DOE/EA-1319

Environmental Assessment

Disposition of Surplus Hanford Site Uranium, Hanford Site, Richland, Washington

U.S. Department of Energy
Richland Operations Office
Richland, Washington 99352

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GLOSSARY

Acronyms and Initialisms

ALARA	as low as reasonably achievable
CFR	Code of Federal Regulations
CY	calendar year
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DOT	U.S. Department of Transportation
EA	environmental assessment
EIS	environmental impact statement
ERPG	emergency response planning guidelines
FEMP	Fernald Environmental Management Project
FR	Federal Register
LCF	latent cancer fatality
LSA	low specific activity
MTU	metric tons of uranium
NEPA	*National Environmental Policy Act of 1969*
PNNL	Pacific Northwest National Laboratory
ROD	Record of Decision
TEEL	temporary emergency exposure limit
UU	unirradiated uranium
WAC	Washington Administrative Code
WDOH	Washington State Department of Health

Definition of Terms

as low as reasonably achievable (ALARA). An approach to radiation protection to control or manage exposures (both individual and collective to the workforce and general public) as low as social, technical, economic, practical, and public policy considerations permit.

Background radiation. That level of radioactivity from naturally occurring sources; principally radiation from cosmogenic and primordial radionuclides.

Decay, radioactive. A spontaneous nuclear transformation of one nuclide into a different nuclide or into a different energy state of the same nuclide by emission of particles and/or photons.

Depleted uranium. Uranium having less than 0.711 as the percentage by weight of uranium-235 (i.e., assay less than natural uranium).

Enrichment. The isotopic content, by weight, of uranium-235 in the total mass of uranium.

Fissile. Material capable of undergoing fission by slow neutrons.

Latent cancer fatality. The excess cancer fatalities in a population due to exposure to a carcinogen.

Low-enriched uranium. Uranium having between 0.711 weight percent and 20 weight percent of uranium-235.

Low Specific Activity (LSA). A shipping category designation based on U.S. Department of Transportation requirements specified in 49 CFR 173-403. LSA material is a U.S. Department of Energy, Richland Operations Office class 7 (radioactive material) comprised of limited specific activity radioactive materials. Specific activity limits for the LSA material category are specified in three different subcategories (i.e., LSA I, LSA II, or LSA III), which are explicitly related to the quantity of material involved.

Maximally exposed individual. A hypothetical member of the public who, by virtue of location and living habits, could receive the highest possible exposure to radiation or to hazardous materials as a result of routine operations or accidental events.

Natural uranium. Uranium in its pre-enriched state, as found in nature, having a uranium 235 concentration of approximately 0.7 percent.

Normal uranium. Uranium having approximately 0.7 as the percentage by weight of uranium-235 as occurring in nature, but created by a synthetic process.

Package. For radioactive materials, the packaging together with its radioactive contents as presented for transport. The specific requirements are found in 49 CFR 173, "Shippers-General Requirements for Shipments and Packaging".

Packaging. For radioactive materials, the assembly of components necessary to ensure compliance with the packaging requirements. Packaging could consist of one or more receptacles, sorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or sorbing mechanical shocks. The conveyance, tie-down system, and auxiliary equipment sometimes could be designated as part of the packaging. The specific requirements are found in 49 CFR 173, "Shippers-General Requirements for Shipments and Packaging".

Person-rem. The unit of collective dose to a population based on the number of exposed individuals multiplied by the radiation dose to each individual.

rem. The conventional unit of equivalent dose.

Risk. The product of the probability of occurrence of an accident and the consequences of an accident.

Total effective dose equivalent. The sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures). A measure of radiation dose related to risk of long-term health effects (i.e., latent cancers and genetic effects) following exposure to ionizing radiation.

METRIC CONVERSION CHART

If you know	Multiply by	To get
Length		
centimeters	0.39	inches
meters	3.28	feet
kilometers	0.54	nautical miles
kilometers	0.62	statute miles
Area		
square kilometers	0.39	square miles
Mass (weight)		
grams	0.035	ounces
kilograms	2.2	pounds
kilograms	0.001	metric tons
Volume		
liters	0.264	gallons
cubic meters	35.32	cubic feet

Source: CRC Handbook of Chemistry and Physics, Robert C. Weast, Ph.D., 70th Ed., 1989-1990, CRC Press, Inc., Boca Raton, Florida.

SCIENTIFIC NOTATION CONVERSION CHART

Multiplier	Equivalent
10-1	0.1
10-2	.01
10-3	.001
10-4	.0001
10-5	.00001
10-6	.000001
10-7	.0000001
10-8	.00000001

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1.0 PURPOSE AND NEED FOR AGENCY ACTION

The U.S. Department of Energy (DOE) has surplus uranium, in various forms, on the Hanford Site near Richland, Washington. Uranium has been used in the past on the Hanford Site in support of nuclear production operations. Current missions are to safely clean up and manage the legacy wastes on the Hanford Site, and to develop and deploy science and technology (DOE/RL-96-92). DOE has identified 1,866 metric tons of uranium (MTU) as surplus on the Hanford Site. As of late calendar year 1999, the predominant amount of approximately 1,700 MTU [1,866 MTU minus 140 MTU (including 135 MTU of contaminated fuel and 5 MTU of miscellaneous scrap)] was considered to have a positive market value and, as such, an asset to DOE. Acquisition interest in the 1,700 MTU of material previously was expressed by both foreign-owned and domestic commercial organizations.

The remaining Hanford Site uranium (the aforementioned 140 MTU) has been evaluated, by independent experts, as not economically feasible for required pre-treatment and subsequent sale. This material is being managed appropriately pending a final disposition determination. The 135 MTU of contaminated fuel is contaminated radiologically with low levels of surface beta/gamma contamination (150 to 5,000 disintegrations per minute). The 5 MTU of miscellaneous scrap is in forms and purities not considered economically recoverable. Table 1 shows the current inventory of surplus uranium on the Hanford Site. The current storage configurations are in good condition, and there is no immediate need for upgrade.

In January 2000, a uranium market analysis workshop was held. Brokers, customers, and processors of uranium were invited, and presented with information regarding quantities and specifications for all Hanford Site surplus uranium. It was determined that there is no reasonably foreseeable demand for the remaining unirradiated fuel (approximately 825 MTU). Therefore, the inventory of uranium considered to have a readily-identifiable positive market value has been reduced from the aforementioned 1,700 MTU to approximately 900 MTU.

DOE needs to (1) relocate potentially saleable Hanford Site surplus unirradiated uranium (UU) to the DOE's Portsmouth Site near Portsmouth, Ohio, for future beneficial use and (2) provide onsite management of Hanford Site surplus uranium that is not considered readily saleable. The management of excess uranium on the Hanford Site supports a *Hanford Federal Facility Agreement and Consent Order* (Ecology et al. 1999) Milestone MX-92-06-T01 related to "complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford Site UU," and U.S. Department of Energy, Richland Operations Office (DOE-RL) deactivation and mortgage reduction goals.

This proposed relocation action would be conducted as an interim action pending completion of a NEPA review clarifying the definition and role of the Uranium Management Center for future management of DOE's uranium inventory. The NEPA review would examine the packaging, transportation, receipt, and storage of these uranium materials with potential for beneficial reuse, including possible sale and disposition. Although the Portsmouth Site has been selected for the temporary storage of similar material, one or more sites would be evaluated for the longer term storage of useable uranium material. DOE's Oak Ridge Operations has begun the requisite steps necessary to prepare the aforementioned NEPA review, in accordance with the *National Environmental Policy Act* (NEPA) *of 1969* (P.L. 91-90, 42 USC 4321 et seq.) and the DOE NEPA Implementing Procedures (10 CFR 1021).

Physical relocation of the uranium inventory on the Hanford Site within the DOE Complex does not constitute a proliferation issue. In the event that the NEPA review would result in selection of a different location than Portsmouth for the Uranium Management Center, the Hanford Site uranium would be transported to the site of the Uranium Management Center with other surplus uranium stored at the Portsmouth Site. Potential environmental consequences associated with the associated transfers would be included in the NEPA review.

The proposed onsite management actions (as necessary) would be conducted as an interim action pending completion of DOE/EIS-0286, *Hanford Site Solid (Radioactive & Hazardous) Waste Program EIS*. The EIS (draft expected to be issued in fiscal year 2000) evaluates the potential environmental impacts associated with ongoing activities of the Hanford Site Solid Waste Program, the implementation of programmatic decisions resulting from the *Final Waste Management Programmatic Environmental Impact Statement (PEIS)* (DOE/EIS-0200), and reasonably foreseeable treatment, storage, and disposal facilities/activities.

Table 1. Excess Hanford Site Unirradiated Uranium Summary.

Form	Avg % U-235	MTU Quantity	Present Storage Location
Finished metal fuel assembly	0.95	611.8	300 Area
Finished metal fuel assembly	1.15	133.7	300 Area
Finished metal fuel assembly	1.03	9.8	300 Area
Finished metal fuel assembly	0.71	65.3	300 Area
Unfinished metal fuel assembly	1.25	14.6	300 Area
Unfinished metal fuel assembly	0.95	113.5	300 Area
Unfinished metal fuel assembly	0.71	8.6	300 Area
fuel assembly subtotal		***957.3***	
Metal billets	1.25	233.6	300 Area
Metal billets	0.95	0.4	300 Area
Metal billets	0.71	0.3	300 Area
Metal billets	0.2	0.3	300 Area
billet subtotal		***234.6***	
UO_3 (powder)	0.87	668.5	200W Area
UO_3 (powder)	0.2	0.6	200W Area
UO_3 subtotal		***669.1***	
UO_2 (in fuel rods)	2.35	0.87	200E, 2718
UO_2 (in misc. cans)	2.90	0.13	300 Area
UO_2 (powder and pellets)	0.71	1.27	300 Area
UO_2 (powder and pellets)	0.2	2.2	300 Area
UO_2 subtotal		***4.47***	
	Totals	***1866***	

2.0 BACKGROUND

Uranium materials, in various forms and enrichments, were fabricated into fuel for use in the Hanford Site production reactors and were byproducts from reprocessing plants. Enrichment is based on the isotopic uranium-235 content[1]. Uranium on the Hanford Site includes normal uranium, depleted uranium, and low-enriched uranium. A brief description of the materials follows (refer to Table 1 for Hanford Site surplus uranium inventory).

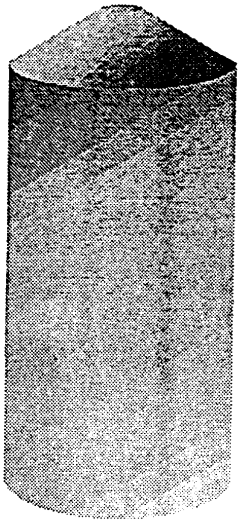
Ongoing evaluations to date have enabled DOE to clearly identify surplus Hanford Site uranium materials that readily are saleable. Those materials are discussed in Section 2.1. As stated previously (Section 1.0), in January 2000 a determination was made that there is no reasonably foreseeable demand for the unirradiated fuel (approximately 960 MTU). Therefore, these materials are included in Section 2.2.

2.1 CANDIDATE URANIUM MATERIALS PROPOSED FOR TRANSPORT

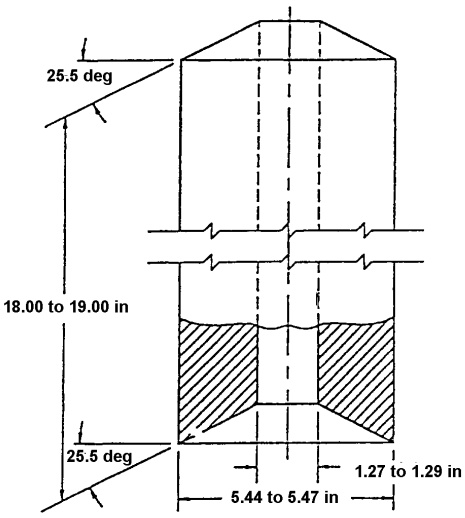
Uranium Metal Billets. Metal billets are metallic forms of uranium that have been formed mechanically into hollow cylindrical shapes. Two sizes of billets, 'inner' and 'outer', were fabricated. The difference in the sizes is associated with the diameter of the billets. The 'inner' billets (Figure 1) have a nominal diameter of 14 centimeters (5.5 inches). The 'outer' billets have a larger diameter (nominally about 18 centimeters (7 inches) and have more mass; an inner billet weighs 125 kilograms (approximately 275 pounds), and an outer billet weighs 190 kilograms (approximately 420 pounds). The uranium billets presently stored on the Hanford Site are surplus materials because of the discontinued DOE defense reactor operations.

The surplus uranium billets currently are stored in wooden shipping containers in secured facilities in the 300 Area on the Hanford Site. The current 235 MTU metal billet inventory consists of 1,257 billets stored in 320 boxes: 1,255 billets (318 boxes) at an enrichment level (based on uranium-235 content) of 1.25 weight-percent; and 2 billets (2 boxes) at a 0.2 weight-percent enrichment level ('depleted' uranium). Also, there are 3 billets (1 box) of 0.95 weight-percent, and 2 billets (1 box) of normal uranium. The facilities are monitored routinely and protected in accordance with DOE safeguards requirements. The dose rate on contact of a typical uranium billet is approximately 8 millirem per hour. The dose rate on contact of a wooden shipping container containing 4 billets is approximately 4 millirem per hour.

[1] The uranium materials might contain trace quantities (parts per million) of impurities including actinides, fission products, and/or metals. Fuel fabrication operations included appropriate quality assurance checks and sampling programs to ensure product specifications were met.



Billet, typical



Dimensions shown are for Inner Billet

Figure 1. Typical Uranium Billet.

Uranium Trioxide (UO_3). Low-enriched UO_3 powder (approximately 670 MTU) is stored in 147 T-hoppers (Figure 2) at the Uranium Oxide Plant in the 200 West Area of the Hanford Site. A small quantity [less than 200 kilograms (440 pounds)] of low-enriched UO_3 powder is a residual heel in 40 'empty' T-hoppers (T-hoppers are truncated cylindrical vessels that can hold up to 5.4 MTU of powder).

Uranium Dioxide (UO_2). The Hanford Site UO_2 inventory on the Hanford Site consists of 2,181 kilograms (approximately 4,800 pounds) of depleted uranium and 1,266 kilograms (2,800 pounds) of normal UO_2 pellets, powder, and fuel pins containing UO_2 pellets. All of these materials except the fuel pins are stored in metal cans or drums. The material is undergoing evaluation regarding potential economic value.

Additionally, there is UO_2 in the 200 and 300 Areas of the Hanford Site that is predominantly 2.35 weight percent uranium-235. These materials include 870 kilograms (approximately 1,900 pounds) of UO_2 powder within aluminum fuel tubes and 130 kilograms (approximately 290 pounds) of miscellaneous pellets, powder, and scrap materials. Some of the aluminum fuel tubes are packaged in 415-liter (110-gallon) U.S. Department of Transportation (DOT) 6M containers, but most of the tubes are in 320-liter (85-gallon) criticality safe 'storage' containers that are not certified for transport. These materials might require repackaging or overpacking for shipment as appropriate.

Figure 2. T-Hoppers.

2.2 REMAINING HANFORD SITE URANIUM MATERIALS

Presently, ongoing evaluations have not identified a positive market value for some uranium materials on the Hanford Site. As a management contingency, DOE would consider onsite disposition of these materials as low-level waste. A brief description of these materials follows.

Unirradiated Fuel Assemblies. The Hanford Site unirradiated fuel inventory (a total of approximately 960 MTU) contains various types of assemblies; each type is characterized by the uranium-235 enrichment of the inner and outer fuel element and the fuel length. Fuel assemblies vary in length from 66 centimeters (26 inches) to 38 centimeters (15 inches). The average fuel assembly weighs 20 kilograms (approximately 44 pounds).

The finished fuel assemblies are stored in 1,394 wooden boxes in the 300 Area of the Hanford Site (Figure 3). Of these boxes, 1,143 boxes contain unirradiated, uncontaminated finished fuel assemblies. There are 251 boxes that contain finished fuel assemblies that were loaded into N Reactor, but never irradiated. These assemblies, radiologically contaminated with low levels of surface beta/gamma contamination (150 to 5,000 disintegrations per minute), were removed from the reactor, cleaned, packaged, and stored (double-wrapped in plastic). Unfinished fuel elements are stored in 339 wooden boxes.

Marketability of the unirradiated fuel actively is being pursued. DOE is considering consolidated interim storage of the material onsite, pending final disposition (i.e., transport offsite for future use or onsite burial as low-level waste). It would be expected that an existing or a new facility(s) could be modified or constructed (respectively) in the 200 Areas to accommodate centralized storage on the Hanford Site. Potential locations to date include the Central Waste Complex (200 West Area), T Plant Complex (200 West Area), or the Canister Storage Building (200 East Area).

UO_3 Powder. There are approximately 2 MTU of UO_3 powder stored in drums in the 200 West Area of the Hanford Site being considered for disposition as waste. This includes about 0.6 MTU of depleted uranium and 1.5 MTU of low-enriched uranium. This material is chemically similar to the UO_3 in the T-hoppers.

UO_2 Powder. There are approximately 3 MTU of UO_2 powder stored in metal containers on the Hanford Site. This material was described previously (Section 2.1), and is included here in the event that no economic value is identified.

Miscellaneous Uranium Materials. There are some miscellaneous uranium materials being evaluated for disposition as waste. This includes approximately 0.3 MTU of depleted uranium billets and about 0.5 MTU of miscellaneous residual scrap metal pieces from earlier fuel fabrication activities.

It would be expected that, in the event that no marketable value is identified, these materials would be appropriately packaged and transported from current storage locations to the 200 Areas on the Hanford Site for disposal as low-level waste. Additional details for potential management of these materials as waste are provided in Appendix A.

Figure 3. Fuel Assemblies in Storage.

2.3 RELATED DOCUMENTATION

Similar activities have been addressed previously as discussed in the following sections.

2.3.1 Transportation

The proposed action is similar to activities conducted earlier (without significant environmental impacts) on the Hanford Site. Recent shipments of Hanford Site excess materials to the United Kingdom (i.e., uranium billets and low-specific activity nitric acid) have been the subject of environmental assessments (EAs). The EAs, each of which resulted in a Finding Of No Significant Impact, are incorporated by reference in this document:

- *Environmental Assessment for the Shipment of Low Enriched Uranium Billets to the United Kingdom from the Hanford Site, Richland, Washington* (DOE/EA-0787, August 1992).
- *Environmental Assessment, Disposition and Transportation of Surplus Radioactive Low Specific Activity Nitric Acid, Hanford Site, Richland, Washington* (DOE/EA-1005, May 1995).
- *Environmental Assessment, Transfer of Normal and Low-Enriched Uranium Billets to the United Kingdom, Hanford Site, Richland, Washington* (DOE/EA-1123, November 1995).

In 1992 and 1996, a total of 1,040 metric tons (approximately 2,300,000 pounds) of uranium billets were shipped from the 300 Area to the United Kingdom. The potential impacts associated with the shipments were analyzed (DOE /EA-0787 and DOE/EA-1123). The shipments were conducted without incident. The proposed action would pose similar potential hazards.

The proposed action involves the analysis of interstate transfer of billets and powder, while the 1992 and 1996 campaigns involved international shipments of billets. The 1992 and 1996 campaigns used truck transportation from the Hanford Site to Seattle, Washington. At that point, billets were transferred to ocean vessels that transported the material through the Panama Canal to Germany and to the United Kingdom.

Additionally, DOE recently has evaluated a similar action for the transfer of approximately 3,800 MTU of uranium materials currently stored at the Fernald Environmental Management Project (FEMP) Site to various Oak Ridge Operations managed sites. Identified Oak Ridge Operations managed sites included the Portsmouth Site. The following EA was prepared concerning this site: DOE/EA-1299, *Environmental Assessment for the U.S. Department of Energy, Oak Ridge Operations Receipt and Storage of Uranium Materials from the Fernald Environmental Management Project Site*, (March 1999). A Finding Of No Significant Impact was issued on April 13, 1999. This EA also is incorporated by reference.

DOE has proposed the preparation of a NEPA review to address potential impacts associated with consolidation of potentially reusable uranium materials at a DOE Uranium Management Center. The NEPA review would examine the packaging, transportation, receipt, and storage of these uranium materials with potential for beneficial reuse, including possible sale and disposition. Although the Portsmouth Site has been selected for the temporary storage of similar material, one or more sites would be evaluated for the longer term storage of useable uranium material. The NEPA review preparation is expected to be initiated in calendar year 2000.

2.3.2 Waste Management

Radioactive waste materials are managed routinely on the Hanford Site. For example, in calendar year 1998, 1,470,000 kilograms (approximately 3,240,000 pounds) of radioactive waste were generated on the Hanford Site (PNNL-12088). Hanford Site waste disposal operations are being addressed in the draft *Hanford Site Solid (Radioactive & Hazardous) Waste Program* EIS (DOE/EIS-0268 Draft), which is currently in preparation.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

The proposed action and the alternatives are discussed in the following sections.

3.1 PROPOSED ACTION

Transportation of Hanford Site Uranium Materials

The DOE is proposing to transport approximately 900 MTU (approximately 2,000,000 pounds) of uranium materials currently stored on the Hanford Site to the Portsmouth Site for consolidated storage. These materials are considered potentially saleable by DOE. The shipments of the uranium materials would be categorized appropriately, per DOT specifications, for radioactive materials. Transport of the uranium materials could be conducted by overland truck and/or rail, specifically as follows.

- Approximately 75 shipments, via overland truck transport, to the Portsmouth Site would be required for the uranium billets. A shipping container of the uranium billets would have a dose rate of less than 0.5 millirem per hour at 1 meter (3 feet).

- Approximately 50 to 75 shipments, via overland truck transport, to the Portsmouth Site would be required for the UO_3 powder (2 to 4 T-hoppers per truck, depending on weight restrictions). Rail transport of this material also is considered a possibility. A total of approximately 5 shipments via rail would be required (10 T-hoppers per railcar; three railcars per shipment). The T-hoppers would have a dose rate of less than 20 millirem per hour at 1 meter (3 feet).

Before any material shipments from the Hanford Site to the Portsmouth Site, DOE Oak Ridge Operations would prepare a material management plan. This plan would be coordinated with the State of Ohio. This plan would include information on storage, marketing, disposal, and short-/long-term funding requirements. This plan would be a 'living document', and would be issued as a standalone document separate from the EA.

A typical sequence of activities for any necessary packaging and transportation includes several steps. For example, initially the billets, currently stored in wooden shipping containers, would be transferred from the existing storage facilities in the 300 Area (3712 Building and 303-G Building) to a nearby facility for appropriate repackaging. This could be similar to the action described in DOE/EA-1123. For that campaign, facilities considered included the 3712 Building [a facility in the 300 Area less than 1,000 meters (3,330 feet) away]. Relative locations of the 300 Area facilities are shown in Figures 4 and 5. (Note: the relative locations of the UO_3 storage area and the 2718-E Building are shown in Figures 6 and 7, respectively.)

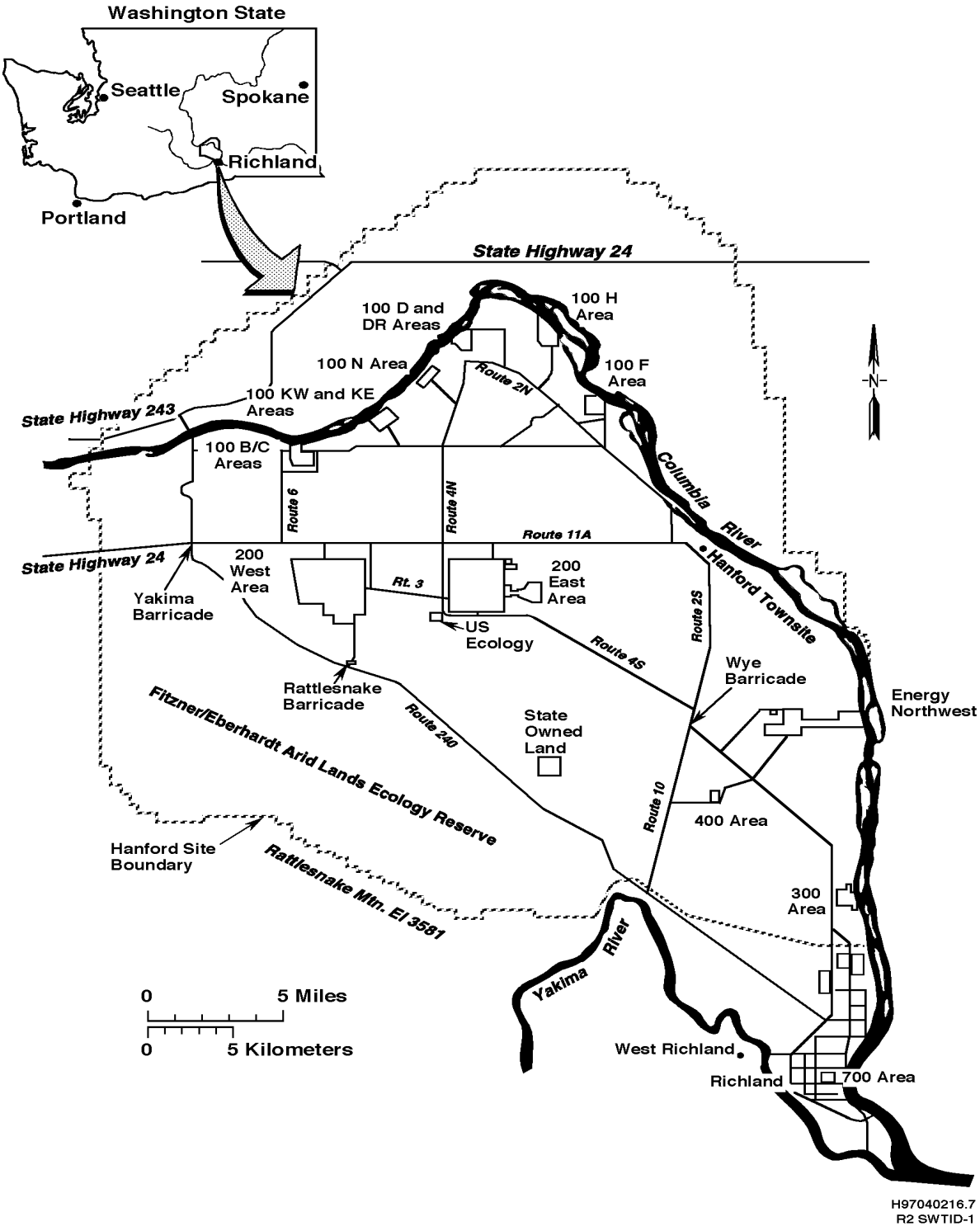


Figure 4. Hanford Site.

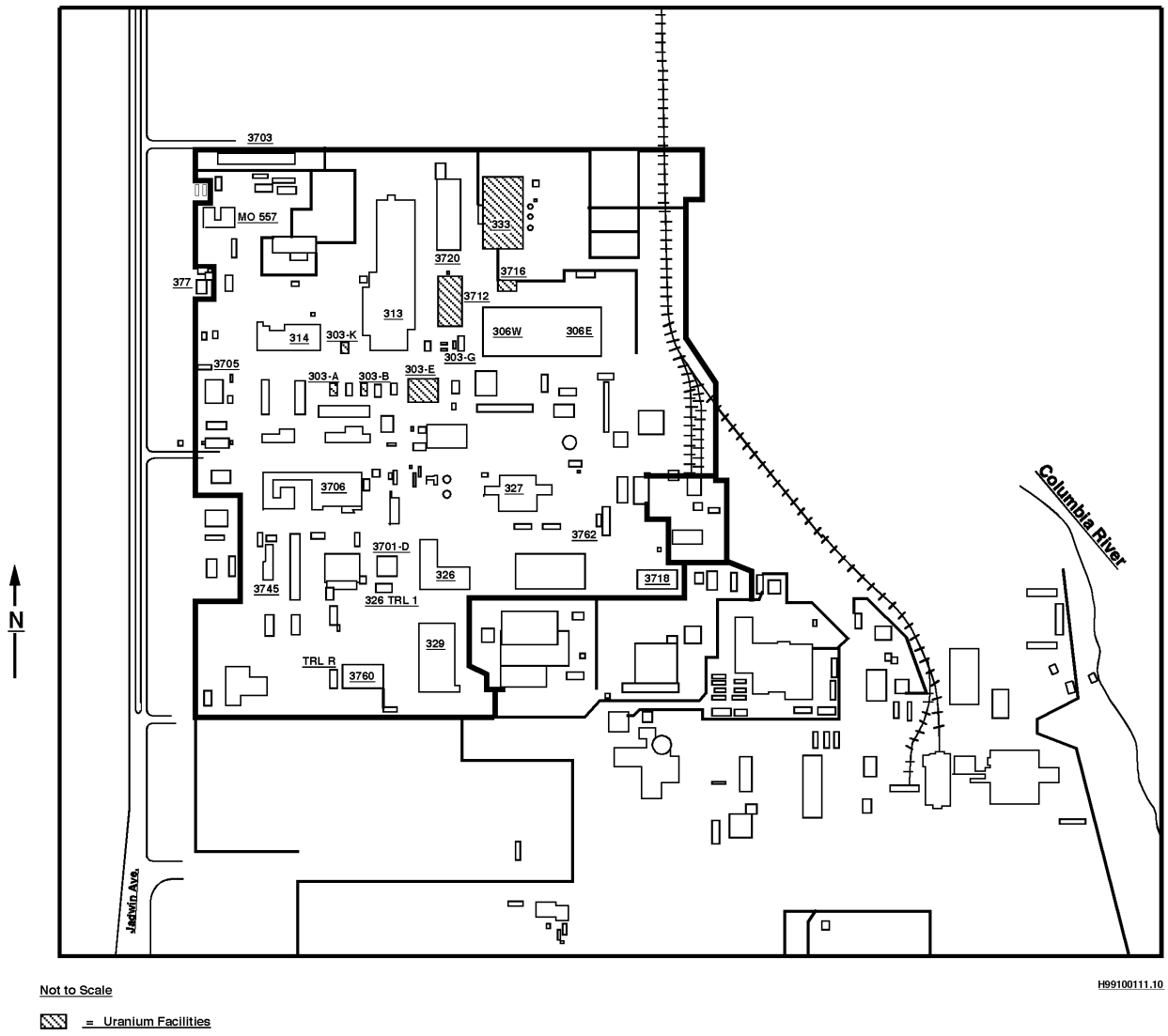


Figure 5. 300 Area Uranium Facilities.

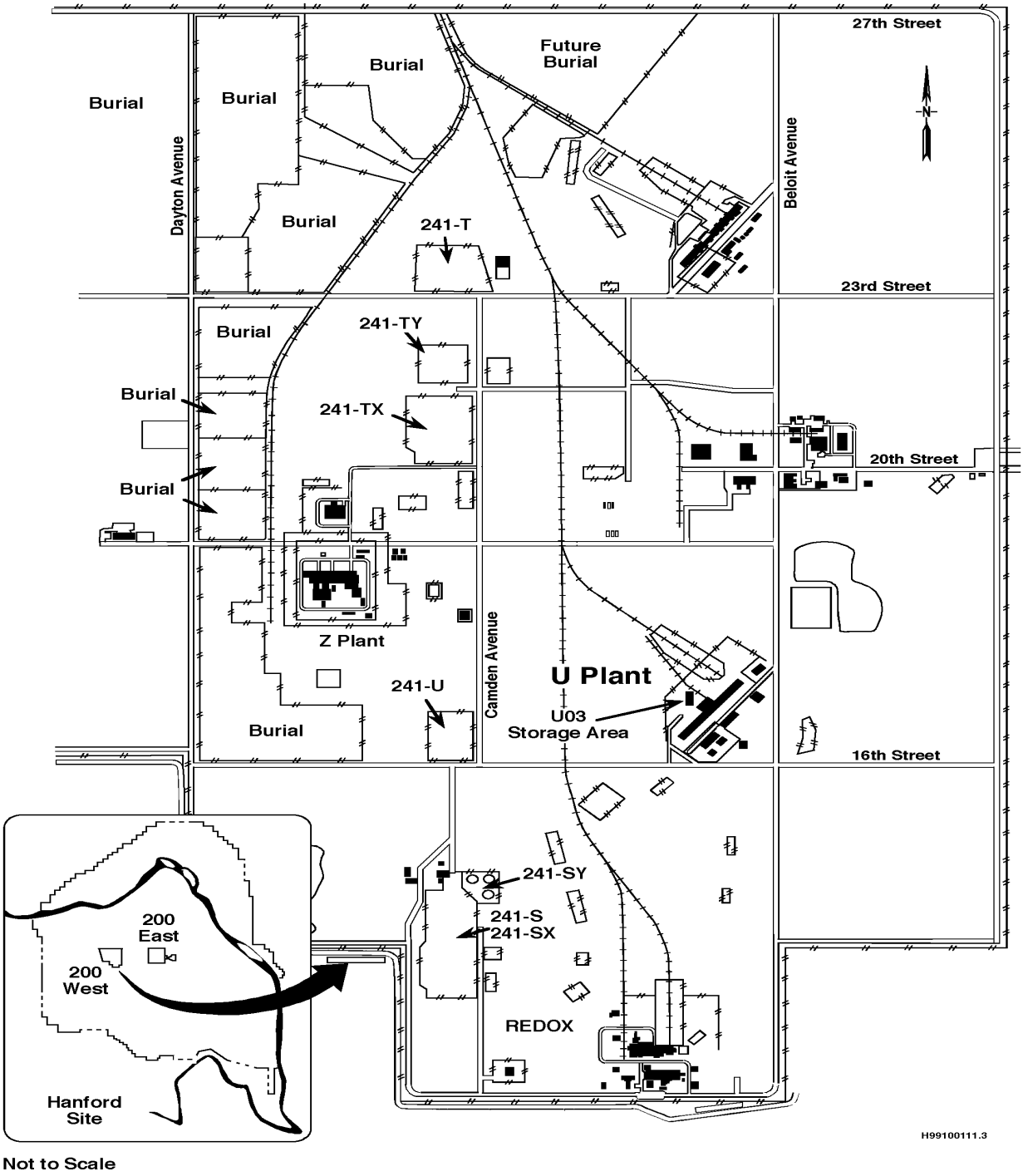


Figure 6. 200 West Area.

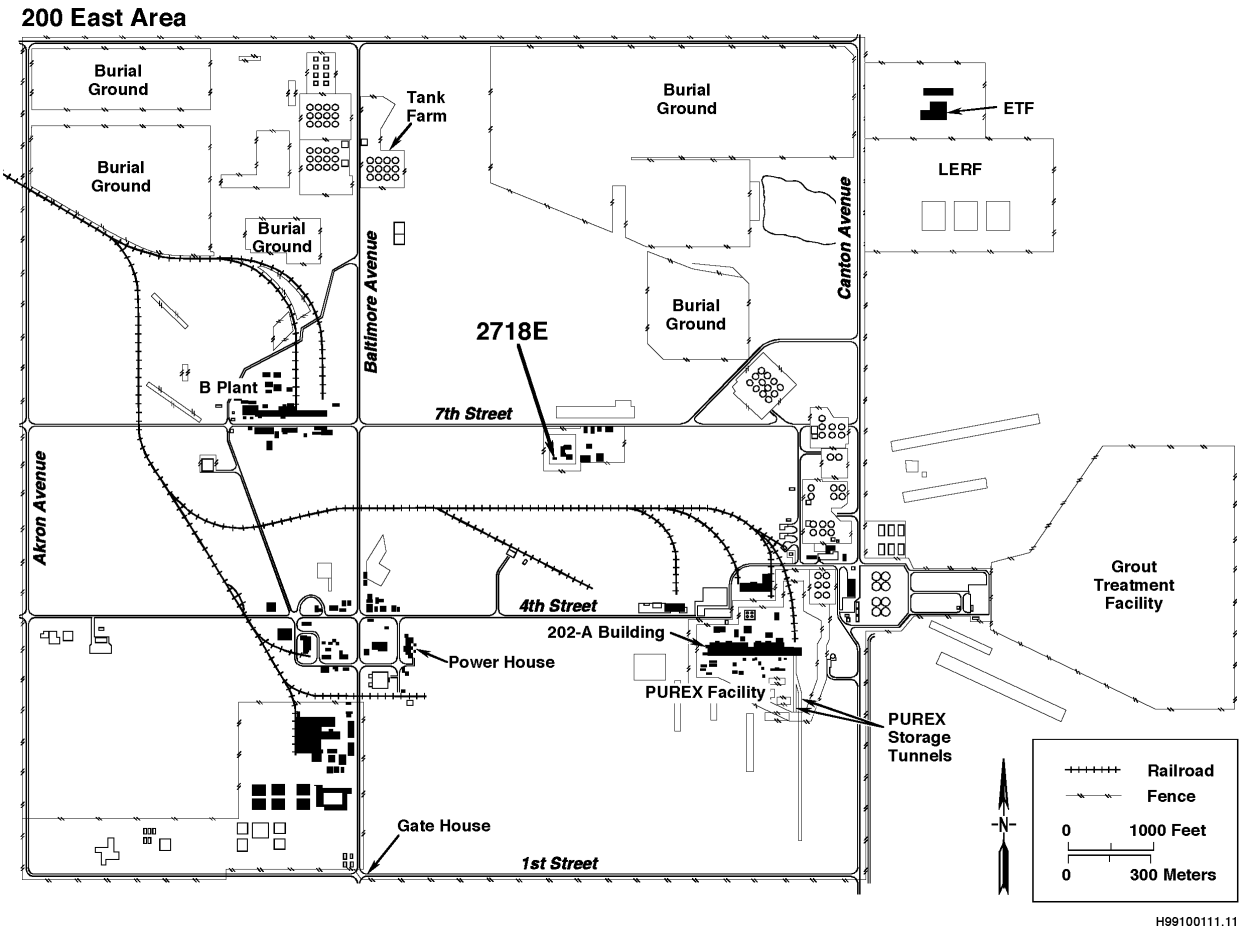


Figure 7. 200 East Area.

Should repackaging be required, minor modifications at the specific location might be necessary. Modifications could include some form of temporary heating for operator comfort, as necessary, during the campaign. Temporary portable hoisting and rigging equipment would be provided, including A-frame(s) and chain hoist(s), as well as any special handling tools. It is expected that the necessary equipment, most of which is of commercial design, is presently on the Hanford Site. Some handling equipment that was used during earlier uranium transportation campaigns (DOE/EA-0787 and DOE/EA-1123) could be modified to interface with the current characteristics of the uranium materials inventory [e.g., billets outer- and inside-diameter dimensions and weight, fuel length, and A-frame/chain hoist(s)].

The materials would be transferred, as necessary, to appropriate DOT containers. It is expected that uranium billets might be shipped in their current configuration (i.e., wooden shipping containers), or might be repackaged to the extent required by DOT regulations.

The appropriate shipping containers (including T-hoppers) would be secured on a truck trailer (and/or railcar) and radiologically measured by trained personnel using prescribed equipment and methods before release. The methods include provisions for carrier compliance with federal and state regulations for transport of radioactive materials. The methods would ensure compliance with standards, specifications, and regulations, including DOT guidelines. Carrier security demands would be met. A licensed commercial carrier would be retained.

The proposed route for the transport of the uranium materials from the Hanford Site to the Portsmouth Site is shown in Figures 8 and 9 (overland truck and rail routes respectively). The transport of the uranium materials would fall under DOT regulations for radioactive materials and would be under the control of DOE. It might be necessary to amend the transportation route of the uranium materials to secure an alternate route to address logistical or other reasonable concerns. Such circumstances, which could affect the selected route, including road closures, detours, and unanticipated inclement weather, are not expected to result in increased risk to the worker or public during transportation of the uranium materials, relative to normal transportation risk. Final mode/route selection would be based on cost, schedule, and operational considerations.

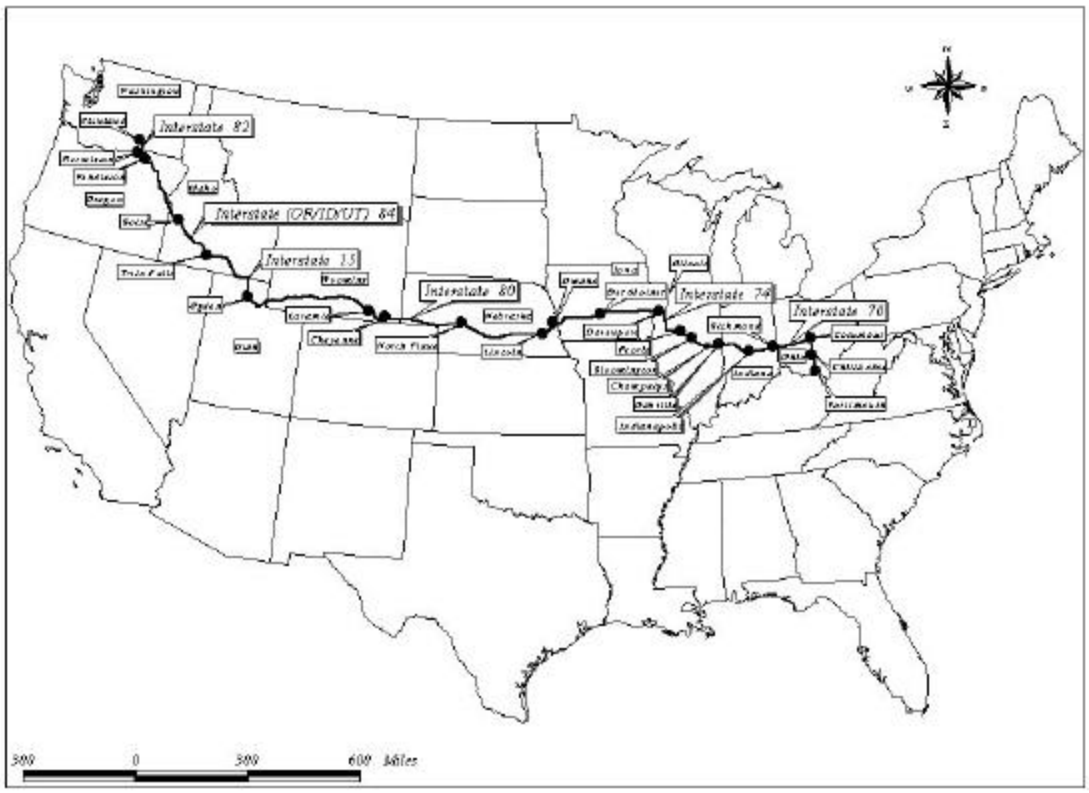


Figure 8. Proposed Overland Truck Route from Hanford Site to Portsmouth, Ohio.

