

Alliance for Nuclear Accountability

RADIOACTIVE REPORT CARD: ANA Grade Book



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Complex 2030 (The Bombplex)

History F	Science C	Civics D
Nuclear weapons production has contaminated precious water resources and hundreds of square miles of land across America.	The technical justifications for new nuclear weapons are shaky. Over \$10 billion has been spent on the Stockpile Stewardship program to certify the reliability of the current stockpile. The infrastructure necessary to continue this work is already in place.	With a firm grasp of pork politics, NNSA has proposed “consolidation” of the nuclear weapons complex from eight main sites down to... eight main sites while pouring billions of dollars into new construction planned for nearly all of them. This is dishonest public policy.
<p>Remarks: The comprehensive nuclear weapons infrastructure overhaul known as Complex 2030 is linked to the Reliable Replacement Warhead program. NNSA is pinning its funding future on new production facilities with Cold War-like capabilities. If successful, NNSA will secure its future at the expense of the global nonproliferation regime and the communities downstream and downwind that will have to deal with the contamination from nuclear weapons production.</p> <p>The current infrastructure is capable of maintaining the nuclear stockpile as it awaits dismantlement under the Non-Proliferation Treaty (NPT).</p> <p>Recommendations: DOE needs to show more respect for U.S. laws as a signatory of the Nuclear Non-Proliferation Treaty and cease plans for new weapons research, development, and production facilities.</p>		
<p>Affected Sites: Lawrence Livermore National Laboratory, CA; Los Alamos National Laboratory, NM; Sandia National Laboratory, NM & CA; Nevada Test Site; Pantex, TX; Kansas City Plant, MO; Y-12 National Security Complex, TN; Savannah River Site, SC</p>		
<p>Links for more information: www.ananuclear.org/Issues/NuclearWeapons.aspx www.nukewatch.org www.trivalleycares.org/reports.asp www.stopthebombs.org www.bredl.org www.nonukesyall.org www.nnsa.doe.gov</p>		

Reliable Replacement Warhead Program

History D	Science D	Civics D
<p>NNSA has succeeded in exploiting the ambiguous legislative language around RRW to expand the program into every corner of the nuclear weapons complex, from design to manufacturing to new infrastructure in at least five states.</p>	<p>The plutonium pit, source of the greatest uncertainty in the current arsenal's reliability, was recently found to be stable for decades longer than DOE originally estimated.</p>	<p>RRW is blatant contradiction of the Nuclear Non-Proliferation Treaty. The RRW program threatens to end the moratorium on underground nuclear testing as it is unlikely that the military would allow an untested weapon into the arsenal.</p>
<p>Remarks: RRW has mushroomed from the replacement of components in one existing warhead type into a series of newly designed warheads, despite the repeatedly proven reliability of the current stockpile.</p> <p>The growing number of unrelated justifications for this program and its ever-expanding scope suggest that DOE is more concerned with funding than with national security.</p> <p>DOE claims that the current arsenal cannot be kept reliable. Yet DOE's definition of reliability, though malleable, generally means that a warhead will detonate within a narrow percentage of the expected yield – not <i>if</i> it will detonate. DOE has spent billions on programs that have certified the reliability of existing nuclear weapons without explosive testing for over a decade. With the RRW, DOE plans to pay for untested warheads by cutting maintenance and life extension programs for tested and reliable nuclear weapons.</p> <p>DOE has claimed that the plutonium in weapons will deteriorate. An independent scientific review by JASON (a government-contracted panel of scientists with nuclear weapons experience) found that the plutonium in nuclear weapons is remarkably stable and will remain so for decades longer than DOE claimed.</p> <p>Recommendation: Change the “new weapons at any cost” mindset at DOE to promote real security.</p>		
<p>Affected Sites: Lawrence Livermore National Laboratory, CA; Los Alamos National Laboratory, NM; Sandia National Laboratory, NM & CA; Nevada Test Site; Pantex, TX; Kansas City Plant, MO; Y-12 National Security Complex TN; Savannah River Site, SC</p>		
<p>Links for more information: www.nukewatch.org/facts/nwd/JASON_ReportPuAging.pdf www.nukewatch.org/facts/nwd/TruthAboutComplex2030andRRW_030207.pdf www.nnsa.doe.gov/docs/factsheets/2006/NA-06-FS-08A.pdf</p>		

