



SOUTHWEST RESEARCH AND INFORMATION CENTER

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January 18, 2016

Frank G. Klotz
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

RE: Proposed Record of Decision (ROD) on the Final Surplus Plutonium Disposition
Supplemental Environmental Impact Statement (SEIS)

Dear Gen. Klotz:

Southwest Research and Information Center (SRIC) is a nonprofit organization established in 1971 to promote the health of people and communities, protect natural resources, ensure citizen participation, and secure environmental and social justice now and for future generations. SRIC has been actively involved with issues related to surplus plutonium management for more than two decades and to issues related to the Waste Isolation Pilot Plant (WIPP) for more than 40 years. Over the past several years, SRIC also has been involved with various activities related to Los Alamos National Lab (LANL). SRIC supports the goals of safely storing surplus plutonium, making weapons-grade plutonium unavailable for future weapons use, and safely disposing of plutonium waste. SRIC commented extensively on the Draft Surplus Plutonium SEIS.

The following comments strongly demonstrate that the proposed ROD described in the December 24, 2015 *Federal Register* (80 FR 80348-80349) should not be issued. The Final Surplus Plutonium SEIS is grossly deficient legally and technically. The document does not provide National Environmental Policy Act (NEPA)-compliant basis for a ROD to provide that the 6 metric tons (MT) of surplus non-pit plutonium could be safely disposed at the Waste Isolation Pilot Plant (WIPP).

Instead, DOE/NNSA must do additional NEPA analysis regarding both the disposition of surplus non-pit plutonium and WIPP.

The following comments must be fully considered prior to the issuance of the proposed ROD.

1. The Final SEIS does not comply with NEPA legal requirements.

SRIC's October 10, 2012 comments on the Draft SPDSEIS included extensive discussion of the legal failings of the document. While the Comment Response Document (CRD, Volume 3) of the Final SEIS included those comments, it did not satisfactorily address the key issues.

A. NEPA requires a new or supplemental Programmatic EIS. The Final SEIS response is:

“The disposal at WIPP of 13.1 metric tons (14.4 tons) of surplus plutonium, which is approximately 26 percent of the amount considered in the *Storage and Disposition PEIS*, could potentially be accomplished within WIPP's capacity and, therefore, is considered to be a reasonable alternative in this *Final SPD Supplemental EIS* (see Chapter 4, Section 4.5.3.6.3).” CRD at 3-141.

The fact that the 1996 Storage and Disposition PEIS (DOE/EIS-0229) excluded WIPP as an alternative is one of the reasons that a new or supplemental PEIS is required. The explanation that using WIPP for a smaller amount of waste is a reasonable alternative reinforces the point that a program using WIPP was excluded in PEIS (pages 2-10 to 2-15).

SRIC also commented that Los Alamos National Lab (LANL) was not included as a pit disassembly or conversion location (pages 2-89 to 2-95).

The Final SEIS response is:

“The use of LANL to support pit disassembly and conversion has been ongoing. In 1998, DOE completed an environmental assessment of a proposed pit disassembly and conversion demonstration project at LANL (DOE 1998a). The *SPD EIS* (DOE 1999) acknowledged these activities, and the *LANL SWEIS* (DOE 2008) included the impacts associated with these ongoing activities. In this *SPD Supplemental EIS*, DOE is now considering an expansion of these activities and has included an evaluation of all of the environmental impacts associated with this proposal (see Appendix F and the various sections in Chapter 4 that include impacts analyses related to LANL).” CRD at 3-141.

Thus, the response concedes the fact that the PEIS did not include LANL, but tries to avoid the implications by citing other NEPA documents

SRIC further commented that the PEIS stated that disposition would “meet the Spent Fuel Standard, thereby providing evidence of irreversible disarmament and setting a model for proliferation resistance.” at 1-6.

