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

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APR 08 1994
CORRESPONDENCE CONTROL

94-RPS-177

Mr. Joseph S. Stohr
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Stohr:

INFORMATION TO SUPPORT STATE OF WASHINGTON DEPARTMENT OF ECOLOGY RESPONSE TO REQUEST FOR VARIANCE FROM SOLID WASTE DESIGNATION FOR ORGANIC MATERIAL FROM THE PLUTONIUM-URANIUM EXTRACTION FACILITY

In a letter dated November 5, 1993, the U.S. Department of Energy (DOE), Richland Operations Office (RL), formally requested a variance from solid waste classification for approximately 21,000 gallons of organic solution located at the Plutonium-Uranium Extraction Facility (PUREX). The variance would allow DOE to use the organic solution as an effective substitute for the raw material used as fuel in the calciner operated by the DOE Idaho Operations Office (ID). On January 6, 1994, and February 8, 1994, meetings were held among the State of Washington Department of Ecology (Ecology), RL, and Westinghouse Hanford Company (WHC) to provide additional information to Ecology regarding the variance request. This letter formally transmits information provided informally to Ecology at the January 1994 and February 1994 meetings.

The following items are enclosed for your information:

- "PUREX Organic Solvent Variance Request," the WHC presentation provided January 6, 1994 (Enclosure 1)
- The only response received (to date) to a Commerce Business Daily (CBD) advertisement for bids to handle the organic mixture (Enclosure 2)
- PUREX/Uranium-Trioxide Facility (UO_3) Deactivation Critical Path Schedule (Enclosure 3)
- PUREX/UO_3 Deactivation Critical Path Summary (Enclosure 4)
- Signed memos between RL and ID confirming the proposed use of the organic solution as an effective substitute for the raw material used as fuel in the ID calciner (Enclosure 5)

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Should you have any questions regarding this transmittal, please contact Mr. R. N. Krekel on (509) 376-4264 or Mr. E. J. Senat on (509) 372-2046.

Sincerely,

James E Rasmussen

for James D. Bauer, Program Manager
Office of Environmental Assurance,
Permits, and Policy

EAP:RNK

Enclosures:
1. PUREX Organic Solvent Variance Request Presentation
2. Response to a CBD advertisement
3. PUREX/UO_3 Critical Path Schedule
4. PUREX/UO_3 Deactivation Critical Path Summary
5. Signed RL and ID memos

cc w/encl:
Administrative Records
D. Duncan, EPA
M. Jaraysi, Ecology

cc w/o encl:
D. Hamrick, WHC,
J. Robertson, WHC,

9413207.0026

Enclosure 1

PUREX Organic Solvent Variance Request Presentation

Page 1 of 21

9413207.0027

9413207.0028

PUREX ORGANIC SOLVENT

USAGE VARIANCE REQUEST

R. Duncan

January 6, 1994

9413207.0029

PURPOSE/OBJECTIVE

- To address technical issues and questions associated with the transfer of the PUREX organic solvent to Westinghouse Idaho Nuclear Company (WINCO).

- To obtain approval of variance to allow the PUREX organic solvent to be utilized as a fuel substitute in the WINCO calciner for energy recovery.

9413207.0030

SITE VOLUMES AND CONCENTRATIONS

- Currently ≈21,000 gallons of organic solvent stored in the PUREX Facility.
  - Tk-G5 11,400 gallons
  - Tk-R7 8,800 gallons

- The organic solvent was previously used in the PUREX solvent extraction process. Following Plant Stabilization Campaign in 1990, the organic was washed to remove contamination and impurities.

- The organic solvent is a mixture of normal paraffin hydrocarbon (NPH), straight chained hydrocarbons ranging from decane to tetradecane, and tri-n-butyl phosphate (TBP) in a volume ratio of 77% and 23% respectively.

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DISPOSAL OPTIONS CONSIDERED

- Incineration
- Distillation
- Landfill
- Re-use
  - On-site
  - Off-site
- Energy recovery

9413207.0032

DISPOSAL BY INCINERATION

- Currently only one permitted mixed waste incinerator available to dispose of this material.
- Disposal costs in excess of $150/gallon, or greater than $3.15 million.
- Establishment of a contract and shipment to the incinerator will require 1½ to 2 years.
- Previous problems at this incinerator could extend the time until the organic solvent is destroyed.

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DISPOSAL BY DISTILLATION

- Distillation will separate the NPH from the TBP.
- The current very low levels of radioactivity will not allow purification of either the NPH or the TBP. Both fractions will have trace amounts of radionuclides.
- Design, fabrication and testing of a distillation system would be both time and cost intensive.
- No use on-site for either the NPH or TBP fraction. Both would require disposal off-site.

9413207.0034

LANDFILL DISPOSAL

- No direct landfill option exists. Landfills will not accept material with free liquids, therefore solidification of the PUREX organic solvent would be required.

