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

90-PPB-215

SEP 26 1990

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CORRESPONDENCE CONTROL

START

Mr. Timothy L. Nord
Hanford Project Manager
State of Washington
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504-8711

Dear Mr. Nord:

REVISION TO THE HANFORD SITE DANGEROUS WASTE PART A PERMIT APPLICATION (WA7890008967) (S-2-1)

Enclosed is the Dangerous Waste Part A Permit Application Form 3, Revision 1, for the PUREX Storage Tunnels. The PUREX Storage Tunnels are underground railroad tunnels which are used to store failed/obsolete PUREX process equipment removed from the PUREX plant.

The Form 3, for the PUREX Storage Tunnels has been revised to change the process code from S01 (storage container) to S05 (other), to redesignate the PUREX Storage Tunnels as a "miscellaneous unit," and Dangerous Waste Code D001 was added to address the ignitable characteristic of the silver nitrate stored in Tunnel 2. The estimated annual quantities of waste have been modified to represent maximum quantities of waste placed into the tunnels in any given year since initial operation. The table in Section IV, "Description of Dangerous Waste," has been revised to update the quantities of dangerous waste in Tunnels 1 and 2, and to include in Tunnel 2 lead waste, and the position of where the lead waste is stored. Other changes include the addition of new facility drawings to delineate the differences in construction of the two tunnels and an updated aerial photograph has been added to more appropriately represent the unit. The above changes are based on an evaluation performed in support of the PUREX Storage Tunnels Part B Permit Application which is to be submitted to the State of Washington Department of Ecology by September 30, 1990 (Hanford Federal Facility Agreement and Consent Order Milestone M-20-11).

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If you have any questions regarding the enclosed permit application revision, please contact Mr. C. E. Clark of the U.S. Department of Energy, Richland Operations Office on (509) 376-9333 or Ms. C. J. Geier of the Westinghouse Hanford Company on (509) 376-2237.

Sincerely,

R. D. Izatt, Director
Environmental Restoration Division
Richland Operations Office

R. E. Lerch, Manager
Environmental Division
Westinghouse Hanford Company

Enclosure:
Dangerous Waste Part A Permit
Application for PUREX Storage
Tunnels

cc: P. T. Day, EPA, w/encl.
D. L. Duncan, EPA, w/encl.
R. E. Lerch, WHC, w/o encl.

9 1 4 1 8 9 3 0 0 0 6 0

PUREX STORAGE TUNNELS PART A PERMIT APPLICATION REVISION EXPLANATION (S-2-1)

This Part A permit application consists of a Form 1 (not revised) and a Form 3, Revision 1, that describes the PUREX Storage Tunnels in general terms.

The Part A permit application, Form 3, has been revised to redesignate the PUREX Storage Tunnels 1 and 2 as a "miscellaneous unit" in accordance with the provisions established in 40 CFR 264 Subpart X. Additionally, dangerous waste code D001 has been added to address the ignitable characteristic of the silver nitrate stored in Tunnel 2 and the estimated annual quantity of waste has been modified to represent maximum quantities of waste placed into the tunnels in any given year since initial operation. The table in Section IV, "Description of Dangerous Waste," has been revised to update the quantities of dangerous waste in Tunnels 1 and 2, and to include in Tunnel 2 lead waste, and the position of where the lead waste is stored. The addition of new facility drawings was made to delineate the differences in construction of Tunnels 1 and 2. The above changes are based on data obtained for the PUREX Storage Tunnels Part B Permit Application (Hanford Federal Facility Agreement and Consent Order Milestone M-20-11).

The following is an overview of the PUREX Storage Tunnels Part A permit application, Form 3, contents.

Section I — The EPA/State Identification Number - No change.

Section II — First or Revised Application - No change.

Section III — Processes - Codes and Design Capacities - This section describes the process codes and the process design capacities of the PUREX Storage Tunnels. In Block A the process code has been changed from "S01" (storage container) to "S05" (other). In Block B.1., the process design capacity amount has been changed from "6,200,000" gallons to "31,400" cubic yards. In Block B.2., the unit of measure has been changed from "G" for gallons to "Y" to cubic yards. In Section III.C, the process description was revised based on data obtained for the PUREX Storage Tunnels Part B permit application. Additional details of the processes are provided in this section.