The Final SEIS response is:

“DOE believes that the alternatives, including the WIPP Alternative, analyzed in this *SPD Supplemental EIS* meet the goals of the Spent Fuel Standard. The Spent Fuel Standard is a term, coined by the National Academy of Sciences and modified by DOE, denoting the main objective of alternatives for the disposition of surplus weapons - usable plutonium: that such surplus

plutonium would be made roughly as inaccessible and unattractive for weapons use as the much larger and growing stock of plutonium in civilian spent (used) nuclear fuel.” CRD at 3-141.

Thus, the response concedes that the Spent Fuel Standard has been abandoned. There is no showing that emplacing plutonium at WIPP is as inaccessible and unattractive as in spent nuclear fuel. Of course, the thermal heat, radioactivity, and form of spent fuel are totally different than contact-handled (CH) transuranic (TRU) waste. In fact, CH-TRU waste has been retrieved and removed from WIPP with existing equipment and resources, which is not consistent with the spent fuel standard, nor is possible with spent nuclear fuel. Objectively, WIPP meets neither the spent fuel standard, nor DOE’s lesser “inaccessible and unattractive for weapons use” standard. Thus, the Final SEIS does not contain accurate information about the spent fuel standard, nor is it consistent with the PEIS.

SRIC additionally commented that the Council on Environmental Quality (CEQ) has stated that EISs that are more than five years old “should be carefully reexamined to determine if the criteria in Section 1502.9 compel preparation of an EIS supplement.” 46 FR 18036.

The Final SEIS response is:

“DOE believes that it is neither necessary nor desirable to supplement the *Storage and Disposition PEIS* (DOE 1996). For further discussion, refer to Section 2.1, Topic A, of this CRD.” CRD at 3-143.

Section 2.1, Topic A states:

“This *SPD Supplemental EIS* continues DOE’s tiered evaluation of site-specific impacts for implementing DOE’s programmatic approach to storage and disposition of surplus plutonium. This *SPD Supplemental EIS* updates and supplements DOE’s previous plutonium disposition analysis to incorporate new proposals for utilizing existing facilities for pit disassembly and conversion and to analyze the potential environmental impacts of several alternatives – including immobilization and MOX, but also extending to other alternatives that would advance the programmatic goal of environmentally safe and timely plutonium disposition – for approximately 13.1 metric tons (14.4 tons) of surplus plutonium for which a disposition path is not assigned.” CRD at 2-2.

Thus, there has not been the required careful reexamination of the PEIS. The PEIS is functioning as no more than a paper weight on a bookshelf with no current use. Further, DOE maintains that it can do whatever it wants, regardless of what was stated in the PEIS. That DOE practice is antithetical to the spirit and requirements of NEPA. A new or supplemental PEIS is required.

In addition, DOE has ignored the basic point that the program described in the PEIS was that all of the plutonium would be immobilized for disposal in a geologic repository or turned into MOX fuel. Immobilization has been explicitly abandoned, and MOX also is being abandoned. Thus, the PEIS’s program has completely failed. Nonetheless, DOE has not prepared a new or supplemental PEIS and issued new RODs for its new program, as are required by NEPA.

B. Neither the PEIS, nor the Final SEIS, provide the required rigorous examination of all reasonable alternatives.

The discussion of alternatives is the legally required heart of any EIS. 40 CFR § 1502.14. The legally adequate EIS must “[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” 40 CFR § 1502.14(a).

NEPA plainly directs that DOE take a “hard look” at the environmental impacts of its proposed action, or series of related actions comprising a “program” of action, and compare them to a full range of reasonable alternatives for meeting the agency's purpose and need for action that may avoid or mitigate environmental harms or risks posed by its preferred alternative. “What constitutes a ‘hard look’ cannot be outlined with rule-like precision, but it at least encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgement of the risks that those impacts entail.” Nat'l Audubon Soc. v. Dept of the Navy, 422 F.3d 174, 185 (4th Cir. 2005). With the alternatives that the agency must consider, an EIS or PEIS must contain “a reasonably adequate compilation of relevant information.” Sierra Club v. U.S. Army Corp. of Engineers, 701 F.2d 1011, 1030 (2d Cir. 1983); see also, NRDC v. Callaway, 524 F.2d 79, 92 (NEPA requires “a detailed and careful analysis of the relative environmental merits and demerits of the proposed action and possible alternatives”).

