readiness Level 7).
- Stop talking about imaginary numbers: UPF funding should be withheld until a clear and binding budget with total costs is presented.
- Complete legally required Supplemental Environmental Impact Statement on latest UPF plan before proceeding with design.
- Hold project personnel accountable for cost overruns, management errors, schedule slippage.
- Tell the taxpayer how much is being spent and how much will be spent.

Plutonium Pit Production

Repeated attempts to justify investing in new, large-scale plutonium pit production capacity have crumbled when subjected to a reality check. Even so, around four billion dollars is projected to be spent on upgrading facilities and equipment at Los Alamos for expanded pit production by 2027.

Independent experts have found that plutonium pits have reliable lifetimes of more than 85 years, double NNSA's previous estimates. This finding doomed the last NNSA attempt to expand plutonium pit production capacity. No plutonium pits are currently scheduled for production, and none are needed.

Now, even though the program has been put on hold for five years, calling into question whether it will ever happen, Los Alamos National Lab (LANL) is preparing to produce new pits for a proposed "interoperable" warhead. At the same time, major plutonium operations at LANL have been suspended since June 2013 because of nuclear criticality safety issues, and expanded pit production has yet to be sanctioned by public review required under the National Environmental Policy Act.

Nevertheless, the congressional Armed Services Committees are requiring LANL to demonstrate the capability to produce up to 80 pits per year by 2027, regardless of the actual technical needs of the stockpile.

Budget busting

After failing in 2012 to get funding to build a super-sized "Nuclear Facility" for the Lab's Chemistry and Metallurgy Research Replacement (CMRR) Project, NNSA and LANL are preparing for expanded plutonium pit production. The CMRR-Nuclear Facility was cancelled when its costs exploded from an original estimate of $750 million to $6.5 billion.

The current LANL plan to create the infrastructure for expanded plutonium pit production is:

• Raise the amount of plutonium that can be used in the already built CMRR Radiological Laboratory from 8.4 grams to 36 grams. This will vastly increase the Rad Lab's capacity for analytical chemistry samples used as quality control in direct support of expanded plutonium pit production. Cost: up to $675 million for additional equipment.

• Upgrade and extend the life of LANL's existing plutonium pit production facility. Cost: up to $1.6 billion.

• Build at least two modular structures by 2027 for the more hazardous production operations. Their designs are not yet complete, but they are expected to cost a billion dollars each. Given the usual cost overruns, total costs may exceed the estimated cost of $6.5 billion originally proposed for the CMRR-Nuclear Facility.

Proliferation begins at home

The nonpartisan Congressional Budget Office estimates nuclear weapons "modernization" programs will cost $348 billion over the next 10 years, with higher costs in the following decades. Thus modernization will cost more than a trillion dollars over the next 30 years, including new missiles, subs and bombers. The Obama Administration is proposing an 11.2% increase in FY 2016 funding for NNSA's nuclear weapons programs.

Unneeded waste and unneeded risk

LANL has no place to send radioactive wastes from plutonium pit production after the Waste Isolation Pilot Plant was contaminated by a ruptured drum prepared by LANL using unauthorized radioactive waste treatment procedures. LANL and NNSA should channel the $4 billion slated for expanding plutonium pit production into cleanup instead.

Activities at the Rad Lab would generate a variety of wastes: transuranic waste as well as Low Level Waste, Mixed Low Level Waste, and hazardous waste. Meanwhile, funding for cleanup programs remains flat. Moreover, LANL plans to "cap and cover" some 200,000 cubic yards of radioactive and hazardous wastes at its largest waste dump, leaving them permanently buried in unlined pits and trenches above the groundwater aquifer, three miles uphill from the Rio Grande.

RECOMMENDATIONS

• Withhold funding for expanded plutonium pit production capacity until:

- pit production is justified by actual, documented stockpile requirements;

- all nuclear criticality issues are resolved;

- a formal Record of Decision is published following public review under the National Environmental Policy Act;

- the Waste Isolation Pilot Plant is fully reopened and all radioactive waste treatment procedures at LANL are certified to be safe.

Dismantlement

Underfunding dismantlement not only compromises U.S. nonproliferation obligations, it wastes hundreds of millions of tax dollars. Putting weapons components in storage instead of disposing of them also presents unnecessary risks.

Dismantlement of the U.S. nuclear weapons stockpile is an urgent need that has been deprioritized by the Department of Energy (DOE), the National Nuclear Security Administration (NNSA), Congress, and the Obama Administration. Funding for dismantlements has remained flat, around $50 million per year, less than one percent of the NNSA's proposed nuclear weapons budget for FY 2016. In contrast, funding for Life Extension Programs to rebuild and indefinitely preserve existing nuclear weapons has jumped 30% in the last two years alone, and is planned to rise another 22% over the next four years.

Wrong priorities = more danger

Dismantling nuclear weapons enhances security, sets a nonproliferation example for the rest of the world, and permanently saves hundreds of millions of taxpayer dollars by eliminating the need to indefinitely guard and maintain them.

Dismantlements should be irreversible, leading to the global nuclear disarmament mandated by the NonProliferation Treaty (NPT). But U.S. State Department data released for successive NPT Preparatory Committees show that the Obama Administration reduced the active nuclear weapons stockpile by only 309 warheads in four years and dismantled 1,204 retired nuclear weapons. Experts estimate that 2,500 warheads remain in the queue.