- Solidification would generate ~ 8,000 drums of material and cost ~ $4 million.

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ON-SITE REUSE

- There is no method on site for reuse of the material. The trace radioactive contaminants prohibits use as a fuel in the on-site boilerhouses.

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OFF-SITE REUSE

- Currently, there is no identified method for the off-site reuse of this organic solvent. The trace radionuclides prohibits commercial reuse of this material off-site.

9413207.0057

ENERGY RECOVERY

- The WINCO calciner is the only facility designed, permitted and operated for energy recovery from materials such as the PUREX NPH/TBP organic solvent. The calciner was designed to handle both the TBP and the radioactive components of this solvent [WAC-173-303-510].

9413207.0038

PREFERRED DISPOSAL METHOD

- Energy Recovery
  - The Department of Energy and Westinghouse agree that the use of the PUREX organic solvent for energy recovery in the WINCO calciner is the preferred method of disposal. This decision is based on:
    - The effectiveness of the PUREX organic solvent for use in the calciner,
    - The degree to which the PUREX organic solvent is analogous to fuel currently utilized in the calciner,
    - The extent to which the PUREX organic solvent will be handled to minimize loss or escape to the environment,
    - The extent to which the energy recovery from the PUREX organic solvent is guaranteed.

- Justify the effectiveness of the material for the claimed use [WAC-173-303-017 (5)(b)(iv)(A)].
  - During operation, the WINCO calciner utilizes both kerosene and a dodecane/TBP organic mixture as fuel.
  - The dodecane/TBP mixture is nearly identical to the PUREX NPH/TBP organic solvent.
  - Heats of Combustion
    - Kerosene 139,000 BTU/gal
    - Dodecane/TBP 118,000 BTU/gal
    - PUREX NPH/TBP 120,000 BTU/gal
- Because the mixtures are nearly identical, the PUREX NPH/TBP organic solvent would be an effective replacement material for use in the WINCO calciner.