This compilation of data and analysis is entirely lacking in the Final SEIS. NEPA is “an environmental full disclosure law” designed to “force[e] [agencies] to face ... stubborn, difficult to answer objections without ignoring them or sweeping them under the rug.” National Audubon Society v. Hoffman, 132 F.3d 7, 12 (2nd Cir. 1997), quoting Sierra Club v. U.S. Army Corp. of Engineers, 772 F.2d 1043, 1049 (2d Cir. 1985).

On March 30, 2015, President Obama authorized DOE to pursue a defense high-level waste repository.

<http://energy.gov/sites/prod/files/2015/03/f20/Defense%20Repository%20Fact%20Sheet.pdf>

Such a repository is an additional reasonable alternative that was not considered in the PEIS, nor included in the Draft SEIS for public comment, nor in the Final SEIS.

The Final SEIS, in response to commenters suggesting that a second repository be considered, stated:

“A second repository similar to WIPP would not be needed to dispose of the surplus plutonium that is the subject of this SPD Supplemental EIS.” at 2-18.

However, President Obama has now authorized a defense high-level waste repository, so it is a reasonable alternative for defense surplus plutonium. Thus, that reasonable alternative must be considered, but is not included in the PEIS, nor the Draft or Final SEIS, even as an alternative described but not considered.

C. The Final SEIS does not provide adequate information about the current status of WIPP. WIPP has been shut down since February 5, 2014, when a fire occurred in the underground. On February 14, 2015 a radiation release occurred in the underground that contaminated a

significant portion of the underground and resulted in internal radiation contamination of 22 workers on the surface. On September 30, 2014, DOE issued its WIPP Recovery Plan that stated that the objective “is to safely resume emplacing waste in WIPP in the first quarter of calendar year 2016.” <http://wipp.energy.gov/Special/WIPP%20Recovery%20Plan.pdf> at iii. That date has now been abandoned and no new re-opening date has been set.

None of that information is included in the Final SEIS. Clearly, that information is relevant to the consideration of the disposal of surplus non-pit plutonium that is the subject of the Final SEIS. Therefore, the Final SEIS is clearly inadequate in its consideration of the WIPP alternative.

Further, the Final SEIS repeatedly uses as the basis for its capacity volumes the 2012 TRU Inventory Report to determine that there may be sufficient capacity at WIPP for the proposed volume of surplus non-pit plutonium. That report is obsolete, as both the 2013 and 2014 Inventories were issued prior to the issuance of the Final SEIS. The 2015 TRU Inventory Report is now available. <http://www.wipp.energy.gov/library/TRUwaste/ATWIR%202015.pdf> The adequate EIS must use the most current available information, which the Final SEIS does not do.

Moreover, the Final SEIS uses inaccurate data in the 2012 TRU Inventory. The RH-TRU volumes are miscalculated so as to significantly underestimate the actual amount of RH waste emplaced at WIPP and future RH-TRU volumes. The RH-TRU waste volumes emplaced are approximately 44 percent larger (544.68 cubic meters, as compared with 306.11 used) than provided in the 2012 Inventory. Similarly, the future RH-TRU volumes are significantly undercounted, meaning that there is less “unsubscribed capacity” than used in the Final SEIS, especially if RH shielded containers are used, which occupy CH-TRU space. The reality is that the New Mexico WIPP Hazardous Waste Permit, consistent with the WIPP Land Withdrawal Act, requires that RH volumes be calculated based on the RH-TRU canister volume (0.89 cubic meters). The TRU Inventory does not use those required amounts, but rather uses inner container volumes for RH. CH-TRU waste also is calculated in the WIPP Permit and in the TRU Inventory based on CH container volumes. Thus, the Final SEIS must be supplemented to use accurate volume amounts.