NNSA says one of the main purposes of current dismantlements is to provide parts for ongoing Life Extension Programs. Recently, a nuclear warhead placed in reserve in 1989 became one of two final candidates for a new, stealthy, air-launched cruise missile. Using the dismantlement program to recycle parts for refurbishing existing weapons directly contradicts U.S. obligations under the NPT.

An April 2014 report by the Government Accountability Office (GAO) indicated warheads removed from the stockpile as a result of the 2010 New START Treaty are not expected to be dismantled for decades. The GAO also raised questions about capacity at the Pantex Plant in Amarillo, TX, and the Y-12 National Security Complex in Oak Ridge, TN, for conducting dismantlement operations in a timely manner. Dismantlement is at the heart of U.S. nonproliferation efforts. Failure to dismantle old warheads and dispose of materials presents safety and security risks to workers and to people living near component storage sites.

Needed: funding, space, and political will

Dismantlement of retired nuclear warheads takes place at two facilities. Plutonium pits are removed and stored at the Pantex Plant, and thermonuclear secondaries are returned to Y-12 and placed into storage there or retained in a strategic reserve.

Pits and highly enriched uranium secondaries must be stored in safe arrays to prevent spontaneous nuclear chain reactions. They must also be stored securely, to prevent theft. And, they must also be stored safely to prevent accidental releases to the environment.

Dismantlement operations are limited by money, facility space, and political will. Pantex has a limited amount of storage designated for plutonium pits storage and little capacity to dismantle pits or to prepare them for disposition. Y-12 has limited capacity in an aging facility to dismantle nuclear warheads.

Last year, NNSA eliminated dismantlements from the future workload of the $6.5 billion Uranium Processing Facility in order to guarantee nuclear weapons production capacity in the face of exploding costs. This despite the fact that officials have indicated Y-12 faces a 15-year backlog of secondaries awaiting dismantlement.

Funding is another serious problem. Dismantlement has consistently lost out to production funding in NNSA's budget competition for defense program dollars. In the next decade, the U.S. and other nuclear powers could face increasing international demands, especially by non-weapons states, for accelerated dismantlements.

Investing in dismantlement capacity will allow the U.S. to take advantage of new technologies to increase efficiency and save money.

RECOMMENDATIONS

- Prepare a study of the capacity of and projected need for facilities at Oak Ridge's Y-12 complex and Amarillo's Pantex Plant to determine whether a dedicated dismantlement facility is advisable.
- Establish a dismantlement schedule and budget setting out specific goals and require an annual progress report from the NNSA
- Make information about dismantlement progress transparent to the public.
- Save taxpayer dollars in the future by doubling funding for dismantlement operations now and funding preparations for increased future capacity demand.
- Make dismantlements irreversible as a step toward global verifiable nuclear disarmament.

The National Ignition Facility

After nearly twenty years and $8.5 billion, the National Ignition Facility (NIF) has been an expensive fizzle. Introducing plutonium to the NIF is a dangerously bad idea. Instead, NIF should be defunded or redirected to more appropriate science research.

NIF WAS PITCHED to Congress as a $1 billion program to achieve thermonuclear ignition and energy gain without the use of a plutonium "match" to trigger the explosion. Over the years, NIF has been promoted as a green energy machine, although its tritium fuel is radioactive and NIF's contribution to commercial fusion energy is miniscule. It has been sold as a necessary stockpile stewardship tool, although the former head of DOE's stockpile surveillance program called it "worthless," and a premier Livermore weapons designer told reporters it was "worse than worthless" for that task.

One success: spending money

The Fiscal Year (FY) 2016 budget request exceeds half a billion dollars for inertial confinement fusion. Of that, $322.5 million will be spent on NIF at the Lawrence Livermore National Lab. Plutonium experiments at NIF would be limited to a non-weapons grade isotope while other DOE facilities conduct experiments on the weapons-grade isotope of interest. The inertial confinement fusion budget is slated to top $569 million by 2020. NIF will continue to consume the lion's share.

A poor mission for a plagued project

As a design tool for new nuclear weapons, NIF pushes the nation toward novel weapons design concepts in place of the current "pedigreed" designs that are the product of more than 1,000 nuclear tests. NIF is neither well suited nor needed to maintain the safety and reliability of existing nuclear weapons.

From a science standpoint, NIF's likelihood of achieving ignition and gain are vanishingly small. NIF's best result missed its breakeven milestone by a factor of 100. Breakeven is necessary but not sufficient to achieving ignition. Moreover, that experiment utilized a special "exploding-pusher target" not applicable to ignition.

Plutonium and proliferation

As a plutonium test bed, NIF presents new dangers. Plutonium use will invalidate the nonproliferation study that was a key component of the go-ahead for NIF in 1995. That assessment linked use of plutonium with vertical proliferation. DOE documents state that 80% of NIF's experiments are to be classified, exacerbating its nonproliferation problem.

