BURDITT, ROBERT B., OAK RIDGE, TN
PAGE 1 OF 4

April 23, 1996

124 Hampshire Court
Oak Ridge, TN 37830

U. S. Department of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

Sir:

I am attaching some specific comments on the Draft Programmatic Impact Statement on the Storage and Disposition of Weapons-Usable Fissile Materials. I have only had a limited amount of time for this review and so I have confined my comments to the summary document, although I have made a cursory review of the other documents. I am particularly concerned about three issues: (1) why Los Alamos, which is scheduled to be a plutonium production facility was not considered as a site, while Oak Ridge, which has no other planned plutonium activities was considered as a plutonium site; (2) why, since Oak Ridge already has storage capability and is anticipated to be an ongoing site with appropriate safety and security provisions, other alternatives for storage are given consideration; and (3) why high risk, expensive disposition alternatives such as borehole disposition are being considered when mixed oxide use in reactors would provide an effective and profitable disposition or disposition in CANDU reactors would be acceptable with appropriate IAEA oversight and inspection. 1/01.05.00 2/01.05.00 3/01.05.00

It would appear that the experimental and wasteful disposition alternatives would also divert dollars that are badly needed for completing programs for waste disposition activities on which billions of dollar have already been expended.

I regret that there was not more involvement in the disposition hearings in Oak Ridge. This was an inevitable consequence of the combining of this hearing with the Stockpile Stewardship and Management Program and the assumption that the results of this hearing were inevitable and acceptable and that there were significant uncertainties about the SSMP hearing results. I believe that even though there was not much participation in the hearings, you would find that a decision to site a plutonium processing facility in Oak Ridge would lead to a major uproar, as would a decision to move uranium storage out of Oak Ridge. 4/08.03.01

Sincerely, Robert B. Burditt
Retired Program Manager for Weapons Manufacturing Development, Y-12

Attachment

M-057

01 05 00 Comment Number 1

The selection process for candidate storage sites, including the criteria for selection and reasons for elimination, is described in Chapter 2 of the PEIS.

01 05 00 Comment Number 2

Under NEPA, DOE is required to look at a range of reasonable alternatives where HEU storage could be accomplished, and to compare the environmental impacts of storage at this range of sites. The storage decision will be based on technical, cost, schedule, and nonproliferation considerations as well as the analyses in the PEIS.

01 05 00 Comment Number 3

This PEIS analyzes the environmental impacts of a range of reasonable alternatives that are within acceptable environmental limits. Analyses of the cost, schedule, technical, and Nonproliferation Policy impacts of these alternatives are presented in separate documents to support DOE's ROD. The documents related to technical, cost, and schedule analyses were made available for public review beginning in late July 1996. The nonproliferation analysis was made available to the public beginning in October 1996.

08 03 01 Comment Number 4

The Department of Energy acknowledges the commentor's opposition to new missions at ORR. Decisions on the storage and disposition of weapons-usable fissile materials will be based upon environmental analyses, technical and economic studies, national policy considerations, and public input.

DISPOSITION QUESTIONS

Page S-2 Why is 50 years considered long term? What happens after that? Has any thought been given to truly long range impacts, 100 years or more?	5/02.00.08
Page S-6 Why is Los Alamos not considered as a potential site, since this is the one place where Pu production activities are scheduled? How can Los Alamos do Pu production without a storage capability?	1/01.05.00 cont.
Page S-13 What validation do we have for the borehole concept?	6/01.05.00
Page S-13 How can we evaluate alternatives without knowing that we have an acceptable site?	7/01.04.00
Page S-14 Do we really believe the radiation field would deter a committed terrorist?	8/13.00.00
Page S-14 Why the push for EMT and vitrification over established oxide technology?	9/01.04.00
Page S-14 Why is the absence of an MOX (mixed oxide) facility considered a problem, but the absence of an EMT (electrometallurgical treatment) or vitrification facility is not considered a problem?	10/01.04.00
Page S-16 Would handling of weapons materials by Canada require a change in Canadian law rather than just government approval.	11/06.05.09
Page S-31 Why is it that only at Pantex is the Pu facility considered to be in conflict with the land use plan?	12/09.01.04
Page S-33: Why are we so confident that there will be no spills or exposures with Pu, yet we projected significant releases when discussing beryllium at Oak Ridge?	13/09.09.08
What , if any, non-proliferation safeguards/ inspection provisions have been considered in this study?	14/01.06.00
Is there not an inherent contradiction between this study, which considers Oak Ridge as a site for plutonium operations, and the Stockpile Stewardship and Management Study, which says that locating plutonium will not be considered an option for any facility which is not already involved in plutonium operations?	15/11.01.05

M-057

02 00 08 Comment Number 5

Fifty years was used as the timeframe for long-term storage for the environmental analysis. To increase this to 100 years or more would lead to a highly speculative environmental analysis, which would be contrary to the intent of NEPA. Fifty years also covers reasonable facility life cycles.