Further, SRIC’s comments pointed out that the actual capacity of WIPP is much less than the 175,564 cubic meters maximum allowed by the WIPP Land Withdrawal Act (LWA). Of course, that law does not require the total legal capacity be used. Further, SRIC comments showed that because of how WIPP has been managed, it has not been filling to capacity the available panels.

The Final SEIS Response states:

“Assuming Panels 6 through 8 are filled to their permitted capacity (18,750 cubic meters [662,000 cubic feet]), Panels 9 and 10 would each need to be permitted to allow for the disposal of approximately 18,230 cubic meters (644,000 cubic feet) to reach the maximum limit of 168,485 cubic meters (5.95 million cubic feet) of CH-TRU waste, a number lower than currently permitted for Panels 3 through 8 (NMED 2012).” RCD at 3-149.

As Attachment 1 shows, Panel 6 was not filled to capacity (only 77.16 percent of its CH capacity was used). In Panels 1-6, 81.3 percent of the permitted CH capacity was used – meaning 20,760 cubic meters of capacity was not used. That capacity shortfall will increase because the actual amount of CH waste that can be emplaced in contaminated Panel 7 will be considerably less than the 18,750 cubic meter permit limit. That data is readily available and should have been included in the Final SEIS.

As Attachment 1 also shows, if each of Panels 7-10 were filled to the 18,750 permitted capacity level, there still would be a 3,245 cubic meter shortfall for CH-TRU waste. Of course, the actual shortfall will be greater than that because Panel 7 cannot be filled to capacity because of the contamination and the fact that Room 7 has been closed with 387 cubic meter of CH-TRU waste emplaced. Based on past practice, panels 8-10 would not actually be filled to capacity. In addition, Panels 9-10 are too small to actually handle 18,750 cubic meters in each one. Of course, those areas that were supposed to be panels 9 and 10 are significantly contaminated from the February 14, 2014 radiation release and should not be used for any waste emplacement. Thus, effectively, there are only eight panels that can be used.

The Final SEIS states:

“approximately 24,700 cubic meters (872,000 cubic feet) of unsubscribed CH-TRU waste capacity could support the activities analyzed in this *SPD Supplemental EIS* (see Chapter 4, Section 4.1.4).” at S-66.

Virtually all of that “unsubscribed CH-TRU waste capacity” has been lost because available capacity has not been used in panels 1-6. Future emplacement in Panels 7-10 (if there are to be panels 9-10) will not capture the lost capacity.

Once again, the Final SEIS does not use the most current, accurate information. That inaccuracy is very significant because the premise of the document is that there is actually “approximately 24,700 cubic meters ...of unsubscribed CH-TRU capacity,” which, in fact, does not exist.

In addition, the RH volume (correctly calculated) shortfall adds to the capacity shortfall. Attachment 1 also shows that 46.82 percent of permitted RH capacity was used in Panels 4-6 and 710 cubic meters of capacity was not used. No more RH waste will be emplaced in Panel 7, so the 16 cubic meters already emplaced is the total amount. Thus, of the Panels 1-7 permitted capacity of 1,985 cubic meters, 641 cubic meters is emplaced. That amounts to 32 percent of capacity and a shortfall of 1,344 cubic meters. In the highly unlikely situation that all RH capacity would be used in panel 8, the amount of RH waste would be 1,291 cubic meters; 49 percent of capacity and the same 1,344 cubic meters shortfall. In reality, the shortfall will be greater than that amount.

The information about the lack of capacity from mismanagement prior to the 2014 shutdown are relevant information about the status of WIPP that has not been, but must be analyzed in an adequate SEIS.

D. The Final SEIS is incorrect that all of the 6 MT of surplus non-pit plutonium meets the legal requirements to be disposed at WIPP.

The Final SEIS states:

“The 6 metric tons (6.6 tons) of non-pit plutonium includes a limited quantity of additional plutonium (0.9 metric tons [1.0 ton]), to allow for the possibility that DOE may, in the future, identify additional quantities of surplus plutonium that could be processed for disposition through the facilities and capabilities analyzed in this *SPD Supplemental EIS*. For example, future sources of additional surplus plutonium could include plutonium quantities recovered from foreign locations through NNSA’s Global Threat Reduction Initiative or future quantities of plutonium declared excess to U.S. defense needs.” at S-9 and 10.

