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June 7, 1996

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DOE-Office of Fissile Materials Disposition
c/o SAIC-PEIS
P.O. Box 23786
Washington, DC 20026-3786

Dear Sir:

What follows are my:

Public Comments on the
"Storage and Disposition of Weapons-Usable Fissile Materials
Draft Programmatic Environmental Impact Statement" - February 1996
(DOE/EIS-0229-D).

Henceforth, the document, upon which I am commenting upon, will be referred to as "S&D DPEIS." This document was a product of the U.S. Department of Energy's Office of Fissile Materials Disposition.

General comments:

This S&D DPEIS document did a better job of presenting and analyzing the numerous alternatives then did some of the other EISs that I have reviewed. I counted 16 alternatives in this draft document and found that to be excessive. If one adds in the site options, the number of overlapping and interacting alternatives climbs to over a hundred. This does not help the public or other agencies to analyze the options. I was glad to see that the Department had dropped the accelerator based transmutation scheme as being too uncertain. 1/01.04.00

I hope the final S&D DPEIS drops all the alternatives that do not lead directly to very near-term stabilization and storage. The chosen storage form should be ready for disposal in a High Level Nuclear Waste Repository or be ready for conversion to such a form. All the alternatives, that lead to the production of MOX fuel for use in a wide variety of reactors, should be dropped. These schemes are clearly designed to prop-up nuclear power advocates despite the clear economic uncertainty of future nuclear power development. The department's biggest environmental headaches resulted from the feeding of fissile materials into reactors. Until, the department is actually engaged in the final disposition of reactor produced wastes, they should not be suggesting the deliberate production of more reactor produced wastes. 2/01.04.00 3/08.03.01

I favor the long-term storage alternative that involves the "collocation of plutonium and highly enriched uranium at a single site." I suggest that you reconsider a site which you apparently 4/08.03.01 5/01.04.00

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01 04 00 Comment Number 1

Comment noted. While the PEIS evaluates a significant number of technical alternatives and sites, DOE feels this is not an excessive number since two proposed actions are being evaluated: long-term storage and disposition of weapons-usable fissile materials. Furthermore, the same six DOE sites are evaluated for both storage and disposition.

01 04 00 Comment Number 2

Comment noted.

08 03 01 Comment Number 3

The Department of Energy acknowledges the commentor's opposition to the Reactor Alternative using MOX fuel. Decisions on disposition of weapons-usable fissile materials will be made based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's support for the Collocation Alternative. Decisions on storage alternatives will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

01 04 00 Comment Number 5

Combined storage of pits and non-pit Pu at the Manzano WSA was originally eliminated as a reasonable alternative in the Draft PEIS. After considering separate storage of pits from non-pit Pu, the option to store these pits at the Manzano WSA no longer appears unreasonable. The Manzano WSA was evaluated in the Pantex EIS and Section 2.1.3 of the Final PEIS. The Final PEIS was revised to clarify the consideration of the Manzano WSA for combined storage, and a description of the WSA was included in Appendix P.

dropped with little explanation. This site is at Kirtland Air Force Base's Manzano Weapons Storage Area. This site could quickly accommodate pit storage, and the construction of new storage facilities could be performed quickly and economically due to the existing infrastructure that surrounds the base. 5/01.04.00 cont.

In the "Disposition" options, I favor the "vitrification" alternative in the "immobilization" category. My second choice is for "Ceramic Immobilization" either in the "Immobilization Category" or in the "Deep Borehole Category." The processing site should be located at the single site where the surplus fissile materials are stored. 6/08.03.01 7/08.03.01 8/08.03.01 9/08.03.01

Upon close examination, of the four thick volumes that constitute the S&D DPEIS, it became clear to me that many of the proposals were highly conceptual in nature. It seems that little thought has gone into the cost and the interrelatedness of most of the numerous proposals. This makes it difficult for the public and other agencies to evaluate the merits of the various proposals. The DOE should reduce the alternatives down to five or less, provide an end depth analysis, and then reissue another draft S&D DPEIS document. 1/01.04.00 cont.