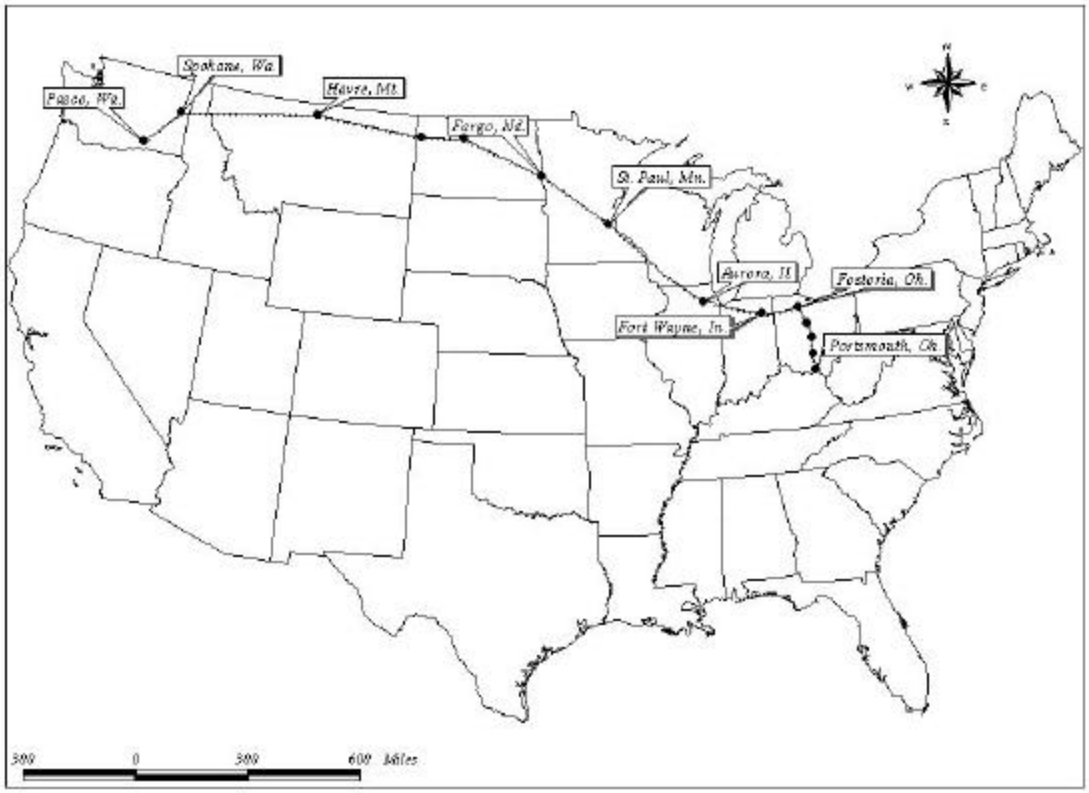


Figure 9. Proposed Rail Route from Hanford Site to Portsmouth, Ohio.

Once at the Portsmouth Site, the containers of uranium materials would be offloaded and stored at an appropriate location. The current proposed location is X-744-G (Figure 10, which was reproduced from DOE/EA-1299). The Hanford Site uranium materials would be stored in a transportation-ready configuration, not precluding future determination(s). These activities would be similar to, and consistent with, actions described in DOE/EA-1299. Any necessary modifications to the Portsmouth facilities would be expected to be minor; e.g., resurfacing asphalt pads, erecting tent covering/enclosure, painting, utility modifications, and radiation monitors. No transport containers would be returned to the Hanford Site for reuse.

After removal of the entire inventory of uranium materials from the existing storage facilities on the Hanford Site, electrical services to those facilities would be reduced to minimize maintenance costs while maintaining appropriate safety margins. End-point criteria would be developed supporting surveillance and maintenance activities. The facilities would remain locked until decommissioned or transferred to a new owner. The temporary equipment would be decontaminated, if necessary, and reused or excessed as appropriate.

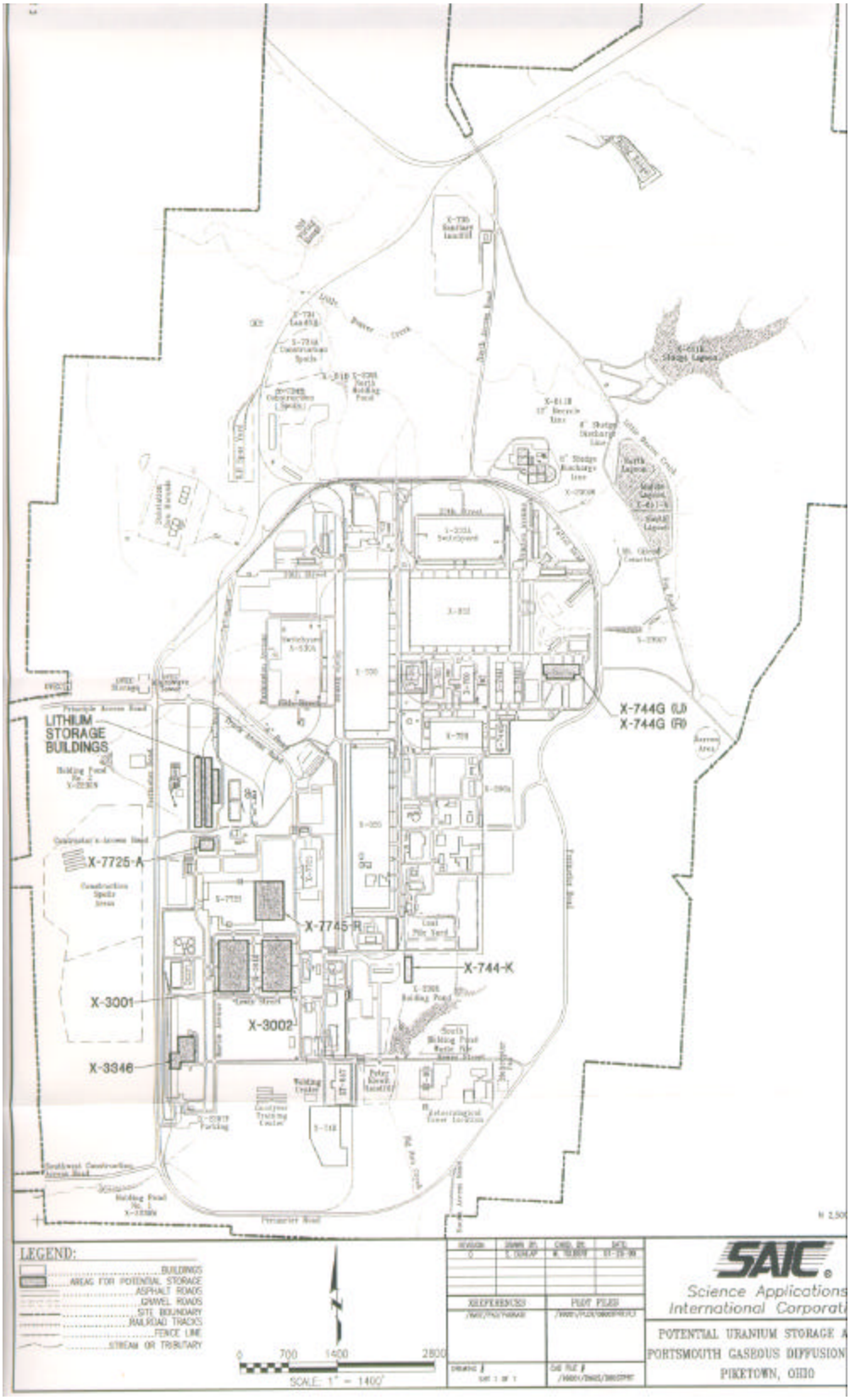


Figure 10. Potential Uranium Storage Locations at Portsmouth Site.

Hanford Site Uranium Materials – Interim Storage Pending Disposition. Approximately 825 MTU of unirradiated fuel would be transported from the present location to the Hanford Site 200 Areas for consolidated storage. As discussed in Section 1.0, presently there is no reasonably foreseeable demand for the remaining unirradiated fuel (approximately 825 MTU). The removal of the unirradiated fuel from the 300 Area on the Hanford Site supports a *Hanford Federal Facility Agreement and Consent Order* (Ecology et al. 1999) Milestone MX-92-06-T01 related to "complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford Site UU," and U.S. Department of Energy, Richland Operations Office (DOE-RL) deactivation and mortgage reduction goals.

Candidate storage locations would include modified (as appropriate) existing facilities: the Central Waste Complex in the 200 West Area, the 2101-M warehouse in the 200 West Area, the Canister Storage Building in the 200 East Area, and the 616 Nonradioactive Dangerous Waste Storage Facility (between 200 East and 200 West Areas).[2] A new interim storage structure also could be installed. It would be expected that this new facility would be in the immediate vicinity of one the aforementioned candidate existing facilities, within or contiguous to an already developed area (where site utilities and roads are available), thus minimizing potential impacts to ground surface disturbance.

Activities would be typical of those associated with the siting, construction, and operation of small-scale support buildings and support structures (including prefabricated buildings). Any necessary modifications to an existing Hanford Site facility would be expected to be minor (e.g., resurfacing asphalt pads, erecting tent covering/enclosure, painting, utility modifications, and radiation monitors). These types of activities are conducted routinely on the Hanford Site.

It is expected that operations associated with packaging (as necessary), loading, and unloading the unirradiated fuel would be similar to those previously described for the uranium billets. Onsite transportation would be conducted using existing Hanford Site transportation methods.

Hanford Site Uranium Materials – Candidates for Waste Disposal. Uranium materials that might be designated as waste would be appropriately packaged and transported from the present location to the 200 Areas Low-Level Burial Grounds for disposal. As stated in Section 1.0, candidate materials for waste disposal include the aforementioned 140 MTU (135 MTU of contaminated fuel and 5 MTU of miscellaneous scrap). It is expected that potential modifications to existing facilities would be consistent with the ongoing disposal mission at the burial grounds. Appendix A provides additional details regarding the potential disposition of these uranium materials as waste.

[2] Other existing facilities that might be considered include 2727-E, 221-T, 221-U, 224-T, and 272-E.

3.2 ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to the proposed action are as follows.

3.2.1 No-Action Alternative

Under the No-Action Alternative, the Hanford Site uranium materials would remain in the existing, onsite storage configurations. This alternative does not address the actual disposition of the material, and would result in continued surveillance and maintenance with the attendant costs for safeguards, security, and utility assessments.

3.2.2 Alternative Interim Offsite Storage Locations for Saleable Hanford Site Uranium

At the present time, no alternative locations other than the Portsmouth Site for interim offsite storage of the Hanford Site uranium materials have been identified. The proposed action is consistent with the recent DOE decision to transfer FEMP uranium materials to the Portsmouth Site (DOE/EA-1299). The Portsmouth Site offers unique capabilities for uranium storage, including infrastructure.

3.2.3 Disposal of Entire Hanford Site Surplus Uranium Inventory

Presently, some value has been identified for some of the surplus Hanford Site uranium inventory. Disposal of the entire inventory would not recognize any potential benefits from sale or reuse of the materials, and would require large incremental funding allocations.

3.2.4 Alternative Transportation Modes

Other modes of transportation, such as air transport or barge, were considered. The potential hazards and risks associated with such transport would be similar to those experienced with overland transport. The mode preferred by DOE is overland transport of the surplus material. The following discussion of alternative modes is provided for completeness.

Air transportation of the uranium materials would be possible, although it would be more expensive than other forms of transportation. Radiation doses to persons not involved in the transportation essentially would be zero under normal conditions. As stated in the National Transportation Statistics, Annual Report for 1992 (DOTVNTSC-RSPA92-1), the probability of an air accident is about 20 times less than the probability of a truck accident, on a per-mile basis. Therefore, the risk from an air crash is low.

Barge transport of the uranium materials is considered impractical. Defueled submarine reactor compartments are transported routinely by barge via the Columbia River to the Hanford Site for disposal. However, barge transportation is generally slow. No barge route has been identified which would not require transportation by truck and/or multiple loading and unloading of the containers between the involved origins and destination.

4.0 AFFECTED ENVIRONMENT

The affected environment includes the potential transportation routes (generally interstate highways and rail routes), in addition to the Hanford Site and the Portsmouth Site. The general environmental description of the routes was considered in the route-specific aggregate data used to analyze transportation impacts. Details regarding the Hanford Site can be found in the *Hanford Site 1998 Environmental Report* (PNNL-12088) and *Hanford Site National Environmental Policy Act* (NEPA) *Characterization* (PNNL-6415). Details regarding the Portsmouth Site can be found in DOE/EA-1299.

4.1 HANFORD SITE

Surplus uranium materials are located in the 200 West Area, 200 East Area, and the 300 Area of the Hanford Site, which is in the southeastern portion of Washington State. Involved portions of the 300 Area are approximately 1 kilometer (0.6 mile) west of the Columbia River, the nearest natural watercourse. The nearest population center is the adjoining City of Richland, to the south. The City of Richland has a population of 32,315, while the population within an 80-kilometer (50-mile) radius of the 200 Areas is approximately 375,860.

The Hanford Site has a semiarid climate with 15 to 18 centimeters (6 to 7 inches) of annual precipitation, and infrequent periods of high winds of up to 128-kilometers (80-miles) per hour. Tornadoes are extremely rare; no destructive tornadoes have occurred in the region surrounding the Hanford Site. The probability of a tornado hitting any given waste management unit on the Hanford Site is estimated at 1 chance in 100,000 during any given year. The region is categorized as one of low to moderate seismicity.

The surplus uranium storage locations are not located within a wetland or in a 100- or 500-year floodplain. Threatened and endangered plants and animals identified on the Hanford Site, as listed by the federal government (50 CFR 17) and Washington State (Washington Natural Heritage Program 1997) are not found in the vicinity of the uranium storage areas, and are discussed in PNNL-6415. No plants or mammals on the federal list of threatened and endangered wildlife and plants (50 CFR 17) are known to occur on the Hanford Site. There are, however, three species of birds (Aleutian Canada goose, bald eagle, and peregrine falcon) and two species of fish (steelhead and spring-run chinook salmon) on the federal list of threatened and endangered species. Several species of both plants and animals are under consideration for formal listing by the federal government and Washington State. Details are provided in PNNL-6415, and are incorporated by reference in this EA.

Cultural resources in the area of the surplus uranium storage locations have been considered. The 300 Area on the Hanford Site and the location of the uranium fuel fabrication plants that manufactured fuel rods to be irradiated in the Hanford Site reactors provided the first essential step in the plutonium production process. In the 300 Area, 158 buildings/structures have been inventoried on historic property inventory forms. Of that number, 47 buildings/structures have been determined eligible for the National Register as contributing properties within the Historic District recommended for mitigation. Included in that list are the 303-A Building, the 333 Building, and the 3716 Building Assessments of the contents of the 333 Building resulted in identification/tagging of artifacts such as safety signs/posters, a control panel, protective worker clothes, and a sample uranium fuel element. No artifacts were identified in an assessment of the 3716 Building. No specific Cultural Resources Review was conducted for the proposed action because no ground disturbance or facility modifications are planned as part of the proposed action. Additional information regarding the cultural resources on the Hanford Site can be found in PNNL-6415.

4.2 PORTSMOUTH SITE

The Portsmouth Site is located approximately 36 kilometers (22 miles) northeast of Portsmouth in Pike County, Ohio. The site occupies an area of approximately 15 square kilometers (6 square miles). The region of influence for the Portsmouth Site includes both Pike County, where the facility is located, and Scioto County, which includes Portsmouth, the nearest city. The population of the two counties, per 1996 data, is approximately 108,000. There is roadway access via major arteries connecting the area with interstates, as well as air, bus, and rail service.

Construction of the site began in late 1952 and ended in 1956, 1 year after the start of uranium enrichment processing on the site. On July 1, 1993, DOE leased portions of the site to the United States Enrichment Corporation for the purpose of managing and operating the uranium enrichment enterprise. DOE retains responsibility for the non-leased portions of the site, which consist primarily of environmental restoration and waste management activities.

Building 744-G, one of the receipt locations at the Portsmouth Site under consideration, has been upgraded to receive the Fernald uranium, and space is available within that facility to receive the surplus Hanford Site material should this receipt location be selected. The facility, a steel-framed building with a concrete floor, has standard electrical service, sanitary water, dry-pipe sprinkler systems, and radiation alarm clusters. The facility is expected to house a total of approximately 5,900 MTU (13,000,000 pounds) of uranium materials. Additional details regarding the environment pertaining to the Portsmouth Site can be found in DOE/EA-1299.

4.3 TRANSPORTATION CORRIDORS

Proposed transportation corridors are shown in Figures 8 (overland truck) and 9 (rail). The potential routes would be predominantly established interstate highways or railways, traversing a variety of terrains. Diverse populations (in metropolitan, urban, and rural settings) would be along the approximately 4,000 kilometers (2,400 miles).

5.0 ENVIRONMENTAL IMPACTS

The following sections present quantitative information on those potential environmental impacts that have been identified as a result of activities being proposed for the packaging of uranium materials on the Hanford Site, and subsequent transport of the material to the Portsmouth Site for storage, or to the Hanford Site 200 West Area for disposal. Both routine operations (incident-free packaging and transportation) and accident scenarios are analyzed in Sections 5.1 and 5.2, respectively.

The proposed action is not expected to result in radiological or hazardous material releases to the environment. All activities would comply with current DOE Orders and state and federal regulations.

The low level of radioactivity associated with the uranium materials makes the risks associated with the handling and transportation of the uranium materials small. There would be low radiation exposure associated with packaging the uranium materials. A toxicological hazard exists because of the potential for an accidental release of the material in particulate form to the environment. However, the uranium materials currently are packaged appropriately for the respective forms [e.g., billets (large, solid metal masses stored in wooden boxes) or uranium oxide powder (stored in T-hoppers)]. These storage configurations would not release particulates[3] readily to create a potential health hazard.

It is expected that potential personnel exposure to both radiation and hazardous materials during routine handling and offloading operations at the Portsmouth Site, and subsequent storage activities, would be no greater than existing conditions at those locations. Appropriate methods would be in place to ensure minimum exposure to radiation and hazardous materials [in keeping with as low as reasonably achievable (ALARA) principles] and to ensure maximum personnel and public safety. Potential impacts associated with both routine operations and accidents would be expected to be bounded by those described in the following sections for activities on the Hanford Site and for interstate transportation. This is especially true for the transportation analysis, which also includes transport of fuel elements (as presented in the November 1999 Draft EA).

5.1 PROPOSED ACTION: IMPACTS FROM ROUTINE OPERATIONS

Impacts from routine operations are described in the following sections.

5.1.1 Uranium Materials Packaging and Loading at Hanford Site Locations, and Offloading/Storage at the Portsmouth Site

The potential for release of uranium during packaging and loading/offloading exists. However, appropriate controls would be in place to maintain occupational radiation exposure well below DOE regulations of 5,000 millirem per year (10 CFR 835), in keeping with ALARA principles. Additionally, appropriate methods and administrative controls (e.g., personnel training and a radiation work permit) would be in

[3] The chemical composition of Hanford Site uranium powder and billets was specified to control the fabrication, nuclear reactivity, and irradiation stability characteristics of the metal. The uranium-235 concentration was specified to control the nuclear reactivity of the uranium. Metal density was specified primarily to control the microscopic metal soundness and as a secondary control on both nuclear reactivity and chemical purity.

Trace amounts of chemical components (in parts per million) could be present as impurities in the uranium powder and billets. Specifications included concentrations limits for actinides (e.g., thorium) and fission products (e.g., ruthenium-106); and metals (e.g., iron, aluminum, beryllium). Impurities were not considered in calculating potential impacts.

place before any proposed activities. Also, radiation and hazardous chemical personnel exposure levels would be monitored during the proposed action (i.e., personal dosimeters and continuous air monitors, as required).

Most of the potential radiological exposure would be expected for the workers involved in the proposed packaging. The maximum expected whole body total dose for an estimated workforce of 5 workers (for any particular type of surplus material) would be a small fraction of the average annual exposure to radiation by Hanford Site/Portsmouth personnel from ongoing activities at these sites.

For example, uranium billets are stored in the 300 Area on the Hanford Site. Average occupational external whole-body exposure to personnel in the 300 Area due to routine operations in calendar year 1998 was 83 millirem per year; the 1998 annual average external background dose rate (measured in communities considered distant from the Hanford Site) was approximately 70 millirem per year (PNNL-12088). This is substantially less than the maximum DOE regulatory standard of 5,000 millirem per year. Based on a dose-to-risk conversion factor of 4.0 x 10-4 (onsite) latent cancer fatalities (LCF) per person-rem (56 FR 23363), no LCFs would be expected.[4] Exposures to noninvolved workers could result from air emissions during packaging activities, but the collective doses would be much smaller than those for directly involved workers because such emissions would be small.

No public exposure to radiation above that currently experienced from routine Hanford Site operations is anticipated as a result of these actions. As reported in PNNL-12088, the potential dose to the maximally exposed individual during calendar year 1998 from Hanford Site operations was 0.02 millirem. The 1998 average dose to the population was 0.0005 millirem per person. Collectively, the potential dose to the local population of 380,000 persons from 1997 operations was 0.2 person-rem. The current DOE radiation limit for an individual member of the public is 100 millirem per year, and the national average dose from natural sources is 300 millirem per year. The low doses associated with the total inventory of uranium billets in the 300 Area would not contribute to offsite public exposure. With no additional offsite exposure involved with the packaging and loading of the uranium billets, no adverse health effects to the public are expected. Similar expectations would hold true for the other forms of Hanford Site surplus uranium.

No toxicological exposure to workers or the general public is expected to occur as a result of routine handling of the uranium materials, either during packaging, loading, or offloading activities. The materials would be handled in a manner consistent with packaging and transportation of radioactive solid materials. Hanford Site and Portsmouth personnel routinely handle these types of materials daily. Routine methods (e.g., use of personnel protective clothing), specific training, and equipment safeguards are in place, and are adequate to ensure the safe packaging and handling of this material.

Small quantities of hazardous materials (e.g., solvents, cleaning agents) that might be generated during the proposed action at the present storage locations would be managed and disposed in accordance with applicable federal and state regulations. Radioactive material, radioactively contaminated equipment, and mixed waste at the storage locations would continue to be appropriately packaged, stored, and/or disposed at existing facilities on the Hanford Site. The wooden shipping containers, if no longer needed, would be disposed as low-level solid waste in existing Hanford Site waste disposal facilities.

The proposed action is not expected to impact the flora and fauna, air or water quality, land use, or to have socioeconomics effects. Noise levels would be comparable to existing conditions on the Hanford Site and at the Portsmouth site. No cultural resources would be impacted because no ground disturbance or

[4] For additional perspective, during the 1995 to 1997 reporting years, the average dose to workers in DOE facilities that process unirradiated uranium, such as uranium enrichment and fuel fabrication facilities, averaged approximately 35 millirem per year (DOE/EH-0575).

permanent facility modifications are planned as part of the proposed action. The amount of equipment and materials to be used, such as fuel for transportation, represents a minor commitment of nonrenewable resources.

5.1.2 Transportation

This section addresses the impacts of incident-free truck transport of uranium materials in the continental United States from the Hanford Site to the Portsmouth Site in Ohio. These data are based on computer analyses (RADTRAN) conducted specifically for these materials (ENG-RCAL-028, *Transportation Risk Assessment for the Shipment of Uranium Billets and UO3 Powder from Hanford to Portsmouth, Ohio*). Rail transport of the T-hoppers is a viable consideration; therefore, the rail transport for uranium oxide was included in the analysis.

Additionally, the aforementioned impact analyses included transportation of finished and unfinished unirradiated fuel assemblies. DOE no longer considers this category of material to be an asset, and proposes to disposition the material onsite. Therefore, the following discussion regarding potential transportation impacts, which was presented in the Draft EA, is conservative, and also would bound transportation impacts associated with onsite disposition of fuel.

For analysis, it conservatively was assumed that the dose rate at 1 meter (3 feet) from the surface of the shipping container was 1 millirem per hour. [NOTE: Measurements of the container during the 1992 campaign for transport of uranium billets to the United Kingdom indicated the actual dose rate was less than 0.5 millirem per hour at 1 meter (3 feet)]. A similar dose rate [i.e., 0.5 millirem per hour at 1 meter (3 feet)] is anticipated to be representative of the current inventory of uranium materials, per shipping container, associated with the proposed action.

5.1.2.1 RADTRAN 4

The RADTRAN 4 computer code yields conservative estimates of radiological exposure to workers and the public (SAND89-2370). Additional conservatism inherently comes from the assumptions that are made in selecting data in the program itself; for example, in the absence of actual measurements, the highest allowable external radiation level for a package (under transportation regulations) was used. In practice, packaging arrangements reduce this below the assumed level by a factor of 10.

5.1.2.2 Potential Impacts

The shipment characteristics necessary to calculate the radiological impacts of transport include the type of transportation packaging, the number of shipments, and the quantity of radioactive material within the package (referred to as the 'inventory'). These parameters are presented in the RADTRAN analysis for the transportation packaging considered in this EA. Some of the information also is used in the analysis of transportation accidents, which is provided in Section 5.2.

Radiological impacts during normal transport involve dose to the public from radiation emitted by radioactive material packages as the shipment passes by, and to transport workers who are in the general vicinity of a radioactive material shipment. Even though radiation shields are incorporated into packaging designs, some radiation penetrates the package and exposes the nearby population at extremely low dose rates. After the shipment has passed, no further exposure occurs. No toxicological impacts would occur during normal transport. The groups exposed to radiation while the shipments are in-transit include truck drivers and rail crews, those who directly handle radioactive shipments while in route, and the general public (e.g., bystanders at truck/rail stops, persons living or working along a route, and nearby travelers

(moving in the same and opposite directions). The RADTRAN 4 computer code (SAND89-2370) was used to calculate exposures during transport to these population groups.

The potential impacts associated with incident-free transport of uranium billets and uranium oxide powder (for analyses, the bounding inventories) via truck/rail are provided in Table 2. The total dose to truck crews (workers) would amount to 0.08 person-rem for shipments of uranium billets from the Hanford Site to Portsmouth, Ohio. Transport of uranium oxide powder by truck would result in 0.37 person-rem to workers (transport via rail would provide a reduction in dose to workers to 0.09 person-rem). Total public doses were calculated to be 0.09 person-rem (billets), 0.35 person-rem (uranium oxide via truck transport), and 0.43 person-rem (uranium oxide via rail). The public doses would result predominantly from exposures received during stops enroute. There were no excess LCFs predicted. Specifics such as number of workers (2), persons exposed during stops (50), and average exposure during stops (0.5 millirem per hour at 1 meter from the cask) are provided in ENG-RCAL-028.

Circumstances that could affect the selected route (e.g., road closures, detours, unanticipated inclement weather) are not expected to result in increased risk to the worker or public during transportation of the uranium materials.

Table 2. Radiological Impacts of Incident-Free Transportation.

Description	Worker	Public	Total
Shipment of billets from Hanford Site, Washington to Portsmouth, Ohio via Truck			
Total dose (person-rem)	0.084	0.092	0.18
Latent cancer fatalities	3.4 E-05	4.6 E-05	8.0 E-05
Shipment of UO_3 powder from Hanford Site, Washington to Portsmouth, Ohio via Rail			
Total dose (person-rem)	0.092	0.43	0.52
Latent cancer fatalities	3.7 E-05	2.1 E-04	2.5 E-04
Shipment of UO_3 powder from Hanford Site, Washington to Portsmouth, Ohio via Truck			
Total dose (person-rem)	0.37	0.35	0.73
Latent cancer fatalities	1.5 E-04	1.8 E-04	3.3 E-04
Shipment of fuel assemblies from Hanford Site, Washington to Portsmouth, Ohio via Truck			
Total dose (person-rem)	0.52	0.08	0.60
Latent cancer fatalities	2.1 E-04	4.1 E-05	2.5 E-04

5.1.3 Potential Interim Onsite Consolidated Storage of Unirradiated Fuel

It would be expected that potential impacts associated with consolidated onsite storage of unirradiated fuel would be similar to those impacts present today. As discussed in Section 5.1.1, potential worker exposure during loading/offloading operations would be low. Once in consolidated storage, minimal radiological exposure would be expected due to any necessary surveillance activities (which are conducted for the material in its current storage configuration). No public exposure to radiation above that currently experienced from routine Hanford Site operations would be anticipated as a result of this action.

5.1.4 Potential Disposition of Uranium Materials as Waste

Appendix A provides a discussion of potential impacts associated with disposal of unsalable Hanford Site uranium materials onsite. As stated in the Appendix, disposal of up to 140 MTU of uranium materials would be conducted in existing facilities in the 200 Areas of the Hanford SiteSuch disposal would result in less than 400 cubic meters (14,000 cubic feet) of waste, and would not be expected to substantially increase impacts from Hanford Site waste disposal operations.

5.2 PROPOSED ACTION: IMPACTS FROM ACCIDENTS

Impacts from accidents are discussed in the following sections.

5.2.1 Packaging of Uranium Materials on the Hanford Site

Postulated accidents associated with the repackaging of the uranium materials on the Hanford Site have been considered, and are believed to be bounded by those potential events associated with transportation accidents (Section 5.2.2). The environmental effects of accidents related to the repackaging are limited to those associated with most routine industrial activities. There are no specific initiators related directly to the proposed action that would cause a criticality or a fire. For example, the minimal dose rate (8 millirem per hour on contact) from the uranium billets would not pose an acute or chronic hazard in the event of a drop of a container of uranium billets.

Personnel injuries, such as back strains or minor abrasions, would receive appropriate medical treatment. Administrative controls, proper training, and specification of detailed procedures used in handling the materials would be in place, all of which would minimize the potential of any effects of such an accident.

5.2.2 Transportation

Potential accidents associated with the transportation of uranium materials from the Hanford Site to the Portsmouth Site have been analyzed (ENG-RCAL-028). The following discussion includes the potential impacts associated with transport of finished and unfinished unirradiated fuel assemblies. While these are no longer under consideration for offsite shipment and storage, the analysis bounds the potential impact associated with onsite movement of the fuel.

The severity of consequences depends on the degree to which the materials would be converted to airborne particulates, the extent of exposure to such a release, and the specific location of the affected individual(s). Material safety data sheets provide information regarding hazards of uranium. Symptoms of exposure to uranium particulates or powder could include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Uranium particulates or powder are extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

The analyses herein consider the affected public and the drivers/rail crews directly associated with uranium shipments. Fatalities as a result of vehicular/rail impact are not analyzed specifically within the scope of this document; it would be expected that potential fatalities would be a small fraction of transportation fatalities that occur in the United States annually. For perspective, fatalities involving the shipment of radioactive materials were surveyed for 1971 through 1993 using the Radioactive Material Incident Report database. For 1971 through 1993, 21 vehicular accidents involving 36 fatalities occurred. These fatalities resulted from vehicular accidents and were not associated with the radioactive nature of

the cargo; no radiological fatalities because of transportation accidents have ever occurred in the United States. During the same period of time, over 1,100,000 persons were killed in vehicular accidents in the United States (DOE/EIS-0283-D).

Specific environmental impacts to surface water, groundwater, soils, and/or sediments along the transportation corridors as a result of an accidental release of materials are not quantified in this document. It would be expected that drivers/rail crews immediately would take appropriate measures to limit the spread of any contamination, and would support first responder actions.

The actual mileage associated with aquatic crossings is a very small fraction of the interstate distance associated with the proposed action. Therefore, bounding consequences are presented as inhalation pathways to the nearest receptors.

However, it is recognized that uranium that would be released from primary and secondary containment under an accident scenario could be deposited on surface soils, and be subject to movement with soil water through the vadose zone into groundwater. The material also could be deposited directly into water bodies or move from the surface soil overland into water bodies. On deposition of uranium entrained in the media, the fate and transport of the uranium would be a function of the environmental site characteristics and the physical/chemical properties of uranium. Such properties would include solubility in water, the tendency of uranium to transform or degrade, and chemical affinity for solids or organic matter.

Uranium can be transformed to other oxidation states in soil, further reducing its mobility. The mobility of uranium deposited onto water depends upon the type of complex (cationic or anionic) formed as a result of the physical processes acting on the uranium. Cationic species tend to sorb to soil, and anionic species tend to move with water. Uranium released in a fire would be oxidized (be cationic) and would tend to sorb to the soil particles entrained in the water. As with uranium deposited upon the soil, the doses to a receptor in contact with uranium in water or associated sediment would be less than those of the receptor exposed to the initial plume.

In the event that an individual could not evacuate the immediate vicinity of a potential accident scene, the individual might or might not be directly exposed to material. The effects to an individual as a result of exposure to any chemical are a result of time of exposure, concentration, and distance. The specific exposure to an individual who is unable to evacuate would depend on the extent of a spill (i.e., the amount of material released), their proximity to the spill, and the meteorological conditions. For distances less than 100 meters (330 feet), it is assumed that the direct physical injuries due to the vehicular accident itself would be the principle hazard; otherwise, the individual would be able to evacuate the area and minimize their exposure. Additionally, the initial response by the crews and/or the emergency response personnel would reduce the risk and exposure of individuals unable to evacuate the accident scene.

Should the crew(s) be unable to take protective action, such as exiting the vehicle and moving out of any irritating plume (upwind) to a distance of at least 100 meters (330 feet), it is possible that they might be exposed to concentrations of materials, including airborne uranium (in the event of a fire) and fuel vapors that could cause destruction to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. However, proper emergency response (e.g., flushing affected external areas with water while removing contaminated clothing) would minimize the amount of permanent physical damage to the individual(s). As discussed in the following, potential accidents could result in minimal impact to worker and public health and safety.

States and tribes having jurisdiction over areas through which these shipments would pass have the primary responsibility for protecting the public and the environment, and for establishing incident command should there be an emergency involving the shipments. DOE would provide technical advice and assistance to authorities and carriers when requested. The selected carrier for these shipments has the

primary responsibility for providing emergency response assistance and recovery/restoration actions if required.

In the event of a highway incident, where the transport container is involved, the driver/first responder would notify the appropriate state control, the carrier's central dispatch facility, and the shipper. In the event of an accidental release of the uranium, the carrier is required to notify the National Response Center per DOT (49 CFR 171, General Information, Regulations, and Definitions, and 49 CFR 172.600, Emergency Response Information) and U.S. Environmental Protection Agency (40 CFR 302, Designation, Reportable Quantities, and Notification) regulations. The National Response Center would provide appropriate response in support of recovery/restoration.

Emergency response guides accompany each shipment. These guides are attached to the bill of lading. The driver would be in control of these documents at all times during shipment. These guides address the potential toxicological and radiological hazards associated with the material. The guides also include a telephone number, staffed 24-hours a day, that could be called for emergency assistance. In the event that the paperwork was inaccessible (e.g., a fire in the transporter cab), a first responder could contact the chosen carrier, which would provide emergency response information.

The container would be marked and placarded in accordance with DOT regulations. Placards indicating the radioactive nature of the shipment would be permanently attached to the transport containers. These visual warnings would provide information to first responders and the general public regarding the hazards and appropriate emergency response.

Specific details regarding emergency preparedness, notifications, and emergency response would be found in the transportation plan, currently being prepared for the shipment of the uranium materials.

The impacts associated with potential transportation accidents are expressed as risk. For this analysis, risk is defined as the product of the probability of occurrence of an accident involving uranium materials and the consequences of an accident (ENG-RCAL-028). Consequences are expressed in terms of the health effects from a release of uranium from the packaging.

Probability categories for accidents range from anticipated to incredible events (WHC-CM-4-46). That is, an anticipated event is one where the annual frequency ranges from 1 to 1×10^{-2} (one chance in one hundred). An unlikely event has an annual frequency range from 1×10^{-2} (one chance in one hundred) to 1×10^{-4} (one chance in ten thousand). An extremely unlikely event has an annual frequency range from 1×10^{-4} (one chance in ten thousand) to 1×10^{-6} (one chance in one million). Incredible events have a frequency of less than 1×10^{-6} (one chance in one million).

The maximum credible accident associated with the shipping container was analyzed for the shipment of Hanford Site surplus materials to Portsmouth, Ohio. The accident consisted of a collision, which engulfs the entire shipment of uranium material in a fire, thus providing the maximum radiological release to the public (and is presented as the bounding consequence scenario). Should an accident involving uranium materials during shipment occur, a release of material could occur only if the transport packaging were to become breached. The RADTRAN 4 computer code was used to calculate the potential radiological impacts of such an event. Details of the analysis are provided in ENG-RCAL-028.

The results (Table 3) indicate that the total calculated dose from a maximum credible accident during continental United States (overland truck) uranium billet shipments to Portsmouth, Ohio, conservatively was estimated to be 0.10 person-rem. This equates to 0.00005 LCFs. Similarly, the total risk for uranium oxide powder (accident scenario) was 0.03 person-rem (0.00002 LCFs) via rail and 0.06 person-rem

(0.0003 LCFs) via truck. The total risk for fuel assemblies (accident scenario) was 0.1 person-rem (0.00007 LCFs) via truck.

Table 3. Potential Transportation Radiological Accident Risks.

Shipment of billets from Hanford Site, Washington, to Portsmouth, Ohio, via truck	
Total dose (person-rem)	1.0 E-01
Latent cancer fatalities	5.2 E-05
Shipment of UO_3 powder from Hanford Site, Washington, to Portsmouth, Ohio, via rail	
Total dose (person-rem)	3.3 E-02
Latent cancer fatalities	1.6 E-05
Shipment of UO_3 powder from Hanford Site, Washington to Portsmouth, Ohio, via truck	
Total dose (person-rem)	5.9 E-02
Latent cancer fatalities	2.9 E-05
Shipment of fuel assemblies from Hanford Site, Washington to Portsmouth, Ohio via truck	
Total dose (person-rem)	1.4 E-01
Latent cancer fatalities	7.0 E-05

Nonradiological consequences of the transportation of uranium materials also were evaluated (ENG-RCAL-028). For analysis, consequences were due to the chemical toxicity of uranium that could result from an accidental release (in grams per second or total grams, for billets or T-hopper shipments, respectively) during transport of the UO_3 powder and metallic billets. The toxicological consequences (Table 4) are given in terms of the concentrations of airborne uranium particulates (in milligrams per cubic meter) at various receptor locations (meters from the event). The calculated concentrations are compared to various exposure limits to evaluate the effects of the release on the public.

Table 4. Potential Toxicological Consequences from an Accident.

Receptor location, meter	Truckload billets/fuel, 0.045 grams per second release rate		T-hopper shipments, 4.1 gram total release	
	Concentration, milligrams per cubic meter		Concentration, milligrams per cubic meter	
100	0.17	<TEEL-1[a]	1.3	<TEEL-3
200	0.04	<TEEL-0	0.19	<TEEL-1
1,000	3.00 E-3	<TEEL-0	2.9 E-03	<TEEL-0
100, rare case[b]	1.3	<TEEL-3	10.7	>TEEL-3

[a] Temporary emergency exposure limits.

[b] The 'rare case' refers to worst-case meteorological conditions of wind speed (1 meter per second) and atmospheric turbulence (Pasquill stability class F) that cause a maximum concentration. These conditions tend to disperse the released material very slowly, resulting in the highest possible downwind concentrations. However, these conditions rarely are encountered, except perhaps for night conditions, and tend to overstate the actual impacts (ENG-RCAL-028).

As discussed in ENG-RCAL-028, the results in Table 4 can be compared with temporary emergency exposure limits (TEELs) for uranium established by the DOE Subcommittee on Consequence Assessment and Protective Actions, and the DOE Emergency Management Guide calls for the use of TEELs when emergency response planning guidelines (ERPGs) are not available. Although ERPGs are the standard community exposure limits approved by the American Industrial Hygiene Association, less than 100 chemicals have been assigned ERPGs, and none of those include compounds of uranium. The definitions of the TEEL limits are as follows.

- TEEL-0: The threshold concentration below which most people will experience no appreciable risk of health effects. The TEEL-0 for both uranium metal and uranium oxide (insoluble compound) is 0.05 milligrams per cubic meter.
- TEEL-1: The maximum concentration in air below which it is believed nearly all individuals could be exposed without experiencing other than mild transient health effects or perceiving a clearly defined objectionable odor. The TEEL-1 for both uranium metal and uranium oxide is 0.6 milligrams per cubic meter.
- TEEL-2: The maximum concentration in air below which it is believed nearly all individuals could be exposed without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective action. The TEEL-2 for uranium metal is 2 milligrams per cubic meter and for uranium oxide is 0.6 milligrams per cubic meter.
- TEEL-3: The maximum concentration in air below which it is believed nearly all individuals could be exposed without experiencing or developing life-threatening health effects. The TEEL-3 for both uranium metal and uranium oxide is 10 milligrams per cubic meter.