Foreign plutonium quantities are clearly not transuranic waste generated by U.S. atomic energy defense activities. Thus, such foreign plutonium is excluded from WIPP by section 213 of Public Law 96-164; 93 STAT 1259, 1265 and the WIPP LWA, Section 2(21).

Further, the brief mention of foreign plutonium does not constitute adequate NEPA analysis. DOE is currently considering bringing some of Japan’s commercially generated plutonium to the Savannah River Site. Such plutonium would apparently be part of the 6 MT even though it is not defense TRU waste.

Since foreign plutonium cannot be disposed at WIPP under current law, the Final SEIS is inadequate because it does not provide accurate information about some of the waste. Neither does the Final SEIS consider the alternatives for disposition of such foreign plutonium.

E. The Final SEIS does not adequately consider the impacts of the significant additional quantities of plutonium being disposed at WIPP.

The 6 MT of surplus non-pit plutonium includes significantly more curies of plutonium than have been included in previous NEPA analysis for WIPP. The amount also significantly exceeds what has been included in the compliance certification applications to the Environmental Protection Agency (EPA) – approximately tripling the amount.

The Final SEIS does not analyze the impacts of such significant increase in plutonium loading at WIPP, nor does it discuss how the EPA certification requirements would be met.

In addition, recent (November 16, 2015) analysis by High Bridge Associates maintains:

“The Criticality Control Overpack is considerably smaller than a 55-gallon drum. The NNSA is considering only counting the volume of the CCO to compare against the waste limit volume. If that approach is approved, the concentration of plutonium in this reduced volume is over 32,000 g/m³ or approximately 1,000 times the design basis. This calls into question the assumption that a criticality would not be possible in WIPP after closure.”
<http://www.nucleartownhall.com/wp-content/uploads/2015/11/20151116-Supplemental-Report-on-Curie-Impact-on-WIPP.pdf> at 9.

Further, an article in *Nature* on January 13, 2016 by three authors, including Dr. Rodney Ewing, who served on the National Academy of Sciences WIPP Panel and currently chairs the Nuclear Waste Technical Review Board, states:

“The shortcomings of proposals to dispose of weapons plutonium at WIPP mirror the operational failings that led to the 2014 accidents. Before the DOE considers implementing these recommendations, it should look to the repository’s record over the past 15 years of operation and reassess its confidence in the safe performance of the facility over the next 10,000 [years].”
<http://www.nature.com/news/policy-reassess-new-mexico-s-nuclear-waste-repository-1.19135> at 151.

These serious technical issues have not been addressed in the Final SEIS. But they must be addressed in an adequate NEPA document, prior to the issuance of the proposed ROD.

The technical issues must also be addressed in the EPA re-certification process before WIPP can re-open.

F. The Final SEIS is in error regarding whether the existing WIPP facilities could handle the proposed surplus non-pit plutonium.

The Final SEIS states:

“Use of WIPP to disposition additional surplus plutonium would not be expected to result in the need for additional mining, upgrading of underground drifts or the waste hoist, or improvements of the Waste Handling Building at WIPP.” RCD at 3-152.

On the contrary, additional mining will be necessary, not only for the upgrading of the underground drifts, but also to provide a new exhaust shaft. DOE has determined that such upgrades are necessary to operate WIPP in the future, because of the underground contamination and the need for a new exhaust system.

The Final SEIS statement is clearly erroneous and does not provide an adequate NEPA or technical basis to support a decision to dispose of the surplus non-pit plutonium at WIPP.

G. The costs of the proposed decisions are unknown.

SRIC and other commenters pointed out that the costs of MOX and the alternatives – including non-pit plutonium – are unknown and are not correctly described or calculated in the Draft SEIS. In response, the Final SEIS states:

“Cost is among the factors that the decisionmaker may consider when selecting an alternative for implementation.” CRD at 3-152.