Section IV — Description of Dangerous Waste - This section describes the dangerous waste that is being stored at the PUREX Tunnels. In Block A, dangerous waste number "D001" was added to address the ignitable characteristic of the silver nitrate. In Block B, the estimated annual quantities of waste were changed to reflect the estimated maximum quantity of waste placed into the tunnels in any given year since initial operation. A corresponding note has been added explaining the annual quantities of waste and identifying that the quantities may be exceeded in future years of operation. In Block C there is no change. In Block D.1., the process code was changed from "S01" to "S05." In Block D.2., the process description was changed from "container storage" to "storage/other/miscellaneous unit." Table 1 of this explanation provides the dangerous waste number, new estimated annual quantities of waste, and description of the chemical constituents. Section IV.E., "Description of Dangerous Waste," has been updated to reflect placement of additional mixed waste into the tunnels since the submittal of the original Part A permit application.

Section V — Facility Drawing - New facility drawings have been added to delineate differences in construction of the two tunnels.

Section VI — Photographs - An updated aerial photograph has been added to more appropriately represent the facility.

Section VII — Facility Geographic Location - No change.

Section VIII — Facility Owner - No change.

Section IX — Owner Certification - The certification is signed by the Manager, U.S. Department of Energy-Richland Operations Office.

The Manager of U.S. Department of Energy-Richland Operations Office was changed from Michael J. Lawrence to John D. Wagoner.

Section X — Owner Certification - An attachment is provided to the Form 3 to be signed by the Manager, U.S. Department of Energy-Richland Operations Office, as owner/operator and the President, Westinghouse Hanford Company, as co-operator. These signatures certify that the information is true, accurate, and complete.

The Manager of U.S. Department of Energy-Richland Operations Office was changed from Michael J. Lawrence to John D. Wagoner.

The President of Westinghouse Hanford Company was changed from William M. Jacobi to Roger C. Nichols.

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TABLE 1 - PUREX STORAGE TUNNELS

KEY TO DANGEROUS WASTE IDENTIFICATION NUMBERS

PART A, SECTION IV

Dangerous Waste Number	Annual Quantity of Dangerous Waste (lbs)	Description of Chemical Constituents
D008	6,000**	Lead
WT01	Included with D008	Toxic - Extremely Hazardous Waste (EHW) - state-only designation (lead)
D009	100**	Mercury
WT01	Included with D009	Toxic - EHW - state-only designation (mercury)
D011	1,500**	Silver
WT01	Included with D011	Toxic - EHW - state-only designation (silver salts)
D001*	Included with D011	Dangerous waste that exhibits characteristics of ignitability (silver nitrate)

* New dangerous waste code
** New estimated annual quantity of dangerous waste in pounds (lbs)

Please print or type in the unshaded areas only
(but one space is allowed for each letter, i.e., 12 characters maximum)

FORM 3

DANGEROUS WASTE PERMIT APPLICATION

I. EPA/STATE I.D. NUMBER: W A 7 8 9 0 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (mo. day & yr.)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

MO 06 DAY 15 YR 56 — FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

☐ 2. NEW FACILITY (Complete item below.)

MO DAY YR — FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete Section I above)

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT

☐ 2. FACILITY HAS A FINAL PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D80	GALLONS OR LITERS
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D82	ACRES OR HECTARES
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D84	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE FEET	A
HECTARE METER	P
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S05	* 31,400**	Y		7				
2									
3									
4									

* Process Code S05 is being utilized to designate the PUREX Storage Tunnels as a "miscellaneous unit" per 40 CFR 264, Subpart X.

** Maximum storage volume, net usable volume 21,000 cubic yards.

9 1 1 8 9 3 0 0 9 4

Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

The PUREX Storage Tunnels are a miscellaneous storage unit (S05) used for storage of mixed waste. The two tunnels are designed to store discarded equipment. Since being placed into service, various types of equipment containing mixed waste have been stored in the tunnels on railcars. Not all equipment stored in the tunnels contain mixed waste.

The construction of Tunnel 1 was completed in 1956. The maximum storage capacity of the tunnel is approximately 5,400 cubic yards (19 feet wide by 22 feet high by 350 feet long) and provides storage space for eight railcars. Between June 1960 and January 1965, all eight railcar positions were filled and the tunnel subsequently sealed. The combined volume of the equipment stored in Tunnel 1 is approximately 780 cubic yards.