Based on Table 4 and the definitions of the TEEL limits, the airborne concentration of uranium as a result of the maximum credible accident is about an order of magnitude less for the billets payload than for the powder payload. At distances of 200 meters (656 feet) and greater from an accident involving either payload, the results are either mild transient health effects or nothing at all. At a distance of 100 meters (328 feet), an accident involving powder results in airborne concentration less than TEEL-3. For the billets, the concentration is less than TEEL-1. Only for the very rare weather conditions at 100 meters (328 feet) is the TEEL-3 value exceeded for powder.

Risks associated with offloading activities are similar to those associated with handling any commercially available, bulk solid uranium materials. In the event of an accidental release, potential exposures to the public would be expected to be below those levels that would cause serious health effects.

5.2.3 Storage of Uranium Materials at the Portsmouth Site

Postulated accidents associated with storage of uranium materials at the Portsmouth Site have been addressed in DOE/EA-1299. As stated therein (Section 4.4.2, "Accidents"): "Various accident scenarios are calculated for both the public, facility worker, and the co-located worker at PGDP. Doses to the facility worker, co-located worker, and the public associated with general handling accidents, storage area fires, and seismic events are summarized in Table C.8 in Appendix C. The highest radiological risk to the public (0.63 rem dose) is from a storage area fire and to the co-located worker (0.84 rem) is from an earthquake with aerial dispersion of uranium materials. These exposures constitute a low risk and are environmentally negligible."

The following information, extracted from the aforementioned Table C.8 in DOE/EA-1299, pertains directly to public and worker risks due to accidents at the Portsmouth Site, and shows that potential impacts from accidents would be expected to be small.

Accident Scenario	Frequency	Facility Worker Dose	Co-Located Worker Dose	Public Dose	Risk
Normal operations	Anticipated	Negligible	Negligible	Negligible	Negligible
General handling	Anticipated	0.003 rem	0.003 rem	<0.001 rem	Negligible
Storage area fire	Extremely Unlikely	Negligible	0.63 rem	0.14 rem	Low
Seismic	Unlikely	Negligible	0.84 rem	0.08 rem	Negligible

5.2.4 Continued Storage of Uranium Materials on the Hanford Site

It would be expected that continued storage of uranium materials at the Hanford Site, in an alternative (i.e., different location) facility, would present similar hazards as in the current configuration. Modifications of existing facility(s) or construction of a new facility would provide engineering features that might be superior to those at existing facilities.

5.2.5 Potential Disposition of Uranium Materials as Waste

Appendix A provides a discussion of potential impacts associated with a future decision to dispose of unsalable Hanford Site uranium materials onsite, should such a decision be forthcoming. As stated in the Appendix, disposal of up to 140 MTU of uranium materials would be conducted in the 200 Areas of the Hanford Site in existing facilities. Potential accident consequences would be similar to those addressed in current safety documentation for the disposal facilities, and would be bounded by those described previously (Section 5.2.2) for transportation of the materials.

5.3 PROPOSED ACTION: ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs and activities on minority and low-income populations. DOE is in the process of developing official guidance for implementation of the Executive Order. However, the analysis in this EA (Sections 5.1 and 5.2) indicates that there would be minimal impacts to both the offsite population and potential workforce during handling and transportation of the uranium materials, under both routine and accident conditions. Additionally, transportation in the continental United States would involve established, existing highways, minimizing transit time and associated potential exposure. Therefore, it is not expected that there would be any disproportionately high and adverse impacts to any minority or low-income populations.

5.4 PROPOSED ACTION: CUMULATIVE IMPACTS

The risks associated with routine packaging and transportation of the uranium materials are small. The transportation of the uranium materials would not be expected to substantially contribute to existing worker and public exposure from natural background radiation, or the existing toxicological background environment. As discussed in DOE/EA-1005, the average annual radiation dose from natural background radiation to the exposed population between the east coast and the Hanford Site was calculated to be approximately 6,000 person-rem per year. This could be compared with the anticipated calculated additional exposure of less than 10 person-rem associated with the proposed action.

The consolidated storage of Hanford Site uranium materials at Portsmouth Site would be consistent with storage of similar materials. The Portsmouth Site is an active uranium enrichment facility; as such, the total quantity of uranium material fluctuates depending on ongoing enrichment activities. There are approximately 146,000 MTU of uranium materials at the Portsmouth Site.

For perspective, presently there are approximately 1,800 MTU of uranium materials (oxides, fluorides and metal) at the Oak Ridge Operations Uranium Management Center at the Portsmouth Site. The aforementioned inventory of uranium materials was received from DOE's FEMP Site (refer to Section 2.3.1), with an additional 2,200 MTU of uranium materials projected to be received from the FEMP Site (DOE/EA-1299), for a total of 4,000 MTU from the FEMP Site. Including the Hanford Site material, the Oak Ridge Operations Uranium Management Center Portsmouth Site total would be approximately 5,000 MTU, of which approximately 900 MTU (one-fifth) would be from the Hanford Site.

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6.0 PERMITS AND REGULATORY REQUIREMENTS

6.1 FACILITY COMPLIANCE

It is DOE policy to carry out its operations in compliance with all applicable federal, state, and local laws and regulations. For example, facilities on the Hanford Site and Oak Ridge-managed facilities, including those locations presently storing surplus uranium materials, operate in compliance with National Ambient Air Quality Standards (*Clean Air Act of 1977*, and U.S. Environmental Protection Agency, 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants"). Hanford Site radioactive stacks have been registered with the WDOH, Office of Radiation Protection under the WAC 246-247, "Radiation Protection, Air Emissions." Operations at Portsmouth Site facilities are conducted under applicable Ohio air emission standards regulations. No air emission permits would be expected to be required for the proposed action.

All generated solid wastes would be handled in a manner compliant with applicable federal and state regulations and DOE Orders. For example, requirements include WAC 173-303 and DOE Order 435.1, "Radioactive Waste Management"*.

6.2 TRANSPORTATION REQUIREMENTS

The loading and transportation of the uranium materials will comply with the applicable regulations, orders, and guidance promulgated by agencies such as the DOE, DOT, and International Atomic Energy Agency. These agencies have developed comprehensive regulations covering the performance of the shipping packaging, vehicle safety, routing of shipments, and physical protection. Specific examples include:

- 49 CFR 107, "Hazardous Materials Program Procedures"
- 49 CFR 171, "General Information, Regulations, and Definitions"
- 49 CFR 172, "Hazardous Materials Table and Hazardous Materials Communications Regulations"
- 49 CFR 173, "Shippers-General Requirements for Shipments and Packaging"
- 49 CFR 177, "Carriage by Public Highway"
- 49 CFR 178, "Shipping Container Specifications"
- 49 U.S.C. 1801 et seq, "Hazardous Materials Transportation Act".

* DOE Order 435.1 per projected implementation calendar year 2000.

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7.0 AGENCIES CONSULTED

The Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, the Wanapum Band, the Nez Perce Tribe, the States of Washington, Oregon, Ohio and Tennessee, the Western Governors' Association, the Council of States Governments Midwestern Office, and other stakeholders in Washington State, Tennessee, Ohio and corridor states were notified regarding the proposed action. Copies of the draft EA were distributed to these entities for a 30-day review period.

During the public review period, the State of Ohio Environmental Protection Agency requested, and was granted, an extension until February 22, 2000. A public meeting was held in Piketon, Ohio on January 27, 2000, which included the draft EA on the agenda. The State of Washington Department of Ecology and DOE discussed uranium disposition issues (including the draft EA) in a March 2, 2000, meeting. The Hanford Advisory Board Environmental Committee was given a status by DOE in March 2000. Meetings were held with the U.S. Environmental Protection Agency, Region 10, the State of Washington Department of Ecology and DOE in April 2000 and May 2000 to discuss uranium issues. The State of Oregon Department of Energy attended the May 2000 meeting. In early June 2000, the Hanford Advisory Board Health, Safety, and Waste Management Committee was given the status of Hanford Site uranium disposition by DOE.

Comments received on the draft EA are provided in Appendix B. Specific responses to those comments also are provided in Appendix B.

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8.0 REFERENCES

10 CFR 110, 1993, "Export and Import of Nuclear Equipment and Material," Code of Federal Regulations, as amended.

40 CFR 302, 1993, "Designation, Reportable Quantities, and Notification," Code of Federal Regulations, as amended.

40 CFR 1500, "Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," Code of Federal Regulations, as amended.

46 CFR 64, 1993, "Marine Portable Tanks and Cargo Handling Systems," Code of Federal Regulations, as amended.

49 CFR 107, 1999, "Hazardous Materials Program Procedures," Code of Federal Regulations, as amended.

49 CFR 171, 1993, "General Information, Regulations, and Definitions," Code of Federal Regulations, as amended.

49 CFR 172, 1993, "Hazardous Materials Tables and Hazardous Materials Communications Regulations," Code of Federal Regulations, as amended.

49 CFR 173, 1993, "Shippers - General Requirements for Shipments and Packagings," Code of Federal Regulations, as amended.

49 CFR 177, 1993, "Carriage by Public Highway," Code of Federal Regulations, as amended.

49 CFR 178, 1993, "Shipping Container Specification," Code of Federal Regulations, as amended.

50 CFR 17, 1992, "Endangered and Threatened Wildlife and Plants," Code of Federal Regulations, as amended.

56 FR 23363, 1991, "Nuclear Regulatory Commission, Preamble to Standards for Protection Against Radiation," Federal Register, May 21.

DOE/EA-0787, *Environmental Assessment for the Shipment of Low Enriched Uranium Billets to the United Kingdom from the Hanford Site, Richland, Washington*, U.S. Department of Energy, Washington, D.C.

DOE/EA-1005, *Environmental Assessment, Disposition and Transportation of Surplus Radioactive Low Specific Activity Nitric Acid, Hanford Site, Richland, Washington*, U.S. Department of Energy, Richland, Washington.

DOE/EA-1123, *Environmental Assessment, Transfer of Normal and Low-Enriched Uranium Billets to the United Kingdom, Hanford Site, Richland, Washington*, U.S. Department of Energy, Richland, Washington.

DOE/EA-1299, *Final Environmental Assessment for the U.S. Department of Energy, Oak Ridge Operations Receipt and Storage of Uranium Materials from the Fernald Environmental Management Project Site*, U.S. Department of Energy, Oak Ridge, Tennessee.

DOE/EH-0575, *DOE Occupational Radiation Exposure, 1997 Report, Assistant Secretary for Environment, Safety and Health*, U.S. Department of Energy, Washington, D.C.

DOE/EIS-0200, *Office of Environmental Management Programmatic Environmental Impact Statement* (PEIS), U.S. Department of Energy, Washington, D.C.

DOE/EIS-0283-D, *Surplus Plutonium Disposition Draft Environmental Impact Statement*, U.S. Department of Energy, Washington, D.C.

DOE/EIS-0286, *Hanford Site Solid Waste (Radioactive and Hazardous) Program EIS*, U.S. Department of Energy, Washington, D.C.

DOE/RL-96-92, *Hanford Strategic Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOT-VNTSC-RSP A-92-1, *National Transportation Statistics, Annual Report for 1992*, U.S. Department of Transportation, Washington, D.C.

Ecology, EPA, and DOE-RL, 1999, *Hanford Federal Facility Agreement and Consent Order*, Washington State Department of Ecology, U.S. Environmental Protection Agency, U.S. Department of Energy, Richland Operations Office, Olympia, Washington.

ENG-RCAL-028, Transportation Risk Assessment for the Shipment of Unirradiated Uranium, Rev. 1, Waste Management Northwest, Richland, Washington.

HNF-EP-0918, *Solid Waste Integrated Forecast (SWIFT) Report*, Fluor Daniel Hanford, Inc., Richland, Washington.

SAND89-2370, *RADTRAN 4: Volume 3 -- User Guide*, Sandia National Laboratories, Albuquerque, New Mexico.

PNNL-6415, *Hanford Site National Environmental Policy Act (NEPA) Characterization*, Rev. 11, Pacific Northwest National Laboratory, Richland, Washington.

PNNL-12088, *Hanford Site 1998 Environmental Report*, Pacific Northwest National Laboratory, Richland, Washington.

WHC-CM-4-46, 1988, "Nonreactor Facility Safety Analysis Manual", Westinghouse Hanford Company, Richland, Washington.

APPENDIX A

POTENTIAL WASTE MANAGEMENT OPTION SURPLUS HANFORD SITE URANIUM MATERIALS

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APPENDIX A

POTENTIAL WASTE MANAGEMENT OPTION SURPLUS HANFORD SITE URANIUM MATERIALS

It would be expected that, in the event that no marketable value is identified, some materials would be appropriately packaged and transported from current storage locations to the 200 Areas of the Hanford Site for disposal as low-level waste. This activity would be conducted in a manner similar to past onsite disposal of Hanford Site uranium materials. The following is a synopsis of general disposal activities.

Before receipt of waste at the Low-Level Burial Grounds (LLBG), solid waste is characterized and designated. The generating unit is responsible for packaging the waste according to DOT regulations for hazardous materials. Once the waste is accepted from the transporter, the LLBG personnel select an appropriate landfill disposal trench, depending on the type of radioactivity, dangerous waste designation of the contents, and waste packaging.

A typical method for disposing of some LLW is trench grouting. Generally, waste materials are encased in the trench for stabilization using the following technique. First, the trench floor is prepared to receive the encasement. This involves leveling a section of the trench floor and constructing a reinforced concrete slab. Forms and re-bar for two sides of the encasement are erected on the slab. Next the waste, in mostly drums and boxes, is placed on the slab. Solid waste operations can do this with the aid of a forklift. After the waste is placed, forms and re-bar for the remaining two sides of the encasement are erected. Next, a special concrete formulation is poured over and around the waste inside the forms to encase the waste. This is done in four lifts to prevent floating the waste packages and to prevent too much heat generation in the curing monolith. A re-bar mat is placed in the last lift to add strength for the top of the encasement. The final lift is sloped to allow water to flow off of the encasement. Appropriate monitoring is conducted throughout the duration of the grouting, and post-stabilization.

Currently on the Hanford Site, most LLW is disposed in the 218-W-5 Burial Ground. The LLW forecasted waste volume for newly generated waste to be disposed in LLBG through 2046 is projected to be approximately 240,000 cubic meters [Solid Waste Integrated Forecast Technical (SWIFT) Report, Rev. 5, HNF-EP-0918]. As stated in Section5.1.4, this would constitute a waste volume of less than approximately 400 cubic meters (14,000 cubic feet).

The proposed onsite disposal actions would be conducted as an interim action pending completion of DOE/EIS-0286, *Hanford Site Solid (Radioactive & Hazardous) Waste Program EIS*. The EIS (draft expected to be issued in fiscal year 2000) evaluates the potential environmental impacts associated with ongoing activities of the Hanford Site Solid Waste Program, the implementation of programmatic decisions resulting from the *Final Waste Management Programmatic Environmental Impact Statement (PEIS)* (DOE/EIS-0200), and reasonably foreseeable treatment, storage, and disposal facilities/activities.

The potential impacts of disposal of LLW on the Hanford Site were analyzed at the programmatic level in the aforementioned PEIS. The total volume of LLW on the Hanford Site for a 20-year projected generation was reported at 89,000 cubic meters. It would be expected that the potential impacts from disposal of up to 140 MTU (400 cubic meters) uranium would represent a fraction of those impacts described in the PEIS.

The following information, dealing with routine operation impacts associated with LLW management projections on the Hanford Site is summarized from the PEIS, Chapter 7, Section 7.4.1:

> It was reported that at least one fatality resulting from physical hazards or radiation exposure associated with implementing the low-level waste alternatives was estimated to occur at seven sites; one of which was the Hanford Site involving the 20-year projected generation of 89,000 cubic meters of LLW. All fatalities were estimated to occur within the waste management worker population, primarily as a result of physical hazards during treatment or disposal activities.
>
> Long range effects (i.e., fatalities due to radiation exposure of waste management workers during treatment and disposal) were estimated to occur at the Hanford Site. The probability of cancer incidences and genetic effects for the maximally exposed individuals within the offsite and the noninvolved worker populations also were analyzed in DOE/EIS-0200-F. Those risks ranged in probability from 1×10^{-5} to 1×10^{-9}. It was noted that tritium is the radionuclide that accounted for most of the risk at the Hanford Site.

Finally, for perspective, potential impacts were considered for ALL Hanford Site waste management operations in the PEIS. The maximum number of cancer fatalities to the offsite population from collective dose (10 years) from Hanford Site waste management operations was summarized in the PEIS as 0.265. In a similar evaluation, the maximum number of cancer fatalities to the worker population was reported to be approximately 6. This information is summarized in Section 11.6 of the PEIS. As stated previously, it would be expected that the proposed action would represent a small fraction of those impacts projected in the PEIS.

Disposal accidents were not evaluated in the PEIS because of the lack of details regarding ultimate disposition. Current Hanford Site safety documentation for waste management facilities address potential accident scenarios associated with disposal of LLW on a site-specific basis. Such accidents include spills, floods and fires. Appropriate safety analyses would be prepared before disposal of the subject Hanford Site uranium materials.

APPENDIX B

PUBLIC COMMENT LETTERS/DOE RESPONSES ON DRAFT DOE/EA-1319

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Confederated Tribes and Bands
of the Yakama Indian Nation

Established by the
Treaty of June 9, 1855

January 18, 00

U.S. Department of Energy
Richland Operations Office
Keith Klein, Manager
PO Box 550
Richland, WA 99352

U.S. Department of Energy
Richland Operations Office
Angel B. Joy, Program Manager
Materials Disposition Division
PO Box 550, MX R3-79
Richland, WA 99352

Dear Messrs. Klein and Joy:

RE: DRAFT ENVIRONMENTAL ASSESSMENT (EA), DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

The Yakama Nation Environmental Restoration Waste Management Program (ERWM) has reviewed the referenced document and submit these comments for your attention and response.

In general, this document does not provide sufficient information on potential transportation accidents and subsequent consequences to the environment and human health – analysis is too general even though we recognize it is a preliminary assessment." Emergency planning, (DOE Order 151.0, FEMA Radiological Emergency Response Planning and Preparedness for Transportation Accidents), hazards assessments and planning are to address "worse-case" accidents.

We don't find any environmental impact information on surface water, groundwater, and/or sediments along the transportation corridors – (see 5.2.2 Transportation). Protecting the Columbia River is a high priority of the Yakama Nation. Vehicle transport of the uranium will pass over the Columbia River on I-82, north of Umatilla, (see map page 3-6).

This document makes assumptions of an "expected" quick response by the driver and/or first responders. This assumption depends on the severity and location of the accident. If the accident occurred on I-82, for example, and involved the truck and trailer rolling over

into the Columbia River, the driver would probably be killed, and it would take hours before an emergency responder may know what the vehicle was or contained.

The YN ERWM program asks DOE-RL to provide more information on potential accidents, and ensure they assess to "worse-case" conditions and not assume "quick-response" time formats. Any accident involving this material would cause harm (and potential death) to people, fish, wildlife, and damage to the environment.

Sincerely Yours,

Russell Jim, Manager
YN ERWM Program

Cc: KV Clarke, DOE-RL
PFX Dunnigan, Jr., DOE-RL
N Peters ERWM
D Rowland ERWM

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-FTD-047

MAY 3 0 2000

Mr. Russell Jim, Manager
Environmental Restoration/
Waste Management Program
Confederated Tribes and bands
of The Yakama Nation
2808 Main Street
Union Gap, Washington 98903

Dear Mr. Jim:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

Thank you for reviewing the subject NEPA EA document. Comments contained in your January 18, 2000, letter addressed to Keith Klein, Manager of the U.S. Department of Energy, Richland Operations Office, and Angel B. Joy, Materials Disposition Division, were helpful in identifying areas of the EA which required additional information or clarification.

For clarity, your comments are repeated in the attachment including our responses. A copy of the final EA will be provided to your office when it is completed. If you need further information about this EA, please contact R. L. Guillen, the NEPA Document Manager for this EA on (509) 376-0254, or you may contact me, on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

Attachment

cc w/attach:
D. R. Allen, OR
S. S. Bath, FHI
V. C. Crossman, EM-43
J. D. Hutson, OR
M. T. Jansky, FHI
R. W. Bailey, FHI
C. M. Borgstrom, EH-42
R. M. Devault, OR
J. D. Jackson, OR
N. Peters, YN

Attachment

Comment/Response

Commentor: Mr. Russell Jim, Manager
Environmental Restoration/Waste Management Program
Yakama Indian Nation
Post Office Box 151
Fort Road
Toppenish, Washington 98948

Medium: Letter, dated January 18, 2000

Comment: 1. "In general, this document does not provide sufficient information on potential transportation accidents and subsequent consequences to the environment and human health – analysis is too general even though we recognize it is a preliminary assessment.' Emergency planning (DOE Order 151.0, FEMA Radiological Emergency Response Planning and Preparedness for Transportation Accident), hazards assessment and planning are to address 'worse-case' accidents."

Response: Potential transportation accident consequences associated with the proposed action are provided in the EA in Section 5.0, and are small. Transportation risks associated with the shipment of the unirradiated uranium were analyzed in ENG-RCAL-028, *Transportation Risk Assessment for the Shipment of Unirradiated Uranium*. This document was incorporated by reference in the EA, and is the basis for the quantitative transportation analysis presented therein.

Comment: 2. " We don't' find any environmental impact information on surface water, groundwater, and/or sediments along the transportation Corridors – (see 5.2.2 Transportation). Protecting the Columbia River is a high priority of the Yakama Nation. Vehicle transport of the uranium will pass over the Columbia River on I-82, north of Umatilla, (see map page 3-6)."

Response: As stated in the EA (Section 5.2.2, "Specific environmental impacts to surface water, groundwater, solid, and /or sediments along the transportation corridors as a result of an accidental release of materials are not quantified in this document." The actual mileage associated with aquatic crossings is a very small fraction of the interstate distance associated with the proposed action. Therefore, bounding consequences are presented as inhalation pathways to the nearest receptors.

However, it is recognized that uranium that would be released from primary and secondary containment under an accident scenario could be deposited on surface soils, and could be subject to movement with soil water through the vadose zone into groundwater. The material also could be deposited directly into water bodies or move from the surface soil overland into water bodies. Upon deposition of uranium entrained in the media, the fate and transport of the uranium would be a function of the environmental site characteristics and the physical/chemical properties of uranium. Such properties would include solubility in water, the tendency of uranium to transform or degrade, and chemical affinity for solids or organic matter.

Uranium can be transformed to other oxidation states in soil, further reducing its mobility. The mobility of uranium deposited onto water depends upon the type of complex (cationic or anionic) formed as a result of the physical processes acting on the uranium. Cationic species tend to

adsorb to soil, and anionic species tend to move with water. Uranium released in a fire would be oxidized (be cationic) and would tend to adsorb to the soil particles entrained in the water. As with uranium deposited upon the soil, the doses to a receptor in contact with uranium in water or associated sediment would be less than those of the receptor exposed to the initial plume.

Section 5.2.2 of the EA has been revised to include the additional impact information pertaining to uranium.

Comment: 3. "This document makes assumptions of an 'expected' quick response by the driver and/or first responders. This assumption depends on the severity and location of the accident. If the accident occurred on I-82, for example, and involved the truck and trailer rolling over into the Columbia River, the driver would probably be killed, and it would take hours before an emergency responder may know what the vehicle was or contained."

Response: Packaging and transporting the subject materials in compliance with applicable regulatory requirements mitigate potential impacts associated with transportation accidents. Key regulatory elements for shipments include vehicle safety, highway routing and emergency response. For example, the carriers of radioactive materials must meet, at a minimum, the same requirements as carriers for any hazardous material. Truck safety is governed by the Bureau of Motor Carrier Safety of the U.S. Department of Transportation (DOT), which imposes vehicle-safety standards on all truck carriers. Along with other functions, the Bureau conducts unannounced wayside inspections of all truck-carrier vehicles and drivers.

DOT's routing regulations include the objective of reducing potential hazards by avoiding populous areas and minimizing transit times. A carrier or any person operating a motor vehicle carrying a "highway-route-controlled quantity" of radioactive materials is required to use the interstate highway system except when moving from origin to interstate, or interstate to destination. Other "preferred highways" may be designated by any state to replace or supplement the interstate highway system. Under its authority, however, to regulate interstate transportation safety, DOT can overrule state and local bans and restrictions as "undue restraint of interstate commerce."

Finally, the ultimate responsibility for emergency response planning generally lies with state and local governments. Local jurisdictions assume primary responsibility for emergency response planning because a member of a local law enforcement agency or fire department is likely to be the first responder to a transportation accident. It is the policy of DOE, upon request from state, federal, or local authorities, NRC licensees,

private organizations, or commercial carriers to provide radiological assistance teams and training to state and local authorities. One such radiological assistance team operates out of the Hanford Site.

Comment: 4. "The YN ERWM program asks DOE-RL to provide more information on potential accidents, and ensure they assess to "worse-case" conditions and not assume 'quick-response' time formats. Any accident involving this material would cause harm (and potential death) to people, fish, wildlife, and damage to the environment."

Response: Specific transportation analyses, both incident-free and accident scenarios, for the proposed transportation of the unirradiated uranium are provided in ENG-RCAL-028, *Transportation Risk Assessment for the Shipment of Unirradiated Uranium*. This document was incorporated by reference in the EA, and is the basis for the quantitative transportation analysis presented therein.

20 January 2000

Angel B. Joy
NEPA Document Manager Materials
Disposition Division
(509) 373-7834
angel_b_joy@rl.gov

RE: Environmental Assessment for the Disposition of Surplus Hanford Site Uranium, Hanford Site, Richland, Washington (DOE/EA-1319).

Dear Ms. Joy:

I am writing on behalf of the Uranium Enrichment Project (UEP) to express our grave concern with the DOE's proposal to transport 2,000 metric tons of surplus uranium from the Hanford Site in Washington to the Portsmouth Gaseous Diffusion Plant near Piketon, OH.

A major concern of UEP is the proposed delivery of the uranium by overland truck or rail. Several truck accidents near the Portsmouth Plant involving the release of toxic chemicals have been documented recently and transporting uranium over these large distances (over 2000 miles from Washington to Ohio) will only increase the chances of additional accidents.

Most importantly, no valid reason for the proposed action is presented in the draft environmental assessment. First, the draft EA tries to justify the proposed action based on the potentially marketability of the uranium. The uranium could also be sold from Hanford, if indeed it can be sold. Secondly, the draft EA states that the Portsmouth facility has been chosen for storage of the radioactive material because uranium materials from the Fernald Environmental Management Site are already being stored on site. Previous use of the site by DOE to store surplus uranium cannot be used as justification for further storage there by DOE. We objected in writing to the movement of the Fernald uranium to Portsmouth and we have not changed our position that Portsmouth should not become what DOE seems to be trying to turn it into--a waste storage center.

DOE speaks of preparing to choose a national storage site for uranium. If it chooses a site other than Portsmouth—and it cannot select Portsmouth without going through a planning and decision making process with public participation—the Hanford uranium that goes to Portsmouth will have to be moved twice. Moving it now makes no sense.

Consequently, UEP would like to recommend that the uranium remain in place at the Hanford Site until it can be reused, sold, or permanently disposed of, instead of transporting this material to the Portsmouth Site.

Sincerely,
Matthew Patterson
Uranium Enrichment Project
P.O. Box 131
Georgetown, KY 40324

Consequently, UEP would like to recommend that the uranium remain in place at the Hanford Site until it can be reused, sold, or permanently disposed of, instead of transporting this material to the Portsmouth Site."

Response: The future of the Portsmouth Site and its role in the Uranium Management Center will be better defined as a result of a NEPA review to be conducted by OR.

The material being shipped from the Hanford Site would be stored in containers meeting U.S. Department of Transportation requirements; i.e., a in a transportation-ready configuration, not precluding future determination(s). The material would remain in these containers pending final disposition (i.e., transport to another DOE or commercial location).

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-FTD-048

JUN 0 2 2000

Mr. Matthew Patterson
Uranium Enrichment Project
P.O. Box 131
Georgetown, Kentucky 40324

Dear Mr. Patterson:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

Thank you for reviewing the subject NEPA EA document. Comments contained in your January 20, 2000, electronic mail were helpful in identifying areas of the EA which required additional information or clarification.

Comments directly pertaining to environmental impacts in the EA addressed concerns regarding transportation to the Portsmouth Site. Section 5 of the EA discusses potential consequences of transportation and storage of the surplus Hanford Site uranium materials. Ongoing public involvement, which will include interaction between the U.S. Department of Energy and state and local governments, will determine the future role of the Portsmouth Site in the DOE Complex for storage of uranium materials. Additional information on the aforementioned interface activities, including the interface between the Hanford Site, Portsmouth Site, and the State of Ohio, will be included in the final EA. For clarity, your comments are repeated in the attachment, with our responses.

A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, please contact R. L. Guillen, the NEPA Document Manager for this EA, on (509) 376-0254, Randall Devault, Oak Ridge Office, on (865) 241-4497, or you may contact me, on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

Attachment

cc w/attach:
D. R. Allen, OR
S. S. Bath, FHI
V. C. Crossman, EM-43
J. D. Hutson, OR
M. T. Jansky, FHI
R. W. Bailey, FHI
C. M. Borgstrom, EH-42
R. M. Devault, OR
J. D. Jackson, OR

Attachment

Comment/Response

Commentor: Matthew Patterson
Uranium Enrichment Project
P.O. Box 131
Georgetown, Kentucky 40324

Medium: e-mail, dated January 20, 2000

Comment: 1. "A major concern of UEP is the proposed delivery of the uranium by overland truck or rail. Several truck accidents near the Portsmouth Plant involving the release of toxic chemicals have been documented recently and transporting uranium over these large distances (over 2000 miles from Washington to Ohio) will only increase the chances of additional accidents."

Response: Transportation risks specifically associated with the proposed action are summarized in Section 5.0 of the EA, both for incident-free transport and accident scenarios. Those risks were determined to be small. Additional details may be found in *Transportation Risk Assessment for the Shipment of Unirradiated Uranium* (ENG-RCAL-028), which is incorporated in the EA by reference.

Comment: 2. "Most importantly, no valid reason for the proposed action is presented in the draft environmental assessment. First, the draft EA tries to justify the proposed action based on the potentially marketability of the uranium. The uranium could also be sold from Hanford, if indeed it can be sold. Secondly, the draft EA states that the Portsmouth facility has been chosen for storage of the radioactive material because uranium materials from the Fernald Environmental Management Site are already being stored on site. Previous use of the site by DOE to store surplus uranium cannot be used as justification for further storage there by DOE. We objected in writing to the movement of the Fernald uranium to Portsmouth and we have not changed our position that Portsmouth should not become what DOE seems to be trying to turn it into—a waste storage center."

Response: No waste would be transported from the Hanford Site to the Portsmouth Site. Hanford Site surplus uranium with no marketability potential would remain at Hanford. Potential environmental impacts associated with the proposed action have been evaluated at both the Hanford Site and the Portsmouth Site, as well as the potential transportation route. Those impacts have been calculated to be small.

The Hanford Site surplus saleable uranium is being sent to Portsmouth as an interim action pending the outcome of the NEPA review of the proposed uranium management center, because consolidation of this material provides an economy of scale within the DOE complex.

Comment: 3. "DOE speaks of preparing to choose a national storage site for uranium. If it chooses a site other than Portsmouth—and it cannot select Portsmouth without going through a planning and decision making process with public participation—the Hanford uranium that goes to Portsmouth will have to be moved twice. Moving it now makes no sense.

20 January 2000

Angel B. Joy
NEPA Document Manager Materials
Disposition Division
(509) 373-7834
angel_b_joy@rl.gov

RE: Environmental Assessment for the Disposition of Surplus Hanford Site Uranium, Hanford Site, Riceland. Washington (DOE/EA-1319).

Dear Ms. Joy:

Portsmouth-Piketon Residents for Environmental Safety and Security (P.R.E.S.S.) recommends that the 2,000 metric tons of surplus uranium remain in place at the Hanford Site until it can be reused or sold instead of transporting this material to the Portsmouth Site near Piketon, OH.

Delivery of the uranium by overland truck or rail is a major concern. In recent years, we have seen several truck accidents near the Portsmouth Plant that involved the release of toxic chemicals. A recent accident on Route 104 resulted in the unfortunate deaths of three local boys. In this case, radioactive materials will be transported more than 2000 miles from Washington to Ohio, thus greatly increasing the chances of a potentially hazardous accident.

In addition to the risks associated with transportation, storage of Hanford uranium at the Portsmouth site will present unnecessary risk to the Piketon community. Although the site is the erotically located outside the 500-year flood plain, flooding in the area only last year came within one or two miles of the site.

Aside from the potential dangers associated with moving the Hanford waste, the draft environmental assessment presents no good reason for this action. First, the draft EA tries to justify the proposed action based on the potentially marketability of the uranium. However, a concern for the safety of Piketon residents as well as all residents living along the proposed route should take precedence over all economic concerns. Secondly, the draft EA states that the Portsmouth facility has been chosen for storage of the radioactive material because uranium materials from the Fernald Environmental Management Site are already being stored on site. Previous contamination of the site by DOE is no justification for further contamination by DOE.

In fact, the workers at the plant and the residents of the area have done their share for their country by helping to provide energy and means of defense while absorbing the pollution from the plant. They should be rewarded with real jobs, not given radioactive material to store. Instead of making the plant a storage site, DOE should help bring in viable industry to replace the jobs that will be lost when the enrichment plant becomes too old to operate.

Sincerely,

Vina Colley

Vina Colley, President
P.R.E.S.S.
3706 McDermott Pond Creek
McDermott, OH 45652-8932

Vina Colley

JLE

Portsmouth/Piketon Residents for
Environmental Safety and Security
(PRESS)
Vina Colley
3706 McDermott Pond Creek
McDermott, Ohio 45652

Telephone 740-259-4888
Fax 740-259-3912

Now is not to the time for making a decision to ship surplus uranium to Portsmouth for several reasons:

1 DOE has begun the necessary steps to prepare an EIS on the management of what it calls potentially usable uranium materials at a DOE Uranium Management Center (p.2-8). If Portsmouth is not chosen as the site of the center, the uranium will have to be shipped twice. If DOE is shipping uranium to Portsmouth, because it favors Portsmouth as a site for the Uranium Management Center, it is acting on a choice that it cannot make until it has gone through the National Environmental Policy Act process.

2 DOE is presently preparing a Hanford Site Solid Waste (Radioactive and Hazardous) Program EIS (p. 1-1). DOE does not consider the uranium in question to be a waste, but not everyone would agree with its position. Certainly the waste program at Hanford would appear to be relevant to the treatment of the uranium that DOE calls surplus; and this waste program is still under development.

3. DOE is currently investigating activities at the Portsmouth plant to learn about possible impacts to the environment and human health, and the current investigation will only begin to answer the questions hanging over the plant. Bringing in miscellaneous nuclear material before it has a thorough understanding of what has happened in regard to radioactive materials at the plant in the past does not seem desirable.

As a general rule, radioactive materials should be stored at the site at which they are generated. There seems to be no strong reason for moving the surplus uranium out of Hanford and across the country. There are strong reasons for not doing so. We are not talking about a small amount of material. DOE wants to move 1800 metric tons. That would mean at least 775 truck shipments plus an additional 50 to 75 shipments, probably by truck but possibly by rail (p.3-1) Truck transportation always carries with it the risk of highway accidents. Any accident harming people would be regrettable whether or not it produces radioactive contamination of the environment. Furthermore, any shipments, and particularly shipments of heavy loads by road, burn fossil fuels and contribute to the climate change that we need to slow.

DOE states that the material to be shipped is "potentially salable" (p 3-1). However, it includes various types of fuel assemblies, roughly a fourth of them with beta and gamma contamination because they spent time in Hanford's N reactor, a military production reactor (p. 2-1). Although DOE is careful to state that they were not irradiated, they do not sound like particularly salable items.

And, speaking of irradiation--is any of the surplus uranium the product of reprocessing?

According to the Environmental Assessment, the movement of the uranium from Hanford would support a Hanford Federal Facility Agreement and Consent Order, which apparently is the result of negotiations between the State of Washington, DOE, and the EPA (pp.1-1, p. 6-2). In support of the move DOE says that it would be "consistent with" DOE's recent decision to transfer uranium materials from the Fernald site to Portsmouth. That move was the result of negotiations

between the State of Ohio and DOE. Isn't it time that the State of Ohio negotiate an agreement that would prevent Portsmouth from having to import and store radioactive material of questionable value?

P 5-4 Exposure is much to high for person for Rem for off-site shipments

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-FTD-051

JUN 0 2 2000

Ms. Vina Colley, President
P.R.E.S.S.
3706 McDermott Pond Creek
McDermott, Ohio 45652

Dear Ms. Colley:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

Thank you for reviewing the subject NEPA EA document. Comments were contained in two facsimiles: January 20, 2000, facsimile addressed to Angel B. Joy, U. S. Department of Energy, Richland Operations Office (RL); and February 10, 2000, fascimile addressed to James Elmore, U. S. Department of Energy, Oak Ridge Operations (OR). These comments were helpful in identifying areas of the EA which required additional information or clarification.

In the facsimile dated January 20, 2000, the comments directly pertaining to environmental impacts in the EA addressed concerns regarding transportation to the Portsmouth Site, and risks to the community of Piketon, Ohio. Section 5 of the EA discusses potential consequences of transportation and storage of the surplus Hanford Site uranium materials. The proposed OR NEPA review which will include interaction between the U.S. Department of Energy (DOE) and state and local governments, would support a decision on the future role of the Portsmouth Site in the DOE Complex for storage of uranium materials. Additional information on the aforementioned NEPA review, including the interface between the Hanford Site, Portsmouth Site, and State of Ohio, will be included in the final EA. For clarity, your comments are repeated in Attachment A with our responses.

The February 10, 2000, facsimile delineated three areas of concern. For clarity, those three areas are repeated in the Attachment B including our responses.

A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, please contact R. L. Guillen, the NEPA Document Manager for this EA on (509) 376-0254, Randall Devault, Oak Ridge Office, on (865) 241-4497, or you may contact me on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

Attachments

cc w/attachments:
D. R. Allen, OR
R. W. Bailey, FHI
S. S. Bath, FHI
C. M. Borgstrom, EH-42
V. C. Crossman, EM-43
R. M. DeVault, OR
J. D. Hutson, OR
J. D. Jackson, OR
M. T. Jansky, FHI

Attachment A

Comment/Response

Commentor: Vina Colley
P.R.E.S.S.
3706 McDermott Pond Creek
McDermott, Ohio 45652-8932

Medium: Facsimile, dated January 20, 2000

Comment: 1. "Portsmouth-Piketon Residents for Environmental Safety and Security (P.R.E.S.S.) recommends that the 2,000 metric tons of surplus uranium remain in place at the Hanford Site until it can be reused or sold instead of transporting this material to the Portsmouth Site near Piketon, OH."

Response: DOE has prepared the draft EA to consider environmental impacts associated with transporting some uranium materials from the Hanford Site to the Portsmouth Site for storage, pending final disposition. The DOE is proposing to transport approximately 900 metric tons (approximately 2,000,000 pounds) of uranium materials currently stored on the Hanford Site in Richland, Washington, to the Portsmouth Site for consolidated storage. These materials are considered potentially saleable by DOE. The remainder of the Hanford Site surplus uranium materials inventory would remain onsite for interim storage and/or disposal.

This proposed relocation action would be conducted as an interim action pending completion of a NEPA review for the management of potentially reusable uranium materials at the DOE Uranium Management Center. The Uranium Management Center functions to integrate the management of the uranium inventory within the DOE Complex.

Comment: 2. "Delivery of the uranium by overland truck or rail is a major concern. In recent years, we have seen several truck accidents near the Portsmouth Plant that involved the release of toxic chemicals. A recent accident on Route 104 resulted in the unfortunate deaths of three local boys. In this case, radioactive materials will be transported more than 2000 miles from Washington to Ohio, thus greatly increasing the chances of a potentially hazardous accident."

Response: Transportation risks specifically associated with the proposed action are summarized in Section 5.0 of the EA, both for incident-free transport and accident scenarios. Those risks were determined to be small. Additional details may be found in *Transportation Risk Assessment for the Shipment of Unirradiated Uranium* (ENG-RCAL-028), which is incorporated in the EA by reference. A copy of Transportation Risk Assessment is available via the Internet at our website.

Comment: 3. "In addition to the risks associated with transportation, storage of Hanford uranium at the Portsmouth site will present unnecessary risk to the Piketon community. Although the site is the erotically <sic> (theoretically) located outside the 500-year flood plain, flooding in the area only last year came within one or two miles from the site."

Response: Potential impacts of storage of Hanford Site uranium materials at the Portsmouth Site are considered in Section 5.0 of the EA. Additional information regarding potential impacts of storing uranium materials at the Portsmouth Site may be found in *Environmental Assessment for the U.S. Department of Energy, Oak Ridge Operations Receipt and Storage of Uranium Materials from the Fernald Environmental Management Project Site* (DOE/EA-1299).

Natural phenomena events such as high wind and earthquake have the potential to cause damage to buildings and structures leading to consequences that equal or exceed the consequences of operational accidents. Potential releases of materials due to a flood would be bounded by the aforementioned natural phenomena. Potential environmental impacts of such events were determined to be insignificant, as documented by issuance of the Finding of No Significant Impact based on DOE/EA-1299 (April 13, 1999).

Comment: 4. "Aside from the potential dangers associated with moving the Hanford waste, the draft environmental assessment presents no good reason for this action. First, the draft EA tries to justify the proposed action based on the potentially marketability of the uranium. However, a concern for the safety of Piketon residents as well as all residents living along the proposed route should take precedence over all economic concerns. Secondly, the draft EA states that the Portsmouth facility has been chosen for storage of the radioactive material because uranium materials from the Fernald Environmental Management Site are already being stored on site. Previous contamination of the site by DOE is no justification for further contamination."