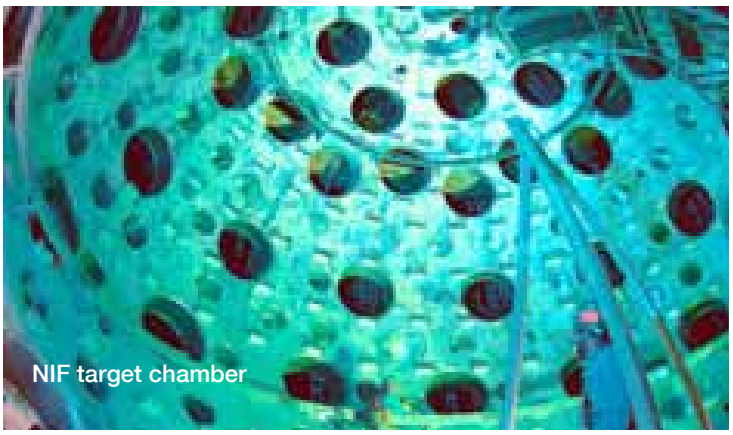
Plutonium in NIF also presents unanalyzed health and environmental threats. According to DOE documents, plutonium shots will be conducted without a working inner containment vessel to capture debris and may "generate airborne contamination that exceeds the derived air concentration"—that is, the legal limit—among other risks.

The future of NIF

Congress could mothball NIF rather than throw good money after bad. Or, NIF could be taken from the DOE National Nuclear Security Administration and placed in the DOE Office of Science or with another agency, where astrophysicists, geophysicists, materials scientists and others who need a high energy, temperature, density machine, but do not require ignition, can do unclassified experiments in an efficiently managed environment. Further, housing NIF in the Office of Science would obviate the use of plutonium and avoid unnecessary environmental, health, and proliferation dangers.

RECOMMENDATIONS

- Refuse to fund plutonium activities in NIF.
- Remove NIF from NNSA control.
- Alternatively, pull the plug on NIF.



NIF target chamber

Nonproliferation Programs

Investment in true nonproliferation programs is a win/win for Congress and taxpayers, delivering more security for dollars spent than weapons modernization programs and costing far less overall.

The Obama Administration's proposed FY 2016 budget gives the National Nuclear Security Administration's nuclear weapons programs an 11.2% increase while giving nonproliferation programs only a 3.7% increase, after having cut them 21% in the previous year.

Historically, both presidents Obama and George W. Bush have called nuclear terrorism the single biggest threat facing the nation. Yet these vital security programs are not being prioritized, even though they cost only a small fraction of planned new production facilities and "modernization" programs.

More nuclear weapons won't enhance our security against today's global threats, but a comparatively small investment in nonproliferation almost certainly would.

Spending less and spending wisely

Over the next four years, funding for NNSA's nuclear weapons research and production programs is slated to jump another 17%. This is the beginning of a massive one trillion dollar investment in nuclear weapons modernization over the next thirty years. In contrast, funding for NNSA's nonproliferation programs is projected to stay flat over the next four years. The programs themselves lack direction and vision.

Deteriorating relations between the U.S. and Russia resulted in the suspension of bilateral nuclear security measures. Hoped for follow-on measures to New START have been abandoned. The commitment of the U.S. and other nuclear powers to universal nuclear disarmament, mandated by the Nonproliferation Treaty, is called into question by this state of affairs.

A "Second Nuclear Age"?

Even in the darkest days of the Cold War, the U.S. and the Soviet Union relied on bilateral nuclear security measures to avoid global annihilation, since that was clearly in the interest of both countries. These efforts should continue, particularly to help safeguard nuclear materials and prevent nuclear smuggling. Additionally, verification and monitoring technologies should be prioritized instead of "modernization" programs to help make a future world free of nuclear weapons more technically possible and politically feasible.

Not all programs that claim to enhance nonproliferation should be supported. The boondoggle MOX program, which would use plutonium as fuel in civilian reactors, is a case in point.

In FY2016, the budget for counterterrorism programs was transferred from nuclear weapons programs to nonproliferation, setting up a competition for funding. A national capability to respond to possible nuclear terrorism will unfortunately be needed as long as the U.S. and other nations maintain stockpiles of nuclear weapons and fissile materials. However, the emphasis should be on controlling nuclear materials, reducing stockpiles of fissile materials, weapons components, and weapons themselves, and preventing the spread of nuclear weapons and materials to begin with.

It is in the security interest of the United States to provide consistent global leadership toward universal nuclear disarmament. The U.S. can start with increasing funding for legitimate nonproliferation programs.

RECOMMENDATIONS

- Restore funding for nonproliferation programs, excepting MOX, to FY2014 levels.
- Terminate the MOX program.
- Counterterrorism programs should compliment rather than overwhelm nonproliferation programs.
- Prioritize verification and monitoring technologies to enable future arms control treaties and to make a future world free of nuclear weapons more technically and political possible.
- Prioritize nonproliferation programs to demonstrate U.S. commitment to universal nuclear disarmament under the Nonproliferation Treaty.

Accountability

A conservative Congress should apply conservative fiscal principles, starting with increased oversight and rigorous accountability, to rein in unfettered spending and address the consistent failure of DOE and NNSA to produce results in the form of completed projects.