I will now comment on specific problems I have found in this 14 pound stack of documents. All 18 Figures which show the outline or the boundaries of the Nevada Test Site need to be corrected. The portion of the test site, withdrawn under Public Land Order 1662 is not shown on your maps. This portion of the test site extends to the east and lies next to the northeast corner of Area 15. A depiction of this area can be found on page 4-10 in Part A of Volume 1 in the "Draft Environmental Impact Statement for the Nevada Test Site and Off-site Locations in the State of Nevada" - January 1996 (DOE/EIS 0243). All the other maps in this document are also in error. This is due to a deliberate attempt to hide the existence of this area which was once known as Area 51. For 38 years this deception has been propagated throughout all levels of DOE HQ including the Inspector Generals office. The deception has made its way into documents that are presented to Presidential and Congressional oversight committees. DOE has issued hundreds of tons of documents, containing these deceptive maps, which are now found in government repository libraries all across this country. The Cold War has ended and its about time this deception was ended. Please correct the map drawings in the following figures. 10/09.01.02

S&D DPEIS
Volume I

p.2-18	Figure 2.2.2-1.	2935-NTS/S&D
p.2-19	Figure 2.2.2-2.	2936-NTS/S&D
p.2-35	Figure 2.2-2.	2958-NTS/S&D
p.2-62	Figure 2.3.2.2-3.	3175/S&D
p.2-63	Figure 2.3.2.2-4.	3176/S&D
p.2-71	Figure 2.3.3.2-3.	3139/S&D
p.2-72	Figure 2.3.3.2.4.	3138/S&D
p.2-78	Figure 2.4-2.	2940-NTS/S&D
p.3-68	Figure 3.3.1-1.	2468-NTS/S&D
p.3-69	Figure 3.3.1-2.	2574-NTS/S&D

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08 03 01 Comment Number 6

The Department of Energy acknowledges the commentor's support for the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 7

The Department of Energy acknowledges the commentor's support for the Ceramic Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 8

The Department of Energy acknowledges the commentor's support for borehole disposition using the Immobilization Alternative. Decisions on disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

08 03 01 Comment Number 9

Comment noted.

09 01 02 Comment Number 10

On June 20, 1958, *Public Land Order 1662* reserved approximately 15,540 hectares (ha) (38,400 acres) for use by the Atomic Energy Commission (AEC) in connection with NTS. The lands described under this Public Land Order are not considered for any storage and disposition alternative. Therefore, the figures in the PEIS do not depict the land area withdrawn under *Public Land Order 1662*.

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p.3-76	Figure 3.3.4-1.	2404-NTS/S&D	10/09.01.02 cont.
p.3-77	Figure 3.3.4-2.	2405-NTS/S&D	
p.3-81	Figure 3.3.5-1.	2406-NTS/S&D	
p.3-83	Figure 3.3.6-1.	5125-NTS/S&D	
p.3-86	Figure 3.3.6-2.	2408-NTS/S&D	
Volume II			
p.4-792	Figure 4.5.1-3	2994-NTS/S&D	
p.4-793	Figure 4.5.1-4	2995-NTS/S&D	
Volume III			
p.M-32	Figure M.2.5-1	2957-NTS/S&D	

Summary Volume

After the "METRIC CONVERSION CHART" a fact sheet should be provided that briefly describes the characteristics of Pu-239 including its half-life and why it needs to be isolated from the human environment for over a quarter million years. I suggest that you obtain the fact sheet from the Institute for Energy and Environmental Research in Takoma Park, Maryland. 11/08.02.00

Page S-1, Box that describes what constitutes "Weapons-Usable Fissile Materials"
It states "All isotopes of Pu..." As such, the Summary Volume and Volume I should state clearly on the "COVER SHEET" and in the "TABLE OF CONTENTS" that a classified appendix has been prepared which involves the separation of plutonium-242, at Savannah River Site's F-Canyon reprocessing facility, for use in the DOE weapons program. The reasons for this classified appendix needs to be explained and all aspects of this project, that have environmental consequences, need to be declassified. 12/10.03.00