Response: No waste would be transported from the Hanford Site to the Portsmouth Site. Hanford Site surplus uranium with no marketability potential would remain at Hanford. Potential environmental impacts associated with the proposed action have been evaluated at both the Hanford Site and the Portsmouth Site, as well as the potential transportation route. Those impacts have been calculated to be small.

The Hanford Site surplus saleable uranium is being sent to Portsmouth at an interim measure pending the outcome of the NEPA review for the Uranium Management Center because consolidation of this material provides an economy of scale within the DOE complex.

Comment: 5. "In fact, the workers at the plant and the residents of the area have done their share for their country by helping to provide energy and means of defense while absorbing the pollution from the plant. They should be

rewarded with real jobs, not given radioactive material to store. Instead of making the plant a storage site, DOE should help bring in viable industry to replace the jobs that will be lost when the enrichment plant becomes too old to operate."

Response: The future of the Portsmouth Site and its role in the Uranium Management Center will be better defined as a result of the NEPA review. It would be expected that the proposed storage mission would provide economic benefit to the community in the form of continued employment.

Attachment B

Comment/Response

Commentor: Vina Colley
P.R.E.S.S.
3706 McDermott Pond Creek
McDermott, Ohio 45652

Medium: Facsimile, dated February 10, 2000

Comment: "1. DOE has begun the necessary steps to prepare an EIS on the management of what it calls potentially usable uranium materials at a DOE Uranium Center (p.2-8). If Portsmouth is not chosen as the site of the center, the uranium will have to be shipped twice. If DOE is shipping uranium to Portsmouth because it favors Portsmouth as a site for the Uranium Management Center, it is acting on a choice that it cannot make until it has gone through the National Environmental Policy Act process."

Response: OR has the lead to prepare a NEPA review for the management of potentially usable low-enriched uranium, normal uranium, and depleted uranium that is excess to national security needs. The Portsmouth Gaseous Diffusion Plant is one of the sites that will be evaluated as part of the NEPA review, along with several other DOE sites. The shipment of the Hanford Site material to the Portsmouth Gaseous Diffusion Plant is considered as an interim action under NEPA, and would allow DOE to move forward with the proposed shipment activities at the Hanford Site.

The material being shipped from the Hanford Site would be stored in containers meeting U.S. Department of Transportation requirements; i.e., in a transportation-ready configuration, not precluding future determination(s). The material would remain in these containers pending final disposition (i.e., transport to another DOE or commercial location).

The Hanford Site surplus saleable uranium is being sent to the Portsmouth Site as an interim measure pending the outcome of the NEPA review of the proposed uranium management center because consolidation of this material provides an economy of scale within the DOE complex.

Comment: "2. DOE is presently preparing a Hanford Site Solid Waste (Radioactive and Hazardous) Program EIS P. 1-1). DOE does not consider the uranium in question to be waste, but not everyone would agree with its position. Certainly the waste program at Hanford would appear to be relevant to the treatment of the uranium that DOE calls surplus; and this waste program is still under development."

Response: Uranium materials transported to the Portsmouth Site is not waste, and does not require pre-treatment. Under the current Memorandum-of-Agreement between RL and OR, only saleable material will be transferred to OR. Uranium with no economic value will be dispositioned at the Hanford site, which would be an interim action pending the Record of Decision for the *Hanford Site Solid (Radioactive and Hazardous) Waste Program* EIS.

Comment: "3. DOE is currently investigating activities at the Portsmouth plant to learn about possible impacts to the environment and human health, and the current investigation will only begin to answer the questions hanging over the plant.

Bringing in miscellaneous nuclear material before it has a thorough understanding of what has happened in regard to radioactive materials at the plant in part does not seem desirable."

Response: The uranium materials transported to the Portsmouth Site would remain in their shipping containers pending final disposition. See response to Comment Number 1.

Comment: "4. As a general rule, radioactive materials should be stored at the site at which they are generated. There seems to be no strong reason for moving the surplus uranium out of Hanford and across the country. There are strong reasons for not doing so. We are not talking about a small amount of material. DOE wants to move 1800 metric tons. That would mean at least 775 truck shipments plus an additional 50 to 75 shipments, probably by truck but possibly by rail (p.3-1). Truck transportation always carries with it the risk of highway accidents. Any accident harming people would be regrettable whether or not it produces radioactive contamination of the environment. Furthermore, any shipments and particularly shipments of heavy loads by road, burn fossil fuels and contribute to the climate change that we need to slow."

Response: Please note that all of the unirradiated uranium material now at the Hanford Site originated from Fernald, Ohio, prior to coming to Hanford. As stated earlier, the Hanford Site surplus saleable uranium is being sent to the Portsmouth Site because consolidation of this material provides an economy of scale within the DOE complex. Since OR's mission is management of uranium materials within the DOE complex, OR is best suited for the management of this material, and is also a receptive site for the interim storage and management of this material.

Transportation risks specifically associated with the proposed action are summarized in Section 5.0 of the EA, both for incident-free transport and accident scenarios. Those risks were determined to be small. Additional details may be found in *Transportation Risk Assessment for the Shipment of Unirradiated Uranium* (ENG-RCAL-028), which is incorporated in the EA by reference.

Comment: "5. DOE states that the material to be shipped is "potentially salable" (p 3-1). However, it includes various types of fuel assemblies, roughly a fourth of them with beta and gamma contamination because they spent time in Hanford's N reactor, a military production reactor (p. 2-1). Although DOE is careful to state that they were not irradiated, they do not sound like particularly salable items."

Response: Text in Section 1.0 of the EA has been revised to update the status of the unirradiated fuel. In January 2000, a uranium market analysis workshop was held. Brokers, customers and processors of uranium were invited, and

presented with information regarding quantities and specifications for all Hanford Site surplus uranium. It was determined that there is no reasonably foreseeable demand for the unirradiated fuel (approximately 960 MTU). DOE is continuing to evaluate the marketability of the unirradiated fuel, and it is expected that the material would remain at the Hanford Site in the near term, pending future decisions.

Comment: "6. And, speaking of irradiation—is any of the surplus uranium the product of reprocessing?"

Response: Most of the surplus Hanford Site uranium materials originated from reprocessing. All of the UO_3 and all of the low-enriched uranium metal have been reprocessed.

Comment: "7. According to the Environmental Assessment, the movement of the uranium from Hanford would support a Hanford Federal Facility Agreement and Consent Order, which apparently is the result of negotiations between the State of Washington, DOE, and the EPA (pp. 1-1, p. 8-2). In support of the move DOE says that it would be "consistent with" DOE's recent decision to transfer uranium materials from the Fernald Site to Portsmouth. That move was the result of negotiations between the State of Ohio and DOE. Isn't it time that the State of Ohio negotiate an agreement that would prevent Portsmouth from having to import and store radioactive material of questionable value?"

Response: DOE ORO will prepare a Management Plan for the material that would be shipped from the Hanford Site to the Portsmouth Site. This plan would be coordinated with the State of Ohio and the U.S. Environmental Protection Agency, and completed prior to the first shipment of the Hanford Site material. This plan would include information on storage, marketing, disposal, and short-/long-term funding requirements. This plan would be a 'living document,' and would be issued as a stand-alone document separate from the EA.

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

MAY 30 2000

00-FTD-049

Ms. Linda Howell
2530 Daniels Drive
Portsmouth, Ohio 45662

Dear Ms. Howell:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319) AND REQUESTED DOCUMENT ENG-RCAL-028

Thank you for contacting R. L. Guillen after the public meeting conducted in Piketon, Ohio on January 27, 2000, concerning your review of the subject NEPA EA document. The total public doses noted on page 5-4 of the draft EA are correct. A copy of the document you requested, ENG-RCAL-028, will be forwarded to you for your review via e-mail and will also be made available via the internet at our website.

A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, please contact Mr. Guillen, the NEPA Document Manager, for this EA, on (509) 376-0254, Randall Devault, Oak Ridge Office, on (865) 241-4497, or you may contact me on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

cc: D. R. Allen, OR
R. W. Bailey, FHI
S. S. Bath, FHI
C. M. Borgstrom, EH-42
V. C. Crossman, EM-43
R. M. DeVault, OR
J. D. Hutson, OR
J. D. Jackson, OR
M. T. Jansky, FHI

U.S. Department of Energy
Richland Operations Office
Angel B. Joy, Program Manager
Materials Disposition Division
P.O. Box 550, MS R3-79
Richland, Washington 99352, and:

U.S. Department of Energy
Richland Operations Office
Paul F.X. Dunigan, Jr.
P.O. 550, MS A5-58
Richland, Washington 99352

February 18, 2000

Re: PUBLIC COMMENT ON DOE/EA-1319, DRAFT ENVIRONMENTAL ASSESSMENT, DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND WASHINGTON, NOVEMBER 1999

Dear Mr. Joy and Mr. Dunigan:

Please consider this correspondence part of the official record of proceedings on the above referenced draft agency proposed action. I am sending separate copies so that these comments will be included in both the materials division docket and the NEPA process docket.

Environmental Assessment 1319 demonstrates agency refusal and/or failure to separate Department of Energy (DOE) interests (supposedly representing the public interests as regulators) from the interests of the agency's site contractors and sub-contractors. The 'INS' in government contracting apparently have become the agency's primary drivers leaving the public (taxpayers, interested parties, U.S. citizens, and particularly adversely affected parties) the 'OUTS' of agency decision-making process. Primary driver of agency decision-making process in EA-1319 is based upon Milestone M-92-06-T01 which is a fund-raising mechanism designed to meet other clean-up Milestones including, but not limited to, Milestones mandated under HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER by the Washington State Department of Ecology and The United States Environmental Protection Agency. Furthermore, recipient of proceeds from the transfer (and sale) of 1,800 MTU is DOE O & M which is responsible for DOE programmatic management, treatment, storage, and/or disposition/disposal of hazardous, toxic, and radioactive materials.. Succinctly stated, DOE EA-1319 claims to address activities directly related to clean-up/environmental restoration at the Hanford site (and others) while, in fact, is promoting agency version of a "bake sale" to raise program-wide waste management funds.

Enriched uranium, in various forms and percentages of enrichment, declared to be surplus for DOE program needs, i.e., national defense, produced as part of the nation's nuclear weapons program at multiple agency sites is the orphan of DOE programmatic decision-making process, in the public view, at any rate. Surplus Plutonium and Depleted Uranium have been addressed in national programmatic decision-making process which provide opportunity for public comment on what the agency is "considering". On the other hand, DOE has failed to address enriched uranium declared to be surplus to program needs in both NEPA process and in materials disposition process up-front and in total. By this failure, with considerable deception through-out the process, DOE has avoided public disclosure and public participation through-out the decision-making process to dispose (classify some as waste, other as 'valuable economic asset') the unknown thousands of total metric tons of enriched uranium in inventory at multiple sites complex-wide, and side-stepped NEPA process which would be required to address (through programmatic decision-making process) the environmental impacts of disposal as waste versus interim storage until sale, or more "permanent disposition" which apparently means whatever DOE deems it to mean at that time.

THE ECONOMIC BENEFITS (TO DOE AND MULTIPLE OTHER PARTIES) OF RENDERING THE NEPA PROCESS MEANINGLESS:

In 1999 Flor Daniel, later re-named Flor Fernald, DOE site contractor at FEMP (Fernald Environmental Restoration Project, former DOE uranium processing site, Manhattan Project Waste Burial site, etc.) issued Environmental Assessment in cooperation with Oak Ridge Operations (ORO) which proposed to 'transfer for interim storage' some 3,800 metric tons of uranium metal in various forms from FEMP to one of three candidate ORO sites at Oakridge, Tennessee, Paducah, Kentucky or the Portsmouth Gaseous Diffusion Plant located in Piketon, Ohio. The Portsmouth site was 'selected' as the recipient site for "interim" storage of the FEMP 3,800 metric tons of uranium. During the third week of July, 1999 I submitted a FOIA (Freedom of Information Act) request to the FEMP site contractor, Flor (Daniel) Fernald. Response to that FOIA failed to produce any documents which supported my contention/concern that Portsmouth, Ohio was actually being considered as DOE's "interim storage/transfer site" program-wide for DOE's excess/surplus uranium in various forms and various levels of enrichment. On the contrary, response to my concerns were at that time, denied by agency responses to comments received.

My late July, 1999 FOIA failed to produce/cause DOE and/or its contractors to disclose the existence of 7/99 document titled: URANIUM MANAGEMENT CENTER, URANIUM MANAGEMENT PROCESS, RECEIPT OF URANIUM MATERIALS AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT!! Disclosure/correction of the record of proceedings after-the-fact when the public participation process is closed represents considerable deception and denial by DOE which, therefore, fails to comply with letter and intent of NEPA! On February 16, 2000 I received the PORTSMOUTH ENVIRONMENTAL BULLETIN, January 2000, produced by DOE's contractor Bechtel Jacobs for the PORTS Public Information Center. According to page 8, heading 'Information Repository,' 7/99 URANIUM MANAGEMENT CENTER, URANIUM MANAGEMENT PROCESS, RECEIPT OF URANIUM MATERIALS AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT is now in the public information repository--considerably too late to be included in comment to DOE/ORO on the Fernald Uranium Transfer--and also too late to be requested, reviewed, and/or included in comment to DOE, Fernald Hanford during public comment period which closes on February 22, 2000 (after extension of time from January cut-off date) on the transfer of 1,800 metric tons of Hanford site uranium to PORTS. See Attachment I. PORTSMOUTH ENVIRONMENTAL BULLETIN, January 2000, pg. 8.

DOE public relations bulletin is 'game playing' with NEPA process and 'word playing' with the terms "commercially viable/economic asset" and "waste." See page 5, "Surplus Uranium Materials Arrive at Site," from the PORTSMOUTH ENVIRONMENTAL BULLETIN, Attachment I, which states in part:

> As of November 30, 1999, Portsmouth has received a total of 159 shipments, representing 4.4 million pounds (2000 metric tons of the 3,800 metric ton total Fernald/FEMP uranium, explanation added) of both depleted and 'natural' uranium from the Fernald Project near Cincinnati. These shipments represent 45 percent of the total amount of Fernald material, approximately 3,800 metric tons, that is to be received at Portsmouth by late 2001.

DOE/Flor Hanford, DOE/Flor Fernald, and/or Bechtel Jacobs is herein requested to explain how 2,000 metric tons (4.4 million pounds), which appears to be calculated by weight, represents 45 percent of 3,800 metric ton total of FEMP uranium scheduled for transfer from Fernald to Portsmouth! Are calculations based upon factors other than weight of the material to be transferred (3,800 metric tons as stated in Attachment I and in Fernald Uranium Transfer Environmental Assessment) or have the figures been re-weighed, adjusted, or some other process?? Is this a "typo" which should be 55 percent of the total FEMP uranium has already been transferred??

"Surplus Uranium Materials Arrive at Site" continues:

> Two shipments of uranium materials, totaling 20 metric tons, previously loaned to universities for research and education have been returned to DOE. Five containers of material were returned to DOE from the University of Seattle (Washington state) in early August 1999, and 12 containers of uranium material were returned to DOE from the University of Nebraska in September 1999.

What is the economic value of the material returned to DOE (at the Portsmouth site) and what entities split the proceeds from sale of the material? Has DOE offered the material(s) to other federal agencies, to other universities and/or educational entities, and/or private commercial entities? What procedure has been used by DOE for disposition of the material and disposition of the funds generated by sales?? Has the material been appraised to determine its economic value to DOE and to other parties?

Attachment I, within the same news article, continues:

> About 1,600 metric tons of uranium materials from the Hanford Project in Washington are also being considered for interim storage at the Portsmouth Plant. The draft Environmental Assessment for this project was issued in December, and the public comment period has been extended to February 22.
>
> Department officials conducted a public meeting in Piketon on July 26, 1999, to discuss plans for the receipt of uranium materials at the Portsmouth plant. During that meeting, officials reiterated that surplus uranium materials under consideration for shipment and storage at the site must be commercially viable. (Ref.: IBID, pg. 5.)

DOE held public meeting in Piketon (at Ohio State University Research center) on January 27, 2000 which included discussion of the Hanford materials proposed for transfer to PORTS. Meeting on July 26, 1999--to discuss plans for the receipt of uranium materials at the Portsmouth plant (from Fernald only?)--failed to include notice of PORTS as a DOE program-wide uranium 'interim storage facility/Uranium Management Center. Public information article description of Fernald uranium in process of being transferred is described as having pre-enriched U-235 concentration of approximately 0.7 percent, i.e., "natural" uranium (as opposed to synthetic process created "normal" uranium which applies to some of Hanford's 1,800 metric tons proposed for transfer to PORTS), and depleted uranium, i.e., less than 0.711 percent U-235 by weight. General characterization of the 3,800 metric tons of Fernald uranium materials as "natural" and "depleted" omits uranium (hundreds of metric tons) that is enriched more than 0.7 percent U-235.

It is possibly true that only 'natural' and depleted uranium have been transferred from FEMP to PORTs as of January 2000, but the statement is misleading by generality and omission. Information parcelled and atuned to timing, i.e., too late in the process to allow informed comment with spin to minimize and/or disguise amounts to propaganda. Informed public participation as early as practical in the planning process has been revised to exclude "objection" comments from the public record.

To compound the confusion and deception, some distinction (in PORTS future site use, as well as in toxic, hazardous, and radioactive properties of uranium is implied by. . . "officials reiterat(ion) that surplus uranium materials under consideration for shipment and storage at the site must be commercially viable." See Attachment II, "Investigators Looking Into Possible Burial of Nuclear Weapons in Kentucky," THE LEDGER INDEPENDENT, February 12,

2000, pg. 8-A which strongly indicates "waste" versus "viable nuclear weapons and/or commercial components" are totally meaningless (but deceptive) terms in determining adverse impacts/environmental contamination and risk/threat to human health. Note, also that on Thursday, February 10, 2000 the Department of Energy issued an investigative report on the Paducah site which acknowledged . . ."that workers at the plant during Cold War years were exposed to high levels of radiation and toxic chemicals, including plutonium mixed with some of the uranium." However, the February 10, 2000 report made no mention of nuclear weapons components being buried on site at Paducah, Ky. The day after DOE issued its Paducah investigative report--THE WASHINGTON POST published contents of an internal memo by Raymond C. Carroll, health and safety specialist for United States Enrichment Corporation at the Paducah site which indicates "excess/surplus" nuclear weapons whether "waste" or "economically viable assets" pose serious human health risks!

> Federal nuclear regulators are investigating the possible burial of as much as 1,600 tons of nuclear weapons hardware on a 3,000 acre Energy Department site in Kentucky, and whether the material poses a health risk to workers there.

Mr. Carroll's concern with worker exposure to "excess/surplus/used" nuclear weapons metals is apparent from his memorandum to the Nuclear Regulatory Commission requesting investigation as to whether the "material" (which is not waste, although it was buried on-site in an underground classified storage site).

> 'I am. . .deeply concerned for the safety of personnel working (at the plant)' wrote Raymond C. Carroll. . . .
>
> 'Some sanity needs to be put back into the system and personnel safety needs to have commensurate emphasis with national security'. . .
>
> Calling the situation 'unconscionable,' Carroll wrote: 'I do not believe that national security and site safety are mutually exclusive goals. Therefore, I believe this situation warrants a serious investigation.'
> (Ref.: Attachment II.)

Further 'investigation' on the hazardous properties of uranium as research for these comments has been frustrated by DOE Hanford reading room web page last updated as of November 1999 as available to me on Tuesday, February 15, 2000, from the Brown County Public Library computer at the Sardinia, Ohio branch. DOE/Hanford Environmental Assessment of December 1999 is not included in available information. DOE Environmental Assessment #1319, November 1999 is listed as available for public review and comment. Access to timely, relevant information is required for informed comment on DOE/EA #1319. How frequently (or infrequently) does Hanford's public information center update its web page? By the time periods indicated as of 2/15/00, 45 day public comment period could expire before notice to the public appeared on the agency's Hanford site web page (and interested parties radar screen)!! Public notice after-the-fact and/or without benefit of all the pertinent facts provides little meaningful opportunity for review, comment, or inclusion as part of agency decision-making process. Records of proceedings cannot, after-the-fact, be easily amended to include public responses and comments on what the agency was really talking about and deciding when the public later realizes what decisions were actually being made at that time by the agency!

Lack of e-mail as means to submit comments resulted in my attempt to obtain a facsimile number from DOE Hanford NEPA Compliance Office on 2/18/00 early in the afternoon Eastern Standard Time (which should have been during regular business hours at the Hanford site office). After multiple telephone

calls with no answer--I reached an answering machine recording. I left a message with my telephone number requesting a facsimile number so that these comments would be received by Hanford site office on or before February 22, 2000. While it is customary, from my past experience, with DOE public participation process as implemented at other site offices, for DOE to include all comments submitted/sent/mailed on the date of close of public comment period February 11, 2000 letter with February 14, 2000 U.S. Postal Service date stamp, received by me on February 16, 2000 states:

> In Accordance with the U.S. Department of Energy's (DOE) National Environmental Policy Act (NEPA) regulations and per previous notification letters, the draft Richland Operations Office's (RL) Environmental Assessment (EA), Disposition of Surplus Hanford Site Uranium, was issued December 16, 1999, for public review. DOE has received public request for additional review time. The public review period has been extended through February 22, 2000. Tribal and public comments received by that time will be considered prior to finalization of EA.

While it is true that December 16, 1999 letter was "issued," it is not true that opportunity for public review began as of December 16, 1999. Later discussion of delay in mail time by DOE RL Office which resulted in delivery to me (for review) on December 31, 1999 follows within these comments. Tribal and public comments received "by that time"/Feb. 22, 2000 as stated in February 11, 2000 notice of extension of public comment period means delivered into DOE RL's hands on or before the office closes on Feb. 22, 2000. My telephone call was not returned and as of this date I have no facsimile number to transmit comments during regular business hours on February 22, 2000 to as recipient! Since I do not have access to e-mail mode of delivery--are my comments to be excluded?? As an obvious observation, DOE RL office appears to narrowly constrict time periods allowed for public comment to DOE RL while, at the same time, taking considerable liberties, i.e. delays, in mailing notification letters and notices! It is even more obvious (and totally unacceptable) for DOE to announce decision to "finalize" draft environmental assessment immediately after close of public comment period. DOE RL has reduced NEPA process to game playing to 1) shorten time periods as much as practicable to exclude public comment, i.e., objections, and 2) announce "consideration" of comments "prior to finalization of the EA." Why doesn't DOE RL just state, up front, comments may be sent--some may even be included in the record of proceedings, but "finalization"/decision has already been made! I had a question as to how to submit comments on 2/19/00 which were directed to (509) 373-7834 (NEPA Process), as provided on page 2, February 11, 1999 letter (received by me on 2/18/00). Apparently no one was available to answer the telephone on the last regular business day prior to February comment close date! What procedure is being implemented by DOE RL office which requires several days for agency letters/notifications to the public to be postmarked/actually dropped into the mail?? The double standard would seem to apply--we mail to you when we get around to it--start date is determined by agency date stamp on letters--time period closes exactly on the date specified in notification/correspondence no matter when you receive it!

<u>Please provide me with a list of any and all Hanford site environmental assessments with December 1999 dates.</u> When were any such environmental assessments included as available on the Hanford site's internet web page? Related proposed actions may include "interim storage" and/or disposition of spent nuclear fuel from the INEEL site.

Two factors require specific statement: 1) public information centers and newsletters are invaluable sources of information, 2) accurate information early in the process--minus spin, gaps, delays, and omissions-- is required for fully informed participation. In spite of agency assurances and statements to the contrary, the Fernald Uranium transfer of 3,800 metric

tons to the Portsmouth site has grown into, de-facto, the Uranium Management Center! DOE/EA-1319. In Section 4.2 PORTSMOUTH SITE, paragraph 3 states:

> Building 744-G, the primary receipt facility under consideration, has been upgraded to receive the Fernald uranium and space is available within that facility to receive the surplus Hanford Site material. This facility is a steel-framed building with a concrete floor. The facility has standard electrical service, sanitary water, dry-pipe sprinkler, and radiation alarm clusters. This facility, termed the Uranium Management Center, is expected to house a total of approximately 5,900 MTU (13,000,000 pounds) of uranium materials. Additional details regarding the environment pertaining to the Portsmouth Site may be found in DOE/EA-1299. (DOE/EA-1399, pg. 4-2.)

> NOTE: DOE/EA-1299 full title: ENVIRONMENTAL ASSESSMENT FOR THE U.S. DEPARTMENT OF ENERGY, OAK RIDGE OPERATIONS RECEIPT AND STORAGE OF URANIUM MATERIALS FROM THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT SITE, (March 1999) A Finding of No Significant Impact (FONSI) was issued on April 13, 1999--notice to the public after May 1999 DOE Transportation Conference in Cincinnati, Ohio!

EA-1319 Heading 2.3 RELATED DOCUMENTATION (full text) states:

> Similar activities have been addressed previously as discussed in the following sections.

The following "section," 2.3.1 TRANSPORTATION lists Hanford Site excess materials (similar to the proposed action) which have already been transported to The United Kingdom. 'Materials' already transferred to the U.K. include "normal" and low-enriched uranium billets (20 percent or lower U-235 which is considerably "higher" than 0.7 percent U-235 "natural" uranium and depleted uranium having less than 0.711 percent U-235). Each of the Environmental Assessments listed resulted in Finding of No Significant Impact (FONSI). Governmental agency document description begins to closely resemble double-speak in multiple ways! Excess material defined by DOE as "normal" uranium is produced by synthetic process--rather than mining "natural" uranium. "Normal" refers to 0.7 percentage of U-235 which is "similar" to assay of pre-enriched naturally occurring uranium "natural" uranium. One would be led to conclude, in error, from such description that depleted uranium contains slightly more U-235 than natural/mined uranium!

> The proposed action involves the interstate transfer of billets, powder, and fuel assemblies, while the 1992 and 1996 campaigns involved international shipments of billets. The 1992 and 1996 campaigns used truck transportation from the Hanford Site to Seattle, Washington. At that point, billets were transferred to ocean vessels that transported the material through the Panama Canal to Germany, and to the United Kingdom. (DOE/EA-1319, pg. 2-8.)

How "similar" transfer of materials to 1992 and 1996 campaigns is or is not given context. How many shipments of what kind of materials is categorized as its-all-uranium-from-Hanford, Washington! Risk posed by transportation of fuel assemblies (700 shipments via overland truck) literally from the West Coast to the Midwest (east of the Mississippi and Ohio Rivers) is considerably dis-similar to risk posed by transport of low-enriched metal billets via ocean going vessels. Which part of this

campaign is "similar," other than uranium materials were transported from the Hanford site somewhere by site contractor Flor Daniel (similar to Flor Fernald)? Note that I requested DOE/E.A. #1210 from the Portsmouth Environmental Information Center and attempted to access it on Hanford internet web page under environmental+assessment+uranium without success on 2/15/00. LEAD TEST ASSEMBLY IRRADIATION AND ANALYSIS, according to public information officer at the PORTS site has agency date of July 22, 1997. I intend to continue to pursue this document with appropriate comment to DOE after February 22, 2000. DOE decision-making document #1319 incorporates by reference, environmental assessments of similar subject matter. DOE is requested to include DOE/EA-1210 as both similar--fuel rod assemblies irradiation test analysis--as relevant to agency proposed action.

Comment on agency time period of public comment, as announced, and later extended is discussed in more detail later within these comments. However, it is important to state at this time, that I did not request the agency to extend the comment period although there is some confusion to the contrary. Graham Mitchell of Ohio EPA's Federal Facility Compliance Office suggested that I request DOE to extend the public comment period on DOE/EA-1319 in telephone conversation of January 3, 2000. Some confusion apparently persists as to whether I did or did not request an extension of time. I did not. Minimum of 45 days for public comment period is required in DOE actions--original public comment period dates did not comply with 45 day public comment period requirement which I intended to point out to DOE prior on or before January 20, 2000 (35 calendar days after date of DOE December 16, 1999 letter announcing DOE proposed action and availability of DOE/EA-1319 for public review and comment).

Similar circumstances in some respects do exist with other agency proposed actions. I did, in fact, request extension of time for public comment period on DOE/EA-1299, Fernald Uranium Transfer! DOE time period for public review and comment was less than 45 days from notice of availability of EA-1299 and notice of agency intent to the public. Some confusion has apparently arisen from my request for extension of time on the Fernald Uranium transfer. I have no idea what prompted DOE Hanford site office to extend the public comment period on DOE/EA-1319 until February 22, 2000. Please offer explanation which clarifies how "compliance with NEPA process" has been achieved in responsiveness summary.

Unless the uranium billets transported via ocean vessel to Germany then to the United Kingdom required configuration of shipment(s) to avoid criticality, considerable dis-similarity requires DOE consideration in EA #1319. According to DOE/EA-1319 risk support document, ENG-RCRL-028, Rev.0, September 9, 1999, TRANSPORTATION RISK ASSESSMENT FOR THE SHIPMENT OF UNIRRADIATED URANIUM, transportation of nuclear fuel rods (as proposed) differs considerably with transportation of uranium metal billets. Nuclear fuel rods must be shipped in smaller configurations so as to avoid criticality resulting from accident during transport.

> The N (nuclear)a fuel consists of finished and unfinished inner and outer fuel elements of five different 235-U enrichments. . . .A total of 957.3 metric tons of uranium as fuel are to be shipped in the Model G-4214 wooden box, which has a capacity of 544 kg. The unfinished fuel elements are differentiated from the finished fuel in that they do not have the end caps welded on. The enrichment levels of 235-U consist of 0.71, 0.95, 1.03, 1.15, and 1.25 %. Due to the possibility of forming a critical configuration in the event of accident, preliminary limits on the total uranium mass in a shipment of the 0.95 % and 1.25 % enriched fuel have been derived (Ferrell, 1999). Mass limits for the 1.03 and 1.15 % enriched fuel were interpolated from these limits. The fuel with 0.71 % is considered to be natural uranium and is not

considered to be fissile material. The criticality based shipment mass limits, total mass of both finished and unfinished fuel to be shipped, and calculated number of shipments of fuel of each 235-U content are included in Table 5. (REF.: ENG-RCAL-028, REV. 0, SEPT., 9, 1999, pg. 8.) ENG-RCAL-028, TABLE V submitted as Attachment III.

How, by what process, did DOE calculate approximate number of 700 shipments in DOE/EA-1319?? Discrepancies in calculations between EA-1319 and its supporting risk document are not confidence builders!! ENG-RCAL-028 states:

* Release fractions for boxes of finished fuel were those recommended for Type A containers. For unfinished fuel, the release fractions were the same as for the UO-3. (POWDER FORM)

* Aerosol and respirable fractions were the same as for the billets.

* Only a direct route by truck was modeled.

* The container was assumed to be the G-4214 Wooden Box (FDH 1999), with interior dimensions 30 in. x 14.125 in. x 8.375 in.

*The campaign of finished fuel was assumed to require a total of 537 shipments, 94 shipments for the campaign for unfinished fuel. Note that these numbers are based upon preliminary, unpublished criticality-based shipment limits (Ferrell, 1999) for each 235-U enrichment content.

* Dose rates at 1 m from the vehicle edge of 0.019 - 0.052 mrem/h for the various 235-U enriched fuels were calculated based on an assumed box arrangement, assumed box loadings, box capacity, and shipment limits. The shielding calculation is addressed in Section 5.1. (Ref.: ENG-RCAL-028, pg. 5.)

My calculator added 537 plus 94 (number of finished and unfinished fuel shipments) to be a total of 631. What is being "added" to approximate 700?

Why are aerosol and respirable fractions the same as for the billets? "Similarity" of metal form(s) of finished and unfinished nuclear fuel rods to uranium metal billets requires explanation with supporting documentation.

How can release fractions for unfinished fuel reasonably be calculated "the same as for UO-3" which is in powder form??

Why was direct truck route ONLY calculated in ENG-RCAL-028 which identifies alternate route from Hanford to Paducah, Ky. then from Paducah, Ky. to the Portsmouth, OH site for UO-3 in powder form, packaged in T-Hoppers? Why were rail miles listed between the three sites in ENG-RCAL-028 if no calculations were computed using those miles in risk assessment??

Why was the container "assumed" to be the G-4214 Wooden Box? What is the basis (NRC, U.S. DOT, U.S. EPA, DOE regulations and/or standards) for this assumption?

AND MOST IMPORTANTLY, WHY ARE NUMBERS USED TO CALCULATE TRANSPORTATION

RISK ASSESSMENT TO TRUCKERS, THE TRAVELING PUBLIC SHARING THE ROUTES, THE RESIDENTS ALONG THOSE ROUTES, AND THE RECEPTORS (WORKERS AND COMMUNITY AT PORTS, AND PADUCAH) BASED UPON A PRELIMINARY, UNPUBLISHED DOCUMENT??? (Emphasis added) First responders to "accident" with potential of criticality might find such calculations and agency decisions proceeding from them 'preliminary' cause for concern. The unpublished source provides no means for DOE or any other party to allow accountability/verify ENG-RCAL-028 'assumptions.'

Note that ONLY SOME CALCULATIONS were actually computed for risk of criticality during transport of the finished and unfinished fuel rods with 5 different U-235 levels of enrichment--based upon a preliminary, unpublished work! See reference to ENG-RCAL-028, pg. 8, as quoted previously which states that critical mass limits were derived for only 0.95 % and 1.25 % U-235 enrichment level fuel rods. Critical mass limits for 1.03 % and 1.15 % enriched fuel were "interpolated" from the limits derived from those calculations. Critical mass limits for fuel with 0.71 % U-235 was not calculated at all--because it is not "considered" to be fissile material! Who does not consider it to be fissile material?? Has uranium with 0.71 % U-235 ever been known by DOE to sustain nuclear reaction/criticality? Why has the pyrophoric (spontaneously catching on fire by exposure to air) property of uranium been ignored in risk assessment?? What is the basis for "assumption" in risk assessment that transportation "accident" resulting in a fire would be of no more than 2 hour duration? Are the terms "accident," as in vehicle collision/traffic accident and "incident" as in release of radioactive materials interchangeable in assessing risk to human receptors and the environment? What agency experience and/or supporting documentation leads to conclusion that uranium (in finished, unfinished fuel rod, and powder forms) will be likely to remain on-site (not released into air) during an "incident" or "accident" which involves fire (especially when containers/ packaging of fuel rods for shipments is assumed to be wooden boxes)?

According to ENG-RCAL-028, page 9:

> 234-U (uranium) and 236-U were not included in RADTRAN's library of radionuclides, so the isotopes had to be defined in the input file. Isotopic definitions were taken from Green (1995), which used the original sources as used in RADTRAN to obtain the required isotopic properties.

In discernible English, what does this mean?? Have U-234 and U-236 isotopes been included or excluded from DOE/EA-1319 support document risk assessment? Decision-making process by DOE based upon supporting documents which are, in turn, based upon "assumed" values, preliminary, unpublished sources (with no opportunity for review by respected and knowledgeable authorities) do not lead to conclusion that DOE is using "sound science," logic or mathematics! DOE's primary driver appears to be the economic assets, i.e., millions and billions of dollars to be re-invested in DOE budget for the benefit of DOE contractors and subcontractors (who are, in theory supposed to be regulated by DOE for the benefit of the public, the taxpayers, and the national interests). How much money is projected to be generated from the sale of Hanford's surplus/excess uranium and what parties are projected to receive the proceeds? DOE has already had the materials appraised by foreign and domestic commercial interests--what were the results of the appraisal?

DOE lessons learned apparently are not being applied in this agency decision-making process. Although it is certainly understandable that the Washington State Department of Ecology, U.S. EPA, residents and tribes in proximity of the Hanford site--as well as down river residents who draw their water from the Columbia River would want clean-up and remediation (to the extent possible) of the Hanford Site, DOE is apparently looking for another victim community cloaked in governmental double-speak of "deactivation and mortgage reduction goals." Ohio's climate of tolerance of environmental pollution (with a permit to discharge) has, apparently made it a likely "interim" storage site. See Attachment IX which reports that Ohio's

waterways received 9.8 Million pounds of toxic releases in 1997 (fifth in the nation). Uranium is a toxic substance--which translates to mean that direct discharge/release to surface water could/might require a permit or a 'variance' for hook-up to sewers for indirect discharge (or not)! See Attachment V, 2/18/00 public notice by Ohio EPA, Division of Surface Waters, of proposed rule changes to Ohio Administrative Code describing the operation and procedures for the issuance of sewer connection bans, Including how variances may be granted. DOE has apparently found a state environmental protection (permitting) agency less likely to sue and enforce than the Washington State Department of Ecology.

In the process, DOE is undoing democratic process which is, in my view, an unacceptable trade-off--at any price.

> DOE has proposed the preparation of an EIS to address potential impacts associated with consolidation of potentially reusable uranium materials at a DOE Uranium Management Center. Potential storage sites would include three DOE sites in Oak Ridge, Tennessee (Y-12 Plant, East Tennessee Technology Park, and Oak Ridge National Laboratory), the Paducah Site in Kentucky, the Portsmouth Site in Ohio, the Savannah River Site in South Carolina, the Nevada Test Site, the Idaho Site, the Waste Isolation Plant in New Mexico, and appropriately licensed commercial sites. The EIS would address packaging, transportation, receipt, and storage of potentially reusable uranium materials at one or more sites. EIS preparation is expected to be initiated in calendar year 2000. REF.: DOE/EA-1319, pg. 2-8.)

Information distributed to the public in Attachment I, Portsmouth Site newsletter of January 2000, shows clean-up progressing at the Portsmouth Site (operation of uranium process buildings under lease to United States Enrichment Corporation which is in process of 850 worker lay-off/reduction in workforce at both PORTS and Paducah, Ky.) The Portsmouth site was never included in Superfund mandated clean-up (scoring missed Superfund site status by only a few points) which tested the bounds of public and worker gullibility and credibility of DOE/site contractor data collection and assessment methodology. Data used to determine PORTs is a Brownfield rather than a Superfund site would seem to contradict statement attributed to then Secretary of Energy Hazel O'Leary that there was not enough money in DOE budget to clean-up Portsmouth. Evidence recently investigated and reported by DOE at Paducah, Ky. would seem to indicate that the site is not actually as contaminated as some members of the surrounding community suspected --conditions are, in fact, must worse than previously imagined!

Attachment VI, page 4, "DOE Investigation Team Visits Portsmouth," reports that two site investigations at PORTS are in process of being conducted. The 21 technical experts are scheduled to be on-site from February 14-25 with DOE report to be issued sometime in May of 2000. Even with Hanford DOE extension of public comment period on 1,800 metric tons of 'surplus/excess' nuclear weapons production/uranium materials until February 22, 2000 DOE has apparently beaten the buzzer at the PORTs site. Decision has, in fact, already been made--it would seem regardless of what DOE investigative team reports after-the-fact in May. Does DOE intend to prepare an Environmental Impact Statement (EIS) to determine that the PORTs site Building 744-G--already termed the Uranium Management Center by DOE in EA-1319--will be recipient of DOE's program-wide Uranium Management Center?? It further compounds the deception to term what is obviously happening at PORTs as "workforce transitioning" and Brownfield industrial site conversion whether as a "privately licensed commercial site" or former DOE/USEC site! The Nuclear Regulatory Commission (NRC) already licenses USEC operations at PORTS. DOE presence is already shared and delegated (along with agency legacy responsibility).

To be clear in intent, DOE presence at PORTs is strongly preferable to Brownfield and workforce transitioning to private, commercial operations. DOE does investigate site conditions--though sometimes with low-level enthusiasm--and make those findings public in reports. Commercial, NRC licensed private entities are protected from the public view and accountability by Ohio's corporate audit privilege and "trade secrets." Through complex and perplexing processes, millions of pounds of toxics releases are "permitted" to air and water in Ohio by the Ohio Environmental Protection(?) Agency and its delegated authorities.

Multiple "problems" including threats to both the human and natural environment have been documented at the Hanford Site. DOE Hanford web page identifies Hanford as the most contaminated site within the DOE complex which is considerable statement! One such urgent 'problem' currently exists at Hanford in the two water-filled basins which store most of the Hanford Site's 2,100 metric tons of spent fuel rods. The irradiated fuel rods were stored in basins for about 6 months and then moved to a processing facility where plutonium was extracted. DOE Hanford stopped production of plutonium at the Hanford Site in the late 1980's, but the legacy/problems continue.

> The two water-filled basins where most of Hanford's spent fuel is stored are located about 1,400 feet away from the Columbia River. The basins which were constructed in 1951, are well beyond their useful life of 20 years and are vulnerable to leaks and earthquake damage. Any rupture of the basins, such as from earthquake or accident, could release large quantities of contaminated water to the soil and to the Columbia River. A loss of water from the basins could also expose workers and the public to the airborne transmission of radioactive materials released from the corroded fuel and the the sludge in the bottom of the basins. Moreover, the fuel itself was not intended for long-term storage in water, and some of it has corroded or crumbled.
>
> DOE has been developing an approach for moving the fuel rods to safer storage since 1994. . . . Two major new facilities are involved--a fuel drying facility and a storage facility. The project also includes special containers and metal baskets to hold the fuel; a transportation system for moving it between facilities; various systems to clean, package, and dry it, and special cranes to move the loaded containers to their storage tubes inside the storage facility where they may remain for up to 40 years, until being removed to a national repository site.
>
> DOE's overall contractor for managing the Hanford Site, Fluor Daniel Hanford, Inc. (Fluor Daniel), has been responsible for overseeing the project since the company assumed responsibility in October 1996. Fluor Daniel contracted with Duke Engineering & Services Hanford, Inc. (Duke Engineering), to manage the spent fuel project. DOE, which also oversees the project contractors, is responsible for meeting legally enforceable project milestones under the provisions of a federal-state agreement (commonly called the Tri-Party Agreement) with the Environmental Protection Agency and the Washington State Department of Ecology. (Ref.: NUCLEAR WASTE, DOE'S HANFORD SPENT FUEL STORAGE PROJECT--COST, SCHEDULE, AND MANAGEMENT ISSUES, GAO/RCED-99-267, pages 3-4.)