9413207.0040

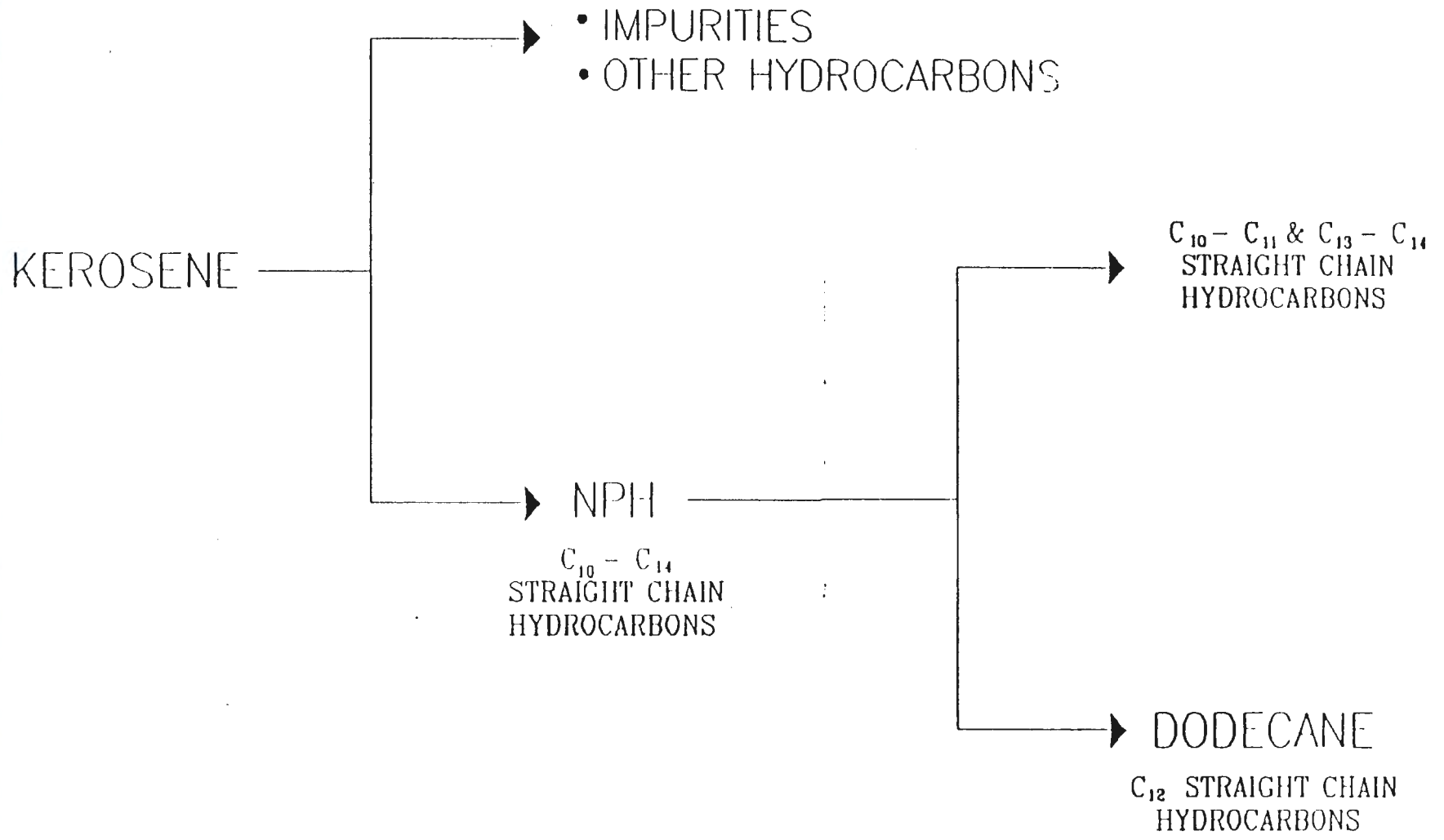

FIGURE 1. ANALOGOUS MATERIALS

9413207.0041

- **Justify the degree to which the PUREX organic solvent is like an analogous raw material or product [WAC 173-303-017 (5)(6)(iv)(B)].**

  - **The organic solvent utilized at the calciner is primarily dodecane containing up to 10% tri-butyl phosphate and some fission products. The calciner is permitted to use the nonhazardous organic solvent as fuel.**

  - **The PUREX NPH/TBP organic solvent, with the exception of a higher TBP concentration is analogous to the dodecane/TBP mixture currently utilized as a fuel in the WINCO calciner.**

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- Justify the extent to which the PUREX organic solvent material is handled to minimize loss or escape to the environment [WAC-173-303-017 (5)(b)(iv)(C)].

  - Upon receipt at WINCO, the PUREX organic would be transferred into any of three 17,600 gallon above-ground tanks. The tanks are in an enclosed building with fire suppression, secondary containment, and leak detection.

  - The PUREX organic solvent would be transferred from the tanks to the calciner in a stainless steel process line and mixed with kerosene upstream of the calciner injection nozzle. The organic/ kerosene mixture would be injected into the calciner combustion chamber and subsequently ignited in an elevated oxygen atmosphere at 500 degrees celsius.

  - Aqueous high-level waste is fed into the calciner where water is evaporated and the nitrous oxides are driven off. The off gases are routed through a series of scrubbers and high-efficiency particulate air filters. The calciner bed solids are kept in bin storage awaiting final immobilization.

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- Phosphates which are volatilized will be captured in the off-gas scrubbers and re-routed to the calciner feed. Volatilized phosphates will not be released as phosphoric acid or other phosphate compounds. Phosphates in the calciner bed will be completed and remain with the high level waste solids. completed

- Phosphates are presently part of the existing fuel. Dodecane/TBP mixtures are routinely utilized in the WINCO calciner for fuel recovery. Phosphate emissions are currently managed within permitted limits.

- Utilization of the PUREX NPH/TBP organic solvent for fuel recovery in the WINCO calciner will not increase phosphate emissions.

- Radioactive components which are volatilized will be removed from the off-gas stream by the scrubbers or by the redundant high efficiency particulate filters.

- The majority of the radioactive components will remain in the calciner bed solids and placed in bin storage.

- Utilization of the PUREX NPH/TBP organic solvent for fuel recovery in the WINCO calciner will not increase the radioactive emissions.

- Justify the extent to which an end market for the reclaimed material is guaranteed [WAC-173-303-017 (5)(b)(iv)(D)].
  - Department of Energy and Westinghouse are committed to the utilization of the PUREX organic solvent for fuel recovery in the WINCO calciner. Written revalidation of commitment is being pursued.
  - WINCO has dedicated storage space for at least 15,000 gallons of material.

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- Justify the time period between generating the material and its recycling [WAC-173-303-017 (5)(b)(iv)(E)].

  - The organic solvent has already been generated as part of the PUREX operations. The solvent is currently stored in tanks at the PUREX Plant.

  - After receipt at WINCO, the PUREX organic solvent will be transferred into any of three tanks for storage. The organic solvent will be used in the operation of the calciner on an as-needed basis. The calciner is currently shutdown for system upgrades, and will be restarted in 1996.

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- Justify other factors as appropriate [WAC-173-303-017 (5)(b)(iv)(F)].
  - The WINCO calciner is the only facility designed, permitted and operated for energy recovery from materials such as the PUREX organic solvent. The calciner was designed to handle both the TBP and the radioactive components of this solvent.
  - Disposal of this material by any other method will prove to be both time and cost intensive.

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SUMMARY

- Both the DOE and Westinghouse believe that use of the PUREX organic solvent for energy recovery at the WINCO calciner is the best option.