Page S-4, "SCOPE OF THE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT" Third paragraph.
This should mention the many metric tons of Pu-239 that lie below the 11 underground nuclear explosion testing sites in the U.S. 13/01.00.00

page S-6, "Development of Disposition Alternatives" "(7)Euratom mixed oxide (MOX) fuel fabrication/reactor burning." It appears that the various MOX options could only be justified if, in the short-term, we paid a premium for Euratom to process our fuel. This alone, should have disqualified all the MOX options. This MOX option, including the need to utilize European facilities, is also mentioned on page S-15 and on the last few lines under "Reactor Category" on pages-23. Since the Europeans cannot support our long-term program we would have to build our own MOX fuel fabrication plant. In the second to the last paragraph on page S-32 it is suggested that a MOX fabrication plant would have virtually no environmental impact on DOE sites. If this is so, then why does such a plant have to go through a gauntlet of licensing procedures that could prevent the plant from ever going into operation? 14/06.01.09

Page S-7, Middle of second paragraph. It should be made clear that while all the MOX fuel will be consumed, most of the Pu-239 will remain in the wastes that is discharged from the reactors. 15/09.11.08

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08 02 00 **Comment Number 11**

Based on the comment, the half-life of Pu-239 has been included in the text of the PEIS (Chapter 7, *Glossary*).

10 03 00 **Comment Number 12**

The foreword acknowledges the Classified Appendix and includes a brief description of its content. The appendix cannot be declassified at this time.

01 00 00 **Comment Number 13**

These materials are not considered weapons-usable and, therefore, are not included in the scope of this PEIS.

06 01 09 **Comment Number 14**

Comment noted. DOE is evaluating various sites in the United States for MOX fuel fabrication using surplus weapons-usable Pu. DOE is also considering some initial MOX fuel fabrication in Europe (for example, Lead Test Assemblies and core loads). Initial fabrication in Europe could accelerate the start date by a few years.

09 11 08 **Comment Number 15**

The Summary of the Draft PEIS was revised to state that MOX fuel is not actually consumed through irradiation, but Pu-239 is fissioned. The MOX fuel would be used in the reactor until it meets the Spent Fuel Standard or is no longer usable for generation of electric power. Upon removal, the spent MOX fuel assemblies would still have some Pu-239 similar to spent conventional uranium fuel assemblies.

Page S-34, "Partially Completed Light Water Reactor Alternative" First line of the third paragraph. "Use of a partially completed LWR where construction of the reactor, turbine and auxiliary buildings, and cooling towers and ponds has been halted would involve the completion of these facilities with the implementation of this alternative." The use of the U.S. DOE to prop up a severely failed private project is not an appropriate use of tax dollars. 16/08.03.01

Volume I

Page 2-110, "Transportation." The second line indicates that High Level Waste (HLW) would be transported "...(via pipeline)." There was no further description or analysis of this option. It was also not clear how the cesium-137 capsules would be transported and I did not see any analysis of this issue. 17/10.00.00

Page 3-67, First line.
Change 350,000 ha to 322,195 ha and change 864,000 acres to 796,160 acres. The later values are the legal values. 18/09.01.02

Page 3-227, Second paragraph, sixth line.
"However, some stored nuclear materials will require additional processing or conversion into forms suitable for continued safe storage, use or transportation to other DOE sites." If this statement is in reference to the plutonium-242 at Savannah River Site's F-Canyon reprocessing facility, then the PEIS should make this clear. If the reference is to some classified activity then this fact should be clearly stated in the PEIS. 19/09.00.06

Volume II

Page 4-443, First paragraph, first line.
"During the post-closure period, the borehole array area of 25 ha (60 acres will be declared a limited access area indefinitely,...." The S&D PEIS should explain, in detail, what is meant by the term "indefinitely." At the end of the paragraph, the term "perpetuity" is used. Again, the reader deserves to know what is meant by the use of this term. The last line then states that "Such restrictions could be institutionalized by constructing drilling barriers and installing a variety of permanent markers." Just how permanent would these markers need to be? Should we expect the institutionalized DOE bureaucrats to maintain these barriers long after our federal government has collapsed? Could this provide job security for the next quarter million years? 20/09.02.08

I suggest that the terms Indefinitely, Institutionalized, Perpetually and Perpetuity be added to the Glossary. 21/16.00.00

And a final note:
In Volume III, on page G-23 there is "Figure G.4-4. AT-400A Packaging for the Transport of Plutonium Pits." The plutonium-239 pit is the heart of a nuclear weapon and I do realize why the pit sphere in the center is not drawn to scale. In any case, there has been a mix-up in the labeling of the shipping container parts 22/10.00.00

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08 03 01 **Comment Number 16**

The Department of Energy acknowledges the commentor's concern about the disposition of Pu using the partially completed LWR (commercial). Decisions on the disposition of weapons-usable fissile materials will be based on environmental analyses, technical and economic studies, national policy considerations, and public input.