The project has been replete with multiple delays and cost over-runs.

Currently, completion is scheduled for July 2007--a delay of six years--at a cost of 1.7 billion dollars, 1 billion dollars beyond original estimates made in 1995! Moreover, the project includes approximately two years work of activities at a cost of 133.5 million dollars not originally included in 1995 estimate. Ref.: (IBID. page 2.)

GAO report, in fairness to DOE and its contractors, does indicate progress has been made in addressing the three main problems which have plagued the project--unrealistic schedule, poor control over the project's baseline (costs), and as yet unresolved technical issues. However, according to GAO investigation, DOE has been slow to address problems with safety documentation and quality assurance and continued agency oversight is required to enhance the contractor's ability to meet schedule targets (milestones), and remain within current cost estimates. GAO recommends that the Secretary of Energy ". . .strengthen leadership and oversight to better ensure that the project is completed as efficiently and effectively as possible." Nothing in GAO report recommends that raising funds for project completion assume role of first priority. November 2000 milestone set as start date for removal of spent fuel from water basins is in jeopardy due to time required to resolve a new technical issue (possibility that a shipping cask loaded with spent fuel might accidentally be dropped back into the basin which would lead to discharge of extremely contaminated water into soil and the Columbia River), completing safety documentation, and operations readiness review with implementation of all needed corrective actions while, at the same time, meeting current time schedule milestones.

Time schedule milestones have direct consequence in fee payments from DOE to its site contractor(s). In 1999, according to Hanford DOE internet web page, fee payments to the site contractor totalled $36,208,013. (85.6 percent) of $42,300,000 available if all 1999 site "milestones" had been met. Fee payments for the Spent Nuclear Fuel project were 53 percent of the total available in 1999.

DOE-Richland Operations is following the lead of DOE-FEMP (Fernald Environmental Restoration Project) in attempting to connect transfer of thousands of metric tons of excess nuclear weapons production uranium materials off-site as part of environmental restoration/waste management operations in absence of program-wide, publicly discussed policy-making, i.e., disposition of multiple forms of various percentages of enriched uranium currently deemed excess to DOE program needs. Sale of excess nuclear weapons uranium, including fissile materials, has been determined/authorized de-facto in this lack of due process. DOE is inappropriately treating movement/transfer of some 1,800 metric tons of uranium materials as an internal, site-decision housekeeping/what to store on the shelves at what warehouse issue when, in practice and fact, DOE is transferring the materials as set-up for sale to potentially interested foreign-owned and domestic commercial buyers, as stated in E.A. 1319, page 1.

Uranium is regulated as toxic, hazardous (pyrophoric), and radioactive material. Enriched uranium (higher percentage of U-235 than occurring in nature) poses additional "hazards" including potential for "unplanned" criticality. The fact that foreign and domestic private buyers have expressed interest in purchase, combined with DOE's independent appraisers estimates of considerable value by sale of the materials proposed to be transferred from the Hanford Site, should not reasonably be interpreted by DOE to authorize sale in absence of consideration of national security, and non-proliferation issues. EA-1319 transparently, but not obviously, chains transfer of 1,800 metric tons of enriched uranium to clean-up, environmental restoration at the Hanford Site. Transfer/movement of the materials to the Portsmouth Gaseous Diffusion Plant at Piketon, Ohio for the purpose of commercial sale with investment of some of the proceeds from that sale in the DOE O & M Budget with some funds generated to be allocated for Hanford Site environmental restoration/clean-up Milestones is transparent, though not obvious to the receptors (people within 50 mile radius of the PORTs site and population along the transportation routes).

Areas of concern which DOE is required to address briefly summarized include: 1) DOE has side-stepped NEPA process by categorizing transfer of

1,800 MTU as 'mere movement of materials between DOE complex sites' (EA-1319, page 1.) 2) DOE has failed to address disposition of surplus uranium excess to program needs in programmatic decision-making process which is a considerable omission/failure with multiple significant implications, 3) DOE's de facto transfer of surplus uranium for sale, from both FEMP and Hanford, is contrary to democratic process, 4) DOE has failed to consider national security, including non-proliferation issues, and public safety
issues in the transfer, and in the alternative has considered the financial benefits to DOE O & M Budget, and 5) assumptions, presumptions, generalities, interpolations, and extrapolations used by DOE in EA-1319 lack meaningful, appropriate, and accurate data resulting in decisions which have little to no meaningful factual or scientific basis.

It is difficult to imagine plausible and credible explanation for the agency's timing of the 'public involvement' process. Date of Environmental Assessment 1319 is November 1999. Cover letter with agency announcement of 'public review' period is dated December 16, 1999. 'Public review period' is announced as running for 35 calendar days from the date of cover letter. Public review period of 35 days began on December 17, 1999. However, public review period of 35 days on this draft proposal was not mailed to me until December 27, 1999. The first ten days of a 35 public 'review' period was consumed before notification was mailed. Note postmark date from Richland, Washington of December 27, 1999, Attachment **VII** Furthermore, receipt of EA and cover letter by me was on December 31, 1999. Opportunity for 'review' was thus delayed for 15 days during a 35 calendar day public comment period! First opportunity to direct questions or comments on the EA for proposed action was, actually January 3, 2000 (January 1, 2000 was Saturday, January 2, 2000 was Sunday). On January 3, 2000, I requested MILESTONE M-92-06-T01, HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (Ecology et. al. 1999) as referenced on page 1-1, paragraph 3 (EA-1319) which begins:

> DOE needs to (1) relocate saleable Hanford Site surplus unirradiated uranium (UU) to the DOE's Portsmouth Site near Portsmouth, Ohio for future beneficial use; and (2) dispose of Hanford Site surplus uranium that is considered unsaleable. The removal of excess uranium from the Hanford Site supports a HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (Ecology et. al. 1999) MILESTONE M-92-06-T01.

Where in DOE public involvement process is 35 day comment period on any proposed action considered acceptable? Timing, including ten day delay in mailing December 16, 1999 start date cover letter, requires explanation by the agency. Alteration and short-circuiting of NEPA process in order to meet milestones (and contract award fees) does not comply.

To further complicate the 'timing' of DOE proposed action in EA, DOE was scheduled to send an investigative team to the Portsmouth Gaseous Diffusion Plant on Monday, January 10, 2000. A number of investigative visits are anticipated from January until April with expectation of report of findings to Secretary Bill Richardson by late May, 2000, see Attachment VI . Timing of Hanford EA certainly appears to exclude any such investigative findings by DOE on-site at PORTS in decision-making process.

DOE has historically, as an agency, been criticized for creating and/or tolerating a culture of deceit and secrecy surrounding its nuclear weapons complex sites. Fluor Fernald, formerly Fluor Daniel Fernald, manages clean-up at the FEMP/Fernald, Ohio former uranium processing plant site. ENVIRONMENTAL ASSESSMENT FOR THE U.S. DEPARTMENT OF ENERGY, OAK RIDGE OPERATIONS, RECEIPT AND STORAGE OF URANIUM MATERIALS FROM THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT SITE, DOE/ORO-1299, February 1999 resulted in agency decision to transfer some 3,800 metric tons of various forms of uranium to the Portsmouth Gaseous Diffusion Plant site based upon a Finding of No Significant Impact (FONSI) and supported by 1993 categorical exclusion letter. Materials transfer to PORTS for interim storage was supposedly

necessary to avoid delay of on-going clean-up at Fernald. The 3,600 metric tons of various forms of uranium had to be moved from Fernald's former uranium processing plant. 'Permanent' storage/disposition was supposedly to be at Oak Ridge, Tennessee (East Tennessee Technological Park).

Considerable assurance was provided that "interim" storage of FEMP's Uranium would not start a trend in DOE decision-making, i.e., a DOE program-wide Uranium Management Center as is referenced in DOE/EA-1319, page 1-1.

It is most worthy of mention that until public notice of name change from Fluor Daniel Fernald to Fluor Fernald, see Attachment VIII, DOE's site contractor for Hanford and Fernald (FEMP) shared the same corporate name and interest in transferring Uranium in various forms surplus to DOE program needs to the Portsmouth Gaseous Diffusion Plant site for interim storage due to the market value of the former weapons productions materials.

Fluor Daniel is likewise the contractor charged with providing assurances to the U.S. that some of the 500,000 metric tons of heavy fuel oil provided annually to North Korea under the Agreed Framework (October 21, 1994) for heating and electric generation only is or has not been diverted for other purposes, including resale abroad. Briefly stated, the Korean Peninsula Energy Development Organization (KEDO) contractor Fluor Daniel is employed specifically by KEDO members, including the United States, to insure compliance by North Korea with the International Treaty on the Non-Proliferation of Nuclear Weapons. Heavy fuel oil is not to by signoned off by North Korea for sale to finance its nuclear weapons and/or military programs. (Ref.: NUCLEAR NONPROLIFERATION. STATUS OF HEAVY FUEL OIL DELIVERED TO NORTH KOREA UNDER THE AGREED FRAMEWORK. GAO/RCED-99-276.)

Strict accounting for hundreds of thousands of gallons and tons of any materials in storage and inventory is somewhat problematic. A little more or less is difficult, if not impossible, to determine.

> The State Department reported to Congress in March of 1999 that KEDO's monitoring arrangements. . .give the Department confidence that the heavy fuel oil supplied by the organization HAS LARGELY (emphasis added) been used in the manner prescribed by the Agreed Framework. State Department officials have acknowledged that there is some evidence that perhaps 5 percent (or 75,000 metric tons) of the heavy fuel oil has been used for unauthorized purposes. (Ref.: NUCLEAR NONPROLIFERATION. HEAVY FUEL OIL DELIVERED TO NORTH KOREA UNDER THE AGREED FRAMEWORK. GAO/T-RCED-00-20, page 5.)

Two points would seem apparent, even transparent. DOE has ample cause to consider non-proliferation issues are, in fact, involved in decision-making EA-1319. 1) Foreign owned commercial interests are not necessarily only interested in generating electricity, and 2) verification and accounting for materials after delivery to foreign interests is practically impossible without plus or minus margin for error, i.e., materials which cannot be accounted for.

DOE cannot reasonably apply the same standards of "confidence" should 5 percent or so of Hanford's surplus/excess nuclear weapons production uranium be unaccounted for. To my knowledge, should 5 percent of the total surplus uranium weapons production materials be 'missing' and/or unaccounted for from all DOE's multiple sites nationwide, no one including DOE would have accurate figures to determine what was, in fact, missing or how much it was unaccounted for! 'Confidence' must be based upon a sliding scale which includes risk, hazard, and threat posed by the materials. Missing/unaccounted for heavy fuel oil is less serious than + or - nuclear

weapons production materials, some in oxide powdered forms, and fissile materials. EA discussion of 'risk' references supporting document ENG-RCAL-0028 which clearly indicates criticality event potential during transportation in absence of higher numerical category of transportation accident/incident.

> The fuel elements (fuel rods) are transported in the Model G-4214 Wooden Box. The interior dimensions of the wooden box are taken from FDG (1999). . .. Due to the possibility of forming a critical configuration in the event of an accident, limits on the total uranium mass in a shipment of the 0.95 % and 1.25 % enriched fuels have been derived (Ferrell 1999). Mass limits for the 1.03 and 1.15 % enriched fuel were interpolated from these limits. These limits are 1628, 1375, 996, and 680 kg, for fuel containing 0.95, 1.03, 1.15, and 1.25 % U-235 respectively. The number of boxes per shipment was assumed based upon these criticality based shipment mass limits and the 544 kg capacity of the boxes. Ref.: TRANSPORTATION RISK ASSESSMENT FOR THE SHIPMENT OF UNIRRADIATED URANIUM, ENG-RCAL-028, REV. 0, September 9, 1999, page 26. (Previously referenced)

Multiple presumptions and assumptions are used as basis for risk calculations in DOE-EA-1319 support document. Regulatory standards for packaging during transportation of fuel 'elements' and other forms of Hanford surplus uranium, which includes powdered oxide, are not readily discernible in ENG-RCAL-028. DOE has obligation to review assessment of risk to the public and workers resulting from proposed action and to require compliance with appropriate DOE, NRC, DOT, and U.S. EPA regulations. Has this been done by DOE personnel in oversight authority? ENG-RCAL-028 does not appear to comply with risk assessment methodology and assumptions used by DOE in FINAL WASTE MANAGEMENT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT, DOE/EIS-0200-F.
What rational explains and/or justifies the discrepancies? Human health effects from exposure of individuals and populations to ionizing radiation are described in ENG-RCAL-028 as "deleterious" ranging from minor to severe.

> These effects have been correlated to doses by the International Commission on Radiological Protection (ICRP) based upon historical exposures. . .. Values are given in ICRP for the estimated probabilities of a fatal cancer, of an non-fatal cancer, and of a severe hereditary effect per unit effective dose. (Ref.: ENG-RCAL-028, page 16.) Note: "unit" in context translates to mean either probability of severe hereditary effect increases per unit of radiation dose, measured in some 'unit,' or per 'unit' refers to the person receiving the 'effective dose'?? What does this statement mean?

Acknowledgment that severe human health effects, including hereditary effects, have been correlated to doses based upon historic data does, however, appear to contradict assertion that "first responders" to accidents, particularly accidents involving fire and/or explosion, would not likely suffer severe long term health effects. Why is fatal dose calculated as fatality occurring 30 days after exposure event? DOE has used 30 to 60 day time period for fatality occurring after exposure event in other risk/human health assessments?

No "review" or revisions are noted. However, milestones for task completion have apparently been met. Cover letter of September 9, 1999 to Mr. A. A. Grasher of B & W Hanford Company from D. W. Bergmann, Engineering Analysis, Waste Management Federal Services Northwest Operations, dated

September 9, 1999 states in paragraph two:

> This letter transmits a copy of the subject document. This document is in support of the RADTRAN transportation risk analysis being conducted by Waste Management Technical Services for your office. Please note that the Enclosure (TRANSPORTATION RISK ASSESSMENT FOR THE SHIPMENT OF UNIRRADIATED URANIUM, ENG-RCAL-028, REV. 0, SEPTEMBER 9, 1999) meets the requirements for the Deliverable of this task.
>
> DOE has identified approximately 2,000 metric tons of uranium (MTU) as surplus to the Hanford Site. The predominant amount (approximately 1,800 MTU) has been evaluated to have a positive market value and, as such, is considered an asset to DOE. Acquisition interest in the material previously has been expressed by both foreign-owned and domestic commercial organizations. Ref.: DOE/EA-1319, page 1-1, paragraph 1.

DOE intention, as well as logic, is unclear. Please clarify whether DOE intends to offer some or all of approximately 1,800 MTU from former nuclear weapons production activities at the Hanford Site to interested foreign-owned and domestic commercial organizations directly, or indirectly. Is DOE, its leasees, and/or site contractors contemplating a surplus nuclear weapons materials inventory sale to convert assets to cash flow for DOE, Office of Management and Budget program wide projects and activities which include . . .waste treatment, storage, disposal, and transportation of WASTE (emphasis added)?" (Ref.: FINAL WASTE MANAGEMENT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR MANAGING TREATMENT, STORAGE, AND DISPOSAL OF RADIOACTIVE WASTE, DOE/EIS-0200-F, VOLUME III, page C-62.)

Excess uranium materials from nuclear weapons production is excluded from FINAL WASTE MANAGEMENT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT, DOE/EIS-0200-F because DOE has not classified the materials as 'waste.' Does DOE intend to charge potential buyers of excess/surplus uranium enrichment materials nonrecurring research and development costs for any of the Hanford Site 1,800 MTU? Is DOE anticipating 'hybrid sales,' i.e., direct contractor sales, which impose no financial obligation upon the U.S. Government, to foreign and domestically owned commercial purchasers, after transportation to the Portsmouth Site? What is the estimated monetary value of the surplus Hanford Uranium to foreign-owned and domestic commercial organizations? How are the funds from the sale to be distributed? In absence of the "hybrid" alternative how will DOE reinvest anticipated proceeds for agency programs through Office of Management and Budget in order to meet agency milestones?

Is DOE RL 'considering' air mode of transportation for Hanford's surplus 'saleable' uranium materials indirectly, i.e., delivery of nuclear materials after purchase by foreign and/or domestic buyers from the PORTs Uranium Management Center? EA #1319 specifically cites regional air transportation capability in description of PORTs site characteristics! Why is air mode of transport included in assessment of qualities already in place which make the PORTs site 'suitable' to operate (as of 7/99 and 12/16/99) as DOE's distribution center? Note that regional cargo airports have recently received funding for upgrades, including the Airborne Express Cargo Airport (located on the former Air Force Base property) just outside Wilmington, OH in Clinton County. Smaller 'regional' airports in Pike and Brown Counties have, in recent years, received funding for 'upgrades' to accommodate regional growth and development(s). How 'similar' is this proposed action to DOE RL s 1992 and 1996 'campaigns'/transport of nuclear materials to the United Kingdom by way of the Panama Canal via ocean going-vessels to Germany?

It is worth mention that inventory at DOE complex sites seems to have a mysterious history of disappearing, sometimes literally in 'small fires' with

considerable smoke. As reported on January 15, 2000 in THE CINCINNATI ENQUIRER fire in a storage facility destroyed the "tools" being used being used to collect soil samples "to determine whether highly radioactive or toxic wastes are in the ground, as alleged in a lawsuit filed by three employees at the plant. See Attachment IX.

MILESTONE MX-92-06-T01 is quoted in EA as necessary to/related to:

> 'complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford Site UU (unirradiated uranium),' and U.S. Department of Energy Richland Operations Office (DOE-RL) deactivation and mortgage reduction goals.' EA-1319, page 1.

Does DOE Richland Operations Office mean to say that sale of 1,800 MTU of surplus/excess nuclear weapons productions materials to commercial buyers foreign and domestic is currently a process to convert DOE surplus (nuclear weapons) materials to cash for DOE/site contractors benefit?

> Mere physical relocation of the Hanford Site uranium inventory within the DOE complex does not constitute non-proliferation issues. Ref.: DOE/EA-1319, page 1, paragraph 4.

"Mere physical relocation" of DOE surplus inventory within the agency's complex does not address the ultimate, obvious goal as stated and implied in EA #1319--sale of the materials--which can only reasonably interpreted to "constitute non-proliferation issues." Multiple proliferation issues are obvious and apparent in e-commerce transactions which involve the sale, trade, or export or surplus nuclear weapons materials. The World Trade Organization (WTO) and the European Union (EU) have, in recent months, engaged in numerous discussion (with disagreements) as to how multilateral trade agreements apply to electronic commerce. The EU and U.S. have disagreed on basic issues, such as, whether e-commerce should be classified as a "good" or a "service" under global trade agreements.

> The EU has proposed to the WTO that e-commerce transactions, including any content transferred, be considered services. . .
>
> As a general rule, however, the United States has proposed that e-commerce should receive the most liberal treatment available, whether as a good or service. (Ref.: TRADE WITH THE EUROPEAN UNION, RECENT TRENDS AND ELECTRONIC COMMERCE ISSUES, "Statement for the Record by Susan S. Westin, Associate Director, National Security and International Affairs Division, GAO/T-NSIAD-00-46, October 13, 1999, pgs. 10-11.)

Another issue of contention between the U.S. and the E.U. is the "protection of personal data" in e-commerce transactions.

> The United States has supported industry self-regulation as the primary means of protecting personal information. The European Union instead has opted for a comprehensive regulatory approach. In October 1998, the EU enacted the so-called Data Protection Directive, which only permits the transfer of personal information from Europe to third countries that provide 'adequate' data protection. (REF.: IBID., pg. 9.)

DOE insistence that no non-proliferation issues are constituted by mere movement of materials within agency complex sites ignores the obvious --including the direct and indirect impacts likely (planned) to occur. Note that DOE RL mailing list of interested parties and agencies on EA #1319 contains multiple local chambers of commerce within the PORTs site/Piketon region! DOE RL cannot reasonably find ocean-going vessel transportation campaigns 'similar' to the 'safe harbor' principles proposed by the Department of Commerce which were designed to address protection of personal/private information during e-transactions with the EU! Industry self-regulation according to principles and guidelines termed 'safe harbor' allows the fox to guard itself. DOE investigation into how sensitive nuclear weapons information was obtained by foreign governments has apparently (and transparently) missed the obvious--private industry has been permitted to regulate itself, with predictable results.

> The EU has accepted the U.S. approach of industry self-regulation, but wants assurance that U.S. industry self-regulating groups will be independent from the companies they are regulating and able to enforce compliance with the (Safe Harbor) principles. . . . According to the Department of Commerce, multinational corporations with operations in Europe and the United States, financial organizations, and other companies with significant transatlantic business could be harmed if agreement is not reached. Ref.: IBID. pg. 10.)

It would seem that considerable "harm" has already been done by lack of regulation and oversight of electronic transactions. Protests from the Department of Commerce of potential "harm" that could be suffered by private interests--multinational corporations and financial institutions--from regulators and regulations must be viewed by DOE with scepticism (rather than complicity). Obviously, the framework of self-regulation by parties with vested financial interests has already required the assistance of the Federal Bureau of Investigation (FBI). Attachment "X" is submitted as one test case on the effectiveness (or lack thereof) of financial institution/import-export self-regulation. Former Bank of New York executive and her husband were paid percentage (1.5 million dollars) to launder more than 7 billion dollars from "crooked Russians" with possible connections to Russian mobsters through illegal banking network accounts created for "shell" companies with offices in New York City and Jersey City, N.J. Investigators believe that most of the money laundering scam funds came from Russian importers in attempt to avoid customs duties and payment of taxes. DOE attention to the 'connections' of the parties promoted as appropriate to regulate themselves in surplus nuclear weapons components and 'intellectual property' (normal uranium, for example) sales is required to protect the national interests, and prevent proliferation of weapons of mass destruction, as well as the means of their delivery.

Agency disputes among federal agencies (territorial rights) has resulted in two cases which raised national security concerns.

> Monitoring problems and unauthorized transfers of technology and violations of export control regulations may have occurred on 14 campaigns to launch U.S. commercial communication satellites using Chinese, Russian, and Ukrainian technology. Two of these cases raised national security concerns. These problems were caused by confusion created by the lack of clarity about the roles and responsibilities of each agency in licensing and monitoring these exports and partly by companies' apparent failure to establish effective controls and procedures to ensure compliance with U.S. export regulations. (REF.: EXPORT CONTROLS. BETTER INTERAGENCY COORDINATION NEEDED ON SATELLITE EXPORTS. GAO/NSIAD-99-182, pgs. 15-16.)

Poor agency implementation of U.S. policy limiting technology transfer, as outlined in government-to-government technology safeguards agreements, has been reported by GAO. Inconsistent policies among federal agencies and lack of effective coordination has resulted in two instances of documented "threats" to national security. Three more satellite launch campaigns are currently under review and/or investigation by the State, Customs, and Justice Departments to determine whether unauthorized technology was, in fact, transferred to foreign governments (China, Russia, and Ukraine). The Department of Defense, Commerce, and State "shared" export-licensing jurisdiction for the technical data. Commerce failed to require a license for technical data transfers in cases where Department of State would have required a license. The confusion about what data was being transferred made it difficult (sometimes virtually impossible) for the Department of Defense to determine what technical information/data was being or could be, legally, released. Such confusion caused chaos with significant harm to national security as result.

Although DOE had no regulatory authority in this particular instance, DOE must consider that satellite technology which could be used for delivery of nuclear weapons has already been transferred. Sale of nuclear weapons surplus inventory must be viewed by DOE at potential and serious threat to national security. See Attachment XI, GAO/NSIAD-99-182, SATELLITE EXPORT SAFEGUARDS, Figure 1, "Applicability of Space Launch Vehicle Technology to Ballistic Missiles," pg.7. Note that according to the Central Intelligence Agency (CIA), the ONLY technology and equipment generally unique to ballistic missiles is the WARHEAD COMPONENT! The point is rather obvious, technology and nuclear weapons surplus materials transfers--while economically potential cash cows for DOE and Commerce--may not comply with agency mission to manage resources in the national interests. Note that Department of Commerce response to GAO characterizes the transfer of sensitive satellite technology which it authorized as "low-level." After-the-fact Commerce continues to defend its agency territorial rights in contradiction to GAO findings (to the contrary) in matters deemed to directly involve national security issues.

DOE must consider e-commerce sales and transfers of technology of surplus nuclear weapons components from the Hanford site predictable/likely to occur. Foreign and domestic commercial potential purchasers of the materials have no obligation to protect the national interests and, in fact, may have contrary interests which are difficult to determine in transactions authorized by the Department of Commerce via the Internet. DOE has obligation to consider its action(s), as proposed, in EA #1319 more than "mere movement of materials between complex sites." DOE has stated anticipation of sale of the materials in EA #1319 as funding mechanism for meeting Hanford site milestones and site mission (D & D)! DOE has obligation and regulatory responsibility to separate agency needs and self-interests, along with the interests of the agency's site contractors and subcontractors, from this pre-determined process, and act in the national interests. Private corporate self-motivated interests are obviously predictable--DOE should predict the direct, indirect, and correlated impacts obviously anticipated by the agency to result.

DOE, <u>figuratively</u> in sham public participation process and <u>literally</u> by proposed relocating surplus nuclear weapons inventory in anticipation of sale from the Uranium Management (distribution) Center, proposes actions which have potential to cause irreparable harm to the democratic process. DOE is respectfully requested to avoid any such actions--as proposed in draft EA--but not yet publicly announced as finalized. DOE has inherited considerable past Cold War legacy problems which have been justified as necessary, in historical context, to protect the national security from threats posed by foreign governments with potentially hostile intentions. It would be most ironic for DOE to determine sale of nuclear weapons complex surplus materials to those similar foreign and/or domestic entities still hostile to the U.S. government national interests is now profitable; and therefore, tolerated. Note that the major weakness in Iran's nuclear weapons program is the lack of either enriched uranium or plutonium.

> Since the early 1990's, Iran has been purchasing equipment that could be used in a peaceful or nuclear weapons program

from Russia, China, and European countries.
Russia is helping complete construction of Iran's primary nuclear reactor at Bushehr, and Moscow is training Iranian scientists. (REF.: THE CINCINNATI ENQUIRER, "Iran's Nuclear Progress A Worry," January 18, 2000, pg. A-4.) Attachment XII.

DOE SURPLUS PLUTONIUM DISPOSITION FINAL ENVIRONMENTAL IMPACT STATEMENT, DOE/EIS-0283, November 1999, and subsequent Record of Decision, identify "hybrid approach" disposition by fabricating MOX fuel using 33 metric tons of surplus Pu in commercial reactors at Cattawba Nuclear Station near York, South Carolina, the McGuire Nuclear Station near Huntersville, North Carolina, and the North Anna Power Station Near Mineral, Virginia. DOE decision to recycle some 33 metric tons of the 50 metric tons deemed as excess to program needs is justified as supporting non-proliferation agreements between the U.S. and Russian governments. DOE states in Final EIS that MOX fuel disposition/recycling sets a good example to the Russia government in matters of international non-proliferation policy. What example is currently being set by DOE in EA #1319?

It would seem that the message, as proposed in draft by DOE, promotes the economic benefits of excess nuclear weapons inventory sale to foreign and domestic 'commercial' interests through e-commerce. It seems rather unlikely than visits to the Uranium Management Center for on-site inspections and/or purchases will be required. The obvious "common threads" in EA #1319 and plutonium EIS are dollars to defense contractors, subcontractors, and multiple interested parties. DOE is required to regulate its contractors--not assist in agency and contractor funding raising mechanisms. Infusion of dollars for 'the total project' promotion and construction of required infrastructure projects in local communities and regions distributes the proceeds and certainly appears to gather support (and favorable comments).

DOE-RL has already stated that Hanford surplus Uranium is considered an economic asset and has, apparently by EA statements, had the materials evaluated "by independent experts" to determine if various forms are, in fact, "saleable." Foreign-owned and domestic commercial organizations have expressed "acquisition interest." DOE-RL should note that "mere relocation" of Russian LEU (from surplus, dismantled Russian nuclear weapons) to the Portsmouth Site where United States Enrichment Corporation down-blended (slightly under 20 percent U-235) to nuclear power plant fuel (3-5 per cent U-235) is considered a non-proliferation issue under international treaty. (Ref.: NUCLEAR NONPROLIFERATION, STATUS OF TRANSPARENCY MEASURES FOR U.S. PURCHASE OF RUSSIAN HIGHLY ENRICHED URANIUM, GAO/RCED-99-194, and CERTIFICATION REQUIREMENTS, NEW GUIDANCE SHOULD ENCOURAGE TRANSPARENCY IN AGENCY DECISION-MAKING, GAO/GGD-170.)

DOE actions which have ultimate effect of causing irreparable harm to the national interests, i.e., viable democratic process, implemented to "disposition" Cold War nuclear weapons stockpiles produced to defend the national interests, i.e., representative democratic government, has considerable irony. It appears that foreign governments and entities hostile to the U.S. have determined that greed for dollars may, in fact, accomplish what warfare and battlefield conflicts have failed to accomplish--the undoing of American democracy. DOE RL has proposed draft action which can be reasonably foreseen to place private, commercial interests (foreign and domestic) in charge of the nation's nuclear materials and weapons technology. The U.S. might well be able to export/sell more nuclear materials internationally than Russia or China in the short term interim. How will threat or actual assault from foreign governments, rogue, or terrorist ballistic missiles be explained to the American people, as balance-of-trade, duty-free imports?? DOE RL knows that cooperative effort has resulted in proposed action that requires reconsideration. Please reconsider before "finalization."

See Attachment XIII, 1/27/00.

'Transfer' from Hanford to PORTs is presented by DOE/ORO as a cost-saving measure--the X-744-G building at PORTs has been upgraded for storage of the materials while storage building(s) on the Hanford site would require upgrades and repairs. How much is the transportation contract award from the Hanford site to PORTs anticipated to be? Agency experience should provide some reasonable range of transportation cost--700 Truck loads for finished and unfinished fuel rods, T-hoppers by rail or truck, and transportation of uranium metal billets. Mileage between sites, mode(s) of transport, DOT standards for cargo packaging, and number of shipments would reasonably seem to allow DOE to estimate/project cost for transportation as proposed in EA #1319. Has DOE estimated transportation contract award(s) amounts? What is the estimated cost for repairs/upgrades to facilities on the Hanford site? DOE has failed to consider the NO ACTION ALTERNATIVE in EA #1319! Note that public meeting of 1/27/00 included URANIUM MANAGEMENT CENTER: Focusing on Uranium Management, Portsmouth Site, DOE Public Meeting, 1/27/00. Uranium Management Center (UMC) Mission Statement is:

> To safely, effectively, and efficiently transfer and store the Nation's usable excess uranium materials at designated interim facilities with the ultimate objective being improved management and reuse of the materials. (1/27/00 - pg. 2)

From the same source: DOE PROPOSED MATERIAL MANAGEMENT CENTERS ARE:
1. SAVANNAH RIVER -- PLUTONIUM (Final EIS & ROD)

2. OAK RIDGE COMPLEX -- URANIUM
Note: Oak Ridge Complex does not mean located at Oak Ridge, Tennessee. After removal of double-speak--Oak Ridge Operations means Paducah, Ky., or Oak Ridge, Tennessee, or Portsmouth, Ohio.

Pictures of the PORTs X-744-G Building are included in the URANIUM MANAGEMENT CENTER (Focus): page 6, shows what PORTs X-744-G Storage Facility looked like BEFORE URANIUM MANAGEMENT CENTER Modifications: page 7, shows PORTs X-774-G Storage Facility AFTER URANIUM MANAGEMENT CENTER Modifications!!!

3. IDAHO -- SPENT FUEL

4. ALBUQUERQUE -- OTHER NUCLEAR MATERIALS

DOE has actually transferred materials (from FEMP/Fernald) to A URANIUM MANAGEMENT CENTER at the Portsmouth Site, Building X-744-G, which has its own mission statement, and implementation 'process.'

Process Steps are:

1. Identification of Surplus Uranium (already completed)

2. Material Evaluation and Interim Disposition (Appraised Value of Assets)

3. Material Transportation and Interim Storage
(Shipments of Fernald surplus uranium already stored in X-744-G--pictures included in public information materials)

4. Final Disposition and Sale or Lease:

It is difficult (practically impossible) for DOE RL to fail to notice that the Uranium Management Center is already open and receiving shipments--step 3 is currently in process--EA and subsequent finding(FONSI)required before actual shipments can begin. Fernald's FONSI was issued in April, 1999--and addressed the impacts of shipments of Fernald's 3,800 metric tons of surplus uranium only. Transportation was originally omitted from Fernald's Uranium Transfer EA--based upon DOE exclusion of transportation as an impact within 50 mile radius of the site (and transport within site boundaries).

Review of a road map shows that the Fernald site is approximately 70 miles from the Portsmouth site--transportation addendum was tacked on--after decisions had already been made.

Notice that steps 1-3 are presently being implemented--FINAL DISPOSITION AND SALE OR LEASE--requires explanation. Obviously, something is going to be sold or leased?? It seems that the public might hear "final disposition/sale or lease" to mean DISPOSITION OF THE URANIUM MATERIALS STORED IN THE X-744-G Building. I would interprete the double-speak to mean FINAL DISPOSITION OF THE PORTS SITE BY SALE OR LEASE -- 2 year notice by leasee United States Enrichment to DOE required. DOE on-going site remediation projects are set for completion in 2006. D & D status for PORTS would seem to indicate that clean-up/site remediation would follow the Fernald and Hanford pattern. D & D site mission status and remediation seem related/connected actions to the public, are they?

DOE presence is required at the Ports site. Private operations--by sale or lease--final disposition to commericial interests are no improvement.

Respectfully submitted,

Diana I. Cahall

Diana I. Cahall (f.k.a. Diana Salisbury, restoration of maiden name.)
7819 Ashridge Arnheim Road
Sardinia, Ohio 45171

~~*****~~ Unpublished telephone and facsimile

Attachments (14)

Via the U.S. Postal Service, priority mail, postage prepaid, return receipt requested, on (post mark date 2/22/00, Article Number Z-301-367-173; and by facsimile transmission to _____ on February 22, 2000.

I.

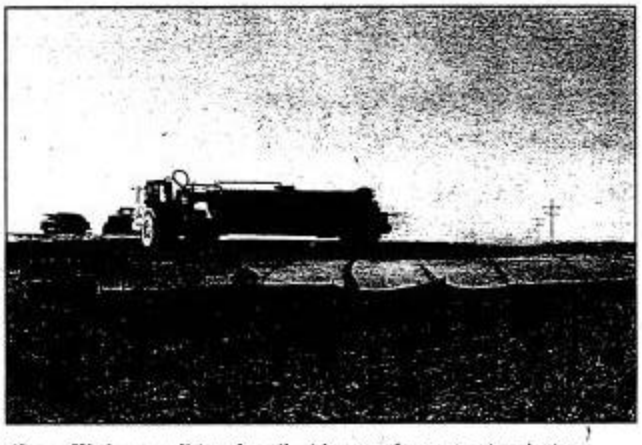
portsmouth
Environmental Bulletin
January 2000

Remediation Work in Process for Final Landfill at Portsmouth Plant

Construction activities are under way to close a former landfill at the Portsmouth Gaseous Diffusion Plant. This is the last solid waste landfill to be remediated at the plant.

The 16.2-acre X-734 Landfill was a sanitary waste disposal site that operated from 1968 to 1991. The landfill contains a variety of items, including construction debris and ash from the plant's steam facility.

Petro Environmental Technologies of Cincinnati, Ohio, was awarded the contract on June 1, 1999, to complete the remediation efforts, which is being conducted in two phases. An aggressive schedule enabled fieldwork for Phase I of the project to begin on August 16, 1999, and be completed on September 28, 1999.



***Above:** Workers condition the soil with water for compaction during Phase I construction of the X-734 Landfill project.*

The work for Phase I involved placing an 18-inch soil cap of compacted soil over the 4.6-acre disposal site on the southern portion of the landfill. The soil cap was then covered with a 6-inch vegetative layer and planted with grass seed. Fencing was installed in October 1999.

Fieldwork for the second phase of the project started on October 25, 1999. Phase II consists of placing a multimedia cap over 11.6 acres of the northern portion of the X-734 Landfill.

Once the multimedia cap is in place, a groundwater inceptor trench will be installed along the southern edge of the capped area to divert groundwater from entering the landfill area. Phase II will be completed during the 2000 construction season.

what's inside

Cleanup Progress Update

General Site Information

Last PCB Spill Site Closed

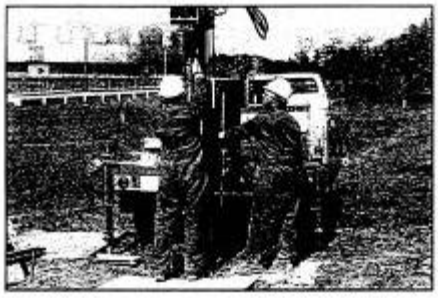
On August 31, 1999, the Portsmouth Enrichment Facilities Polychlorinated Biphenyls (PCB) Program achieved a significant success by closing the last open PCB spill site. This was the first time in the history of the Federal Facility Compliance Agreement (FFCA), signed in February 1992 with U.S. EPA and DOE, that no DOE-managed PCB spill sites were present in the uranium enrichment process buildings at Portsmouth. Since 1992, more than 1,700 PCB spill sites have been successfully managed to closure by the Portsmouth PCB teams. During the past several years, increased emphasis has been placed on spill closure progress by DOE and Bechtel Jacobs Company to address any spill sites as they occur.

Elaine Rinehart, Bechtel Jacobs PCB engineer, and USEC employee James McNelly of the X-333 Process Building Operations, removed the PCB boundary posting from the last decontaminated spill site.

Quadrants I and II

Steam Stripping Technology Successfully Demonstrated

A "dynamic steam stripping" process to clean up groundwater has proven to be a viable, but expensive, technology for use at the Portsmouth plant. At the conclusion of the pilot project, it was determined that a minimum of 80 percent, or 825 pounds, of the trichloroethene (TCE) mass in the treatment zone was removed by using the steam injection method without spreading contamination to other parts of the Portsmouth site. During the project, approximately 7.5 million pounds of steam were injected into 16 wells. A report on the project results was issued in September 1999 and is available in the DOE Environmental Information Center. Total cost for the steam stripping project was approximately $6 million.



Two workers install lances at the X-701B groundwater plume area to evaluate the removal of TCE compounds.

Lance Permeation Under Evaluation

Lance permeation is a remedial technology under evaluation and demonstration in the X-701B contaminated groundwater area for the removal of TCE compounds. This technology uses vertical lances (spear-like instruments) to penetrate the subsurface of contaminated clay and silt to depths up to 40 feet under close spacing. From each lance tip, an oxidant, sodium permanganate, is injected into the soil to provide chemical delivery and distribution. Once the oxidant flows through the lance and deposits on the bottom of the treatment area, the lances are moved and evenly spaced within the treatment area. The injected sodium permanganate breaks down the TCE in place. Field activities to determine baseline studies were completed on August 12, 1999. Lance permeation will be completed in the spring of 2000, with the draft report of results issued in August 2000.

Quadrants III and IV

Tree Plantation Maintenance Begins

The Ohio EPA has expressed overall satisfaction with a project that involves planting trees to clean up groundwater contaminated with solvents. A total of 765 hybrid poplar trees were planted in May 1999 at a small groundwater plume on the west side of the plant. Phytoremediation uses the natural growth process of plants to treat contaminated groundwater. The trees' root systems provides oxygen, sugar, and enzymes that help break down contaminants in the ground. Contaminants are degraded by ultraviolet light once they are transpired along with the water vapor through the leaves of the trees. The phytoremediation process is expected to clean up the plume within 10 years.

Hybrid poplar trees have grown up to 15 feet since planted in May 1999.

More Than 4.6M Pounds of Waste Shipped in FY 1999

The Portsmouth plant shipped more than 4.6 million pounds of waste off-site in Fiscal Year (FY) 1999. Included in the waste were 384 boxes of sludge, totaling 1,899,535 pounds, shipped to the Envirocare disposal facility in Utah. The sludge originated during closure of the X-701B Holding Pond from two former containment ponds. The project was completed as scheduled and within funding.

In September, 31 trucks containing soils were transported to the Envirocare facility in Utah.

On September 7 and 10, 1999, the plant shipped 214 boxes of excavated soils from an old incinerator to Envirocare. This accounted for 1,260,009 pounds of waste shipped off-site in FY 1999.

Also in FY 1999, 560 drums, or 919,245 pounds, of X-701B Interceptor Trench Soils were shipped to Envirocare. These soils were generated when a trench was installed to divert water from the X-701B plume area to a groundwater treatment facility. A total of 722 drums of this waste stream were shipped in FY 1998 and FY 1999.

As part of its recycling efforts, the plant sent 4,038 used radioactively contaminated drums to USEcology in Tennessee, who purchased the drums as an alternative to buying new drums to fill with low-level radioactive contaminated waste.

To date, more than 15 million pounds of waste and 4.3 million pounds of recyclables have been shipped off-site under Portsmouth's aggressive waste management program.