RECOMMENDATIONS

- Subject agency officials and contractors to fines and penalties for harassing and or terminating an employee who raises safety, health, or environmental concerns.
- Institute immediate improvements in whistleblower protection laws, including stopping the practice of reimbursing contractor attorney fees with taxpayer money to fight whistleblower cases. Whistleblowers should have access to a jury trial in federal court with punitive damages available to deter contractor misconduct.
- Authorize and empower the Defense Nuclear Facilities Safety Board to conduct external oversight of nuclear safety requirements and to permit continued operation of DOE nuclear facilities.
- Increase federal and state regulatory authority over DOE.
- Provide adequate funding for all Freedom of Information Act offices and mandate that all FOIA laws are met.
- Eliminate the dual role of federally employed lab directors acting as presidents of the for-profit corporations running the labs.
- Institute reforms to prevent regulatory capture and enact prohibitions to stop the revolving door between the DOE and its contractor management personnel.

The Department of Energy (DOE) manages tens of billions of federal dollars annually and oversees a vast network of facilities run by tens of thousands of employees, most of whom work for contractors. Yet according to numerous Government Accountability Office (GAO) studies, many major DOE projects end in failure or drag on for years past their scheduled completion date, plagued by mismanagement, massive cost and schedule overruns, lack of oversight, and incompetence.

Despite its responsibility to protect workers and the environment from some of the most toxic waste sites in the world, cleanup funding takes a back seat to weapons stockpile work in DOE's budget. Projects ostensibly necessary for the national defense are not immune to the effects of contractor/agency feeding frenzy syndrome. Lack of accountability—over DOE and, for DOE, over its contractors—is a core challenge in the effort to protect workers, the public, and the environment now and in the future.

Exhibit One: Hanford's WTP

Hanford's Waste Treatment and Immobilization Plant (WTP) is a strong competitor to be the poster child for lack of accountability in the nuclear weapons complex. The DOE is now embarked on its fifth attempt to design, construct, and operate a waste treatment system for high-level radioactive wastes at Hanford. Billions of dollars have been wasted on flawed designs, poor construction practices, and mismanagement, all exacerbated by the failure of DOE to hold contractors accountable.

Bechtel National Inc. won the contract for the latest iteration of the WTP in 2000 on the promise that the plant would be operating by 2009 at a cost of $4.6 billion. By 2012, the plant still had not opened, and was forecast to begin active operations in 2019 at a projected cost of $13 billion. Today, DOE still has no schedule for when the plant might open and has offered no credible cost estimate. The plant is undergoing major redesign due to numerous safety issues.

Senior management and nuclear safety personnel who attempted to raise concerns early on were harassed, isolated, and fired. Meanwhile, DOE has failed to take any steps to protect a single whistleblower or hold contractors accountable. DOE has retaliated against its own employees who have raised concerns about the WTP.

Project failure is not just about wasting billions of dollars. The consequences of not having an operating WTP include an inexcusable delay to address the crisis posed by some of the most dangerous material on earth, sitting in underground tanks, decades beyond their design life, many of which have already failed and leaked radioactive wastes. With each passing year, more tanks will continue to fail, with no treatment system in sight.

Not just cleanup

The National Nuclear Security Administration is the nuclear weapons research and production arm of the DOE. Since it was established in 2000, it

has proven that the principles of oversight neglect can be applied to weapons production projects with familiar DOE results.

In 2012, NNSA announced designers of the Uranium Processing Facility, a bomb plant planned for Oak Ridge, TN, had determined the facility they were designing was not large enough to accommodate all of the equipment it would need to hold. More than half a billion dollars had been spent, and the project was at 80% design completion when the "space/fit issue" surfaced.

Congress held no hearings on this fiasco, and no officials were reassigned. An internal report found seven root causes for the space/fit issue; management incompetence was the one common factor in all seven root causes.

Instead of enforcing accountability, the half billion dollars was written off and the project continued. One year and $300 million dollars later, the second design for the facility was abandoned. The latest re-design is a closely guarded secret. With nearly half a billion dollars spent, the design is now supposedly at 50% completion; NNSA refuses to provide any cost estimates until the design reaches 90% completion.

Consistency not always a virtue

Unfortunately for the taxpayer, these examples are repeated almost any time DOE or NNSA undertake a major project. The National Ignition Facility in California and the Mixed Oxide (MOX) plant in South Carolina prove that mismanagement, failure to control costs, and schedule overruns are the rule rather than the exception.

Oversight of DOE/NNSA operations should take place at two levels. First, Congress must take a stronger role in holding DOE/NNSA officials publicly accountable for what happens on their watch. Contractors should be held to concrete performance benchmarks. Over the last few years, binding performance plans have been stripped of specific goals. That flawed policy must be reversed. Unnecessary red tape should be cut when possible, but federal oversight should be stronger, not weaker. Performance Evaluation Plans and Reports determining contractor compensation should always be made available to the public and must contain substantive information.

True accountability can be achieved only by removing conflicts of interest which infect almost all aspects of DOE/NNSA's world. DOE is responsible for meeting cleanup goals as well as meeting regulatory requirements; these two responsibilities pit DOE against itself. Drivers don't issue their own speeding tickets, students don't grade themselves; DOE should be subject to external oversight.