- We ask that the State of Washington grant our variance request to allow the shipment of the PUREX organic solvent to the WINCO Facility.

Enclosure 2

Response to a CBD Advertisement

9413207.0048

RESPONSE TO CBD FROM TIERRA ENVIRONMENTAL CORPORATION

Terra Environmental Corporation proposes to separate the TBP and the NPH fractions according to relative specific gravities. As specific catalyst is utilized to accomplish this separation. Once separated, the fractions would then be placed in approved containers for disposal/re-use as is legally permitted. The proposal further states that their separation units would arrive on-site clean and empty and the units would leave in the same condition.

This proposal is unacceptable for the following reasons:

1) Separation of the TBP/NPH fractions would not remove the radioactive contamination, and therefore both fractions would still contain trace amount of contamination. This would restrict/prohibit the reuse of the fractions. Only a facility such as the WINCO calciner could reuse the NPH; there would be no re-use option for the TBP fraction. The disposal of the NPH fraction would require incineration, while the TBP fraction would require solidification/stabilization and burial.

2) Once the contaminated organic solvent has been introduced into their separation unit, the entire system would become contaminated. Therefore, the separation units would have to be de-contaminated or purchased, and the contaminated catalytic resin would have to be disposed of. Disposal of radioactively contaminated resin is a very difficult task. Both of these activities have the potential to be very costly.

3) This option does not actually address the disposal/re-use of this material, it is merely a separation process. We previously evaluated and currently have the ability to accomplish this separation. However, separation of the two fractions provides no benefit towards the actual disposal/reuse of the organic solvent.

4) It appears that the fact that this material is radioactively contaminated was not factored into this proposal.

For the reasons stated above, this proposal is unexceptable and should not be considered.

Robbin Duncan

DATA ENTRY COMPLETE

TIERRA
ENVIRONMENTAL CORPORATION

CORPORATE OFFICE
6846 S. Canton, Suite 100
Tulsa, OK 74136
918-496-3200

REGIONAL OFFICE
909 W. Apache
Farmington, NM 87401
505-325-0924

M.L. Taylor, Mail Stop G1-55
Westinghouse Hanford Company
P.O. Box 1970
Richland, WA 99352 1/25/94

Dear Mr. Taylor;

Tierra Environmental Corporation is pleased to be able to forward this initial response regarding your request for bids to handle the apx. 24,000 gallons of NPH/TBP Mixtures.

We propose to handle your effluent solution in the following manner, subject to the reservations as are below noted:

1. Mobilize our Mobile Water Recycling Unit ("MRU") (and possibly our Solvent Recycling Unit ("SRU")) to your location.

2. Set up, in accordance to respective regulations and requirements, utilizing only HM 126F trained (40 hour OSHA trained) personnel.

3. Process the effluent liquids through our MRU and over our proprietary catalyst unit in batches of apx. 5,000 US gallons. Multiple batches may be processed concurrently.

NOTE: The catalyst unit will cause the hydrocarbons and TPB to separate according to relative specific gravities.

4. After a 24-48 hour holding period to ensure that the full catalyst effect is realized, the following will occur:

   4.1 The hydrocarbons will be drawn off the top of the decanting unit, and placed in approved containers for disposal/re-use as is legally permitted. These hydrocarbons should be in a form they can be used as a fuel, or recycled for re-use as/if legally permitted.

   4.2 The TPB liquid layer will be drawn off with the TPB liquid placed in approved containers for re-use or disposal as is legally permitted.

9402070096

4.3 Any remaining water will be run through our series of processing units on the MRU to ultimately produce fresh water, which will meet applicable State and or Federal regulatory limitations for same.

4.4 Any silts and or sludges which remain will be rinsed into approved containers for disposal according to their respective type and class of waste material.

5. Should the components not cleanly separate solely from the effect of our catalyst, or one or more components (TPB/hydrocarbons, eg.) not cleanly separate, Tierra will utilize our SRU to fractionally distill the effluent into respective components.

6. It is not our primary intent to be responsible for the disposal of the separated components of this effluent.

6.1 Tierra normally returns all processed liquids and solids to the client for client disposal.

6.2 Our units arrive on-site clean and empty, they leave in the same condition.

6.3 Any containers receiving a hazardous or regulated substance or waste will be fully labelled as required.

6.4 If desired by your firm, any substances requiring off-site disposal will be over packed in suitable disposal/overpack drums, suitably labelled and transported via legally permitted transporter for legally permitted disposal.

6.4.1 Tierra can perform this service if so contracted.

The above represents our proposed operations to remediate your effluent mixture.

Tierra Environmental Corporation requires the following additional information in order to submit our detailed bid for your consideration:

9/3/97.MSG

1. A TCLP or other approved and recognized analysis (including EPA metals, if applicable) fully breaking down the subject liquid into identified components and relative percentages or ppm etc. of each component. This detailed analysis is vitally important to our ability to submit a bid for consideration.