Plutonium Pit Manufacturing

History F	Science D	Civics D
<p>Rocky Flats, the former pit production facility, became infamous for its terrible environmental record and worker exposures before being shut down after an FBI raid. Cleanup of Rocky Flats proved to be far more difficult than anticipated and the site may never be properly remediated.</p>	<p>NNSA's justifications for expanded pit production capability have been proven false. The recent independent scientific analysis determined that the plutonium in a warhead is remarkably stable and that the minimal lifetimes of pits in the active stockpile range from 85 to 100 years.</p>	<p>Increased pit production is for new nuclear weapons under the Reliable Replacement Warhead program. This violates the Non-Proliferation Treaty and could threaten the U.S. moratorium on nuclear weapons testing.</p>
<p>Remarks: In late 2006, NNSA released the findings of a JASON study on the operational lifetimes of plutonium pits. JASON, an independent scientific panel of academics with experience in nuclear weapons programs, concluded that most pit types have minimum lifetimes in excess of 100 years. NNSA had set this number at 45 years, citing age-related degradation as a justification for new pit production facilities.</p> <p>NNSA faces an uphill struggle to receive funding for unnecessary nuclear weapons components. Congress is increasingly skeptical of activities at Los Alamos, where a new pit production facility is being proposed. A similar project, the "Modern Pit Facility," was rejected by Congress in 2005.</p> <p>Recommendation: DOE needs to accept the message from Congress and the scientific community that new pits for new weapons are not needed.</p>		
<p>Affected Sites: Los Alamos National Laboratory, NM Lawrence Livermore National Laboratory, CA</p>		
<p>Links for more information: www.nukewatch.org/facts/nwd/JASON_ReportPuAging.pdf</p>		

“Accelerated Cleanup”

History C	Science C	Civics D
<p>With a few notable exceptions, DOE’s environmental remediation programs have consistently tried to shut out public involvement and attempted to leave as much contamination in the environment as possible. Resources and funding for environmental research have been – and continue to be – being siphoned away by nuclear energy and weapons programs.</p>	<p>Vitrification is a promising technology in radioactive cleanup work but project mismanagement has stalled construction of necessary facilities. At Hanford, poor management has delayed the crucial vitrification plant while cost estimates have nearly tripled.</p>	<p>With cleanup and weapons programs competing over the same finite pot of money, DOE chooses nuclear weapons over health and the environment. Projected spending shows decreasing funding for cleanup while nuclear weapons spending climbs. Lack of funding has jeopardized the legally mandated cleanup milestones at several former weapons facilities.</p>

Remarks: Since 2002, DOE has touted its “Accelerated Cleanup” plan as a faster, cheaper, better approach to cleaning up the contamination from Cold War weapons production. In theory, certain projects would be prioritized and “closed,” freeing up money and manpower for work on remaining sites.

The results from the first closure sites in 2006 have shown the weakness of the plan. Rocky Flats, Fernald, and Mound were all declared closed despite a wide range in levels of cleanup and public involvement. Accelerated Cleanup has been characterized by big bonuses going to government contractors who have emphasized acceleration over cleanup. Worker safety, quality cleanup, and openness have been sacrificed at many sites.

Recommendation: DOE action needs to match rhetoric and transfer money from “closed” sites to the more heavily contaminated ones, as promised.

Affected Sites:

Brookhaven National Laboratory, NY; Hanford Nuclear Reservation, WA; Idaho National Laboratory; Kansas City Plant, MO; Lawrence Livermore National Laboratory, CA; Los Alamos National Laboratory, NM; Nevada Test Site; Oak Ridge Reservation, TN; Pantex Plant, TX; Portsmouth Gaseous Diffusion Plant, OH; Paducah Gaseous Diffusion Plant, KY; Sandia National Laboratory, NM & CA; Savannah River Site, SC; Waste Isolation Pilot Plant (WIPP), NM.