The directors of the three nuclear weapons labs (Los Alamos, Livermore, and Sandia) have a statutory responsibility to annually certify that the U.S. stockpile is safe and reliable. At the same time, they are proposing a never-ending cycle of Life Extension Programs that will profit their corporations but could undermine reliability through changes made to existing nuclear weapons.

Federal officials, and even members of Congress, participate in the lucrative practice of leaving public service to join the ranks of the companies they were overseeing.

Even low-level employees are torn between being seen as good team players, a prerequisite for career advancement, and reporting problems, safety issues, or other concerns on the job.

Effective oversight will save taxpayers billions of dollars and deliver finished projects on time. It's not magic; private industry does it every day. Congress should use its tools—hearings, investigatory powers, the power of the purse strings—to take quick and decisive action when other agencies (the Government Accountability Office, the Defense Nuclear Facilities Safety Board, the DOE's Office of Health, Safety and Security, the Inspector General's office) raise concerns.

DOE and NNSA must use their own tools aggressively—Performance Evaluation reviews and hands-on application of DOE regulations and standards—to hold private contractors to the same standards they would face in the private sector. The current status quo—where contractors exploit lax oversight practices to enrich themselves with taxpayer dollars and, to add insult to theft, fail to deliver on the projects for which they are responsible—is unacceptable.

Every day without reform costs taxpayers tens of millions of dollars.

The MOX Program

This is the year Congress should pull the plug on the Department of Energy's plutonium fuel program. Terminating it now will save taxpayers billions of dollars.

RECOMMENDATIONS

- Halt funding for the MOX project and redirect funds to nonproliferation projects that have faced significant cuts and to other plutonium disposition options.
- Expedite preparation of an environmental study of plutonium disposition alternatives, including immobilization of plutonium in high-level nuclear waste and alternative uses of the partially constructed MOX plant.
- Hold DOE managers and contractor CB&I AREVA MOX Services accountable for massive cost overruns and project management failures.

The fate of DOE's program to fabricate 34 metric tons of surplus weapons plutonium into experimental Mixed Oxide (MOX) fuel at the Savannah River Site (SRS) has always been uncertain. Costs for the project have skyrocketed and management problems multiplied. The MOX construction project remains on the Government Accountability Office's high risk list, predicting almost certain further cost increases.

In testimony to the Senate Energy and Water Appropriations Subcommittee, NNSA Administrator Frank Klotz said the MOX program faces daunting challenges and is now under review. Klotz testified that Congress "directed the Department to conduct additional analyses of the [MOX] construction project. These analyses will include independent cost and schedule estimates and examination of alternative approaches for disposition of the 34 metric tons of weapon-grade plutonium…."

A congressionally mandated report on the cost of MOX prepared by Aerospace Corporation was delivered to Congress on April 22, 2015. A summary of the report reveals that if the MOX project were funded at $500 million per year the life-cycle cost of MOX would be $51 billion and would not be completed until 2044. At a $375 million per year level, the project would cost $110 billion and not be completed until 2100. The report confirms that, at the current $345 million per year level, the project isn't viable even if construction and design problems were overcome and customers could be found for experimental, weapon-grade MOX fuel. By comparison, disposal of plutonium as nuclear waste was estimated to be $17 billion.

Budget savings $47 billion or more

DOE's FY2016 budget request affirms conclusions in its April 2014 report "that disposing of plutonium as MOX fuel will be significantly more expensive than anticipated" and that the lifecycle cost of MOX is unsustainable at over $30 billion. That figure has now increased to at least $51 billion, with $47 billion yet to be spent. An Army Corps of Engineers assessment determined "the MOX project would cost approximately $10 - $13 billion to complete in the 2027 - 2031 timeframe."

DOE's own FY2016 budget request of $12.7 billion for construction of the MOX plant is about $5 billion above the estimate in the FY2015 request. Likewise, the projected annual operating cost of the plant over the 15-year life of the plant has soared from $543 million in the FY2015 request to $670 million in the FY2016 request. With almost $5 billion sunk into the MOX program, it is time to cut losses and terminate it.

Long-term Impacts

As funding woes mount, the plutonium waste generated by the MOX plant will impact both SRS and the Waste Isolation Pilot Plant. The MOX process would generate 1500 barrels of transuranic waste per year of operation, destined for WIPP. An additional 1500 barrels of depleted uranium waste would be produced each year, to be disposed of at SRS or at the DOE's Nevada National Security Site.

Risks to the public are not negligible. Workers will be on the front line in case of accidental plutonium release or a plutonium fire.

To make things worse, no nuclear utilities have expressed interest in providing their reactors to use MOX fuel. This form of MOX has never been used commercially and would negatively impact safe reactor operation. Spent MOX fuel produces more heat than conventional uranium fuel, posing additional storage problems.

MOX program would stimulate proliferation

Introduction of weapon-grade plutonium into commerce as MOX sends the wrong nonproliferation message. MOX use by the U.S. will encourage other countries to reprocess and use plutonium in their reactors, greatly increasing proliferation risks.

The MOX plant at SRS

Waste Isolation Pilot Plant

The disastrous 2014 fire at the Waste Isolation Pilot Plant demonstrated the hazard of using WIPP for permanent disposal of extremely dangerous waste. WIPP should remain shut down until all violations are addressed.