2. A description of the present liquid storage, including type of container, size of tank, number of containers, and respective condition of the container(s).

3. Accessibility to liquid storage. If in a bulk tank, is a suitable pad, bermed area of apx. 60' X 60' (or larger) available for setting up two standard 40' trailers within a reasonable hose length distance to bulk tank?

4. If drummed, or in other non-bulk storage, is an area of the dimensions noted in three (3) above available on-site in which to set up and perform our processing operations?

5. Is there a tentative start date available to begin processing operations?

6. What is the allowed processing time/duration allowed from start to the completion of processing operations, if available?

7. Will there be any restrictions on site access, any limitation or restriction on daily/weekend working hours, or any union clauses in effecting the processing of this effluent?

8. Will contractor have access to on-site electricity?

9. Is a sample of your bid award document, with any standard attachments, if applicable, available for our preliminary review which notes your standard clauses, terms and restrictions.

10. Does Westinghouse have the results of any such previous processing/re-use programs available for contractor review?

11. Is access to site, present liquid storage area, and proposed available working area available for pre-bid contractor inspection?

Upon our receipt of as much of the above requested information as is available for dissemination, Tierra will be able to prepare a complete bid package for your consideration.

Given the scope of operations available for contractor consideration, we will propose processing and several options on re-use or disposal as may be possible and based upon effluent analysis.

Sincerely,

W.W. Rippetoe
President

CC: C. L. Treiber
Chuck Driesbach
Files

**Please note our new Corporate Office address and telephone numbers are as follows:

Tierra Environmental Corporation
12205 East Skelly Drive
Tulsa, OK 74128

Telephone: (918) 437-6200
Telefax : (918) 437-6266

02/20/1953

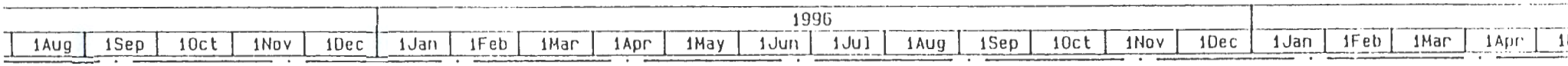
Enclosure 3

PUREX/UO_3 Critical Path Schedule

(MAP)

9413207.0054

PUREX/U03 CRITICAL PATH



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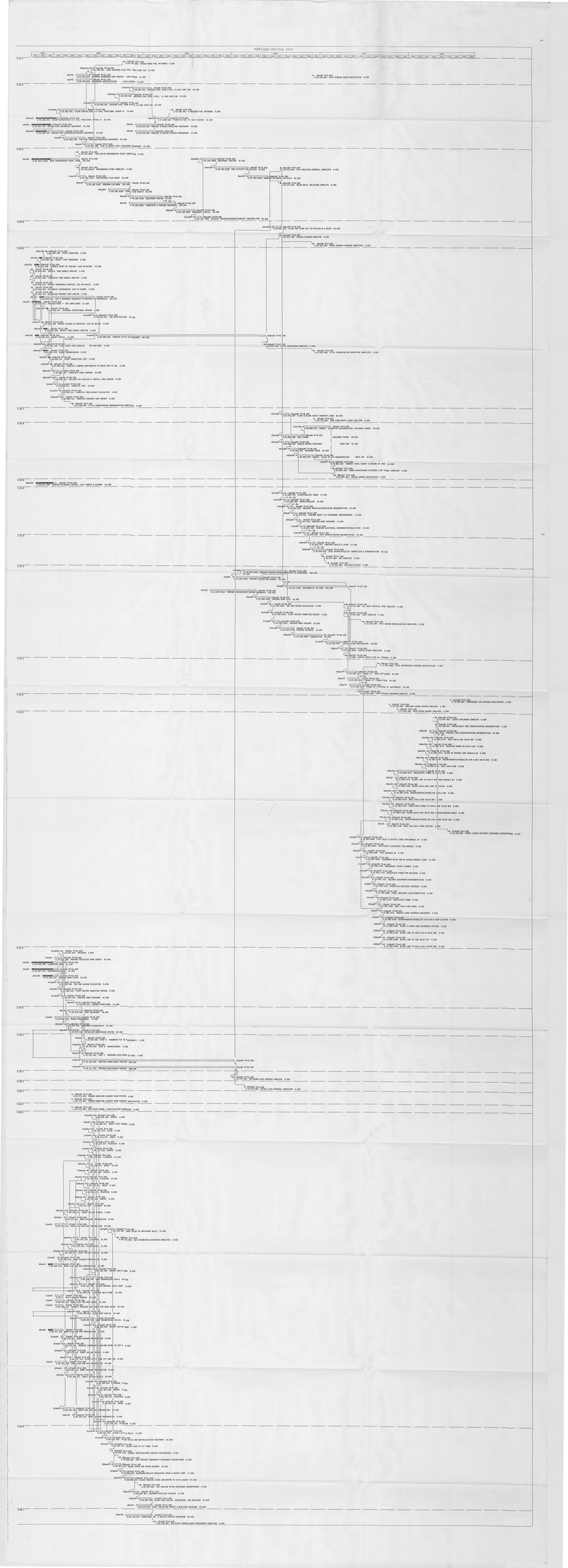
PURE/AVID CRITICAL PATH