Management Changes Announced

Two top managers have changed at the Portsmouth Gaseous Diffusion Plant due to retirements. Jim King has been appointed the Portsmouth Manager of Projects for Bechtel Jacobs Company, replacing John Shoemaker, who transferred to Oak Ridge, Tenn., until retiring, Eugene W. Gillespie, the DOE Site Manager at Portsmouth since 1987, retired December 31 after more than 29 years of government service.

King had been the deputy manager of projects at the Portsmouth plant since April 1, 1998. He also has more than 35 years of management experience. Before his assignment at Portsmouth, he was a Jacobs Engineering project manager.

Jim King

Eugene Gillespie

Gillespie began work for DOE at its Portsmouth office in October 1978 as a contract specialist. He served as acting DOE Site Manager from December 1985 until his appointment as site manager.

Dennis Boggs, of the DOE's Oak Ridge Operations Uranium and Engineering Services organization, is serving as acting DOE Site Manager until a new site manager is appointed.

DOE Investigation Team Visits Portsmouth

DOE's Office of Environment, Safety and Health has dispatched a team of 21 technical experts to the Portsmouth Gaseous Diffusion Plant to investigate whether Cold War-era workers were exposed to plutonium and other dangerous materials.

The DOE Office of Oversight for Environment, Safety and Health Investigation Team oversees surface water sampling in Little Beaver Creek near the Portsmouth Gaseous Diffusion Plant. Team leader Dr. Pat Worthington is pictured standing third from left.

The investigation is a follow-up to a similar study conducted at the Paducah Gaseous Diffusion Plant from August through December 1999.

An initial DOE scoping team visited Portsmouth from November 30 to December 3, 1999, to receive briefings and tours of facilities at the plant. The team stated that their mission is to evaluate current DOE operations and legacy environment, safety and health practices that occurred from initial operations of the plant in 1954 to the present.

The investigation activities will include two on-site data collection and analyses periods from January 10-21 with a return visit planned for February 14-25. The team is interviewing current and former workers, conducting tours and walkdowns of facilities and grounds, performing environmental sampling and radiological surveys, reviewing documents, and evaluating ongoing ES&H programs and activities.

Surplus Uranium Materials Arrive at Site

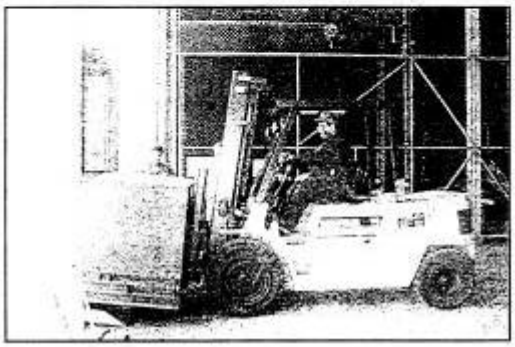
Surplus uranium materials have arrived at the Portsmouth site for interim storage in the X-744G Facility.

As of November 30, 1999, Portsmouth has received a total of 159 shipments, representing 4.4 million pounds of both depleted and "natural" uranium from the Fernald Project near Cincinnati. These shipments represent 45 percent of the total amount of Fernald material, approximately 3,800 metric tons, that is to be received at Portsmouth by late 2001.

Two shipments of uranium materials, totaling 20 metric tons, previously loaned to universities for research and education have been returned to DOE. Five containers of material were returned to DOE from the University of Seattle in early August 1999, and 12 containers of uranium material were returned to DOE from the University of Nebraska in September 1999.

About 1,800 metric tons of uranium materials from the Hanford Project in Washington are also being considered for interim storage at the Portsmouth plant. The draft Environmental Assessment for this project was issued in December, and the public comment period has been extended to February 22.

Department officials conducted a public meeting in Piketon on July 26, 1999, to discuss plans for the receipt of uranium materials at the Portsmouth plant. During that meeting, officials reiterated that surplus uranium materials under consideration for shipment and storage at the site must be commercially viable.



A worker unloads a shipment of Fernald uranium materials at the Portsmouth Gaseous Diffusion Plant.

Subcontracting Well Paced at Portsmouth

Bechtel Jacobs Company expects to meet its target of subcontracting more than 90 percent of the DOE cleanup work at the Portsmouth plant by April 1, 2000. The goal is to use competitive subcontracting to expedite cleanup and reduce costs to the government.

Since Bechtel Jacobs Company assumed the management and integration contract for DOE on April 1, 1998, a total of 19 subcontracts have been awarded for work at the Portsmouth plant. Work being performed by Bechtel Jacobs Company personnel was assessed to determine what scopes of work could transition to a subcontractor. Approximately 53 employees were identified and transitioned to work for subcontractors.

Two subcontracts for Portsmouth were awarded to Wastren, Inc., a small business firm in Grand Junction, Colorado, in October 1999 for Waste Management Services and Site Services. Both of these subcontracts include workforce transition.

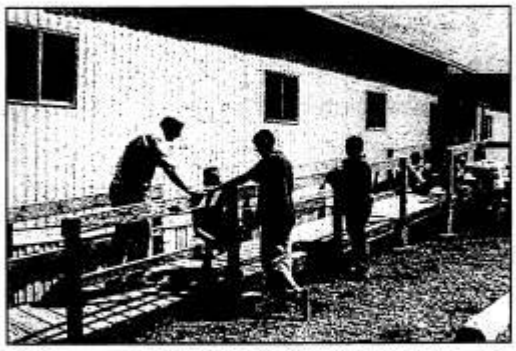
Bechtel Jacobs Company will continue to oversee the subcontractors to ensure the work is conducted safely and cost-effectively.

Community Relations

Vocational Students Build Ramp at DOE Facility

Members of the junior carpentry class at the Vern Riffe Pike County Joint Vocational School in Piketon topped off their 1998-99 school year with the completion of an important project for DOE.

Young carpenters in Chuck Carter's class built a 34-foot-long ramp for use by physically challenged visitors to the DOE Environmental Information Center, located at the Portsmouth plant. The ramp was constructed in 6-foot sections in the classroom. Once the sections were completed, the students transported them to the site and assembled the ramp outside the Information Center.



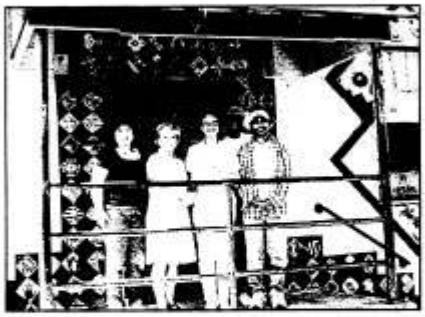
Vocational students installed a ramp at the DOE Environmental Information Center.

Carter said the project was a perfect fit for the students. They could work on it along with their other carpentry projects and were able to finish within the allotted time.

The completion of the ramp served three purposes. First, it enabled students the opportunity to work on a commercial project; second, its construction met the requirements for accommodating people who are physically challenged; and third, it gave DOE the chance to have an educational partner.

"We are always looking for opportunities to partner with the schools," said Eugene Gillespie, former Portsmouth site manager for DOE. "This project was fairly simple, yet it gave the vocational students a real-world working experience. They did a fine job on the ramp."

Bechtel Jacobs Company Donates to Communities



Judith Jackson, treasurer of the 14th St. Community Center in Scioto County, accepts a $2,000 check from Saundra Pollard of Bechtel Jacobs (second from left). The funds will help support existing programs and institute a multi-cultural library. Also shown are Sharon Davis, director, Johnson Battle, past president, and Dennis Johnson, the 1999 Grady and Ollie Battle scholarship recipient.

Guy Hause, Bechtel Jacobs employee (left), presents a $1,000 check to Steven Cox, treasurer of the Waverly High School Band. The funds will assist with the purchase of new uniforms for the school's marching band. Also shown is John Huffman, band director.

SODI Receives Additional Funding

On October 22, U.S. Secretary of Energy Bill Richardson and U.S. Rep. Ted Strickland announced a $5.95 million grant to the Southern Ohio Diversification Initiative (SODI). SODI is the community reuse organization recognized by DOE for providing assistance with workforce transition and furthering plant reindustrialization efforts.

The grant will allow SODI to support industrial parks in the four counties of Pike, Ross, Scioto and Jackson. An estimated 400 new jobs are expected from the Zahn's Corner Industrial Park in Piketon and 200 new jobs will result from the New Boston Industrial Park. The majority of the work force from the Portsmouth plant currently resides in one of these four counties.

SODI will focus on a Worker Training Center to provide continuing educational opportunities for former plant workers. It will also continue to attract new businesses to the southern Ohio area, including reindustrializing the plant by using existing, underutilized space for other commercial applications.

The grant will be divided among a number of projects currently under way, including $650,000 for the Jackson County Spec Building, $950,000 for the Gateway Industrial Park in Ross County, $750,000 for the Zahn's Corner Industrial Park, $750,000 for the New Boston Industrial Park, $200,000 for the Pike County Airport, $350,000 for a regional business incubator and $500,000 for the Worker Training Center and Program.

Since 1997, a total of $12.95 million in DOE grant funding has been allocated to SODI for economic development.

EM Newsletters

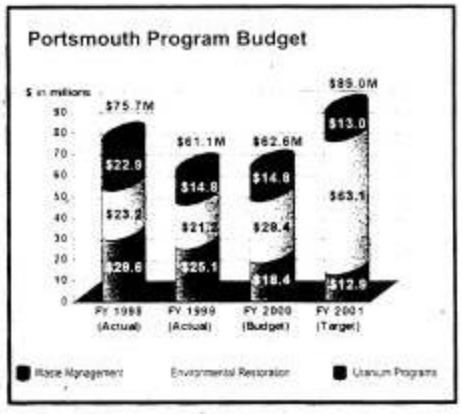
Stakeholders may request free subscriptions to *EM Progress* and *Risk Excellence Notes*, two newsletters produced by DOE's Environmental Management Program. *EM Progress*, a quarterly newsletter describing accomplishments of the DOE Environmental Management Program throughout the United States, may be requested by calling the Center for Environmental Management Information at 1-800-736-3282 or by e-mail at eminfo@cemi.org. *Risk Excellence Notes*, which discusses risk issues associated with environmental management activities, may be requested by calling 1-888-DOE-RISK.

Fiscal Year Budget Remains Flat

Program funding for Fiscal Year (FY) 2000 indicates that a level budget will be applied to the Portsmouth Environmental Program. The FY 2000 budget reflects $44.2 million for the Environmental Management Program, with $29.4 million slated for environmental restoration efforts and $14.8 million applied to waste management efforts. In addition, $4 million has been allocated for additional sampling efforts and disposal of waste in FY 2000.

A significant increase in funding levels will be required in order to complete environmental remediation efforts on schedule in FY 2001.

After FY 2001, should funding levels be reduced, the completion schedule will be extended.



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Documents Recently Added to the Environmental Information Center

Following are some of the public documents that have been added to the Administrative Record File and Information Repository available for review at the DOE Environmental Information Center, located at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio. Hours for the Information Center are 9 a.m. to noon Monday and Tuesday and noon to 4 p.m. Wednesday and Thursday, and closed Friday. After hours appointments can be made by calling (740) 289-3317.

Administrative Record File:

4/99 Site Evaluation Report for the East Drainage Ditch, X-701B Plateau, and the Former Retention Basins
5/99 The Preferred Plan for Quadrant IV of the Portsmouth Gaseous Diffusion Plant
5/99 Ohio Environmental Protection Agency's Decision Document for Quadrant III of the Portsmouth Gaseous Diffusion Plant
9/99 Quadrant II Cleanup Alternatives Study/Corrective Measures Study Final Report
9/99 In Situ Chemical Oxidation Recirculation Pilot Test at the 5-Unit Investigative Area Using Vertical Wells, Phase II Report
9/99 Steam Stripping and Hydrous Pyrolysis/Oxidation Pilot Project

Information Repository:

7/99 Final Plan for the Conversion of Depleted Uranium Hexafluoride as Required by Public Law 105 204
8/99 Record of Decision for Long-Term Management and Use of Depleted Uranium Hexafluoride
5/99 U.S. Department of Energy Environmental Management Program Accelerating Cleanup: Paths to Closure, Oak Ridge Operations Office
7/99 Uranium Management Center, Uranium Management Process, Receipt of Uranium Materials at the Portsmouth Gaseous Diffusion Plant
12/99 Draft Environmental Assessment, Disposition of Surplus Hanford Site Uranium

Investigators looking into possible burial

By H. JOSEF HEBERT
Associated Press

WASHINGTON – Federal nuclear regulators are investigating the possible burial of as much as 1,600 tons of nuclear weapons hardware on a 3,000-acre Energy Department site in Kentucky, and whether the material poses a health risk to workers there.

The Energy Department would confirm only that "an underground classified storage site" at the facility near Paducah, Ky., was being investigated by the department, Pentagon and the Justice Departtnent.

But a memorandum by a senior health and safety specialist at the Paducah Gaseous Diffusion Plant, located on the site, asks the Nuclear Regulatory Commission to investigate whether the material poses new health risks.

"I am ... deeply concerned for the safety of personnel working (at the plant)," wrote Raymond C. Carroll, the health and safety specialist who works for the U.S. Enrichment Corp., which operates the plant.

Carroll, who has worked at the plant since 1992, said in the memo that he had learned of the nuclear weapons hardware being on site only on Jan. 13 from his supervisor, who had learned of it only by chance recently.

The weapons material is believed to be within a 750-acre fenced-in part of the site, but outside a smaller area that is leased by USEC and contains the uranium processing plant. Still, Carroll said in his memo he was concerned of possible worker exposure.

"Some sanity needs to be put back into the system and personnel safety needs to have commensurate emphasis with national security," Carroll wrote in the memo, a copy of which was obtained Friday by The Associated Press.

Carroll, 57, who has been in nuclear health safety work for 30 years, declined to discuss the memo or circumstances surrounding it.

"I am not making any comments," he said when reached at his office at the Paducah plant.

USEC, the private company the processes uranium for use in commercial nuclear power plants, said in a statement that "based on information available we are aware of nothing that adversely impacts our employees."

On Thursday, the Energy De-

# of nuclear weapons in Kentucky

partment issued a report acknowledging that workers at the plant during the Cold War years were exposed to high levels of radiation and toxic chemicals, including plutonium mixed with some of the uranium.

The Clinton administration has said it wants to compensate the families of workers who became ill and has sought $21.8 million to expand medical monitoring and speed up cleanup of radioactive waste and pollution stemming from the uranium processing.

The report made no mention of nuclear weapons components.

Carroll said in the memo that the Energy Department was withholding this information for security reasons.

Contents of the memo were reported Friday by The Washington Post.

In a statement Friday, the department said: "The Energy Department with the DOD and Justice are looking at classified national security programs conducted in the past at Paducah. That includes reviewing materials and quantities involved."

According to Carroll, USEC officials learned of DOE's investigation into the presence of nuclear warhead parts only recently when a Justice Department investigator let it slip.

Orville Cypret, the plant's radiation protection manger, then was told at the Jan. 13 meeting by Dale Jackson, the DOE's acting site manager, that about 1,600 tons of "nuclear weapons components" had been buried at the site.

Jackson also told Cypret that large quantities of plutonium and highly enriched uranium, not previously known to have been there, had been brought to the site over the years. Jackson said some of the material was still there, although he could not give any locations, information about specific radioisotopes or specific quantities.

Neither Jackson nor Cypret returned telephone calls to their offices Friday.

Calling the situation "unconscionable," Carroll wrote: "I do not believe that national security and site safety are mutually exclusive goals. Therefore, I believe this situation warrants a serious investigation."

Table 5 Source Term for the Fuel

^{235}U Content	Isotope	Wt %	kg/Shipment	Ci/Shipment	Shipment Limit (kg)	Total Mass (kg)	# Shipments
0.71%	^{234}U	0.0055	1.80E-01	1.12E+00	3264 based on 544 kg/box, 6 boxes/ shipment	65,300[f] 8,600[u]	20[f] 3[u]
	^{235}U	0.71	2.32E+01	5.10E-02			
	^{236}U	0.03	9.79E-01	6.34E-02			
	^{238}U	99.2745	3.24E+03	1.09E+00			
0.95%	^{234}U	0.007	1.14E-01	7.09E-01	1628	611,800[f] 113,500[u]	376[f] 70[u]
	^{235}U	0.947	1.54E+01	3.39E-02			
	^{236}U	0.04	6.51E-01	4.21E-02			
	^{238}U	99.05	1.61E+03	5.42E-01			
1.03%	^{234}U	0.007	9.63E-02	5.99E-01	1375	9,800[f]	7
	^{235}U	1.03	1.42E+01	3.12E-02			
	^{236}U	0.04	5.50E-01	3.56E-02			
	^{238}U	98.923	1.36E+03	4.57E-01			
1.15%	^{234}U	0.008	7.97E-02	4.96E-01	996	133,700[f]	134
	^{235}U	1.15	1.15E+01	2.52E-02			
	^{236}U	0.033	3.29E-01	2.13E-02			
	^{238}U	98.809	9.84E+02	3.31E-01			
1.25%	^{234}U	0.008	5.44E-02	3.38E-01	680	14,600[u]	22
	^{235}U	1.25	8.50E+00	1.87E-02			
	^{236}U	0.033	2.24E-01	1.45E-02			
	^{238}U	98.70	6.71E+02	2.26E-01			

[f] Finished fuel
[u] Unfinished fuel

^{234}U and ^{236}U were not included in RADTRAN's library of radionuclides, so the isotopes had to be defined in the input file. Isotopic definitions were taken from Green (1995), which used the original sources as used in RADTRAN to obtain the required isotopic properties.

4.3 Incident-Free Transportation

The RADTRAN 4 User Guide (Neuhauser and Kanipe 1992) defines incident-free transportation as transportation during which no accident, packaging or handling abnormality, or malevolent attack occurs. The consequence due to incident-free transportation is the dose received by people in the vicinity of the package due to external exposure. These people may include passengers, transportation workers (crew, inspectors, etc.), handlers, population off-link, population on-link, population during stops, and population during storage. The probability of the afore-mentioned consequences is always set to unity, as the probability of an accident is

THE CINCINNATI ENQUIRER

Water dirty defies law, report says

2/18/00, pg. A-2

BY ERIN KELLY
Gannett News Service

WASHINGTON — Nearly 30 percent of the nation's biggest industrial, municipal and federal facilities have been in serious violation of the Clean Water Act in recent years, dumping almost 270 million pounds of toxic pollution into waterways in 1997 alone, a report released Thursday says.

The report by the U.S. Public Interest Research Group, a nonprofit environmental and consumer advocacy organization, blames the Environmental Protection Agency for not doing enough to enforce the law against polluters. EPA spokesmen had no immediate reaction.

"The government is letting polluters continue to use our waterways as dumping grounds for toxic chemicals," said Jeremiah Baumann, who co-wrote the report, "Poisoning Our Water: How the Government Permits Pollution."

"Despite the clear intentions of the Clean Water Act to eliminate the pollution of our waters, polluters continue to brazenly violate the law," Mr. Baumann said.

The Clean Water Act, passed by Congress in 1972, set the goal of making all waterways safe for fishing and swimming by 1983.

Today, about 40 percent of U.S. rivers, lakes and estuaries are too polluted for fishing or swimming, according to recent congressional testimony by EPA officials.

The report's findings:

▶ The bodies of water receiving the greatest amounts of toxic chemicals were the Mississippi River, the Conneaquenessing Creek in Pennsylvania, the Brazos River and the Houston Ship Channel in Texas, and the Alafia River in Florida.

▶ The 10 states with the highest percentage of major facilities that were violating Clean Water Act restrictions were Utah, Florida, Rhode Island, Ohio, Alabama, Tennessee, Connecticut, Wyoming, Nebraska and Indiana.

The report is based on EPA data, specifically on the Toxics Release Inventory of 1997 and the Permit Compliance System database for 1997 and 1998, which was obtained by PIRG under the Freedom of Information Act.

EPA and state governments issue permits to public and private facilities under the Clean Water Act that limit the amount of pollutants they can discharge into the water. The law was designed to toughen gradually the permit requirements so that eventually no toxic pollution would be released.

However, permit standards have not been tightened, and enforcement against polluters who violate their permit restrictions has been weak, the report says.

"EPA has sanctioned a permit-to-pollute system rather than a pollution elimination system," the report says.

Mr. Baumann and co-author Richard Caplan advocate mandatory minimum penalties for polluters. Currently, penalties vary from state to state.

Ohio 5th worst

Here is how selected states rank in terms of toxic releases to waterways in 1997, the latest year for which figures are available:

1. Louisiana, 47 million pounds
2. Pennsylvania, 40.7 million
3. Texas, 27.8 million
4. Mississippi, 12 million
5. **Ohio, 9.8 million.**
21. **Indiana, 3.4 million.**
29. **Kentucky, 1.37 million.**

— Gannett News Service

The Cincinnati Enquirer
2/18/00, pg. C-1

Planning Commission, 76 Riverside Drive, Batavia, Ohio 45103 or at the office of the Miami Township Zoning Inspector, 5900 McPicken Dr., Miami Township, Ohio 45150 during normal office hours.
38134/452771

LEGAL NOTICE
State of Ohio
Environmental Protection Agency Notice of Proposed Rule-making and Public Hearing

Notice is hereby given that the Director of Environmental Protection, under the authority of Ohio Revised Cod Section 6111.03 proposed to amend rules 3745-11-01 and 3745-11-02 of the Ohio Administrative Code (OAC), rescind rules 3745-11-03, 3745-11-04, 3745-11-05, 3745-39-01, 3745-39-02 and 3745-39-03 of the OAC and adopt new rule 3745-11-03 of the OAC. These rules describe the operation and procedures used for the issuance of sewage connection bans, including how variances may be granted. The changes under consideration include more detailed language for the criteria that must exist in order to issue sewage connection bans. Other changes were made in format. The content of rules 3745-11-03, 3745-11-04 and 3745-11-05 of the OAC has been modified and moved to rule 3745-11-02 of the OAC. The content of rules 3745-39-01, 3745-39-02 and 3745-39-03 of the OAC has been modified and moved to new rule 3745-11-03 of the OAC. A public hearing on the proposed amended, rescinded and new rules will be held on Tuesday, March 21, 2000 at the Ohio EPA's Central Office, fifth floor, conference room C, located at 122 South Front Street in Columbus, Ohio. The public hearing will begin at 2:00 p.m. and adjourn when commenters complete their statements. All interested persons are entitled to attend or be represented at the hearing and give written or oral comments on the proposed revisions to the rules. Written comments may be filed with the presiding officer at the hearing or with Ohio EPA (Attn: Dan Dudley, Ohio EPA Division of Surface Water, P.O. Box 1049, 122 South Front Street, Columbus, Ohio 43216-1049) by the close of business on Friday, March 24, 2000. Comments received after this date will not be considered to be part of the official record of the hearing. To obtain copies of the proposed rules and supporting documentation, contact Dan Dudley at the address above or by calling (614) 644-2876. Copies of the proposed rules are also available for inspection at Ohio EPA's District Offices.
26477/451815

PUBLIC HEARING
Symmes Township
Board of Zoning Appeals

Notice is hereby given that a public hearing will be held by the Symmes Township Board of Zoning Appeals on Wednesday, March 1, 2000 at 7:00 p.m. for the purpose of hearing an Appeal (#2000-03) filed by Five Seasons Sports Country Clubs, appellant, from Notice of Refusal for a zoning certificate for the construction of tennis courts located within the required setbacks at premises designated as 11790 Snider Road (45249). This hearing will be held at Township Admin. Bldg. 9323 Union Cemetery

sealed bids will be received by the Finance Department of the City of Fairfield, Ohio at 5350 Pleasant Avenue, until 3:00 p.m., Easter Standard Time, **Monday, March 6, 2000, for Chlorine, Carbon Dioxide and Sodium Hypochlorite For The Water Division** at which time and place all bids will be publicly opened and read aloud. Detailed specifications and bid forms are on file, and may be obtained in the Purchasing Office, 5350 Pleasant Avenue, Fairfield, Ohio. Bids must be submitted on the forms in the specification documents and other conditions therein described must be met. Each bid must be enclosed in a sealed envelope, clearly marked **"Chemicals For the Water Division"** on the face of the envelope and must also bear on the face of the envelope, the name and address of the bidder. Each bid must be accompanied by a Bid Bond for one hundred percent (100%) of the amount of the bid submitted, or a Certified Check or Cashier's Check for ten percent (10%) of the bid submitted, unless otherwise specified, and a completed Non-Collusion Affidavit. Bids cannot be withdrawn for a period of one hundred twenty (120) days after the bid opening. The City of Fairfield reserves the right to reject any or all bids, or to correct or waive irregularities in bids should it be deemed in the best interest of the City to do so. Presley Trumbull, Public Utilities Superintendent, City of Fairfield, Ohio
18537/451577

NOTICE TO BIDDERS

The City of Fairfield is accepting bids to perform the work for the new library to be located at 1485 Corydale Drive, Fairfield, OH 45014. Bids for general construction, electrical, plumbing, HVAC and fire protection will be received and contracts may be awarded separately or in the aggregate. Sealed bids will be received at the office of the Finance Department, City of Fairfield Municipal Building, 5350 Pleasant Avenue, Fairfield, Ohio 45014, until 12:00 Noon, local time, on Tuesday, March 7th, 2000, and read publicly and recorded immediately thereafter. Any bids received after the above referenced time and date will be returned to the bidder unopened. The City of Fairfield reserves the right to accept or reject any or all bids and to waive certain informalities, mistakes, omissions, errors or irregularities in the bids received to the extent permitted by law. This includes the right to extend the date and time for receipt of bids. No bids may be withdrawn, after the scheduled closing time for the receipt of bids, for at least sixty (60) days. A pre-bid meeting will be held 3:00 P.M., on Tuesday, February 22, 2000, in the Council Chambers at the City of Fairfield Municipal Building, 5350 Pleasant Avenue, Fairfield, Ohio 45014. The Contract Documents are on file and may be examined at the office of Steed-Hammond-Paul Inc., 82 Williams Avenue, Hamilton, Ohio 45015, (513/863-5441), the F.W. Dodge Corporation/Builders Exchange of Dayton Plan Room in Dayton, Ohio and in Cincinnati, Ohio, or Allied Construction Industries (513) 221-8020). A complete set of Bidding Documents may be obtained from the office of Steed-Hammond-Paul Inc., 82 Williams Avenue, Hamilton, Ohio 45015 (513) 863-5441. Documents will be forwarded at bidder's expense. A deposit of $20.00 per set is required. Deposit is refundable for documents returned within 10 working days following bid date. Bids shall be submitted on the form furnished with each set of bid documents or on a typewritten copy of that form. Each bid shall be accompanied by a bid guarantee meeting requirements of Section 153.54 of the Ohio Revised Code. Said guarantee may be in the form of a bond (ORC 153.571) or a certified check, cashiers check, or letter of credit meeting requirements of 153.54. Bidders are directed to review entire set of construction documents prior to submission of bid with particular attention to compliance requirements set forth in SEction 01410 Quality Inspection" Requirements. The said Board of Education reserves the right to waive informalities, and to accept or reject any and all, or parts of any and all bids. No bids may be withdrawn for at least 60 days after the scheduled closing time for receipt of bids. The total estimate for the work is $1.1 million. Board of Education - Lakota Local School District By: Alan Hutchinson, Treasurer.
912588

LEGAL NOTICE

Sealed bids will be accepted by the Board of Education of the LaKota Local School District, 5030 Tylersville Rd, West Chester, Ohio 45069-1092, at the Board of Education offices at 12:00 noon, Thursday March 16, 2000 and at that time opened by the Treasurer of said Board as provided by law for the purchase of up to eighteen (18) 2000 model year, 72-passenger transit school buses, according to the specification of said Board of Education. Separate and independent bids will be received with respect to the chassis and body type and with all School District specifications, all safety regulations and current Ohio minimum standards for school bus construction of the Department of Education, adopted by Section 4511.76 of the Revised Code and all other pertinent provisions by law. Specifications and Instructions to Bidder are on file in the office of the Director of Transportation, Larry Lane, Lakota Local School District, 6947 Yankee Rd., Middletown, Ohio 45044-9719. Each proposed shall be accompanied by approved surety bond, or a certified check drawn upon a solvent bank, made payable to the Lakota Local School District, Board of Education, in the amount equal to ten percent (10%) of the bid tendered, as a guaranty that the bidder will, after the award is made to him, enter into a bona fide contract with the Lakota Local School District, Board of Education for the item(s) bid. If for any reason whatsoever the bidder fails to enter into a proper contract and to execute the proper bond as required by the specifications, the amount of such guaranty shall be retained by the Board of Education as and for liquidated damages sustained by reason of his failure. Bids shall be enclosed in an envelope, sealed, addressed to the Board of Education, 5030 Tylersville Rd West Chester, Ohio 45069-1092, and plainly marked on the outside, SCHOOL BUS BID. The Board of Education

accordance with Section 119.03(C), Ohio Revised Code. The rules to be considered for amendment are existing Ohio Lottery Administrative Rules 3770: 1-6-01, "Conduct of lottery games by the state lottery," and 3770-4-06, "Return and settlement of tickets and sale proceeds; lottery strike policy." Administrative Rule 377 01-6-01 pertaines to the chapters of the Ohio Administrative Code under which Ohio Lottery game rules may be catalogued. Administrative Rule 3770-4-06 pertains to the manner in which Ohio Lottery sales agents are to remit payment to the Ohio Lottery in instances of non-transfers of funds. Ohio Lottery Commission, State of Ohio, Kathleen G. Weiss, Chief Legal Counsel
15078/450697

LEGAL NOTICE

The Ohio Kentucky Indiana Regional Council of Governments will accept proposals from Human Resources Services firms, for a professional services contract for human resources assistance. Qualifications along with cost proposals should be submitted before 4:00 pm, Friday, March 3, 2000. Additional information may be obtained by contracting the OKI Regional Council of Governments, 801-B West 8th Street, Cincinnati, Ohio 45203, (513)621-6300, ext 108. OKI is an equal opportunity M/F contractor
14503/450610

NOTICE OF PUBLIC SALE

Please take notice that on March 3, 2000, the following property will be sold at public auction, cash payments only, at 1st Security Self Storage, at 8009 Hamilton Ave., Mt. Healthy, to the highest bidder. Personal items, furniture, lamps, etc. The name and last known address of the occupant who rented the storage space in which the property was stored is: Henry Williams Jr., 2625 Beech St., Baton Rouge, LA.
14427/450595

LEGAL NOTICE
Request for Architectural Services

The Mariemont City School District intends to contract for architectural services in connection with a proposed renovation and construction project. Architectural firms interested in being considered for a contract to provide the required design services should reply with a statement of qualifications pursuant to ORC 153.65-153.71 no later than 12:00 noon EST on March 3, 2000. Architectural qualifications required shall include expertise and experience in all phases of school renovation and new construction. Statements of Qualifications should include information regarding the firm's history; education and experience of owners and key technical personnel; the technical expertise of the firm's current staff; the firm's equipment and facilities; references; previous work performed for the Mariemont City Board of Education or any other Ohio public school district. Further, any person rendering professional design services to this board for this project shall have professional liability insurance pursuant to ORC 153.70. The project shall include but not be limited to the following at the high school; additional classrooms, practice, gymnasium and locker rooms; interior renovations including science labs and additional walls; and a new

The Cincinnati Enquirer 1/8/00-B-10

Firm owned by Voinovich's brother files for bankruptcy

The Associated Press

CLEVELAND — The V Group, a company owned by U.S. Sen. George Voinovich's brother, filed for bankruptcy Friday to try to recover after losing a multimillion dollar lawsuit.

A jury last month ruled that the V Group, an architectural and construction company, must pay $13.3 million to Jefferson County because of problems with work on a county jail.

Paul Voinovich, owner of the Cleveland-based company, which is not affiliated with the senator, said the filing under Chapter 11 in U.S. Bankruptcy Court would have no effect on the company's operations.

"This will allow to focus on existing obligations and future work," Paul Voinovich said in a news release Friday.

The company has not made a decision on whether it will appeal the jury's verdict, spokesman Tom Andrzejewski said.

Jefferson County hired the V Group in 1992 to design a 140-bed jail. Construction was completed almost 19 months behind schedule and cost about $10 million more than expected.

The company blamed county commissioners for most of the delays and increased costs.

Jefferson County attorney Stephen Stern said the county has assembled a team of prosecutors, investigators, and other experts to track down V Group assets in an effort to collect the verdict.

"We don't believe for one minute the V Group, a company that solicited public contracts across the country by touting their expertise and political connections, is now unable or unwilling to honor a federal jury verdict," Mr. Stern said.

Plant probe starts Monday

U.S. will study site in Piketon

The Associated Press

WASHINGTON — The Energy Department is ready to send a team to southern Ohio as its investigation of worker contamination at government bomb-making plants moves to the Portsmouth Gaseous Diffusion Plant, officials said Friday.

David Michaels, the department's top safety official, said the first wave of a 25-person investigative team was scheduled to arrive in Piketon on Monday.

They plan to interview 180 current and former workers, review documents, take soil samples and conduct inspections to try to answer questions about the degree to which workers were exposed to dangerous radiation and other contamination.

"We expect to make a number of visits between now and April and expect to have a report to Secretary (Bill) Richardson by late May," Mr. Michaels said.

That's about a month later than had initially been estimated for the completion of the Ohio probe. A similar team already has examined conditions at Portsmouth's sister plant in Paducah, Ky., where evidence has surfaced that some employees unknowingly handled plutonium-laced uranium during the Cold War and developed cancers and other illnesses as a result.

Mr. Richardson apologized for the failure to disclose plant hazards there, and promised compensation for sick workers.

Compensation for the Ohio workers is possible as a result of the DOE probe, but Mr. Michaels was careful during a telephone news conference to avoid making promises.

"I can't tell you what the legislative proposal will be until we look at all the options," he said.

U.S. Rep. Ted Strickland, D-Lucasville, said he was unhappy that DOE's Portsmouth timetable had crept forward, but would not object if the team needs the extra weeks in Ohio to get its job done right.

"If that's what it takes to do a good job, fine, but I continue to be unhappy that this administration is unwilling to make an upfront commitment for coverage for my workers if they find similar conditions as happened in Paducah."

Education official resigns amid allegations

The Associated Press

FRANKFORT, Ky. — A tip to the state auditor's office prompted an investigation that turned up alleged embezzlement by a top Department of Education official.

Randy Kimbrough, a deputy commissioner of the department, resigned late Thursday. Her boss, Acting Education Commissioner Kevin Noland, confronted her with information that the FBI and Kentucky attorney general were investigating her.

State Auditor Ed Hatchett had referred his auditors' findings to the attorney general. Harold McKinney, an aide to Mr. Hatchett, said Friday that the auditors had acted on a tip to look into an obscure agency, the Kentucky Educational Development Cooperative.

They allegedly found that Ms. Kimbrough had taken from the cooperative about $300,000 that was intended for consulting services in 1998 and 1999.

Mr. Noland said Ms. Kimbrough "indicated that the investigation was well-founded." Ms. Kimbrough has declined comment to reporters.

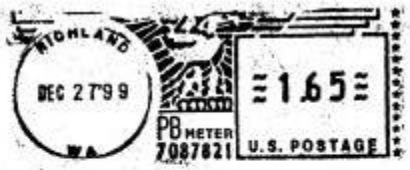
The cooperative, based in Ashland, is one of several around the state. Each is a group of school districts. The districts pool money for myriad services.

Mr. Noland said it was "highly unusual" for a deputy commissioner to be dealing with a local cooperative — a job handled by lower-level employees — and it represented a "breakdown" in oversight.

Ms. Kimbrough was considered an authority on school finance. Part of her job was to hold school districts accountable for their handling of public funds. She also was responsible for overseeing the department's budget.

Mr. Noland said he has asked Mr. Hatchett for another audit to determine the scope of the alleged embezzlement and to critique the department's internal controls. He also said the department would seek restitution of all misappropriated money.

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
P.O. Box 550 MSIN S7-56
Richland, Washington 99352-0550



Diana Cahall
7019 Ashridge Arnheim Road
Sardinia, OH 45171

VIII.

The Cincinnati Enquirer 1/7/00 - B-2

Ohio State Highway Patrol in Co- passed out ...

Fernald cleanup crew looks to finish in 2006

BY RACHEL MELCER
The Cincinnati Enquirer

CROSBY TOWNSHIP — With a name change and a few new job titles announced this week, the company managing cleanup of the defunct Fernald uranium processing plant formalized the beginning of the end.

Fluor Daniel Fernald, now just Fluor Fernald, opened a "site closure office" to synchronize the work of more than 1,800 employees on various cleanup projects at the 1,050-acre facility. It will focus on wrapping things up and helping workers move on to other jobs.

The idea is to get it all done by the end of 2006.

But first, Fluor Fernald must win a final contract from the Department of Energy (DOE). Though its current deal expires in December, company officials had assumed they would be given an inside track on the estimated $1 billion closure contract.

They were surprised in August to learn that the DOE will consider competitive bids at the end of this month.

"We definitely see (the recent moves) as strengthening our position for rebid," said Terry Hagen, who was just named vice president of site closure.

"But it's what we would naturally be doing anyway. . . . We feel we're in the home stretch of the cleanup process."

That is bittersweet news for site employees who, as community members, will be glad to see the contaminated site turned into wetlands, woods and a secure, low-level waste landfill. But they will lose their jobs.

"There's going to be a lot of people in my division who are going to be out of a job," said George Kephart, a Milan, Ind., resident and Fluor Fernald hazardous waste technician — "one of the guys in blue suits who get our hands dirty."

He spoke at a Tuesday night meeting of the Fernald Community Reuse Organization, which is dedicated in part to helping workers start their own businesses or find other jobs as they are no longer needed at Fernald.

"I'm glad that this organization does exist," he said, outlining plans to start an environmental remediation firm with a couple of his co-workers.

Not everyone agrees on the timeline for closing.

The DOE and Fluor Fernald want it to be complete in 2006.

But the most controversial and potentially dangerous part — removing and treating radioactive waste from two crumbling concrete silos — is undecided.

The project was set back by a 1996 pilot plant melter accident, and officials are just now deciding how to make another attempt at treating the waste.

Fluor Fernald's Mr. Hagen said one of the methods under consideration could get the job done by 2006.

But Lisa Crawford, president of Fernald Residents for Environmental Safety and Health and a member of the site Citizens Advisory Board, said she doesn't expect the cleanup to be done before 2008 or 2010. She is among those who favor the other silo waste treatment technology.

Mr. Hagen acknowledged that the silo project could slow things down.

IX.

THE CINCINNATI ENQUIRER

B10 SATURDAY, JANUARY 15, 2000

ATF looking into fire at Paducah plant

The Associated Press

PADUCAH, Ky. — The Bureau of Alcohol, Tobacco and Firearms is investigating Thursday's fire at the Paducah Gaseous Diffusion Plant.

ATF spokesman York said the U.S. Justice Department called on ATF to look into the fire because it is on federal property. The U.S. Energy Department owns the 47-year-old plant, which enriches uranium for use in nuclear reactors.

Mr. York said investigators determined most of the damage inside the storage facility was caused by smoke. He described the fire, which broke out around 6 a.m., as small. No one was hurt, officials said.

Justice Department workers are excavating a ditch on the plant's north side, near the scene of the fire, and tools used in the excavation were destroyed by the blaze, said Greg Cook, a spokesman for Bechtel Jacobs Co. LLC, the government's environmental-cleanup contractor for the site.

Crews are trying to collect soil samples to determine whether highly radioactive or toxic wastes are in the ground, as alleged in a lawsuit filed by three employees of the plant.

A

Two admit laundering Russians' cash

Couple helped hide $7 billion from taxes

BY LARRY NEUMEISTER
The Associated Press

NEW YORK — A former Bank of New York executive and her husband pleaded guilty Wednesday to laundering billions of dollars for crooked Russians in one of the biggest such schemes in U.S. history.

The pleas were the first major admissions of wrongdoing since the investigation caused an international scandal last August and strained relations between Russia and the United States.

Standing side by side, Lucy Edwards, 41, and Peter Berlin, 46, each told a federal judge how they used Ms. Edwards' position as a vice president in the bank's Eastern European division to help Russian bankers launder more than $7 billion.

Investigators believe most of the money came from Russian importers trying to avoid taxes, though they are looking into whether some came from Russian mobsters. No one directly addressed the matter in court Wednesday.

But a prosecutor did say that $300,000 of the laundered money was ransom for a kidnapping in Russia.

And Ms. Edwards said the bankers she teamed up with in 1995 at the Russian bank DKB had some sinister connections.

"I was aware that personnel for DKB were on occasion in fear of their customers and afraid to leave the bank because they said customers with machine guns were waiting for them," she said.

Ms. Edwards also said Russian banking officials were accomplices.

Ms. Edwards and Mr. Berlin, a Russian businessman, surrendered to the FBI on Tuesday after flying to New York from London, where they had been living.

They could face up to 10 years in prison at sentencing May 3 but could get lesser sentences by identifying others involved. They also agreed to surrender more than $1 million.

Lewis D. Schiliro, assistant director of the FBI's New York office, called the pleas significant but said "much remains to be done."

T. Barry Kingham, an attorney for Ms. Edwards and Mr. Berlin, said the couple will keep cooperating with investigators. "They are anxious to fulfill their obligations here and resume a normal life," he said.

Ms. Edwards described creating an illegal banking network for Russians — without required licenses — run through accounts at the Bank of New York. The bank was not accused of wrongdoing.