DOE not publicly released any reliable cost analysis for the 6 MT of surplus non-pit plutonium or the other aspects of the disposition program, especially including MOX. The Red Team and High Bridge Associates have developed cost estimates, which differ widely and do not include the cost of addressing the issues raised in these comments. Thus, the decisionmaker has no accurate basis for determining the costs of the WIPP disposal alternative or other alternatives.

2. NEPA requires another Supplemental EIS for WIPP.

The three WIPP EISs – DOE/EIS-0026, DOE/EIS-0026-FS, DOE/EIS-0026-S2 – do not consider the current situation in which WIPP is shut down and the alternatives to re-opening WIPP. None of the WIPP EISs analyzed the impacts of WIPP being shut down for more than two years as a result of a fire and radiation release. Clearly, the EISs are inadequate by not analyzing such events.

NEPA requires that DOE conduct an environmental analysis in connection with the several actions that law and regulations require before the resumption of operations at WIPP, including the implementation of corrective action plans, the issuance of approvals based upon readiness reviews, and the obtaining of new authority to operate under modifications. Agency action to continue the operation of a facility without altering the status quo does not generally require NEPA examination, but when the action in issue involves material modifications in the scope or manner of operation of a facility, NEPA review applies. See, e.g., *San Luis & Delta-Mendota Water Authority v. Jewell*, 747 F.3d 581646 (9th Cir. 2014); compare: *Grand Canyon Trust v. Williams*, 2015 U.S. Dist. LEXIS 45325 (D. Ariz. 2015).

The many changes to the physical facilities at WIPP, the many changes being made to operating and waste characterization procedures, the many changes required to the New Mexico Hazardous Waste Permit and EPA certification, among other things, require another supplemental WIPP EIS, which must be distributed for public comment in a draft SEIS.

Further, there are now various reasonable alternatives that have not been adequately analyzed in the WIPP EISs. Among such alternatives are that WIPP be decontaminated and decommissioned with the existing 91,268 cubic meters of waste emplaced. In addition to use of the proposed defense high-level waste repository, a second TRU repository is a reasonable alternative for the significant quantities of remaining TRU waste. The no action alternative would consider the impacts of continued storage of existing TRU waste at the remaining generator sites.

Thank you for your careful consideration of, and response to, these comments, which must be considered and responded to before the proposed ROD can be issued.

Yours truly,



Don Hancock

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WIPP PERMITTED VS. ACTUAL CAPACITY

Attachment 1

(in cubic meters) - As February 5, 2014

	<u>CH-Permitted</u>	<u>Actual</u>	<u>% Used</u>	<u>RH-Permitted</u>	<u>Actual</u>	<u>% Used</u>
Panel 1	18,000	10,497	58.32%	0		
Panel 2	18,000	17,998	99.99%	0		
Panel 3	18,750	17,092	91.16%	0		
Panel 4	18,750	14,258	76.04%	356	176	49.44%
Panel 5	18,750	15,927	84.94%	445	235	52.81%
Panel 6	18,750	14,468	77.16%	534	214	40.07%
Panel 7	18,750	387		650	16	
Panel 8	18,750			650		
Totals	148,500	90,627		2,635	641	
Panels 1-6	111,000	90,240	81.30%	1,335	625	46.82%
Panels 1-8**	148,500	127,740	86.02%	2,635	1,925	73.06%
Legal Capacity	168,485			7,079		
Panel 9*	18,750			650		
Panel 10*	18,750			650		
Panels 9-10***	186,000	165,240	98.07%	3,935	3,225	45.56%

Notes: *Panels 9 and 10 proposed capacities. ** If Panels 7-8 are filled to capacity.

***Total capacity if Panels 9 and 10 filled to proposed capacities.

"CH" is Contact-Handled waste; "RH" is Remote-Handled

"Permitted" refers to the capacity limits in the New Mexico WIPP permit

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