Enclosure 4

PUREX/UO_3 Deactivation Critical Path Summary

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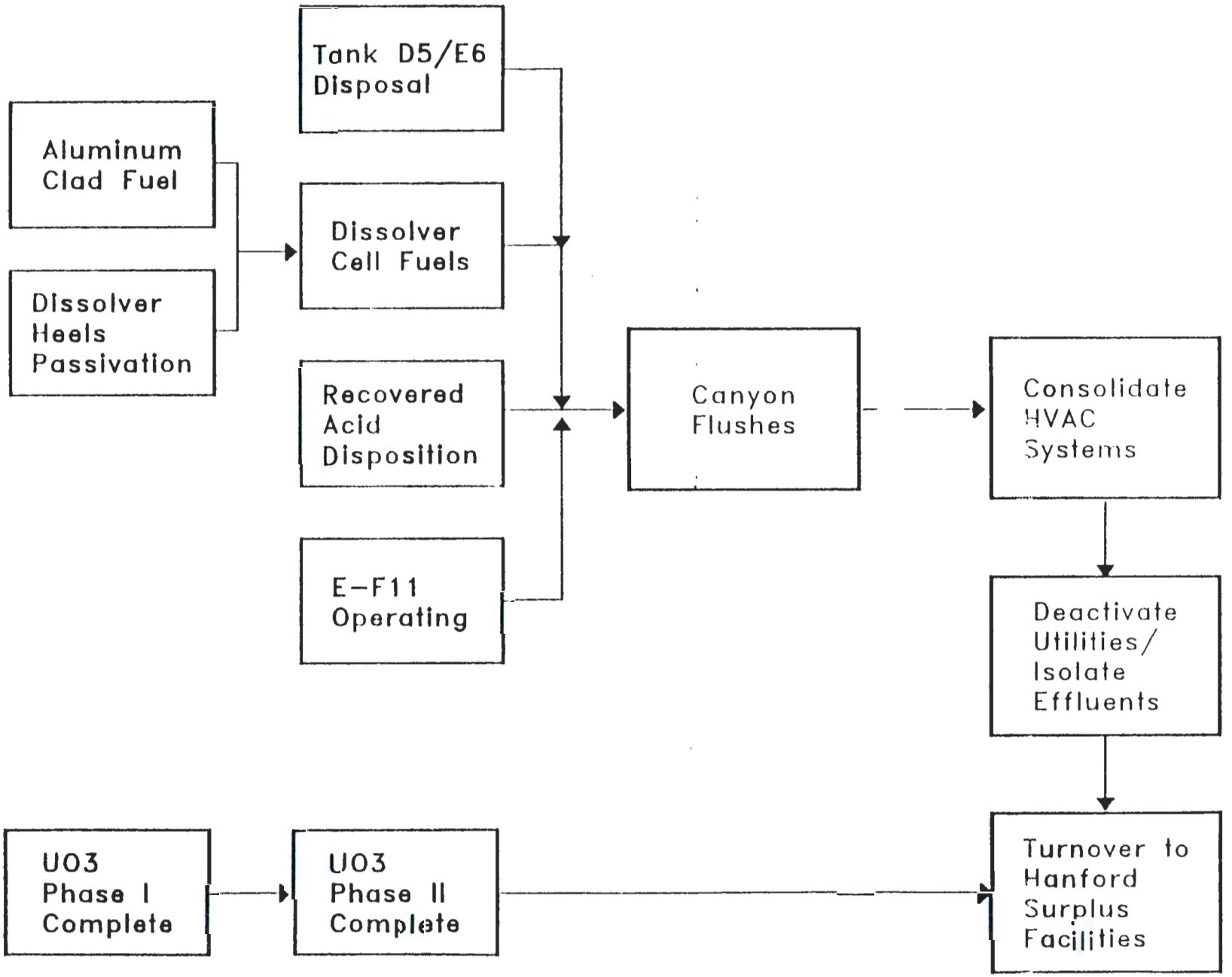
9413207.0057

PUREX/UO3 DEACTIVATION CRITICAL PATH SUMMARY



Enclosure 5

Signed RL and ID Memos

Page 1 of 12

9413207.0058

RL-F-1325.6# DEF012
(04/93)