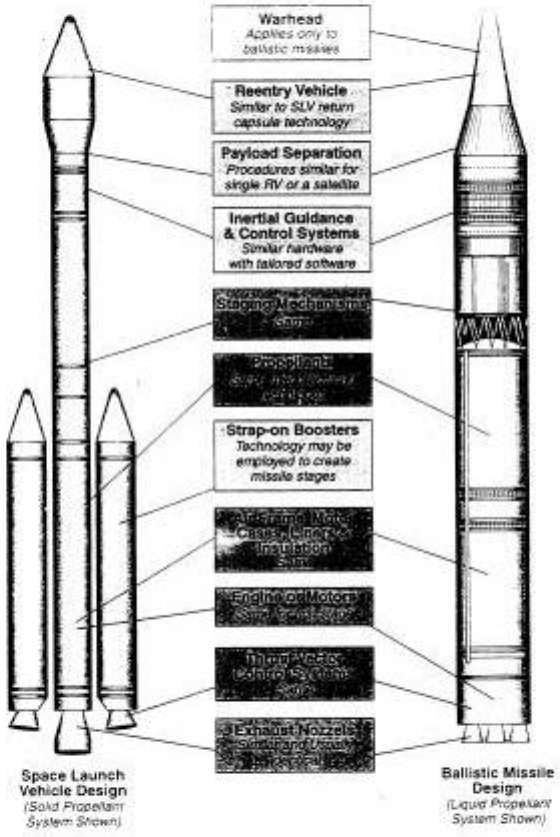
Money laundering involves moving deposits through a series of accounts to disguise their illicit source. In this case, Ms. Edwards and her husband set up accounts at Bank of New York for shell companies with offices in New York City and Jersey City, N.J.

The money transfers cheated the Russian government out of customs duties and tax revenue, Ms. Edwards said.

In exchange, Ms. Edwards and her husband were paid $1.8 million, a percentage of the money being moved, she said. "We were paid substantial commissions for doing very little work," she said.

Ms. Edwards and Mr. Berlin will remain free on $500,000 bail each.

Figure 1: Applicability of Space Launch Vehicle Technology to Ballistic Missiles



Source: Central Intelligence Agency.

XII

Iran's nuclear progress a worry

THE CINCINNATI ENQUIRER

A4 TUESDAY, JANUARY 18, 2000

BY WALTER PINCUS
The Washington Post

WASHINGTON — An intelligence report indicating an Iranian official had said his country had enough nuclear materials to build a bomb has led agency analysts recently to hedge their bets about whether Tehran can produce such a weapon, according to administration sources.

A CIA spokesman on Monday would say only that the agency has had a "long interest" in Iran's nuclear weapons research and has been "watching it on a continuing basis." Asked about a change in the agency's assessment, he responded, "There are as many opinions as analysts on that subject." The CIA's new view of Iran's nuclear potential was reported in Monday editions of the *New York Times*.

A senior administration official who follows nuclear weapons activities said Monday that when the CIA report on the Iranian's remark first circulated last year, "it was not viewed as very significant." It is only recently that the agency has "made it an asterisk" in its analysis, he added.

"We don't want to discount the possibility," he said, "but no one is asserting (the Iranians) have enough for a bomb."

Iran has made no secret that it has had a nuclear weapons program for more than 15 years, driven primarily by Iraq's program and Baghdad's use of chemical weapons during their war. Another incentive was Israel's possession of nuclear weapons.

Even though Iran ratified the Nuclear Nonproliferation Treaty in 1970 and since 1992 has allowed inspectors from the International Atomic Energy Agency (IAEA) to look at its nuclear facilities, it has repeatedly tried to overcome the major weakness in its program — the lack of either enriched uranium or plutonium. Since the early 1990s, Iran has been purchasing equipment that could be used in a peaceful or nuclear weapons program from Russia, China and European countries.

Russia is helping complete construction of Iran's primary nuclear reactor at Bushehr, and Moscow is training Iranian nuclear scientists.

XIII.
(Cover page only)

Uranium Management Center

Focusing on Uranium Management

Portsmouth Site
DOE Public Meeting
January 27, 2000

Dale Jackson, Director
Uranium Management Division

XIV.

YOU ARE INVITED...

The U.S. Department of Energy (DOE) invites you to attend a public meeting at the following time and location:

THURSDAY, January 27, 2000
6:00 - 8:00 p.m.

THE OHIO STATE UNIVERSITY PIKETON RESEARCH AND EXTENSION CENTER
1864 Shyville Road
Piketon, Ohio

If you need special accommodations to attend this meeting, please call the Public Affairs Office at (740) 897-2336.

to a public meeting to provide an update on the environmental cleanup activities and discuss the potential receipt of surplus uranium material from DOE's Hanford site.

A draft Environmental Assessment on the Hanford material is available for review and comment through February 22. A copy can be obtained from the Environmental Information Center at the Portsmouth Gaseous Diffusion Plant or by calling (740) 289-3317.

U. S. DEPARTMENT OF ENERGY
Portsmouth Site Office
P.O. Box 700
Piketon, Ohio 45661-0700

PIKETON OHIO
0.20
U.S. POSTAGE

Diana Cahall
7019 Ashridge-Arnheim Road
Sardinia OH 45171

Meeting announcement: 1/27/00
Note: discuss the "potential" receipt of surplus material from Hanford site

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

MAY 3 0 2000

00-FTD-050

Ms. Diana I. Cahall
7019 Ashridge Arnheim Road
Sardinia, Ohio 45171

Dear Ms. Cahall:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

Thank you for reviewing the subject NEPA EA document. I apologize for the difficulty you had in reaching us to submit your comments. We have considered the comments contained in your February 18, 2000, letter. They were helpful in identifying areas of the EA which required additional information or clarification.

For clarity, your comments are repeated in the attachment including our responses. A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, please contact R. L. Guillen, the NEPA Document Manager for this EA, on (509) 376-0254, Randall Devault, Oak Ridge Office, on (865) 241-4497, or you may contact me on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

Attachment

cc w/attach.:
D. R. Allen, OR
R. W. Bailey, FHI
S. S. Bath, FHI
C. M. Borgstrom, EH-42
V. C. Crossman, EM-43
R. M. DeVault, OR
J. D. Hutson, OR
J. D. Jackson, OR
M. T. Jansky, FHI

Attachment

Comment/Response

Commentor: Diana I. Cahall
7019 Ashridge Arnheim Road
Sardinia, Ohio 45171

Medium: Letter, dated February 18, 2000

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Sardinia, Ohio 45171

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Comment: 1. [Page 2] "DOE/Flor Hanford, DOE/Flor Fernald, and/or Bechtel Jacobs is herein requested to explain how 2,000 metric tons (4.4 million pounds), which appears to be calculated by weight, represents 45 percent of 3,800 metric ton total of FEMP uranium scheduled for transfer from Fernald to Portsmouth! Are calculations based upon factors other than weight of the material to be transferred (3,800 metric tons as stated in attachment I and in Fernald Uranium Transfer Environmental Assessment) or have the figures been re-weighed, adjusted, or some other process?? Is this a 'typo' which should be 55 percent of the total FEMP uranium has already been transferred??"

Response: As discussed in Section 5.4 of the EA, for perspective, presently there are approximately 1,800 MTU of uranium materials (oxides, fluorides and metal) at the OR Uranium Management Center at the Portsmouth Site. The aforementioned inventory of uranium materials was received from DOE's FEMP Site (see Section 2.3.1), with an additional 2,200 MTU of uranium materials projected to be received from the FEMP Site (DOE/EA-1299), for a total of 4,000 MTU from the FEMP Site. Including the Hanford material, the OR Uranium Management Center Portsmouth Site total would be approximately 5,000 MTU, of which approximately 900 MTU (one-fifth) would be from the Hanford Site.

Comment: 2. [Page 3] "What is the economic value of the material returned to DOE (at the Portsmouth site) and what entities split the proceeds from sale of the material? Has DOE offered the material(s) to other federal agencies, to other universities and/or educational entities, and/or private commercial entities? What procedure has been used by DOE for disposition of the material and disposition of the funds generated by sales?? Has the material been appraised to determine its economic value to DOE and to other parties?"

Response: As stated in the EA, DOE is continuing to evaluate the marketability of surplus uranium. For example, in January 2000, a uranium market analysis workshop was held. Brokers, customers and processors of uranium were invited, and presented with information regarding quantities and specifications for all Hanford Site surplus uranium. Final market value would be determined in the future, subject to appropriate negotiations at the time.

Therefore, uncertainties do not warrant a firm estimate of "profit" or "loss" at this time. Considerations such as transfer costs, storage costs, market fluctuation, disposal versus storage pending sale; all would contribute to the final margin. The material would be stored at the Portsmouth Site under a Memorandum of Agreement (MOA) between the Richland Operations Office (RL) and the Oak Ridge Office (OR). Any financial revenues received from uranium sales would be used to defray the marketing, transfer, and storage costs. Hanford and Portsmouth would each retain 50% interest in any remaining proceeds which could be used to fund re-industrialization efforts or uranium management activities.

Comment: 3. [Page 4] "How frequently (or infrequently) does Hanford's public information center update its web page?"

Response: Appropriate Hanford Site information, including draft and final NEPA documentation, are submitted to various distribution channels as soon as practicable after completion. Electronic media are constantly updated with current information.

Comment: 4. [Page 5] "Since I do not have access to e-mail mode of delivery—are my comments to be excluded?? Why doesn't DOE RL just state, up front, comments may be sent—some may even be included in the record or proceedings, but 'finalization'/decision has already been made!...What procedure is being implemented by DOE RL office which requires several days for agency letters/notifications to the public to be postmarked/actually dropped into the mail??"

Response: Public involvement is a key component in the NEPA process, and is implemented through DOE NEPA Implementing Procedures (10 CFR 1021 as Amended). All public comments reviewed before the end of the comment period, no matter in what format, are considered. Those received after the end of the comment period are considered to the extent practicable prior to finalization of NEPA documentation.

Comment: 5. [Page 5] "Please provide me with a list of any and all Hanford site environmental assessments with December 1999 dates. When were any such environmental assessments included as available on the Hanford site's internet web page?"

Response: The draft DOE/EA-1319 was issued December 16, 1999. The draft EA was placed on the Hanford Home Page. No other Hanford Site EAs (draft or final) were issued in December 1999.

Comment: 6. [Page 6] "How 'similar' transfer of materials to 1992 and 1996 campaigns is or is not given context. How many shipments of what kind of materials is categorized as its-all-uranium-from-Hanford, Washington!

Risk posed by transportation of fuel assemblies (700 shipments via overland truck) literally from the West Coast to the Midwest (east of the Mississippi and Ohio Rivers) is considerably dis-similar to risk posed by transport of low-enriched metal billets via ocean going vessels. Which part of this campaign is 'similar,' other than uranium materials were transported from the Hanford site somewhere by site contractor Flor Daniel (similar to Flor Fernald)?"

Response: Packaging and overland transport of Hanford Site materials are not novel concepts, as noted by reference to the aforementioned 1992 and 1996 campaigns. Those analyses considered transportation by truck or train to east coast ports. Similar risks would be expected to be encountered for the proposed action.

Comment: 7. [Page 7] "DOE is requested to include DOE/EA-1210 as both similar—fuel rod assemblies irradiation test analysis—as relevant to agency proposed action."

Response: The scope of this EA is not intended to be all encompassing of actions conducted on site or at other sites within the DOE Complex.

DOE/EA-1210, *Lead Test Assembly Irradiation and Analysis Watts Bar Nuclear Plant, Tennessee and Hanford Site Richland, Washington*, addressed conducting a lead test assembly program to confirm the viability of using a commercial light water reactor (CLWR) to produce tritium. That EA covered only those activities necessary to conduct tests involving irradiation of tritium-producing burnable absorber rods (TPBARs) in a CLWR and post-irradiation examination of the TPBARs. The scope of the EA included shipment of TPBARs (unirradiated material) from the Hanford Site to the Westinghouse fuel fabrication facility in Columbia, South Carolina, for assembly into TPBAR- lead test assemblies. The transport of irradiated materials to the Hanford Site for post-irradiation testing also was in the scope of DOE/EA-1210. No transport of surplus unirradiated uranium materials was within the scope of the proposed action.

Comment: 8. [Page 7] "Comment on agency time period of public comment, as announced, and later extended is discussed in more detail later within these comments. However, it is important to state at this time, that I did not request the agency to extend the comment period although there is some confusion to the contrary. Graham Mitchell of the Ohio EPA's Federal Facility Compliance Office suggested that I request DOE to extend the public comment period on DOE/EA-1319 in telephone conversation of January 8, 2000. Some confusion apparently persists as to whether I did or did not request an extension of time. I did not. Minimum of 45 days for public comment period is required in DOE actions—

original public comment period dates did not comply with 45 day public comment period requirement which I intended to point out to DOE prior on or before January 20, 2000 (35 calendar days after date of DOE December 16, 1999 letter announcing DOE proposed action and availability of DOE/EA-1319 for public review and comment).

Similar circumstances in some respects do exist with other agency proposed actions. I did, in fact, request extension of time for public comment period on DOE/EA-1299, Fernald Uranium Transfer! DOE time period for public review and comment was less than 45 days from notice of availability of EA-1299 and notice of agency intent to the public. Some confusion has apparently arisen from my request for extension of time on the Fernald Uranium transfer. I have no idea what prompted DOE Hanford site office to extend the public comment period on DOE/EA-1319 until February 22, 2000. Please offer explanation which clarifies how 'compliance with NEPA process' has been achieved in responsiveness summary."

Response: During the public review period, the State of Ohio Environmental Protection Agency requested, and was granted, an extension until February 22, 2000.

As stated in 10 CFR 1021.301(a), DOE shall make its NEPA documents available to other Federal agencies, states, local governments, American Indian tribes, interested groups, and the general public in accordance with 40 CFR 1506.6...

Also, as stated in (10 CFR 1021.301(d), DOE shall provide the host state and host tribe with an opportunity to review and comment on any DOE EA prior to DOE's approval of the EA. DOE may also provide any other state or American Indian tribe with the same opportunity if, in DOE's judgement, the state or tribe may be affected by the proposed action. At DOE's discretion, this review period shall be from 14 to 30 days. DOE shall consider all comments received from a state or tribe during the review period before approving or modifying the EA, as appropriate.

Public involvement is a key component in the NEPA process, and, as stated above, is implemented through DOE NEPA Implementing Procedures (10 CFR 1021 as Amended). At DOE's discretion, review periods could range from 14 to 30 days. Our experiences add 5 days to accommodate expected additional mailing time, to allow the full 30 days. All public comments reviewed before the end of the comment period, no matter in what format, are considered. Those received after the end of the comment period are considered to the extent practicable prior to finalization of NEPA documentation.

Comment: 9. [Page 8] "How, by what process, did DOE calculate approximate number of 700 shipments in DOE/EA-1319?? My calculator added 537 plus 94 (number of finished and unfinished fuel shipments) to be a total of 631. What is being 'added' to approximate 700?"

Response: The approximately 700 shipments, referred to in Section 3.1 of the EA, include fuel assemblies (the 631 shipments referred to by the commentor) and other miscellaneous Hanford Site potentially saleable uranium materials (number of shipments would depend upon repackaging requirements). The figure represents a bounding transportation scenario.

Comment: 10. [Page 8] "Why are aerosol and respirable fractions the same as for the billets? 'Similarity' of metal form(s) of finished and unfinished nuclear fuel rods to uranium metal billets requires explanation with supporting documentation."

Response: As stated in ENG-RCAL-028, aerosol and respirable fractions for the finished and unfinished fuel elements were the same as for the billets. This assumption offers the worst-case scenario; i.e., for the complete oxidation of uranium metal in a fire, resulting in the total inventory becoming airborne. Thus, the potential impacts presented in the EA provide a bounding analysis.

Comment: 11. [Page 8] "How can release fractions for unfinished fuel reasonably be calculated 'the same as for UO-3' which is in powder form??"

Response: As noted earlier, this assumption offers the worst-case scenario, which is that the entire inventory becomes airborne. This presents impacts associated with releasing a powder, and a bounding analysis in the EA.

Comment: 12. [Page 8] "Why was direct truck route ONLY calculated in ENG-RCAL-028 which identifies alternate route from Hanford to Paducah, Ky. then from Paducah, Ky. To the Portsmouth, OH site for UO-3 in powder form, packaged in T-Hoppers? Why were rail miles listed between the three sites in ENG-RCAL-028 if no calculations were computed using those miles in risk assessment??"

Response: The billets and fuel would be transported directly from Hanford to Portsmouth via truck. The transport of the UO_3 powder in T-Hoppers was evaluated both by medium (i.e., truck or rail) and by route (Hanford directly to Portsmouth, or indirectly to Portsmouth [via Paducah]). The incident-free radiological risk from these shipments is provided in Table 1 of ENG-RCAL-028.

Comment: 13. [Page 8] "Why was the container 'assumed' to be the G-4214 Wooden Box? What is the basis (NRC, U.S. DOT, U.S. EPA, DOE regulations and/or standards) for this assumption?"

Response: The G-4214 wooden shipping container is a DOT 7A Type A (49 CFR 178.350) container. These are steel-banded wooden crates that have been used for over 30 years, and are the only shipping containers currently approved for this payload.

Comment: 14. [Page 8] "AND MOST IMPORTANTLY, WHY ARE NUMBERS USED TO CALCULATE TRANSPORTATION RISK ASSESSMENT TO TRUCKERS, THE TRAVELING PUBLIC SHARING THE ROUTES, THE RESIDENTS ALONG THOSE ROUTES, AND THE RECEPTORS (WORKERS AND COMMUNITY AT PORTS, AND PADUCAH) BASED UPON A PRELIMINARY, UNPUBLISHED DOCUMENT??? (Emphasis added) First responders to 'accident' with potential of criticality might find such calculations and agency decisions proceeding from them 'preliminary' cause for concern. The unpublished source provides no means for DOE or any other party to allow accountability/verify ENG-RCAL-028 'assumptions.'"

Response: NEPA documentation is prepared early on in the decision-making process, providing a bounding analysis of potential environmental impacts. The unpublished criticality analysis (Ferrell 1999) was the basis for the large number of finished and unfinished fuel shipments. This number was a conservative assumption used in the risk assessment to use the maximum possible number of shipments. Thus the risk assessment calculates the maximum possible risk. Prior to actual shipment of any materials requiring criticality controls, these calculations would be incorporated into appropriate safety documentation for the package.

Comment: 15. [Page 9] "Critical mass limits for fuel with 0.71 % U-235 was not calculated at all—because it is not 'considered' to be fissile material! Who does not consider it to be fissile material?? Has uranium with 0.71 % U-235 ever been known by DOE to sustain nuclear reaction/criticality? Why has the pyrophoric (spontaneously catching on fire by exposure to air) property of uranium been ignored in risk assessment?? What is the basis for 'assumption' in risk assessment that transportation 'accident' resulting in a fire would be of no more than 2 hour duration? Are the terms 'accident,' as in vehicle collision/traffic accident and 'incident' as in release of radioactive materials interchangeable in assessing risk to human receptors and the environment? What agency experience and/or supporting documentation leads to conclusion that uranium (in finished, unfinished fuel rod, and powder forms) will be likely to remain on-site (not released into air) during an 'incident' or 'accident' which involves

fire (especially when containers packaging of fuel rods for shipments is assumed to be wooden boxes)?"

Response: The definition of fissile material in 49 CFR 173.403 specifically excludes natural uranium from the definition of fissile material. Uranium with .71% ^{235}U can sustain a nuclear chain reaction within a nuclear reactor. Natural uranium was used as reactor fuel in the Manhattan Project reactors on the Hanford Site.

The Risk Assessment does consider the pyrophoric nature of uranium in section 4.6.1 and states that "massive uranium metal is difficult to ignite." Pyrophoricity was accounted for by considering the complete oxidation of the materials during a fire. The assessment also assumes the complete oxidation of the uranium metal in a fire. As stated in ENG-RCAL-028, Section 4.6.1, the two hour fire duration for the release introduces additional conservatism; thus supporting the bounding NEPA analysis.

Additional details regarding the release fraction of uranium in a fire is given in the reference section of the Risk Assessment. This is DOE, 1999, Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities, DOE-HDBK-3010-94, USDOE, Wash DC.

Comment: 16. [Page 9] "Have U-234 and U-236 isotopes been included or excluded from DOE/EA-1319 support document risk assessment?"

Response: As shown in Table 5 of ENG-RCAL-028, both U-234 and U-236 were included in the source term.

Comment: 17. [Page 9] "How much money is projected to be generated from the sale of Hanford's surplus/excess uranium and what parties are projected to receive the proceeds? DOE has already had the materials appraised by foreign and domestic commercial interests—what were the results of the appraisal?"

Response: Market studies to date have not resulted in a "dollar per gram" value for the surplus uranium. Uncertainties do not warrant a firm estimate of "profit" or "loss" at this time. Considerations such as transfer costs, storage costs, market fluctuation, disposal versus storage pending sale; all would contribute to the final margin. Any financial revenues received from uranium sales would be used to defray the marketing, transfer, and storage costs. Hanford and Portsmouth would each retain 50% interest in any remaining proceeds which could be used to fund re-industrialization efforts or uranium management activities.

Comment: 18. [Page 10] "Does DOE intend to prepare an Environmental Impact Statement (EIS) to determine that the PORTs site Building 744-G—already termed the Uranium Management Center by DOE in EA-1319—will be recipient of DOE's program-wide Uranium Management Center??"

Response: This proposed relocation action would be conducted as an interim action pending completion of a NEPA review for the management of potentially reusable uranium materials at the DOE Uranium Management Center. The Uranium Management Center functions to integrate the management of the uranium inventory within the DOE Complex. The Uranium Management Center is operated by OR. The NEPA review would clarify the definition and role of the Uranium Management Center for future management of DOE's uranium inventory. The NEPA review will examine the packaging, transportation, receipt, and storage of these uranium materials with potential for beneficial reuse, including possible sale and disposition. Although the Portsmouth Site has been selected for the temporary storage of similar material, one or more sites would be evaluated for the longer term storage of useable uranium material. OR has begun the requisite steps necessary to prepare the aforementioned NEPA review. Preparation of the NEPA review is in accordance with the *National Environmental Policy Act* (NEPA) *of 1969* (P.L. 91-90, 42 U.S.C. 4321 et seq.) and the DOE NEPA Implementing Procedures (10 CFR 1021).

Comment: 19. [Page 13] "Where in DOE public involvement process is 35 day comment period on any proposed action considered acceptable? Timing, including ten day delay in mailing December 16,1999 start date cover letter, requires explanation by the agency. Alteration and short-circuiting of NEPA process in order to meet milestones (and contract award fees) does not comply."

Response: As stated above (10 CFR 1021.301[d]), "DOE shall provide the host state and host tribe with an opportunity to review and comment on any DOE EA prior to DOE's approval of the EA. At DOE's discretion, this review period shall be from 14 to 30 days. DOE shall consider all comments received from a state or tribe during the review period before approving or modifying the EA, as appropriate."

Public involvement is a key component in the NEPA process, and, as stated above, is implemented through DOE NEPA Implementing Procedures (10 CFR 1021 as Amended). At DOE's discretion, review periods could range from 14 to 30 days. Our experiences add 5 days to accommodate expected additional mailing time, to allow the full 30 days. All public comments reviewed before the end of the comment period, no matter in what format, are considered. Those received after the end of the

comment period are considered to the extent practicable prior to finalization of NEPA documentation.

Comment: 20. [Page 15] "DOE has obligation to review assessment of risk to the public and workers resulting from proposed action and to require compliance with appropriate DOE, NRC, DOT and U.S. EPA regulations. Has this been done by DOE personnel in oversight authority? ENG-RCAL-028 does not appear to comply with risk assessment methodology and assumptions used by DOE in FINAL WASTE MANAGEMENT PROGRAMMATIC ENVIRONMENTAL STATEMENT, DOE/EIS-0200-F. What rational explains and/or justifies the discrepancies? "

Response: The risk assessment documentation, ENG-RCAL-028, was prepared using current standard methodology and assumptions. Details regarding transportation packaging, routing, and materials were specific to the proposed action.

Comment: 21. [Page 15] "Why is fatal dose calculated as fatality occurring 30 days after exposure event? DOE has used 30 to 60 day time period for fatality occurring after exposure event in other risk/human health assessments."

Response: It is not clear where the commentor's reference to "30 days" comes from. The risks presented in ENG-RCAL-028 are in terms of latent cancer fatalities, and calculated from standard ICRP methodology.

Comment: 22. [Page 16] "DOE intention, as well as logic, is unclear. Please clarify whether DOE intends to offer some or all of approximately 1,800 MTU from former nuclear weapons production activities at the Hanford Site to interested foreign-owned and domestic commercial organizations directly, or indirectly. Is DOE, its leasees, and/or site contractors contemplating a surplus nuclear weapons materials inventory sale to convert assets to cash flow for DOE, Office of Management and Budget program wide projects and activities which include ... waste treatment, storage, disposal, and transportation of WASTE (emphasis added)?' (Ref.: FINAL WASTE MANAGEMENT PROGRAMMATIC ENVIRONMENTAAL IMPACT STATEMENT FOR MANAGEING TREATMENT, STORAGE, AND DISPOSAL OF RADIOACTIVE WASTE, DOE/EIS-0200-F, VOLUME III, page C-62.)"

Response: It is DOE policy to maximize, to the extent practicable, recycle and/or reuse of surplus materials. Ongoing waste minimization efforts include consideration of private sector entities, with potential added economic benefits.

As stated in the EA, DOE is continuing to evaluate the marketability of surplus uranium. For example, in January 2000, a uranium market analysis workshop was held. Brokers, customers and processors of uranium were invited, and presented with information regarding quantities and specifications for all Hanford Site surplus uranium. Final market value would be determined in the future, subject to appropriate negotiations at the time.

Comment: 23. [Page 16] "Does DOE intend to charge potential buyers of excess/surplus uranium enrichment materials nonrecurring research and development costs for any of the Hanford Site 1,800 MTU? Is DOE anticipating 'hybrid sales,' i.e., direct contractor sales, which impose no financial obligation upon the U.S. Government, to foreign and domestically owned commercial purchasers, after transportation to the Portsmouth Site? What is the estimated monetary value of the surplus Hanford Uranium to foreign-owned and domestic commercial organizations? How are the funds from the sale to be distributed? In absence of the 'hybrid' alternative how will DOE reinvest anticipated proceeds for agency programs through Office of Management and Budget in order to meet agency milestones?"

Response: Final disposition of the marketable uranium materials is not within the scope of the EA. Final disposition of the materials would result in future negotiations between parties, with requisite undefined expenses.

Comment: 24. [Page 16] "Is DOE RL 'considering' air mode of transportation for Hanford's surplus 'saleable' uranium materials indirectly, i.e., delivery of nuclear materials after purchase by foreign and/or domestic buyers from the PORTs Uranium Management Center? EA #1319 specifically cites regional air transportation capability in description of PORTs site characteristics!! Why is air mode of transport included in assessment of qualities already in place which make the PORTs site 'suitable' to operate (as of 7/99 and 12/16/99) as DOE's distribution center?...How 'similar' is this proposed action to DOE RL's 1992 and 1996 campaigns/transport of nuclear materials to the United kingdom by way of the Panama Canal via ocean going-vessels to Germany?"

Response: As stated in Section 3.2.4 of the EA, other modes of transportation, such as air transport or barge, were considered. The mode preferred by DOE is overland transport; alternative modes were discussed in the EA for completeness.

Comment: 25. [Page 17] "Does DOE Richland Operations Office mean to say that sale of 1,800 MTU of surplus/excess nuclear weapons productions material to commercial buyers foreign and domestic is currently a process

to convert DOE surplus (nuclear weapons) materials to cash for DOE/site contractors benefit?"

Response: As stated above, it is DOE policy to maximize, to the extent practicable, recycle and/or reuse of surplus materials. Ongoing waste minimization efforts include consideration of private sector entities, with potential added economic benefits.

As stated in the EA, DOE is continuing to evaluate the marketability of surplus uranium. For example, in January 2000, a uranium market analysis workshop was held. Brokers, customers and processors of uranium were invited, and presented with information regarding quantities and specifications for all Hanford Site surplus uranium. Final market value would be determined in the future, subject to appropriate negotiations at the time.

Comment: 26. [Page 20] "DOE states in Final EIS that MOX fuel disposition/recycling sets a good example to the Russia government in matters of international non-proliferation policy. What example is currently being set by DOE in EA #1319?"

Response: DOE is not attempting to 'set an example' by the proposed action. As stated above, it is DOE policy to maximize, to the extent practicable, recycle and/or reuse of surplus materials. Ongoing waste minimization efforts include consideration of private sector entities, with potential added economic benefits.

Comment: 27. [Page 21] "How much is the transportation contract award from the Hanford site to PORTs anticipated to be?"

Response: It would be expected that appropriate rates for overland transport of surplus uranium materials (via truck and/or rail) would be applied. Final costs would be subject to the appropriate bid/contract negotiation process.

Comment: 28. [Page 21] "What is the estimated cost for repairs/upgrades to facilities on the Hanford Site? "

Response: Based on the scope of the draft EA, the commentor may be referring to the current storage locations for Hanford Site surplus uranium, which do not require repairs or upgrades (and therefore, no projected associated costs). Text has been added to Section 1.0 of the EA reflecting status of existing storage facilities.

Comment: 29. [Page 21] "DOE has failed to consider the NO ACTION ALTERNATIVE in EA #1319!"

Response: The No-Action Alternative was considered in the EA (see Section 3.2.1). As stated therein, under the No-Action Alternative, the Hanford Site uranium materials would remain in the existing, onsite storage configurations. This alternative does not address the actual disposition of the material, and would result in continued surveillance and maintenance with the attendant costs for safeguards and security and utility assessments.

Comment: 30. [Page 22] "Notice that steps 1-3 are presently being implemented—FINAL DISPOSITION AND SALE OR LEASE—requires explanation. Obviously, something is going to be sold or leased?? It seems that the public might hear 'final disposition/sale or lease' to mean DISPOSITION OF THE URANIUM MATERIALS STORED IN THE X-744-G Building. I would interpret the double-speak to mean FINAL DISPOSITION OF THE PORTS SITE BY SALE OR LEASE – 2 year notice by leasee United States Enrichment to DOE required. DOE on-going site remediation projects are set for completion in 2006. D & D status for PORTs would seem to indicate that clean-up/site remediation would follow the Fernald and Hanford pattern. D&D site mission status and remediation seem related/connected actions to the public, are they?"

Response: The final step in the uranium management would be disposition, which could include sale of the material, or possibly leasing. Future defense needs and/or market evaluations would provide requisite course of action. The final D&D of the PORTS Site would be the subject of appropriate future environmental review.

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Bob Taft, Governor
Maureen O'Connor, Lt. Governor
Christopher Jones, Director

February 22, 2000

Ms. Angel B. Joy, Program Manager
Materials Disposition Division
U.S. Department of Energy
Richland Operations Office
P.O. Box 550, MS R3-79
Richland, Washington 99352

Dear Ms. Joy:

Listed below are Ohio EPA's comments on the Draft Environmental Assessment, Disposition of Surplus Hanford Site Uranium, Hanford Site, Richland, Washington.

Ohio EPA Comments on the Draft Environmental Assessment for the Disposition of Surplus Hanford Site Uranium

General Comments:

1. The State of Ohio is not opposed to temporary relocation of saleable Hanford Site surplus unirradiated uranium to the US DOE Portsmouth Site. Ohio supports US DOE's goal to consolidate surplus uranium, where economically feasible, into a marketable form for sale. However, Ohio believes that US DOE must better explain and document its plan for storage, pre-treatment, and sale of the material; or for ultimate disposal of the material if its sale is infeasible. There also is a need for DOE to provide more detail on how this project will be funded over the short and long term.

2. Has DOE considered marketing the uranium first from the Hanford site as was done at the Fernald site? Fernald was able to sell a significant portion of their uranium inventory prior to moving the remainder to Portsmouth. This reduces the cost of transportation for the entire inventory.

3. Funding for this effort needs to be described in greater detail. Is DOE Hanford going to fund the upgrading of storage facilities in the same way that Fernald upgraded the 744 Building at the Portsmouth site? Also, Ohio is very concerned about long term funding for this storage effort. Will the obligation to fund this effort eventually fall to the Portsmouth site, possibly impacting Portsmouth's cleanup and waste management activities?

4. How does this uranium storage mission at Portsmouth match with the ongoing USEC enrichment mission? If USEC were to make a future decision to stop production, would DOE still want to maintain this uranium storage effort in the middle of a major D&D effort?

5. Ohio is interested along with US DOE in seeing further economic development of the US DOE Portsmouth site. Development may be hampered if there is not a clear plan for management and ultimate disposition of surplus uranium which is in storage at the site. We encourage US DOE to develop a management plan for the surplus uranium while it is stored at the Portsmouth Site and make this plan part of the EA.

6. The plan should detail each activity (and the US DOE funding center responsible for each activity) that must be undertaken while the uranium is in storage at Portsmouth until the material is shipped off-site as a product or managed as a waste if not successfully marketed. A schedule for completion of each activity should be a key part of the plan. Ohio is very interested in seeing US DOE commit to a schedule for material pretreatment and sale. Should US DOE not be successful in marketing the material in a reasonable time frame, Ohio would expect to see a plan and schedule for final off-site disposition of the material.

7. Ohio supports DOE Hanford's efforts to separate out uranium materials that do not/will not have economic value in the future and manage and dispose of them at the Hanford site.

8. How does this EA fit in with the larger NEPA effort to evaluate the creation of the Uranium Management Center in DOE Oak Ridge Operations?

Specific comments:

1. Please provide an explanation as to why the US DOE needs to move or relocate the saleable surplus unirradiated uranium to the US DOE's Portsmouth Facility. The EA indicates that the material must be moved to meet the Hanford's Federal Facility Agreement and Consent Order Milestone MX-929-06-T01. If US DOE considers this material saleable, why must it be moved to another facility? Considerable dollars will be spent to move this saleable uranium from one facility to another. Noting that the budget for remedial activities has not increased and is not likely to increase, would it not be beneficial for the US DOE to determine potential buyers and ship the material only once from its point of origin for both safety and economic concerns? Table 2 of the EA indicates that there is great risk related to the shipment of Fuel Assemblies and UO_3 Powder to Portsmouth, Ohio via truck and rail. This risk could

potentially be avoided should US DOE have a plan and buyers in place and shipped the material to its final destination rather than shipping to another facility and then searching for potential buyers for this material.

2. The EA does not provide an explanation as to who is responsible for selling this material once it reaches the Portsmouth Facility. US DOE should not move material to another facility to meet a Consent Order Milestone without a clear plan for who is responsible for the upkeep and maintenance once it reaches the Portsmouth Facility.

3. The EA does not discuss US DOE's plan(s) for the sale of this material. Will the Portsmouth facility be responsible for the upkeep and maintenance of containers, maintenance of buildings for safe storage and security for the saleable uranium? Will US DOE or Hanford provide the funding to the Portsmouth Facility, or will the burden of maintaining this material become the responsibility of the Portsmouth Facility? In this time of shrinking federal budgets, US DOE should ensure that the monies for the upkeep of the material should not come from the Portsmouth Facility but rather from the facility in which the material originated or from a separate fund until the material is sold and removed from Portsmouth Gaseous Diffusion Plant. Perhaps a written agreement between the State of Ohio and the US DOE could be agreed upon such that no remedial or D&D dollars allocated to the Portsmouth Facility would be used to maintain the saleable uranium from other facilities such as Hanford. Additionally, perhaps Hanford could lease facilities to store this material until it is sold, therefore not shifting the burden of upkeep and storage to the Portsmouth Facility. Hanford could then maintain the control of the material and ensure that US DOE completes the sale of all material. Currently, it appears that US DOE is moving the material to meet a milestone at one facility and creating a problem at another due to a lack of a plan for disposition of the uranium material in question.

4. The US DOE should provide a detailed plan which outlines goals and milestones for the future sale and disposition of the material in question. The plan should include a specific deadline for which US DOE will ensure that the uranium material is sold and will be removed from the Portsmouth Facility. Such an action assures all stakeholders, including the State of Ohio, that this material has a beneficial use and will not become a waste material for which the Portsmouth facility could potentially become responsible. The detailed plan should be attached to the EA and should include the following: potential uses for the material, who is responsible for the sale and upkeep of the material, the cost for storing the material and upkeep of all facilities associated with the maintenance of the material. The plan should also include a distinct deadline for which the material is to be sold and removed from the Portsmouth Facility. Again, perhaps the State of Ohio and the US DOE could enter

into an agreement regarding how this material is to be handled and eventually removed from the site. The agreement should have specific milestones as to when US DOE intends to complete the sale of this uranium and remove it from the Portsmouth facility. If all the material has not been sold by the given date, US DOE should agree that the remaining material no longer has a beneficial use and will be considered a waste and disposed of properly. At no time should monies designated to the Portsmouth Facility for remedial or D&D activities be funneled to the upkeep and disposal of this material.

5. **Page 2-4 Last paragraph, last line**: Remove the word "might" and replace it with whatever the determination is on the need for repackaging to meet transportation requirements.

6. **Page 3-1 Transportation**: For safety and cost reasons, DOE should transport this material by rail. Both Hanford and Portsmouth sites have facilities to handle rail shipments.

Please contact me if you have any questions about these comments.

Sincerely,

Graham E. Mitchell
Chief, Office of Federal Facilities Oversight

cc: Paul F. X. Dunigan, Jr., NEPA Compliance Officer
Ken Dewey, SEDO
Diana Cahall

GEM/br

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

MAY 30 2000

00-FTD-052

Mr. Graham Mitchell, Chief
State of Ohio Environmental Protection Agency
Ohio Federal Facilities Oversight
401 E. 5th Street
Dayton, Ohio 45402

Dear Mr. Mitchell:

RESPONSE TO COMMENTS ON THE NOVEMBER 1999, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ASSESSMENT (EA) OF THE DISPOSITION OF SURPLUS HANFORD SITE URANIUM, HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1319)

Thank you for reviewing the subject NEPA EA document. Your comments contained in your February 22, 2000, e-mail were helpful in identifying areas of the EA which required additional information or clarification.

For clarity, your comments are repeated in the attachment including our responses. A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, please contact R. L. Guillen, the NEPA Document Manager for this EA, on (509) 376-0254, Randall Devault, Oak Ridge Office, on (865) 241-4497, or you may contact me on (509) 376-6667.

Sincerely,

Paul F. X. Dunigan, Jr.
NEPA Compliance Officer

FTD:RLG

Attachment

cc w/attach.:
D. R. Allen, OR
R. W. Bailey, FHI
S. S. Bath, FHI
C. M. Borgstrom, EH-42
V. C. Crossman, EM-43
R. M. DeVault, OR
J. D. Hutson, OR
J. D. Jackson, OR
M. T. Jansky, FHI

Attachment

Comment/Response

Commentor: Mr. Graham Mitchell, Chief
State of Ohio Environmental Protection Agency
Ohio Federal Facilities Oversight
401 E. 5th Street
Dayton, Ohio 45402-2911

Medium: e-mail, dated February 22, 2000

Ohio EPA Comments on the Draft Environmental Assessment for the Disposition of Surplus Hanford Site Uranium

General Comments:

1. The State of Ohio is not opposed to temporary relocation of saleable Hanford Site surplus unirradiated uranium to the US DOE Portsmouth Site. Ohio supports US DOE's goal to consolidate surplus uranium, where economically feasible, into a marketable form for sale. However, Ohio believes that US DOE must better explain and document its plan for storage, pre-treatment, and sale of the material; or for ultimate disposal of the material if its sale is infeasible. There also is a need for DOE to provide more detail on how this project will be funded over the short and long term.

Response: The uranium transported for Portsmouth does not require pre-treatment. The material will be stored at Portsmouth under a Memorandum of Agreement (MOA) between the Richland Operations Office (RL) and the Oak Ridge Office (OR). Under this agreement programmatic ownership and HQ management for the excess uranium is identified as being with EM-65. The uranium is administratively reported to the Nuclear Materials Management and Safeguards System (NMMSS). Programmatic ownership of this material shall be assumed by OR upon delivery and acceptance at the designated OR facilities, whereupon OR shall coordinate with NMMSS to administratively transfer the material into a distinct OR project account. While it is not feasible to sell the material before the transfer of the material is accomplished, the sale of the material can still proceed from its designated location at Portsmouth. Financial revenues received from uranium sales shall be used to defray the marketing/transfer, and storage costs, and each site will retain 50% interest in any remaining proceeds to be used to fund re-industrialization efforts or uranium management activities. In FY 2000 RL has already transferred ($140K) funds for costs relative to project planning, safety documentation, facility preparation, material control and project management costs. Further funds to OR for reasonable costs incurred in receipt, handling and surveillance will also be transferred in FY 2000.

OR will prepare a Management Plan for the material that would be shipped from the Hanford Site to the Portsmouth Gaseous Diffusion Plant. This plan would be coordinated with the State of Ohio EPA, and completed prior to the first shipment of the Hanford Site material. This plan would include information on storage, marketing, disposition, and short-/long-term funding requirements. This plan would be a 'living document,' and would be issued as a stand-alone document separate from the EA.

2. Has DOE considered marketing the uranium first from the Hanford site as was done at the Fernald site? Fernald was able to sell a significant portion of their uranium inventory prior to moving the remainder to Portsmouth. This reduces the cost of transportation for the entire inventory.

Response: Hanford did consider the sale option and had prepared the Information for Bids (IFB) when DOE HQ placed a 10-year moratorium on the sale of DOE owned uranium in the commercial market. Fernald had already sold its uranium materials before the moratorium became effective. The management of excess uranium at the Hanford Site supports a *Hanford Federal Facility Agreement and Consent Order* (Ecology et al. 1999) Milestone MX-92-06-T01 related to "complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford Site UU," and RL deactivation and mortgage reduction goals.

DOE is continuing to market surplus Hanford Site uranium that is not part of the moratorium such as blending to research reactor fuel. As recently as January 2000, a team of brokers, potential customers and processors of uranium were invited to a workshop, where quantities and specifications for all materials in the inventory were presented. However, direct transfer of materials in the near future is not a reasonable expectation.