The construction of Tunnel 2 was completed in 1964. The maximum storage capacity of the tunnel is approximately 26,000 cubic yards (19 feet wide by 22 feet high by 1,680 feet long) providing storage space for 40 railcars. The first railcar was placed in Tunnel 2 in December 1967 and as of January 1990, 17 railcars have been placed in the tunnel. The combined volume of equipment stored on the 17 railcars presently in Tunnel 2 is approximately 1,780 cubic yards.

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER — Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non—listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER — Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

1. Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002			T03 D80	included with above

Continued from page 2

NOTE Photocopy this page before completing if you have more than 26 wastes to list

I.D. NUMBER (enter from page 1): WA7890008967

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE	A. DANGEROUS WASTE NO. (enter codes)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter codes)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D008	6,000 *	P	S05	Storage/Other/Miscellaneous Unit
2	WT01				Included With Above
3	D009	100 *	P	S05	Storage/Other/Miscellaneous Unit
4	WT01				Included With Above
5	D011	1,500 *	P	S05	Storage/Other/Miscellaneous Unit
6	WT01				↓
7	D001		↓	↓	Included With Above
8		* Listed annual quantities represent the estimated maximum quantity of waste placed in either tunnel in a given year since the tunnels were placed in service. Listed annual waste quantities may be exceeded in future years of operation.			
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Continued from the front

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The waste stored in the tunnels includes lead (D008) weights, counterweights, mercury (D009) in the dissolvers, and silver salts (D011) from the silver reactors. The silver salts are considered ignitible (D001) because of the presence of silver nitrate. These dangerous wastes are considered toxic extremely hazardous waste (WT01).
The estimated amount of mixed waste currently stored in the tunnels is as follows.

TUNNEL NUMBER	DANGEROUS WASTE	AMOUNT[1]	LOCATION IN TUNNELS[2]
1	Lead (elemental)	500 lbs	Positions 2 and 4
2	Silver Salts[3]	1,625 lbs[4]	Positions 5 and 15
	Mercury (elemental)	284 lbs	Positions 7, 9, and 11
	Lead (elemental)	6,084 lbs	Positions 14 and 15

1 - The amounts indicated are approximates in pounds (lbs).
2 - Railcar positions start from the south end of the tunnel (Position 1 farthest south).
3 - A mixture of silver nitrate, silver halides and silver fines.
4 - Expressed as pounds-equivalent of silver nitrate.

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground—level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)	SIGNATURE	DATE SIGNED
John D. Wagoner Manager, Richland Operations United States Department of Energy	Edward D. Goldberg	9-18-90

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)	SIGNATURE	DATE SIGNED
SEE ATTACHMENT		

9 1 1 1 8 9 3 0 0 9 7

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Edward B. Goldberg

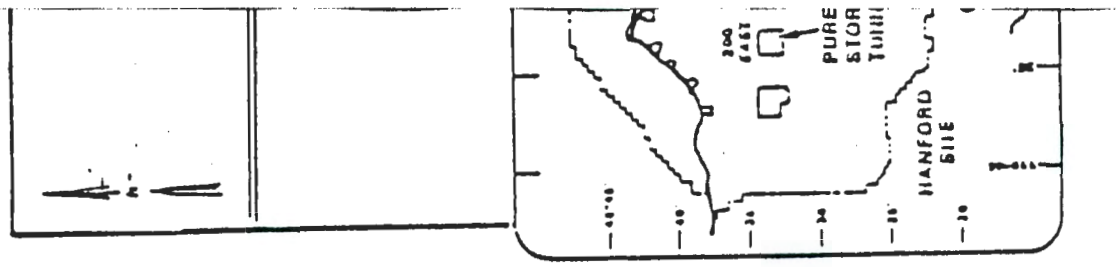
Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