10 00 00 **Comment Number 17**

Further information concerning this statement regarding the Vitrification Alternative can be found in Section 4.4 and Appendix G of the PEIS. Data summaries regarding the transport of high-level waste (HLW) as well as Cs pellets are located in Table 4.4.2.2–1.

09 01 02 **Comment Number 18**

The NTS land area as presented in the PEIS is identical to that in the *Nevada Test Site Development Plan* and the *Final Environmental Impact Statement for NTS and Offsite Locations in the State of Nevada, Volume I, Chapters 1-9, Part A*, January 1996. Section 4.2.2.1 of the Final PEIS was revised to reference these documents.

09 00 06 **Comment Number 19**

The information presented in Chapter 3 of the PEIS depicts the "Affected Environment" for the various storage and disposition sites analyzed in the document. The affected environment descriptions provide the context for understanding the environmental changes that may be brought about by implementation of the Proposed Action and alternatives.

Consequently, Section 3.7 describes environmental conditions as they currently exist at SRS. This includes some material which was identified in the *Plutonium Working Group Report on Environmental, Safety and Health* (ES&H) *Vulnerabilities Associated with DOE's Plutonium Storage* as requiring corrective actions to ensure compliance with high-priority ES&H requirements. These corrective actions are assumed to have been completed as part of the No Action

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diagram. The labels "Stainless Steel/Foam Insert Cover (Lower)" and "Containment Vessel Lower Shell" have been interchanged. I suggest that this be corrected. 22/10.00.00 cont.

-END-of comments

Sincerely,

Vernon J. Brechin

Vernon J. Brechin

cc. Kathleen A. McGinty - Council on Environmental Quality
William D. Dickerson - EPA
Christopher Paine - Natural Resources Defense Council (NRDC)
Arjun Makhijani - Institute for Energy and Environmental Research (IEER)
Joan Glickman - Public Accountability (HQ DOE)
Dan W. Reicher - PDAS for Policy (HQ DOE)
Robert Alvarez - DAS for Natl Sec & Env Rest Pol (HQ DOE)
Senator John Glenn - (Ohio)
Senator Harry Reid - (Nevada)
Senator Richard H. Bryan - (Nevada)
Stephen I. Schwartz - Nuclear Weapons Cost Study Group The Brookings Institution, Wash., DC

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Alternative, and, prior to transportation to any storage or disposition site, analyzed in the PEIS. A brief description of the corrective actions planned under the No Action Alternative for SRS are presented in Section 2.2.6 of the PEIS.

09 02 08 Comment Number 20

Words such as "indefinitely" and "in perpetuity" are used in this case because the fissile materials emplaced at the Deep Borehole Disposal Facility would be required to remain safe, secure, and monitored by national means of detection for a very long time. Since the half-lives of Pu-239 (24,500 years) and its fissile decay product, U-235 (7.1×10^8 years) are so long, the intended use of these two words is essentially the same.

An important criteria every reasonable disposition alternative must meet is "to provide resistance to retrieval, extraction, and reuse by the host nation." To satisfy this criteria, the borehole complex will be made as visible as possible to domestic and international means of detection. One way this can be done is to make the borehole array a limited access area (LAA) and restrict surface activities around the array "indefinitely." Installing highly visible permanent markers makes the deep borehole array easier, for means of detection, to locate and observe during the post-closure period. Thus, this action will allow any monitoring agency to determine if the area is being entered on a regular basis. By installing barriers to drilling, any attempt by the host or other nation, to extract the material from the deep borehole array would take more time than if the barriers were not there. The additional retrieval time will ensure that any interested, monitoring agency would be able to detect and react to the excavation attempt long before the material could actually be extracted.

The Department of Energy expects that if a Deep Borehole Alternative is selected, these or similar actions would be put in place and used until such time that meeting this criteria was no longer important to our national interests.

16 00 00 **Comment Number 21**

These terms are used in a manner consistent with common usage, and therefore, not included in the Glossary.

10 00 00 **Comment Number 22**

The commentor is correct, and the change was made to Figure G.4–4.