3. Funding for this effort needs to be described in greater detail. Is DOE Hanford going to fund the upgrading of storage facilities in the same way that Fernald upgraded the 744 Building at the Portsmouth site? Also, Ohio is very concerned about long term funding for this storage effort. Will the obligation to fund this effort eventually fall to the Portsmouth site, possibly impacting Portsmouth's cleanup and waste management activities?

Response: See response to general comment 1. Funding for surveillance and maintenance of stored uranium materials is expected to be nominal.

4. How does this uranium storage mission at Portsmouth match with the ongoing United States Enrichment Corporation (USEC) enrichment mission? If USEC were to make a future decision to stop production, would DOE still want to maintain this uranium storage effort in the middle of a major D&D effort?

Response: The uranium storage mission is independent of the USEC mission; however, the sale of any uranium is restricted pending a DOE Secretarial determination for its sale and would consider the USEC. The storage of the uranium transferred to the Portsmouth Site will depend upon a future NEPA review for the disposition of reusable uranium.

5. Ohio is interested along with US DOE in seeing further economic development of the US DOE Portsmouth site. Development may be hampered if there is not a clear plan for management and ultimate disposition of surplus uranium which is in storage at the site. We encourage US DOE to develop a management plan for the surplus uranium while it is stored at the Portsmouth Site and make this plan part of the EA.

Response: See response to Comment 1.

6. The plan should detail each activity (and the US DOE funding center responsible for each activity) that must be undertaken while the uranium is in storage at Portsmouth until the material is shipped off-site as a product or managed as a waste if not successfully marketed. A schedule for completion of each activity should be a key part of the plan. Ohio is very interested in seeing DOE commit to a schedule for material pretreatment and sale. Should DOE not be successful in marketing the material in a reasonable time frame, Ohio would expect to see a plan and schedule for final off-site disposition of the material.

Response: See response to Comment 1.

7. Ohio supports DOE Hanford's efforts to separate out uranium materials that do not/will not have economic value in the future and manage and dispose of them at the Hanford site.

Response: Comment noted. Under the current Memorandum-of-Agreement between RL and OR, only saleable material would be transferred to the Portsmouth Gaseous Diffusion Plant. Uranium with nonrecoverable economic value would be dispositioned at the Hanford Site.

8. How does this EA fit in with the larger NEPA effort to evaluate the creation of the Uranium Management Center in DOE Oak Ridge Operations?

Response: The Hanford Site EA, as well as the Fernald EA (DOE/EA-1299) are considered interim NEPA actions and each of the activities will be included in the scope of the Uranium Management Center (UMC) NEPA review. The UMC NEPA review will evaluate the environmental impacts for managing DOE's inventory of potentially reusable low enriched uranium, normal uranium, and depleted uranium that is excess to National security needs. Material within the proposed scope of this NEPA review is currently in the form of oxides, metals and other stable compounds and is potentially reusable by government agencies.

Specific comments:

1. Please provide an explanation as to why the US DOE needs to move or relocate the saleable surplus unirradiated uranium to the US DOE's Portsmouth Facility. The EA indicates that the material must be moved to meet the Hanford's Federal Facility Agreement and Consent Order Milestone MX-929-06-T01. If US DOE considers this material saleable, why must it be moved to another facility? Considerable dollars will be spent to move this saleable uranium from one facility to another. Noting that the budget for remedial activities has not increased and is not likely to increase, would it not be beneficial for the US DOE to determine potential buyers and ship the material only once from its point of origin for both safety and economic concerns? Table 2 of the EA indicates that there is great risk related to the shipment of Fuel Assemblies and UO_3 Powder to Portsmouth, Ohio via truck and rail. This risk could potentially be avoided should US DOE have a plan and buyers in place and shipped the material to its final destination rather than shipping to another facility and then searching for potential buyers for this material.

   Response: The Hanford Uranium is being sent to Portsmouth because consolidation of this material provides an economy of scale within the DOE complex. Since OR's mission is management of Uranium materials, within the DOE complex, OR is best suited for the management of this material, and is also a receptive site for the interim storage and management of this material. The TPA milestone MX-92-06-T01, although not an enforceable milestone, provides for DOE-RL in meeting its remedial activities within a reasonable timeframe to reduce expense to the taxpayer.

   The MOA between OR and RL provides for the movement of only saleable material and will be referenced in the EA.

   Movement of any material does have an associated risk, however, that risk is within the acceptable risk guidelines for the transfer of this material to Portsmouth whether it is by rail or by truck. The best option for the movement of this material will be within the most reasonable costs to the taxpayer.

2. The EA does not provide an explanation as to who is responsible for selling this material once it reaches the Portsmouth Facility. US DOE should not move material to another facility to meet a Consent Order Milestone without a clear plan for who is responsible for the upkeep and maintenance once it reaches the Portsmouth Facility.

   Response: OR will have the lead responsibility for the sale of the Hanford Site material upon arrival at the Portsmouth Gaseous Diffusion Plant; however, per the

existing Memorandum-of-Agreement between RL and OR, Hanford will support OR in this activity. As stated in response to General Comment 1, a plan that addresses the overall activities associated with the Hanford Site material, including "upkeep and maintenance" at the Portsmouth Gaseous Diffusion Plant would be developed and issued prior to the first shipment of the Hanford Site material.

3. The EA does not discuss US DOE's plan(s) for the sale of this material. Will the Portsmouth facility be responsible for the upkeep and maintenance of containers, maintenance of buildings for safe storage and security for the salable uranium? Will US DOE or Hanford provide the funding to the Portsmouth Facility, or will the burden of maintaining this material become the responsibility of the Portsmouth Facility? In this time of shrinking federal budgets, US DOE should ensure that the monies for the upkeep of the material should not come from the Portsmouth Facility but rather from the facility in which the material originated or from a separate fund until the material is sold and removed from Portsmouth Gaseous Diffusion Plant. Perhaps a written agreement between the State of Ohio and the US DOE could be agreed upon such that no remedial or D&D dollars allocated to the Portsmouth Facility would be used to maintain the saleable uranium from other facilities such as Hanford. Additionally, perhaps Hanford could lease facilities to store this material until it is sold, therefore not shifting the burden of upkeep and storage to the Portsmouth Facility. Hanford could then maintain the control of the material and ensure that US DOE completes the sale of all material. Currently, it appears that US DOE is moving the material to meet a milestone at one facility and creating a problem at another due to a lack of a plan for disposition of the uranium material in question.

Response: See response to General Comment 1. Ongoing public involvement, which will include interaction between the DOE and state and local governments, will determine the future role of the Portsmouth Gaseous Diffusion Plant in the DOE Complex for storage of uranium materials, including appropriate funding.

4. The US DOE should provide a detailed plan which outlines goals and milestones for the future sale and disposition of the material in question. The plan should include a specific deadline for which US DOE will ensure that the uranium material is sold and will be removed from the Portsmouth Facility. Such an action assures all stakeholders, including the State of Ohio, that this material has a beneficial use and will not become a waste material for which the Portsmouth facility could potentially become responsible. The detailed plan should be attached to the EA and should include the following: potential uses for the material, who is responsible for the sale and upkeep of the material, the cost for storing the material and upkeep of all facilities associated with the maintenance of the material. The plan should also include a distinct deadline for which the material is to be sold and removed from the Portsmouth Facility. Again, perhaps the State of Ohio and the US DOE could enter into an agreement regarding how this material is to be handled and eventually

removed from the site. The agreement should have specific milestones as to when US DOE intends to complete the sale of this uranium and remove it from the Portsmouth facility. If all the material has not been sold by the given date, US DOE should agree that the remaining material no longer has a beneficial use and will be considered a waste and disposed of properly. At no time should monies designated to the Portsmouth Facility for remedial or D&D activities be funneled to the upkeep and disposal of this material.

Response: See response to General Comment 1.

5. Page 2-4 Last paragraph, last line: Remove the word "might" and replace it with whatever the determination is on the need for repackaging to meet transportation requirements.

Response: Editorial comment noted and will be considered in the final EA.

6. Page 3-1 Transportation: For safety and cost reasons, DOE should transport this material by rail. Both Hanford and Portsmouth sites have facilities to handle rail shipments.

Response: See response to Specific Comment 1.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

April 4, 2000

David Evans
Richland Operations Office
U.S. Department of Energy
P.O. Box 550, MS R3-79
Richland, WA 99352

Paul F.X. Dunigan, Jr.
Richland Operations Office
U.S. Department of Energy
P.O. Box 550, MS A5-58
Richland, WA 99352

Dear Mssrs. Evans and Dunigan:

Re: Surplus Unirradiated Uranium Disposal at the Hanford Site

The US Department of Energy (USDOE) and the Washington State Department of Ecology (Ecology) have discussed the disposal of the unirradiated uranium currently stored at Hanford in the 200 and 300 Areas on numerous occasions. The USDOE had informed Ecology that it intended to ship most of this material to Portsmouth Ohio for temporary storage, but that possibly 10% of the total unirradiated uranium might be disposed on site. Ecology expressed its support for shipping all the unirradiated uranium to Ohio for temporary storage and pending ultimate reuse or disposal and expressed concern over the possibility of any of this material being buried at Hanford. Ecology also expressed the concern that this issue was not brought to the attention of Hanford stakeholders, including Indian Tribes, and the public. We recommended that it be discussed with the Hanford Advisory Board (HAB) and the three concerned tribal nations should any of the Unirradiated Uranium be identified for disposal at Hanford.

At the end of 1999, the USDOE released an Environmental Assessment, which indicated transport and ultimate disposal of 1700 metric tonnes of unirradiated uranium to Ohio. The remaining 165 metric tonnes would be buried at Hanford. Ecology did not provide written comments on this EA during the 30-day comment period. Recently, however, the USDOE informed Ecology that it now intends to bury more than 50% of the total unirradiated uranium (approximately 950 metric tonnes) at Hanford. Ecology believes that this is a major deviation from the EA that was submitted (with very little visibility) for public comment, and that all interested stakeholders may have significant comments and concerns based on this new information.

Ecology believes there are several issues that remain to be addressed:

- Identification of the unirradiated uranium remaining at Hanford as waste:
  Currently, the USDOE has designated the unirradiated uranium as unused product.

However, if no future use for this material can be identified, it must be declared as waste and be subjected to the requirements of the Washington State Dangerous Waste Regulations (DW).

- Designation of the material once declared as waste: As the waste unirradiated uranium is contaminated with approximately 1% of other materials, it must be designated as required by the DW. Designation will be a factor in the decision for final disposition of this material and must be done before a final disposal site is selected. Sampling of the waste may be necessary to confirm waste designation results.

- Evaluation of all disposal pathways: Burial at Hanford's Low Level Waste Burial Grounds is only one of the disposal pathways available. Ecology believes that an evaluation must be done of all disposal pathways at Hanford, and that the waste acceptance criteria for each proposed disposal site must be compared with the waste designation information. The evaluation of alternative disposal pathways must include an impact and risk analysis to all affected media including flora, fauna, ground water, etc.

- USDOE complex wide concerns: This is a piecemeal decision at a time when the Department is being pressed to prepare a programmatic National Environmental Policy Act (NEPA) basis to consider disposition of excess uranium and other nuclear materials. Ecology believes there is no adequate programmatic basis or NEPA analysis to support this piecemeal decision.

- Burial of U-238 at Hanford: The USDOE's final Waste Management Programmatic Environmental Impact Statement indicates the controlling radionuclide for future exceedences of drinking water standards at Hanford's burial grounds is U-238. This suggests that the decision to bury 950 metric tonnes at Hanford of this material represents a serious potential impact to groundwater, particularly when added to the recent decision to use Hanford as a complex-wide disposal site for low-level wastes. This cumulative impact has not been adequately addressed in current documentation.

- Public review and comment: The Environmental Assessment distributed at the end of 1999 no longer accurately reflects the volume of unirradiated uranium proposed for disposal at Hanford. Therefore, the public has not had an opportunity to comment on the USDOE's current proposed options.

As stated earlier, Ecology is very concerned that burial at Hanford is the preferred alternative for such large amounts of hazardous material. Therefore, Ecology requests the USDOE revise the EA, explain its linkage to complex-wide programmatic decisions concerning disposition of excess uranium, and submit it for public comment prior to making any final disposal decisions. Ecology looks forward to working with the USDOE to resolve these issues.

If you have any questions, please call me at (360) 407-7150 or Dr. Alex Stone, Ecology's Facility Stabilization Project Manager at (509) 736-3018.

Sincerely,

Roger Stanley for MW

Mike Wilson
Program Manager
Nuclear Waste Program

MW:AS:gk
cc: Keith Klein, USDOE
Doug Sherwood, EPA
Mary Lou Blazek, ODOE
Pete Knollmeyer, DOE-RL
Russell Jim, YIN
J. R. Wilkinson, CTUIR
Patrick Sobotta, Nez Perce
Merilyn Reeves, HAB
David Huizenga, Deputy Assistant Secretary for Environmental Management, USDOE Headquarters
Philip Niedzelski-Eichner, Director, Office of Materials Management Policy, USDOE Headquarters
Earl Leming, Director of DOE Oversight, Tennessee Department of Environment and Conservation
Tom Winston, Chief, Southwest District Office, Ohio EPA
Tuss Taylor, Program Manager DOE Oversight Division of Waste Management, Kentucky Department for Environmental Protection
Administrative Record: 324 Building File

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-FTD-057

MAY 3 1 2000

Mr. Michael A. Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504

Dear Mr. Wilson:

SURPLUS UNIRRADIATED URANIUM DISPOSAL AT THE HANFORD SITE

Reference is made to your letter to Dave T. Evans and Paul F. X. Dunigan, Jr., dated April 4, 2000, same subject. It is our hope that some of the concerns noted in the referenced letter were addressed during the meetings held on April 19, 2000, and May 18, 2000, with the State of Washington, Department of Ecology and the U.S. Environmental Protection Agency (EPA) discussing the disposition of the uranium fuel. The Environmental Assessment on the Disposition of Uranium Materials at the Hanford Site states that the U.S. Department of Energy, Richland Operations Office (RL) plans to ship Uranium Billets and T-Hoppers containing uranium trioxide material to the Oak Ridge Office Portsmouth Site. RL also plans to store and disposition the remaining uranium materials consisting of unirradiated fuel elements at the Hanford Site to meet the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone MX-92-06-T01. Several items may require further discussion. The enclosed is a summary of the issues stated in your April 4, 2000, letter that RL addressed during the meeting.

We look forward to continuing the discussions with your staff and EPA to address the issues and concerns in the near future regarding this material. RL will also keep the Hanford Advisory Board apprised of the status of this project in future meetings. If there are any questions, please contact me on (509) 376-7435, or your staff may contact David T. Evans, Facility Transition Division, on (509) 373-9278, or Paul F. X. Dunigan, Jr., Management Systems Division, on (509) 376-6667.

Sincerely,

Peter M. Knollmeyer, Assistant Manager
for Nuclear Materials and Facility Stabilization

FTD:RLG

Enclosure

cc w/encl: See page 2.

cc w/encl:
M. L. Blazek, OOE
S. S. Bath, FHI
W. Burke, CTUIR
J. S. Hertzel, FHI
D. G. Huizenga, EM-20
E. Leming, TDEC
R. Jim, YN
P. Niedzielski-Eichner, PO-4
M. J. Rafferty, OR
M. B. Reeves, HAB
D. R. Sherwood, EPA
P. Sobotta, NPT
T. Taylor, KDEP
T. Winston, EPA

COMMENT: Identification of the unirradiated uranium remaining at Hanford as waste: Currently, the DOE has designated the unirradiated uranium as unused product. However, if no future use for this material can be identified, it must be declared as waste and be subjected to the requirements of the Washington State Dangerous Waste Regulations (DW).

RESPONSE: DOE has not yet declared the approximately 960 metric tons of fuel elements as waste. A memorandum of agreement between Hanford and Oak Ridge Operations Office (OR) establishes that OR will not accept this material. DOE is still pursuing options to sell or to transfer this uranium material. This material, if declared waste, will be designated as appropriate under applicable regulations.

COMMENT: Designation of the material once declared as waste: As the waste unirradiated uranium is contaminated with approximately 1% of other materials, it must be designated as required by the DW. Designation will be a factor in the decision for final disposition of this material and must be done before a final disposal site is selected. Sampling of the waste may be necessary to confirm waste designation results.

RESPONSE: This material is by-product and source material regulated by DOE under the Atomic Energy Act of 1954. If this material is declared as waste, it will be designated as appropriate under applicable regulations. Representative sampling and analysis indicates that this material would not designate as dangerous waste.

COMMENT: Evaluation of all disposal pathways: Burial at Hanford's LLBG is only one of the disposal pathways available. Ecology believes that an evaluation must be done of all disposal pathways at Hanford, and that the waste acceptance criteria for each proposed disposal site must be compared with the waste designation information. The evaluation of alternative disposal pathways must include an impact and risk analysis to all affected media including flora, fauna, ground water, etc.

RESPONSE: During the May 18, 2000, meeting it was discussed that commercial disposal facilities exist at Envirocare (Utah), Barnwell (South Carolina), and U.S. Ecology (Washington). Envirocare's license does not allow disposal of enriched uranium. Barnwell can only have 350 g of undisposed U-235 on hand (at 1% enrichment, shipments would be limited to 35 kg of Uranium). Hanford is not an authorized shipper to Barnwell. Disposal at Envirocare and Barnwell is more expensive than disposal at Hanford. Disposal at U.S. Ecology offers no advantages to disposal at Hanford. We also discussed the proposed storage locations that will be addressed in the EA and requested that Ecology identify any issues with the proposed storage locations for the remaining uranium materials.

COMMENT: DOE complex wide concerns: This is a piecemeal decision at a time when the DOE is being pressed to prepare a programmatic National Environmental Policy Act (NEPA) basis to consider disposition of excess uranium and other nuclear materials. Ecology believes there is no adequate programmatic basis or NEPA analysis to support this piecemeal decision.

RESPONSE: The EA proposed uranium relocation action to the Portsmouth Site would be conducted as an interim action to a NEPA review for the management of potentially reusable uranium from throughout the DOE complex by the DOE Uranium Management Center (UMC). The OR would have the lead for this NEPA review, which will clarify the definition and role of the UMC for future management of uranium inventory. The NEPA review will be initiated in calendar year 2000. It is expected to address packaging, transportation, receipt, and storage of potentially reusable uranium materials at one or more sites.

The Hanford EA is also an interim action to the Hanford Solid Waste (SW) EIS, which assumes that up to 4000 metric tons of uranium can be buried at Hanford, for the potential burial of the remaining unirradiated fuel in the Hanford LLBG.

COMMENT: Burial of U-238 at Hanford: The DOE's final Waste Management Programmatic EIS indicates the controlling radionuclide for future exceedences of drinking water standards at Hanford's burial grounds is U-238. This suggests that the decision to bury approximately 950 MTU at Hanford of this material represents a serious potential impact to groundwater, particularly when added to the recent decision to use Hanford as a complex-wide disposal site for low-level wastes. This cumulative impact has not been adequately addressed in current documentation.

RESPONSE: DOE has not decided to bury the approximately 960 metric tons (burying 140 metric tons is identified in the EA) of uranium at Hanford. If buried at Hanford, the cumulative impacts will be bounded by analysis in the Hanford SW EIS. Previous site specific analysis (performance assessments and composite analysis) show that uranium disposal would not be expected to adversely impact the environment.

COMMENT: Public review and comment: The EA distributed at the end of 1999 no longer accurately reflects the volume of unirradiated uranium proposed for disposal at Hanford. Therefore, the public has not had an opportunity to comment on the DOE's current proposed options.

As stated earlier, Ecology is very concerned that burial at Hanford is the preferred alternative for such large amounts of hazardous material. Therefore, Ecology requests the DOE revise the EA, explain its linkage to complex-wide programmatic decisions concerning disposition of excess uranium, and submit it for public comment prior to making any final disposal decisions. Ecology looks forward to working with the DOE to resolve these issues.

RESPONSE: The initial Hanford draft EA purpose and need has not changed, only the quantity of material that will remain at Hanford has changed. There is no formal proposal to dispose of any additional uranium beyond the 140 metric tons discussed in the draft EA. In addition, the draft EA as of December 1999 addressed the shipment of uranium materials to OR (with the exception of 140 metric tons remaining for burial). Since the draft EA only addressed those materials that had a market value to be shipped to Portsmouth, the impact of not shipping uranium fuel materials later determined to have no market value, has no environmental impact on it remaining at the Hanford site.

The draft Hanford EA (EA-1319) was issued for public review on December 16, 1999. Copies of the draft EA were sent to States, tribes and known interested stakeholders. Copies were put in public libraries and DOE Reading Room, and posted on DOE websites. Notice of the availability of the draft EA for comments were placed in newspapers. During the public review period (December 16, 1999-January 21, 2000), the State of Ohio Environmental Protection Agency (OH-EPA) requested and was granted an extension until February 22, 2000. Notices of the extension of the comment period were sent to those to whom copies of the draft EA were sent, placed in newspapers, and on the websites. A public meeting was also held at Piketon, Ohio on January 27, 2000. The Hanford Advisory Board Environmental Restoration committee was provided status on March 14, 2000.

The EA has been revised to reflect comments received during the public comment period, and others received after the public comment period, to the extent practicable. Discussions with Ecology and EPA, were held on April 19, 2000, and May 18, 2000. The State of Oregon also was invited and participated in the discussion on May 18, 2000, to determine the best path forward on the uranium that is to remain on the Hanford Site. The EA has been updated to accommodate comments by Ecology to consider continued storage in 200 Area, or ultimate burial. RL staff has recommended that the EA be resolved as a finding of no significant impact.

Oregon
John A. Kitzhaber, M.D., Governor

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April 19, 2000

David Evans
Richland Operations Office
U.S. Department of Energy
P.O. Box 550, MS R3-79
Richland, WA 99352

Paul F.X. Dunnigan
Richland Operations Office
U. S. Department of Energy
P.O. Box 550 MS A5-58
Richland, WA 99352

Re: Surplus Unirradiated Uranium Disposal at the Hanford Site

Dear Messrs. Evans and Dunnigan,

The Oregon Office of Energy recently reviewed the Environmental Assessment (EA) for the disposition of Hanford's surplus unirradiated uranium. We have yet to provide our comments as the U.S. Department of Energy (USDOE) told us that a conference call would be conducted to gather comments on this EA. That conference call has not occurred.

Since our initial review, a significant increase in the amount of surplus uranium to be buried at Hanford has been proposed by USDOE. In light of this, we would now like to provide the following comments:

1. The current EA is completely inadequate for determining there is no significant impact to the environment from burying up to 950 metric tons of uranium at Hanford. This represents an almost seven fold increase in the originally proposed amount. The burial discussion in the EA consists essentially of one page at the very end of the EA and the argument presented is that since this has been done before there should be no impact. We considered this discussion inadequate even for the original burial amount. The Oregon Office of Energy recommends that at the very least a new EA be written with a detailed discussion of the potential impacts of burying this amount of uranium at Hanford.

2. We are opposed to burying this surplus uranium at Hanford. We believe it poses a grave risk to the groundwater.

3. The current decision to use Hanford as a complex wide disposal site for low-level and mixed low-level wastes needs to be revisited in light of the potential addition of 950 metric tons of Hanford's surplus uranium to the total amount of waste to be disposed of at Hanford. We believe this represents a significant increase in both risk and amount of material, which warrants reissuing the Waste Management EIS.

Additionally, we concur with the concerns expressed by the Washington Department of Ecology in their April 4, 2000 letter on this subject and recommend that these concerns, along with ours, be addressed in detail in an open, participatory process.

Should you have any questions, you can contact Douglas Huston of my staff at (503) 378-4456.

Sincerely,

Mary Lou Blazek

Mary Lou Blazek
Administrator,
Nuclear Safety Division
Oregon Office of Energy

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

00-FTD-058

JUN 1 4 2000

Ms. M. L. Blazek, Administrator
Nuclear Safety Division
Oregon Office of Energy
625 Marion Street N.E., Suite 1
Salem, Oregon 97301

Dear Ms. Blazek:

SURPLUS UNIRRADIATED URANIUM DISPOSAL AT THE HANFORD SITE

Reference is made to your letter, dated April 19, 2000, same subject. Thank you for reviewing the subject National Environmental Policy Act (NEPA) Environmental Assessment (EA) document DOE/EA-1319 and for submitting your comments. As presented to the members of your staff during our May 19, 2000, meeting, with the U.S. Environmental Protection Agency Region 10 and the State of Washington Department of Ecology present, the U.S. Department of Energy, Richland Operations Office (RL) does not intend to bury beyond the 140 metric tons of contaminated uranium fuel as originally proposed in the draft EA of November 1999. RL is not intending to bury 960 metric tons of uranium materials which is the basis of your concerns. Therefore, we believe that many of your comments are resolved.

On March 14, 2000, at the request of the Hanford Advisory Board Environmental Restoration Committee, RL presented the status of the EA and the current thinking regarding the uranium fuel elements. During the meeting, RL stated that the public comment period had ended February 22, 2000, and that the fuel elements would not be shipped to the Portsmouth Site, as originally discussed in the draft EA. It was also stated that at that time, RL would consider possible disposal of this material at the Hanford Site. Dirk Dunning, of your staff, attended the meeting and was informed that if he had any comments, RL would consider them. On March 16, 2000, attempts were made by R. L. Guillen, Facility Transition Division, and Suzanne S. Clark, Management Systems Division, to contact Mr. Dunning and a message was left with his office to arrange for a conference call later, to further discuss comments made by him at the March 14, 2000, meeting. No response from Mr. Dunning was received or communicated to RL. As a result of not being able to reach members of your staff, the conference call specified in your letter could not be conducted.

RL has considered your comments in the EA, to the extent practicable prior to finalization of the NEPA documentation. For clarity, your comments are repeated in the attachment, including our responses.

A copy of the final EA will be provided to you when it is completed. If you need further information about this EA, you may contact me, or your staff may contact Mr. Guillen, the RL NEPA Document Manager for this EA, on (509) 376-0254, or Randall DeVault, Oak Ridge Office, on (865) 241-4497.

Sincerely,

Peter M. Knollmeyer, Assistant Manager
for Nuclear Materials and Facility Stabilization

FTD:RLG

Attachment

cc w/attach:
D. R. Allen, OR
R. W. Bailey, FHI
S. S. Bath, FHI
W. Burke, CTUIR
C. M. Borgstrom, EH-42
V. C. Crossman, EM-43
R. M. DeVault, OR
D. G. Huizenga, EM-20
D. Huston, OOE
J. D. Hutson, OR
J. D. Jackson, OR
M. T. Jansky, FHI
R. Jim, YN
E. Leming, TDEC
P. Niedzielski-Eichner, PO-4
M. B. Reeves, HAB
D. R. Sherwood, EPA
P. Sobotta, NPT
T. Taylor, KDEP
M. A. Wilson, Ecology
T. Winston, EPA

Attachment A

Comment/Response

Commentor: Mary Lou Blazek, Administrator
Nuclear Safety Division
Oregon Office of Energy
625 Marion Street N.E., Suite 1
Salem, Oregon 97301

Medium: Letter, dated April 19, 2000

Comment: The current EA is completely inadequate for determining there is no significant impact to the environment from burying 950 metric tons of uranium at Hanford. This represents an almost sevenfold increase in the originally proposed amount. The burial discussion in the EA consists essentially of one page at the very end of the EA and the argument presented is that since this has been done before there should be no impact. We considered this discussion inadequate even for the original burial amount. The Oregon Office of Energy recommends that at the very least a new EA be written with a detailed discussion of the potential impacts of burying this amount of uranium at Hanford.

Response: As previously discussed in the cover letter, RL is not planning to bury 950 metric tons of uranium (MTU). Appropriate sections of the EA have been expanded to discuss the option to continue to store approximately 825 metric tons of Unirradiated fuel in the 200 Area of the Hanford Site. Disposition of up to 140 MTU of contaminated fuel (<1% U235) to burial at the Low Level Burial Grounds was included in the EA and is still the plan. The U.S. Department of Energy (DOE), Richland Operations Office, has not decided on the disposition path that it will take to address the 825 metric tons of unirradiated fuel.

Comment: We are opposed to burying this surplus uranium at Hanford. We believe it poses a grave risk to the ground water.

Response: DOE has considered the results of a preliminary performance assessment which states that there is no grave risk to the ground water from the burial of this fuel. DOE at this time, is only considering the burial of up to 140 MTU of the contaminated fuel materials as discussed in the EA. The EA has analyzed the burial of this material, and concludes that there are no adverse impacts to the environment.

Comment: The current decision to use Hanford as a complex wide disposal site for low-level and mixed low-level wastes needs to be revisited in light of the potential addition of 950 metric tons of Hanford's surplus uranium to the total amount of waste to be disposed of at Hanford. We believe this represents a significant increase in both risk and amount of material, which warrants reissuing the Waste Management EIS.

Response: DOE has not decided to bury 950 MTU at the Hanford Site. The EA anticipates burying the 140 MTU described in the draft EA and storing the balance pending the outcome of the Hanford Solid Waste EIS, which is in preparation. Previous site specific analysis (performance assessments and composite analysis) show that uranium disposal will not adversely impact the environment.

Comment: Additionally, we concur with the concerns expressed by the Washington Department of Ecology in their April 4, 2000 letter on this subject and recommend that these concerns along with ours, be addressed in detail in an open, participatory process.

Response: Responses to the April 4, 2000, letter from the State of Washington Department of Ecology (Ecology) included you in that response, and we will invite you to participate in future meetings to discuss alternatives on what to do with the fuel as previously discussed with both Ecology, U.S. Environmental Protection Agency, and the Oregon Office of Energy, during the May 19, 2000, meeting.

FINDING OF NO SIGNIFICANT IMPACT

DISPOSITION OF SURPLUS HANFORD SITE URANIUM

HANFORD SITE, RICHLAND, WASHINGTON

U.S. DEPARTMENT OF ENERGY

JUNE 2000

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-1319, to assess environmental impacts associated with the disposition of surplus Hanford Site uranium. DOE has identified 1,866 metric tons of uranium (MTU) on the Hanford Site as surplus. As of late calendar year 1999, the predominant amount of approximately 1,700 MTU [1,866 MTU minus 140 MTU (135 MTU of contaminated fuel and 5 MTU of miscellaneous scrap)] was considered to have a positive market value and, as such, an asset to DOE. Acquisition interest in the 1,700 MTU of material previously was expressed by both foreign-owned and domestic commercial organizations. In January 2000, after a uranium market analysis workshop with commercial brokers, customers, and processors of uranium, it was determined that there is no foreseeable demand for the 825 MTU of uranium finished and unfinished fuel. Therefore, the inventory of uranium considered to have a readily-identifiable positive market value has been reduced from the aforementioned 1,700 MTU to approximately 900 MTU.

DOE needs to relocate approximately 900 MTU of saleable uranium materials to DOE's Portsmouth site near Portsmouth, Ohio for future beneficial use, and to provide onsite management of the remaining materials (consisting of approximately 140 MTU which may be designated for burial, and approximately 825 MTU of remaining materials which will be managed in interim consolidated storage in the 200 Area) pending final disposition decisions.

Based on the analysis in the EA, and considering public comments, DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the *National Environmental Policy Act of 1969* (NEPA), 42 U.S.C. 4321, et seq. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required.

ADDRESSES AND FURTHER INFORMATION: Single copies of the EA and further information about the proposed action are available from:

U.S. Department of Energy
Richland Operations Office
R. L. Guillen, NEPA Document Manager
Facilities Transition Division
P.O. Box 550, MS L1-03
Richland, Washington 99352
Phone: (509) 376-0254)
e-mail: R_L_Leo_Guillen@rl.gov

For further information regarding the DOE NEPA process, contact:

Ms. Carol M. Borgstrom, Director
Office of NEPA Oversight
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 2085
Phone: (202-586-4600)
e-mail: Carol.Borgstrom@hq.doe.gov

PURPOSE AND NEED: DOE needs to (1) relocate potentially saleable Hanford Site surplus unirradiated uranium (UU) to the DOE's Portsmouth Site near Portsmouth, Ohio, for future beneficial use and (2) provide onsite management of Hanford Site surplus uranium that is not considered readily saleable. The management of excess uranium on the Hanford Site supports a *Hanford Federal Facility Agreement and Consent Order* Milestone MX-92-06-T01 related to "complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford Site UU," and U.S. Department of Energy, Richland Operations Office (DOE-RL) deactivation and mortgage reduction goals.

BACKGROUND: Uranium materials, in various forms and enrichment (enrichment is based on the isotopic uranium-235 content) were fabricated into fuel for use in the Hanford Site production reactors and were byproducts from reprocessing plants. Uranium on the Hanford Site includes normal uranium, depleted uranium, and low-enriched uranium. Ongoing evaluations to date have enabled DOE to identify surplus Hanford Site uranium materials that are readily saleable. Those uranium materials, in various forms, include: uranium metal billets (metallic uranium that has been formed mechanically into hollow cylindrical shapes); uranium trioxide (UO_3) powder (low-enriched UO_3 powder stored in 187 T-hoppers (40 empty and 147 full); uranium dioxide (UO_2) (UO_2 inventory on the Hanford Site consists of depleted and normal uranium pellets, powder, and fuel pins containing UO_2 pellets).

Presently, ongoing evaluations have not identified a positive market value for some uranium materials on the Hanford Site. As a management contingency, DOE would consider onsite disposition of these materials as low-level waste. These materials include: unirradiated fuel assemblies (various types of assemblies are characterized by the uranium-235 enrichment of the inner and outer fuel element and the fuel length. There are both finished and unfinished fuel assemblies, and there are some finished fuel assemblies that were loaded into N Reactor, but never irradiated. These assemblies are radiologically contaminated with low levels of surface beta/gamma contamination [150 to 5,000 disintegrations per minute]); UO_3 and UO_2 powder; and miscellaneous uranium materials (e.g., scrap from earlier fuel fabrication activities).

PROPOSED ACTION: DOE is proposing to transport approximately 900 MTU (approximately 2,000,000 pounds) of uranium materials currently stored on the Hanford Site to the Portsmouth Site for consolidated storage. These materials are considered potentially saleable by DOE. The shipments of the uranium materials would be categorized appropriately, per DOT specifications, for radioactive materials. Transport of the uranium materials could be conducted by truck and/or rail.

The materials would be transferred, as necessary, to appropriate DOT containers. It is expected that uranium billets might be shipped in their current configuration (i.e., wooden shipping containers), or might be repackaged to the extent required by DOT regulations.

The appropriate shipping containers (including T-hoppers) would be secured on a truck trailer (and/or railcar) and radiologically surveyed by trained personnel using prescribed equipment and methods before release. The methods include provisions for carrier compliance with federal and state regulations for transport of radioactive materials. The methods would ensure compliance with standards, specifications, and regulations, including DOT guidelines. Carrier security requirements would be met. A licensed commercial carrier would be retained.

Once at the Portsmouth Site, the containers of uranium materials would be offloaded and stored at an appropriate location expected to be X-744G. The Hanford Site uranium materials would be stored in a transportation-ready configuration, not precluding future determination(s). Any necessary modifications to the Portsmouth facilities would be expected to be minor; e.g., resurfacing asphalt pads, erecting tent covering/enclosure, painting, utility modifications, and radiation monitors. No transport containers would be returned to the Hanford Site for reuse.

The proposed action includes interim storage of the Hanford Site uranium materials pending disposition. Approximately 825 MTU of unirradiated fuel would be transported from the present location to the Hanford Site 200 Areas for consolidated storage pending final disposition. Candidate storage locations would include modified (as appropriate) existing facilities or a new interim storage structure in previously disturbed areas. Activities would be typical of those associated with the siting, construction, and operation of small-scale support buildings and support structures (including prefabricated buildings). Any necessary modifications to an existing Hanford Site facility would be expected to be minor (e.g., resurfacing asphalt pads, erecting tent covering/enclosure, painting, utility modifications, and radiation monitors). These types of activities are conducted routinely on the Hanford Site.

The proposed action includes onsite disposal of surplus Hanford Site uranium. Uranium materials (140 MTU, consisting of 135 MTU of contaminated fuel and 5 MTU of miscellaneous scrap) that might be designated as waste would be appropriately packaged and transported from the present location to the 200 Areas Low-Level Burial Grounds for disposal. It is expected that potential modifications to existing facilities would be

consistent with the ongoing disposal mission and at the burial grounds. After removal of the entire inventory of uranium materials from the existing storage facilities on the Hanford Site, electrical services to those facilities would be reduced to minimize maintenance costs while maintaining appropriate safety margins. End-point criteria would be developed supporting surveillance and maintenance activities. The facilities would remain locked until decommissioned or transferred to a new owner. The temporary equipment would be decontaminated, if necessary, and reused or excessed as appropriate.

ALTERNATIVES CONSIDERED: The EA discussed a variety of alternatives as well as the No-Action Alternative.

No-Action Alternative. Under the No-Action Alternative, the Hanford Site uranium materials would remain in the existing, onsite storage configurations. This alternative would result in continued surveillance and maintenance with the attendant costs for safeguards, security, and utility assessments.

Alternatives. Alternatives addressed in the EA included: alternative interim offsite storage locations for saleable Hanford Site uranium; disposal of the entire Hanford Site surplus uranium inventory; and alternative transportation modes. As discussed in the EA, these alternatives do not support the purpose and need in an economically and timely manner.

ENVIRONMENTAL IMPACTS: Routine activities associated with packaging, transport, storage, and/or disposal of surplus Hanford Site uranium would not result in any significant environmental impacts.

The low level of radioactivity associated with the uranium materials makes the risks associated with the handling and transportation of the uranium materials small. There would be low radiation exposure associated with packaging the uranium materials. A toxicological hazard exists because of the potential for an accidental release of the material in particulate form to the environment. However, the uranium materials currently are packaged appropriately for the respective forms [e.g., billets (large, solid metal masses stored in wooden boxes) or uranium oxide powder (stored in T-hoppers)]. These storage configurations would not release particulates readily. Any trace amounts (in parts per million) of chemical impurities which may be present would be inconsequential when compared to the quantity of uranium.

The potential for release of uranium during packaging and loading/offloading exists. Most of the potential radiological exposure would be expected for the workers involved in the proposed packaging. The maximum expected whole body total dose for an estimated workforce of 5 workers (for any particular type of surplus material) would be a small fraction of the average annual exposure to radiation by Hanford Site/Portsmouth personnel from ongoing activities at these sites. No public exposure to radiation above that currently experienced from routine Hanford Site operations is anticipated as a result

of these actions. No toxicological exposure to workers or the general public is expected to occur as a result of routine handling of the uranium materials, either during packaging, loading, or offloading activities. The materials would be handled in a manner consistent with packaging and transportation of radioactive solid materials.

The total dose to truck crews (workers) would amount to 0.08 person-rem for shipments of uranium billets from the Hanford Site to Portsmouth, Ohio. Transport of uranium oxide powder by truck would result in 0.37 person-rem to workers (transport via rail would provide a reduction in dose to workers to 0.09 person-rem). Total public doses were calculated to be 0.09 person-rem (billets), 0.35 person-rem (uranium oxide via truck transport), and 0.43 person-rem (uranium oxide via rail). The public doses would result predominantly from exposures received during stops enroute. There were no excess LCFs predicted. Circumstances that could affect the selected route (e.g., road closures, detours, unanticipated inclement weather) are not expected to result in increased risk to the worker or public during transportation of the uranium materials.

It would be expected that potential impacts associated with consolidated onsite storage of unirradiated fuel would be similar to those impacts present today. As discussed in Section 5.1.1, potential worker exposure during loading/offloading operations would be low. Once in consolidated storage, minimal radiological exposure would be expected due to any necessary surveillance activities (which are conducted for the material in its current storage configuration). No public exposure to radiation above that currently experienced from routine Hanford Site operations would be anticipated as a result of this action.

Disposal of up to 140 MTU of uranium materials is considered, and would be conducted in existing facilities in the 200 Areas of the Hanford Site. Such disposal would result in less than 400 cubic meters (14,000 cubic feet) of waste, and would not be expected to substantially increase impacts from Hanford Site waste disposal operations.

Accident consequences have been considered for the proposed action. Postulated accidents associated with the repackaging of the uranium materials on the Hanford Site have been considered, and are believed to be bounded by those potential events associated with transportation accidents. The maximum credible accident associated with the shipping container was analyzed for the shipment of Hanford Site surplus materials to Portsmouth, Ohio. The accident consisted of a collision, which engulfs the entire shipment of uranium material in a fire, thus providing the maximum radiological release to the public (and was presented as the bounding consequence scenario). Should an accident involving uranium materials during shipment occur, a release of material could occur only if the transport packaging were to become breached.

The results indicate that the total calculated dose from a maximum credible accident during continental United States (overland truck) uranium billet shipments to Portsmouth, Ohio, conservatively was estimated to be 0.10 person-rem. This equates to 0.00005 latent cancer fatalities (LCFs). Similarly, the total risk for uranium oxide powder (accident scenario) was 0.03 person-rem (0.00002 LCFs) via rail and 0.06 person-rem

(0.0003 LCFs) via truck. Toxicological consequences from an incident during transport also were evaluated, and are small.

Accidents associated with proposed offsite storage, onsite interim storage, and onsite disposal were addressed in the EA, and are bounded by the aforementioned transportation accident consequences.

DETERMINATION: Based on the analysis in the EA, and after considering the public comments received, I conclude that the proposed disposition of surplus Hanford Site uranium materials does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS for the proposed action is not required.

Issued at Richland, Washington, this 15th day of June, 2000.

Keith A. Klein, Manager
Richland Operations Office