Links for more information:

- www.heartofamericanorthwest.org
- www.snakeriveralliance.org
- www.sric.org/nuclear/index.html
- www.bredl.org/nuclear/index.htm
- www.h-o-m-e.org
- www.nuclearactive.org/
- www.ananuclear.org/Issues/EnvironmentalCleanup.aspx

Office of Legacy Management

History Incomplete	Science B	Civics D
<p>The Office of Legacy Management (OLM) is a new entity with a necessary mission – monitoring the “closed” nuclear weapons facilities. No grade available at this time.</p>	<p>Monitoring the cleanup sites is fairly straightforward. It remains unclear how well original cleanup was performed and how OLM will respond to failures, as well as carrying out long-term ground water remediation and monitoring.</p>	<p>Public involvement is being limited around OLM sites with local governments being the only parties invited to participate – individuals and community groups are not being included. OLM’s Strategic Vision contains ambiguous language that suggests this agency may continue DOE’s tradition of dodging responsibility for environmental contamination.</p>
<p>Remarks: OLM is tasked with monitoring and verifying the cleanup work performed at Cold War nuclear weapons facilities. While seemingly straightforward, the complex nature of the original contamination and the patchwork of state, local, tribal, and national regulations that guided cleanup work have left each major legacy closure site (currently Rocky Flats, Mound, and Fernald) with different levels and types of remaining waste, dealt with in different manners.</p> <p>Further complicating matters, several active DOE nuclear weapons complex sites are engaged in both cleanup and production activities. It is unclear what role OLM will play at these sites – especially at sites where NNSA – not EM – is controlling cleanup.</p> <p>At the still heavily polluted Rocky Flats, huge areas of land were turned over to the Fish and Wildlife Service – an agency with no experience dealing with radioactive contamination. It is unclear how OLM will work with FWS if monitoring finds dangerous levels of radioactivity.</p> <p>Most troubling is DOE’s track record with liability. DOE has traditionally taken every opportunity to transfer their liability for the environmental contamination caused by nuclear weapons production to other entities. Time will tell if OLM is evidence of a new commitment to accountability or a path to further irresponsibility.</p> <p>Recommendation: Develop process for real community participation in stakeholder organizations.</p>		
<p>Affected Sites: Fernald, OH Mound, OH Rocky Flats, CO Pantex, TX (2008)</p>		
<p>Links for more information: www.rmpjc.org/NuclearNexus/articles.html</p>		

High-Level Waste Tanks

History D	Science F	Civics F
<p>The most dangerous radioactive waste from decades of Cold War weapons production is stored in underground tanks, many of which have leaked, posing a serious risk to rivers and aquifers in Idaho, Washington, and South Carolina.</p>	<p>Politics, not science, has driven the decisions on how to treat the liquid high-level waste tanks. DOE's preferred method is to dump concrete in the tanks before the most difficult-to-remove waste has been removed for treatment. While the capacity to immobilize high-level waste through vitrification exists, DOE's own management shortcomings have impeded progress.</p>	<p>The legislated re-classification of high-level waste into low-level waste at DOE's urging was a clear selection of economy over environmental protection. This pattern is indicative of DOE's general waste disposal philosophy.</p>
<p>Remarks: High-level radioactive waste, stored in tanks at Hanford, INL, SRS, and West Valley, NY represents the most dangerous byproduct of nuclear weapons and fuel production.</p> <p>Vitrification, the process of solidifying the waste with glass or ceramics to prepare it for disposal, is considered the safest remediation path for high-level waste. The technology is not yet perfected for high-level waste, but other radioactive wastes are already being successfully vitrified. Faced with the challenge of implementing the safest remediation path for its most dangerous waste, the DOE went looking for a way out of this part of the problem.</p> <p>In 2004 DOE went to Congress and began a process to allow it to leave substantial high-level radioactive waste in the tanks at INL and SRS where it has been stored for decades. With the wave of a legislative magic wand, the remaining tank waste can be reclassified as low-level. DOE can now dump concrete into the partially emptied tanks and declare them "closed."</p> <p>Recommendation: DOE must take responsibility for the contamination from nuclear weapons production and reprocessing.</p>		
<p>Affected Sites: Hanford Nuclear Reservation, WA Idaho National Laboratory Savannah River Site, SC West Valley, NY</p>		
<p>Links for more information: www.heartofamericanorthwest.org www.snakeriveralliance.org www.bredl.org</p>		