9/18/90
Date

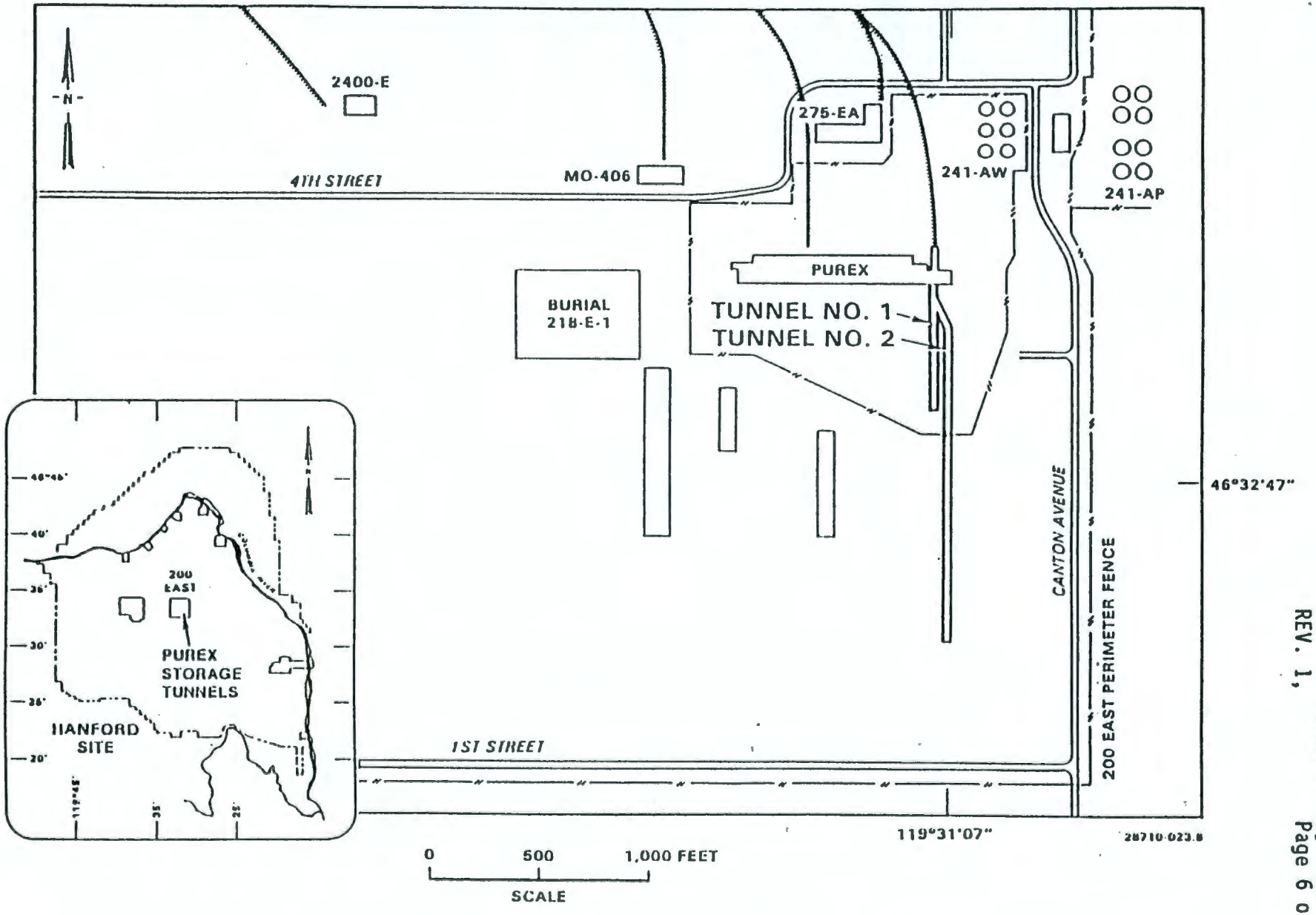
Roger Nichols

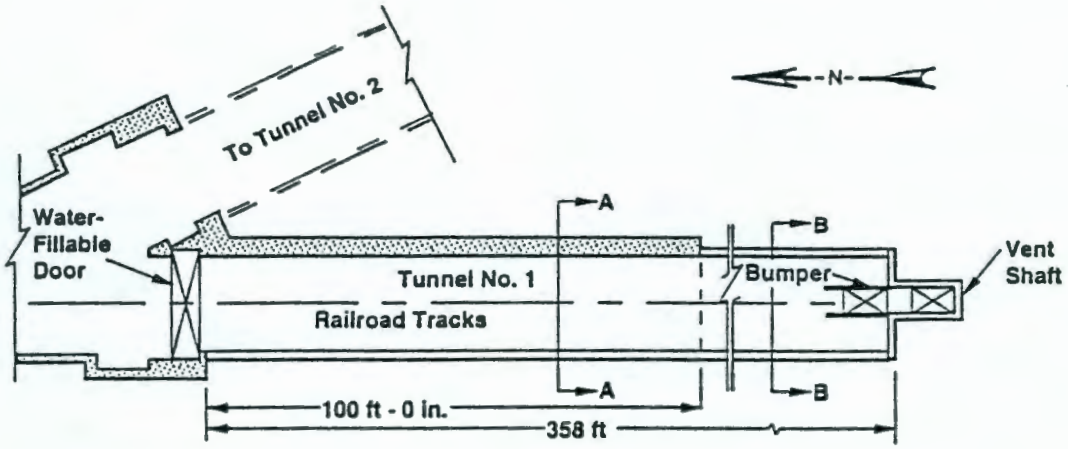
Co-operator
Roger C. Nichols, President
Westinghouse Hanford Company