On February 5, 2014, an underground fire forced evacuation of 86 workers and shut down the Waste Isolation Pilot Plant (WIPP), the only operating U.S. deep geologic repository for nuclear waste, as smoke spread through some of the underground and up shafts to the surface. Nine days later, a radiation release contaminated more than 8,000 feet of underground tunnels, spread plutonium and americium over more than half a mile on the surface, and contaminated 22 workers.

First: accountability

While the Department of Energy (DOE) has pledged to reopen WIPP to continue disposing of transuranic (TRU-plutonium contaminated) waste from nuclear weapons production, the cost to reopen is unknown, the cause of the radiation release is unknown, and how to prevent future releases is unknown. What is known is that TRU waste must be safely stored at several DOE sites for an unknown period of time.

The WIPP shutdown also means regulatory and legal milestones are being missed at several sites. There are significant and ongoing violations of Los Alamos National Lab and WIPP permits. Thus, DOE and its contractors are liable for tens of millions of dollars (or more) in fines in New Mexico and other states.

DOE's recovery plan for WIPP will have cost more than $700 million by September 30, 2016, significantly more than the annual cost to operate the site. The plan calls for a new exhaust shaft, underground tunnels, and ventilation system to be constructed for the "clean" underground area, although design plans have not been completed. If that new construction occurs, DOE hopes to have the site back in full operation in 2018. The continued "base" spending along with the new construction costs could exceed an additional $1 billion by September 30, 2018. At this time DOE has no approved cost estimate for the reopening.

WIPP no longer clean for workers

DOE intends to reopen WIPP, but not as the "start clean, stay clean" facility with no releases of radioactive or toxic chemicals that it was supposed to be. Thousands of feet of underground tunnels cannot be completely decontaminated. DOE's Recovery Plan says the re-opened site would have two areas: contaminated and "clean." Workers in the contaminated areas must wear respirators and full protective clothing. DOE plans to restart limited operations in the contaminated area by April 2016, with no guarantee that workers will be adequately protected from chronic exposures to radioactive and toxic chemicals. The need for increased worker protection and resulting slower waste handling operations will drive operating costs up.

The New Mexico Environment Department has stated repeatedly that WIPP cannot re-open until the state approves and DOE resolves permit violations at WIPP and other sites. The U.S. Environmental Protection Agency could also require changes before WIPP reopens. The DOE Recovery Plan states that some modifications in the WIPP Permit will be required, but the specific changes and schedule for the requests are not public. Some permit modifications will require public comment and hearings, which take months to complete, and may not be approved. Any state decisions about permit changes can be challenged in New Mexico courts.

DOE must dispose of all TRU waste

DOE's latest Inventory Report states that with current stored waste and additional waste that will be generated, there is more than 65,000 cubic meters of TRU waste still to come to WIPP. What would be done with additional waste is unknown. Any decision will require additional public involvement and regulatory actions.

Congress has repeatedly enacted laws that limit WIPP to disposing of up to 175,564 cubic meters of TRU waste, mostly from "legacy" nuclear weapons production at the now-closed Rocky Flats Plant in Colorado and other production sites. Administrations and Congress have not addressed what to do with TRU (and other) wastes resulting from new nuclear weapons production activites, Life Extension Programs, and the surplus plutonium and MOX fuel activities, all of which generate significant volumes of TRU waste.

RECOMMENDATIONS

- Provide necessary funding for safe transuranic waste storage at existing sites.
- Require an independent investigation into the causes of the WIPP shutdown, what would be required to prevent future accidents and radiation releases, and what enhanced worker and public protection measures are needed before approving funding for new construction at WIPP.
- Stop nuclear weapons activities that create more transuranic waste, because it is irresponsible to create more waste when there are no adequate disposal facilities for all of the existing waste.
- Require contractors to provide additional liability coverage to encourage accountability, safer operations, and funds to pay fines related to non-compliance with regulatory requirements.

Yucca Mountain

Attempts to resurrect Yucca Mountain as a repository for spent commercial nuclear fuel will waste time and taxpayer money. A new approach for commercial nuclear waste is needed.

Since 1958, U.S. commercial nuclear power plants have created more than 70,000 metric tons of intensely radioactive spent fuel. More than 95 percent of that waste is stored at power plants. In 1987, Congress designated Yucca Mountain, Nevada, as the sole disposal site.

The Yucca Mountain repository has failed, for reasons both political and technical. Responding to overwhelming public opposition in Nevada, successive governors, along with state and federal officials, have opposed the site. The site is technically flawed because water could infiltrate waste rooms and cause radioactive releases to the groundwater. The site also has many earthquake faults and is in a volcanic area.

Safe storage for spent fuel

In the absence of a national repository, spent fuel is now stored at nuclear power plants—in both "wet" (pools) and "dry" (casks) configurations. Improvements in storage facilities and practices would better protect public health and worker safety.

Because of its heat and radioactivity, the waste is stored in pools for five or more years, where most of it remains. Many power plants have placed spent fuel rods close together in the pools to economize on space, increasing the risk of releases in case of accidents, loss of power, or terrorist attack.