Global Nuclear Energy Partnership and Reprocessing

History F	Science D	Civics D
<p>Reprocessing spent fuel rods to extract plutonium and uranium for new nuclear fuel is an idea that has been around for decades and has never been economically viable. It is also the technology responsible for the worst pollution from Cold War nuclear weapons production—the high-level waste that sits in tanks in Washington, Idaho, and South Carolina. Reprocessing for commercial reactor fuel in the U.S. proved so economically and environmentally disastrous that it was abandoned after six years. Satisfactory means for dealing with the wastes from reprocessing are still elusive.</p>	<p>The technologies at the heart of GNEP – reprocessing and fast reactors – are fundamentally capable of producing nuclear weapons materials as well as nuclear energy. The reactors envisaged for GNEP are older, inefficient designs that provide no proliferation resistance. In the most common reprocessing scenario, uranium and plutonium are extracted from the “spent” nuclear fuel rods by dissolving them in acid. Falsely labeled “recycling,” none of the radioactive material in the irradiated fuel is rendered safe. Another reprocessing method proposed for GNEP, pyroprocessing, is very costly and only partially developed; it would focus on fuel irradiated in fast reactors, which have never been adopted by any country’s nuclear industry because they are so expensive and dangerous to operate.</p>	<p>Weaning the U.S. from fossil fuels is a noble goal, but nuclear energy is the most dangerous and uneconomical alternative to oil or coal. Trading one massive pollution problem for another is unwise. DOE is targeting economically depressed areas for proposed reactors and reprocessing sites, hoping that communities will risk their health and that of their environment for jobs.</p>
<p>Remarks: GNEP is a confluence of many bad ideas. Plutonium piling up around the globe is at risk of being diverted to weapons programs or terrorists. Reprocessing is also one of the two main paths towards a nuclear weapon. As the U.S. attempts to stop the spread of nuclear weapons, it is important that we lead by example. Reprocessing creates extremely hazardous, difficult to manage waste stream. Because of its costs and the intractable waste problems, the promised benefits of nuclear power have never been realized.</p> <p>Recommendations: DOE should pursue a sustainable energy strategy, clean up the waste from past reprocessing, and stop referring to this polluting technology as “recycling.”</p>		
<p>Affected States: Idaho; Illinois; Kentucky; New Mexico; Ohio; South Carolina; Tennessee; Washington</p>		
<p>Links for more information: www.atlantawand.org www.sric.org www.snakeriveralliance.org</p>		

Plutonium Mixed Oxide Fuel (MOX)

History C	Science F	Civics C
<p>DOE and large engineering contractors have been trying to convert U.S. and Russian surplus weapons-usable plutonium into reactor fuel since 1997. Legal disagreements have stalled this parallel program for years. The U.S. recently decoupled its program from Russia's and is poised to move forward despite the doubling of expenses, proliferation risk, and lack of a clear plan.</p>	<p>Processing plutonium into MOX reactor fuel creates dangerous liquid radioactive waste and does not end the proliferation risk of this dangerous material. The reactors selected to use MOX fuel would carry a host of safety and operational risks.</p>	<p>Taking weapons grade plutonium out of circulation is a good idea, but processing it into MOX fuel does not achieve that goal. On the contrary, it would mean that plutonium will be on our roads and in the inadequately guarded reactors near our communities.</p>
<p>Remarks: Congress should urge DOE to revive the plutonium immobilization plan to vitrify plutonium with other radioactive materials and dispose of it as waste. Immobilization is a less expensive, relatively safe and permanent way to neutralize the proliferation and environmental threat of plutonium. The immobilization track was abandoned by DOE, despite the existence of several tons of plutonium that cannot be blended into MOX.</p> <p>Recommendations: Cancel the plutonium fuel program and revive the safer, more economical plan to immobilize plutonium and dispose of it as waste, essentially neutralizing the proliferation and environmental threat.</p>		
<p>Affected Site: Savannah River Site, SC</p>		
<p>Links for more information: www.atlantawand.org www.bredl.org www.nonukesyall.org</p>		