01 05 00 Comment Number 6

The Borehole concept was recommended for consideration in the PEIS by the NAS in their 1994 study, *Management and Disposition of Excess Weapons-Usable Plutonium*. Substantial experience on boreholes has been developed by Russia and other countries. The technology for drilling holes of this depth, diameter, and straightness needed for this kind of Pu disposition exists in the United States today. Technical and licensing issues related to the Borehole concept have been considered by DOE in their technical evaluations of storage and disposition alternatives. The technology appears quite feasible, although more work would have to be done on this concept before it could be implemented.

01 04 00 Comment Number 7

All the sites analyzed for the Pu disposition alternatives are acceptable sites. DOE cannot select sites for these alternatives at this time since some alternatives need further actions. For example, to select a site for the Existing LWR Alternative, DOE needs to issue a Solicitation of Interest to the commercial sector and then determine, from responses to the Solicitation, which site would be most suitable for implementing the Proposed Action.

13 00 00 Comment Number 8

The intent is to make the surplus Pu as unattractive and inaccessible as spent nuclear fuels. A committed terrorist would have to have the technical specialists and equipment to transport these radioactive materials and conduct extensive remote chemical processing in order to extract the Pu for weapons use.

01 04 00 Comment Number 9

The PEIS attempted to analyze all alternatives consistently. No preference was expressed within the Draft PEIS for immobilization over other alternatives. A Preferred Alternative is identified in the Final PEIS. In addition to the environmental analyses reflected in the PEIS, DOE has conducted technical, schedule, cost, and policy evaluations of each alternative. All of these factors will be considered in reaching the ROD.

01 04 00 Comment Number 10

As described in this PEIS, for Pu disposition, various sites were used for analysis purposes to provide an estimate of their environmental impacts. For each alternative, existing facilities, if possible, were used to provide reference data. If there were no existing facilities, such as the case of MOX fuel fabrication, the conceptual design of a new facility was used for the environmental analysis.

06 05 09 Comment Number 11

Several agreements would require negotiations with the Canadians to implement the CANDU Reactor Alternative. No modifications to Canadian law have been identified.

09 01 04 Comment Number 12

As discussed in Section 4.3.4.1.1, page 4–526 of the Draft PEIS, Zone 4 is the proposed location for the vitrification facility at Pantex. The master plan of the *Pantex Plant Site Development Plan* designates Zone 4 for weapons and weapons components staging. Therefore, the potential action would be inconsistent with the current site development plan. However, Pantex could revise the site development plan in accordance with the proposal. The Proposed Action would be in compliance if this change is approved, resulting in no impact to land resources. Section 4.3.4.1.1 of the Final PEIS was revised to include this condition.

09 09 08 **Comment Number 13**

The human health risk of exposure from normal and accidental releases of Pu is considered for all of the alternatives and presented in this PEIS. Chapter 4 and Sections M.2 and M.5 quantify the impacts of normal operational and accidental releases of Pu. Beryllium operations that are conducted at ORR are not within the scope of the alternatives under consideration in the PEIS.

01 06 00 **Comment Number 14**

All long-term storage and disposition alternatives considered in the Storage and Disposition PEIS would be subject to IAEA safeguards and inspections if implemented. These provisions would apply until the materials achieved a proliferation-resistant condition. Independent of the PEIS, DOE has conducted a nonproliferation assessment of each technology alternative. The results of these assessments will be factored into the ROD on the Storage and Disposition PEIS.

11 01 05 **Comment Number 15**

The ORR storage site at the Y–12 Plant (Y–12) is a candidate storage site being analyzed in the Storage and Disposition PEIS since it currently stores weapons-usable HEU. Six DOE sites, including ORR and other generic and specific sites, are analyzed to provide perspectives for the extent of environmental impacts from the various reasonable alternatives.