Waste is eventually removed from the pools and transferred to dry casks. To date, more than 16,000 metric tons have been placed in dry cask storage. Reducing the amount of waste in wet storage and improving the safety of dry storage, including "hardened on-site storage" (HOSS) would better protect the waste. Improvements in storage facilities and practices would better protect public health and worker safety.

Consolidated storage: higher costs and risks

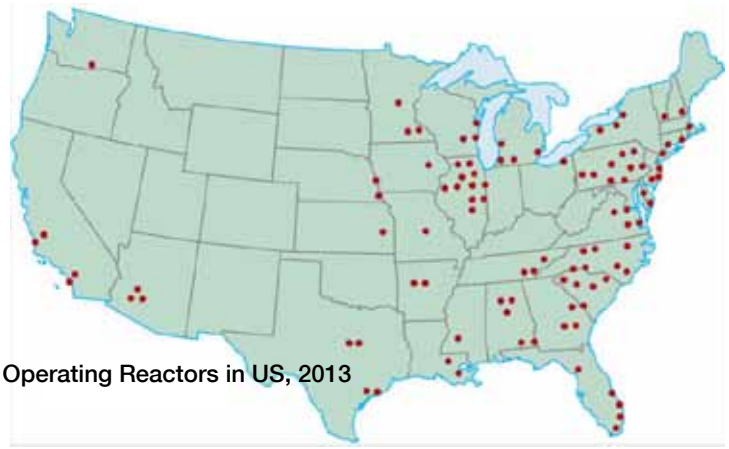
The "What-to-do-with-the-waste" conversation invariably inspires suggestions for consolidated storage. But power plants can store their wastes. Consolidated storage would increase costs, in part because initial storage at the power plants would still be required. In addition, transportation costs, including railroad and road improvements, shipping containers, and improvements in emergency response training and equipment would be in the billions of dollars. Transportation also increases risks of radiation exposure and releases in case of accidents.

Accountability and safety through new laws

The Nuclear Waste Policy Act of 1982 was enacted after years of public, technical, and congressional debate. An adequate new repository law will take years to develop and would include: abandoning the failed Yucca Mountain site; improving on-site storage at reactors for the decades that waste will remain; developing generic disposal standards and related regulatory requirements; addressing the federal taxpayers' financial liabilities because there is no operating repository; considering a new agency to operate the program; and enacting a consent process that requires state, tribal, and local government participation in and support for disposal site decisions.

RECOMMENDATIONS

- Stop funding for Yucca Mountain, which is technically flawed and strongly opposed by Nevadans.
- Refrain from funding consolidated storage of spent nuclear fuel, which would result in unnecessary spending and significant transportation risks but would not increase protection to the public more than on-site storage at nuclear power plants.
- Begin a multi-year effort to develop new nuclear waste storage and disposal laws because the current laws have not succeeded.



Operating Reactors in US, 2013

High Level Waste

High level waste presents immediate and urgent risks. Plans to deal with it are years away. The bottleneck is funding. Greater accountability is essential.

High-level nuclear waste (HLW) from reprocessing spent fuel is a toxic, dangerous and long-lasting legacy of nuclear bomb production. Treating and handling HLW are estimated to cost more than $80 billion over the next decades. The Department of Energy is responsible for the safe storage, handling and disposal of those military nuclear wastes at three sites: the Hanford nuclear site in Washington State, the Savannah River Site in South Carolina, and the Idaho National Laboratory (INL).

Environmental and fiscal threats

Hanford, located on the banks of the Columbia River, stores the highest volume of DOE's HLW inventory, about 56 million gallons of liquid in 177 underground nuclear waste tanks. A third of the tanks have already failed. All have exceeded their design life. The Waste Treatment Plant (WTP), which is to immobilize Hanford's HLW into glass, is severely behind schedule and over-budget. Since the WTP will not address the waste in leaking tanks for at least several years, new tanks must be constructed.

Hanford Tank Farm

In September 2014, Washington State sued DOE in federal court to amend the Consent Decree, which includes legally binding milestones for cleanup that DOE has admitted it cannot meet. The amendments would require the timely treatment of waste, the construction of new double-shell tanks, and the institution of additional measures to increase accountability and mitigate environmental risks.

At the Savannah River Site, almost 4,000 canisters of glassified waste have been produced, about half of the estimated total needed. However, the pace of waste removal from tanks has not met milestones, in part because of inadequate funding. That, in turn, could result in additional costs to pay fines.

The Idaho National Laboratory has by far the smallest inventory of liquid HLW, in part because it calcined, or dried, its liquid waste for much of its reprocessing history. But today, with less than 900,000 gallons of liquid remaining, the DOE has been fined for missing legally binding treatment deadlines. The price tag for the last of INL's liquid HLW waste is approaching $1,000 a gallon.

Another false start

The March 2015 announcement by President Obama and DOE of plans to pursue disposal in a HLW-only repository does not address the current tank waste problems, since most HLW could not be shipped for decades even if a repository existed. Further, a scientific process to select a technically sound, publicly accepted repository site will take decades.