United States Government | Department of Energy

memorandum

Richland Operations Office

DATE: FEB 0 8 1994

94-PPO-006

REPLY TO ATTN OF: OTD:GJB

SUBJECT: BENEFICIAL USE OF PUREX PLANT ORGANIC SOLVENT INVENTORY

TO: Thomas F. Burns, Jr., Assistant Manager
Office of Program Execution, ID

For some time now our respective staffs and, in particular, the respective contractor staffs have been working to beneficially use approximately 21,000 gallons of organic solvent from Hanford's PUREX Plant as a fuel for the New Waste Calcining Facility (NWCF). The technical viability of the PUREX solvent as a fuel for the NWCF has been agreed upon (Attachments 1 & 2). The first shipment of the material was practically on the road this past summer when a regulatory issue surfaced due to the designation of the material under unique State of Washington regulations as a (State only) hazardous waste. This designation created difficulty with Idaho's receipt of the material and the shipment was placed on hold.

Since that time Hanford has been working closely with the Washington State regulators to utilize provisions in the regulations that encourage beneficial use of materials such as the PUREX solvent and allow shipment of the solvent as other than a hazardous waste. We believe our request (Attachment 3) for their approval of the variance will be approved. An important basis for their approval is a level of confidence that the proposed use of the material as NWCF fuel is consistent with the currently understood plans for NWCF operation. To that end, it would be very helpful if you could confirm that the intended use of the PUREX solvent as an NWCF fuel remains viable.

The PUREX Plant is currently undergoing deactivation and the remaining solvent inventory is one of the key project activities that must be accomplished. DOE's other identified option for disposition of the solvent is to send it to a commercial incinerator for thermal destruction at a cost of approximately $1-1.5 million.

G. J. Bracken, of my staff, is the Program Manager for the PUREX/UO_3 Deactivation Program and can be reached on (509) 376-7275. He should be able to answer questions your staff may have.

Thank you for your assistance in this matter.

J. R. Hunter, Assistant Manager
for Waste Management

Attachments

cc: W. D. Jensen, ID
M. F. Bonkoski, ID
R. Martinez, EM-64

DATE: 2/7/94

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

August 31, 1993 9357446

S. M. Halupa
Vice President and Manager Operations Dept.
Westinghouse Idaho Nuclear Company
Post Office Box 4000
Idaho Falls, ID 83403-4000

Dear Mr. Halupa:

PLUTONIUM URANIUM EXTRACTION PLANT ORGANIC

Westinghouse Hanford Company is ready to ship the Plutonium Uranium Extraction (PUREX) Plant organic to Westinghouse Idaho Nuclear Company (WINCO) when we receive your approval. The following information is supplied in response to concerns expressed by your engineering staff.

Laboratory analyses confirm the PUREX organic contains approximately 25 volume percent (23 per analysis) tri-butyl phosphate (TPB) and 75 volume percent normal paraffin hydrocarbon (NPH) composed primarily of dodecane to tetradecane. As expected, the laboratory analyses and knowledge of the material also confirmed the absence of n-decane (compound identified with a flashpoint below 60°C) at a concentration of 0.028 volume percent which would not make the organic mixture ignitable under 40 CFR 261.21. Through knowledge of the material, the organic mixture would not be hazardous for corrosivity under 40 CFR 261.22 or for reactivity under 40 CFR 261.23.

The following toxic characteristic (40 CFR 261.24) metals were analyzed and were found to be below regulatory levels: arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), and silver (D011). Through process knowledge of the material, the following toxic characteristic (40 CFR 261.24) constituents, (pesticides and herbicides) are not present: endrin (D012), lindane (D013), methoxchlor (D014),toxaphene (D015), 2,4-D (D016), and 2,4,5-TP (D017). The following toxic characteristic (40 CFR 261.24) constituents through knowledge of the process would not be expected to be found: benzene (D018), carbon tetrachloride (D019), chlordane (D020), chlorobenzene (D021), chloroform (D022), o-cresol (D023), m-cresol (D024), and p-cresol (D025), cresol (D026), 1,4-dichlorobenzene (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), 2,4-dichloroethylene, (D030), heptachlor (D031), hexachlorobenzene (D032), hexachlorobutadiene (D033), bexachloroethane (D034), methyl ethyl ketone (D035), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), tetrachloroethylene (D039), trichloroethylene (D040), 2,4,5-trichlorophenol (D041), 2,4,6-trichlorophenol (D042) and vinyl chloride (D043).

9357446.0067

9357446

Regarding specific concern expressed about benzene (D018) and carbon tetrachloride (D019), these chemicals are not used at the PUREX Plant and there is no mechanism to form these chemicals in the PUREX process. In addition, the solubility of benzene in water, as listed in the 73rd Edition of the Chemical Rubber Company Handbook of Chemistry and Physics, is 1.77 grams per liter at 24°C. The organic is washed with dilute sodium carbonate solution prior to use and continually contacts aqueous streams during processing. Any benzene contaminants found within the organic mixture, therefore, would exist in the aqueous waste streams, and would not be found within the organic solvent.