Yucca Mountain

History D	Science D	Civics D
<p>In 1987, a search for a central dump for spent fuel prematurely ended with Congress selecting Yucca Mountain, Nevada, before the analysis was complete. This was allowed to happen due mostly to Nevada's inability to mount a significant political defense in Congress.</p>	<p>Falsified scientific data is just a recent chapter in the long, troubled saga of the Yucca Mountain project. Politics trumped science in the decision to dump the nation's spent reactor fuel at Yucca Mountain. The geology and chemistry of the site are poorly suited to protect the surrounding environment from the waste inside. DOE's own analysis shows that Yucca Mountain only provides ~0.1% isolation of the waste in the long-term.</p>	<p>It is unclear why DOE is bent on putting a nuclear waste dump in Yucca Mountain, considering that it would not solve the nuclear waste problem and safer, more economical alternatives exist. Securing spent fuel at the originating reactor is far cheaper and safer than transporting it across the country for burial in a mountain which provides no special geologic containment.</p>
<p>Remarks: Nuclear energy causes more problems than it solves and Yucca Mountain is an excellent example of one of those problems: what to do with nuclear waste?</p> <p>Touted by DOE as the solution to the tens of thousands of tons of spent nuclear fuel, Yucca Mountain would add just one more high-level nuclear waste dump to the landscape. Due to size constraints, Yucca would be technically "full" the day it opened while additional spent fuel from operating reactors would have no path to disposal. It is unlikely that another dump like Yucca would ever be approved by Congress.</p> <p>The State of Nevada estimates that on-site storage would cost approximately \$20 billion, compared to Yucca Mountain's lifetime budget of more than \$60 billion. Institutional inertia is taking precedence over economics and safety in DOE's handling of spent nuclear fuel disposal.</p> <p>Recommendation: Cancel plans to bury radioactive waste at Yucca Mountain.</p>		
<p>Affected Sites: Yucca Mountain Repository (proposed), and all current nuclear waste storage sites</p>		
<p>Links for more information: www.h-o-m-e.org www.citizenalert.org</p>		



RADIOACTIVE REPORT CARD, 2007

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by the Alliance for Nuclear Accountability

www.ananuclear.org



Subject	Grade	Comment	Improvement Needed
Public Relations Rhetoric	B+	High-sounding promises about health, safety, environment and national security are not being fulfilled.	Tell the truth. Obey the law. Deal honestly and openly with the public.
Environmental Compliance	D	Crucial deadlines missed at Hanford, Savannah River and other sites. Trying to overturn legally binding cleanup agreements.	Follow all state and EPA regulations. Provide adequate resources to meet deadlines.
Budget Priorities	F	\$6.5 billion FY '08 nuclear weapons budget request, larger than Cold War average, exceeds cleanup request by more than \$855 million.	Clean up the complex, don't build more unnecessary weapons.
Unnecessary Weapons Production	A	Reliable Replacement Warheads, Complex 2030, and new plutonium pit production are budget-busting "solutions" to nonexistent problems.	Comply with Nuclear Non-Proliferation Treaty obligations to reduce arsenal. Openly debate future U.S. nuclear weapons policies.
Waste Cleanup	C-	Inadequate funding and poor project management are the norm at many sites.	Fund cleanup fully and abandon failing "Accelerated Cleanup" schemes.
Nuclear Power Revival	D	Global Nuclear Energy Program and plutonium reactor fuel (MOX) create more waste and contamination risk	Cancel efforts to revive nuclear fuel reprocessing and plutonium reactor fuel. Cancel Yucca Mountain
Office of Legacy Management	I	INCOMPLETE Still unclear if OLM is another example of DOE reorganizing itself instead of cleaning up legacy waste.	Public involvement at Rocky Flats doesn't meet federal requirements. At Fernald, waste is being discovered at the "clean" site.