RECOMMENDATIONS

- Fully fund high-level waste stabilization and disposition at Hanford, Savannah River, and Idaho. Funding should provide for new environmentally compliant tanks at Hanford and meeting milestones at Savannah River.
- Provide the Defense Nuclear Facilities Safety Board with the resources and authority to ensure that nuclear safety and quality assurance requirements are met at the Waste Treatment Plant before it operates.

Cleanup

More money for nuclear weapons production means less money to clean up the radioactive and toxic wastes left by DOE at sites around the country. True security requires a commitment to prioritize protection of the public health with increased funding for cleanup.

After nearly half a century of uncontrolled pollution from nuclear weapons production, the Department of Energy established its Environmental Management program in late 1989. Substantial progress has been made since then in alleviating some of the environmental harm and public health risk caused by past bomb production. But some of the most challenging work remains.

For instance, reprocessing spent nuclear fuel left intensely radioactive high-level liquid waste stored in buried tanks at the Hanford Reservation (WA), Savannah River Site (SC), and the Idaho National Laboratory. The only working treatment facility to remove and solidify this waste is at the Savannah River Site.

The Waste Treatment Plant (WTP) at Hanford has already cost $10 billion and is more than 10 years behind schedule. Even the much smaller plant at INL is behind schedule, and it may end up costing $1,000 a gallon to treat the waste there. The costs at the WTP and the so far unknown price tag for the 2014 accident at the Waste Isolation Pilot Plant will continue to strain the DOE's cleanup budget.

Untold quantities of radioactive and hazardous waste remain buried in the ground at Oak Ridge and other sites; some have yet to be fully characterized, much less cleaned up. At a number of these sites, contaminants continue to leach into the watershed with every rainfall.

Plenty of money, but not for cleanup

There are far more insidious pressures on the cleanup program. The DOE continues to demand—and get—billions for its nuclear weapons production programs. In fact, the Administration has asked Congress for $8.8 billion for nuclear weapons in FY 2016, an 11.2% hike over this year, which puts the country well on its way to spending $1 trillion on nuclear weapons over the next 30 years.

At the same time, the efforts to address DOE's dangerous environmental legacy gets only 1% more than this year—to slightly more than $5 billion. The money DOE has requested is still not enough to cover the DOE's legally enforceable deadlines for emptying its most dangerous buried waste tanks.

Out-of-control weapons spending is not the only threat to adequate progress on cleanup. The DOE may be using claimed budget constraints as cynical covers for walking back from its basic cleanup obligations. The agency is now toying with "risk-informed" cleanup. Under that rubric, the economic cost of a particular remediation approach is factored directly into the cleanup decision. The DOE seems to be moving away from cleanup that actually protects the environment and public health to cleanup on the cheap.

A good corrective to this downward drift is to strengthen federal and state regulatory authority over the DOE. The DOE is said to be "self-regulating" with respect to management of radioactive material, but of course self-regulation is no regulation. Congress should amend the Atomic Energy Act to remove the express exemptions of radioactive material from environmental laws that are currently administered by non-DOE federal agencies and affected states.

DOE Waste Dumping

RECOMMENDATIONS

- Provide sufficient funding for cleanup to meet all state and federal legal milestones.
- Prioritize cleanup funding over unnecessary nuclear weapons modernization proposals.
- Reject efforts to avoid cleanup obligations by elevating cost of remediation above protection of public health and the environment.
- Strengthen federal and state regulatory authority over DOE.

Acronyms

CMRR	Chemistry and Metallurgy Research Replacement
DOE	Department of Energy
EM	Environmental Management
GAO	Government Accountability Office
ICBM	Intercontinental Ballistic Missile
HOSS	Hardened On-Site Storage
LEP	Life Extension Program
LANL	Los Alamos National Laboratory
LRSO	Long-Range Stand Off warhead
MOX	Mixed Plutonium and Uranium Oxide
NIF	National Ignition Facility
NNSA	National Nuclear Security Administration
UPF	Uranium Processing Facility
WIPP	Waste Isolation Pilot Plant
WTP	Waste Treatment Plant

Alliance for Nuclear Accountability

Beyond Nuclear
Coalition for Health Concerns
Colorado Coalition for the Prevention of Nuclear War
Concerned Citizens for Nuclear Safety
Fernald Residents for Environmental Safety and Health
Georgia WAND (Women's Action for New Directions)
Hanford Challenge
HOME (Healing Ourselves and Mother Earth)
HEAL Utah (Healthy Environment Alliance of Utah)
Heart of America Northwest
Institute for Energy and Environmental Research (IEER)
JustPeace
Lawyers Committee on Nuclear Policy
Miamisburg Environmental Safety and Health
Movement for Nuclear Safety
Nuclear Age Peace Foundation
Nuclear Watch South
Nuclear Watch New Mexico
Oak Ridge Environmental Peace Alliance
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Portsmouth/Piketon Residents for Environmental Safety and Security
PSR Kansas City
Rocky Mountain Peace and Justice Center
Savannah River Site Watch
Snake River Alliance
Southwest Research and Information Center
Tri-Valley CAREs (Communities Against a Radioactive Environment)
WAND (Women's Action for New Directions)
Western States Legal Foundation
Women's International League for Peace and Freedom

The Alliance for Nuclear Accountability is a national network of organizations working to address issues of nuclear weapons production and waste cleanup.

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