We, therefore, certify to the best of our knowledge the material identified on manifest number A3229 contains no hazardous waste listed in 40 CFR 261. If you have additional questions please contact me on 509-373-4999.

Very truly yours,

L. F. Perkins

D. G. Hamrick, Manager
PUREX/UO_3 Plants

klw

RL: R. O. Puthoff
L. D. Romine

cc: R. R. Bone, WINCO
J. G. Burton, WINCO
G. R. Franz, WINCO
P. T. Grahoval, WINCO
P. E. Peistrup, WINCO
K. L. Shifty, WINCO
R. L. Skinner, WINCO
F. S. Ward, WINCO
K. M. Wendt, WINCO

CONCURRENCE:

D. J. Hendrickson for DATE: 8/31/93
W. A. Peiffer, Manager
PUREX Process Shutdown Projects

D. J. Hendrickson for DATE: 8/31/93
R. C. Roal, Manager
PUREX Engineering

9413207.0062

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To	From
D. G. Hamric	S. M. Halupa
Co.	Co.
W. A. Peiffer	+ Judy Burton
Dept.	Phone #
Robin Duncan	
Fax #	Fax #

Westinghouse Idaho Nuclear Company, Inc.

SMH-137-93
From : S. M. Halupa
Phone : 6-9003/MS-5233
Date : September 2, 1993
Subject: Plutonium Uranium Extraction Plant Organic

To : D. G. Hamric, WHC

cc: C. R. Enos, DOE-ID
R. J. Bliss, WHC
R. R. Bone
J. G. Burton
J. E. Kaylor
W. C. Moffitt
W. A. Peiffer, WHC
R. C. Roal, WHC
A. M. Umek

All of the chemical analysis, safety analysis, and plant preparations have been completed to receive up to 21,000 gallons of Plutonium Uranium Extraction Plant Organic Solvent for storage and future processing through the New Waste Calcining Facility (NWCF). You may ship the first shipment of solvent to the Idaho Chemical Processing Plant. Future shipment schedules and quantities need to be coordinated through Judy Burton, the NWCF Manager, at (208) 526-4121. It is anticipated that all of the solvent may be shipped.

S. M. Halupa
Vice President and Manager
Operations Department

JGB/tnh

9402070067

United States Government | Department of Energy

memorandum

Idaho Operations Office

DATE: February 17, 1994

SUBJECT: Confirmation of Intended Reuse of Excess PUREX Material, OPE-CPP-BSA-94055

TO: John R. Hunter, Assistant Manager for Waste Management
Richland Operations Office

REFERENCE: Memorandum, J. R. Hunter to T. F. Burns, Subject: Beneficial Use of PUREX Plant Organic Solvent Inventory, Dated February 8, 1994.

This correspondence is in response to the referenced memorandum which requested ID confirmation of the intended reuse of the PUREX material.

The New Waste Calcining Facility (NWCF), located at the Idaho Chemical Processing Plant (ICPP) at the Idaho National Engineering Laboratory (INEL), burns kerosene as fuel and uses N-dodecane with 10% TBP as a fuel substitute in the high level waste calcination process. The excess PUREX material is very much desired to use as fuel substitute for the next NWCF operating campaign which is scheduled to start the first quarter of fiscal year 1997.

As noted above, the fuel substitute used in the NWCF contains 10% TBP while we understand the PUREX material contains approximately 25% TBP. Prior to use of the PUREX material, it will be necessary to conduct test burns of the NWCF pilot plant to determine whether the PUREX material can be used as is or whether dilution will be necessary.

There is currently no method for dilution of the fuel substitute except by mixing in the storage tanks. The NWCF solvent storage tanks are currently nearly empty with a maximum available capacity of about 19,600 gallons. Assuming dilution is necessary, a maximum of about 16,400 gallons of the PUREX material could be received for storage. If it is later determined that dilution is not required, an additional shipment could be received. The possibility of identifying additional storage locations is being pursued.

An additional complicating factor is that construction is in progress adjacent to the NWCF solvent storage tanks. Receipt of the PUREX material would need to be delayed until the construction is completed. The construction is expected to be completed in April 1994.

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Krehel

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If you have additional questions or if we can provide further assistance, please contact Brian Anderson of my staff at (208) 526-0086.

CR Enos

for W. D. Jensen, Facility Manager
ICPP Operations

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Author	Addressee	Correspondence No.
J. D. Bauer, RL (J. R. Robertson, WHC)	J. S. Stohr, Ecology	Incoming: 9402907 Xref 9451708D

Subject: INFORMATION TO SUPPORT STATE OF WASHINGTON DEPARTMENT OF ECOLOGY RESPONSE TO REQUEST FOR VARIANCE FROM SOLID WASTE DESIGNATION FOR ORGANICS FROM THE PLUTONIUM-URANIUM EXTRACTION FACILITY

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