8/21/90
Date

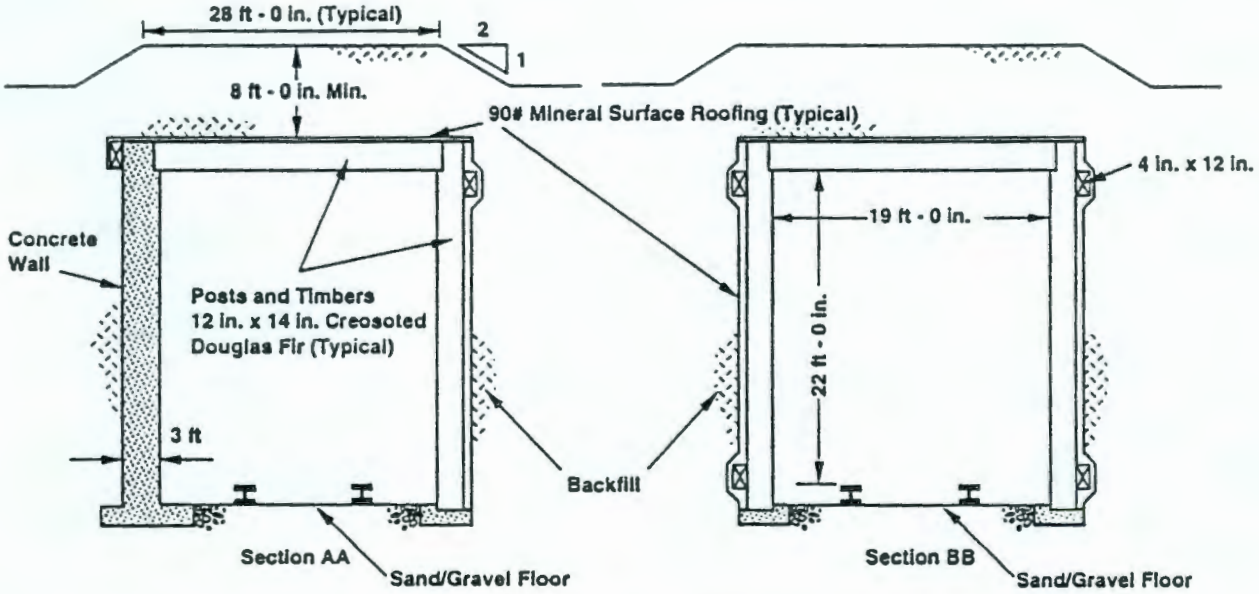


PUREX STORAGE TUNNELS
SITE PLAN

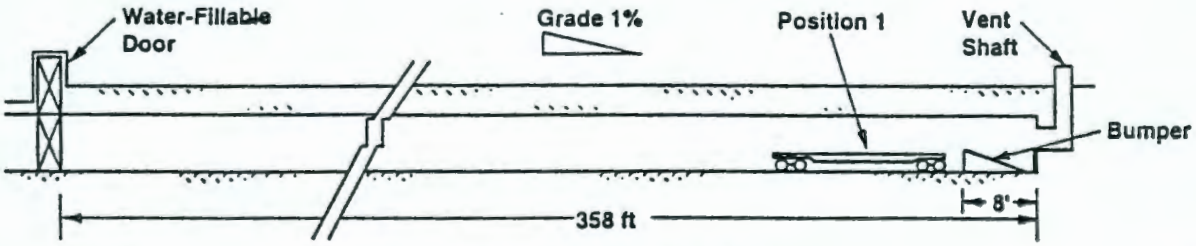




Tunnel No. 1 - Plan View



PUREX Tunnel No. 1 - Section Views



PUREX Tunnel No. 1 - Elevation View

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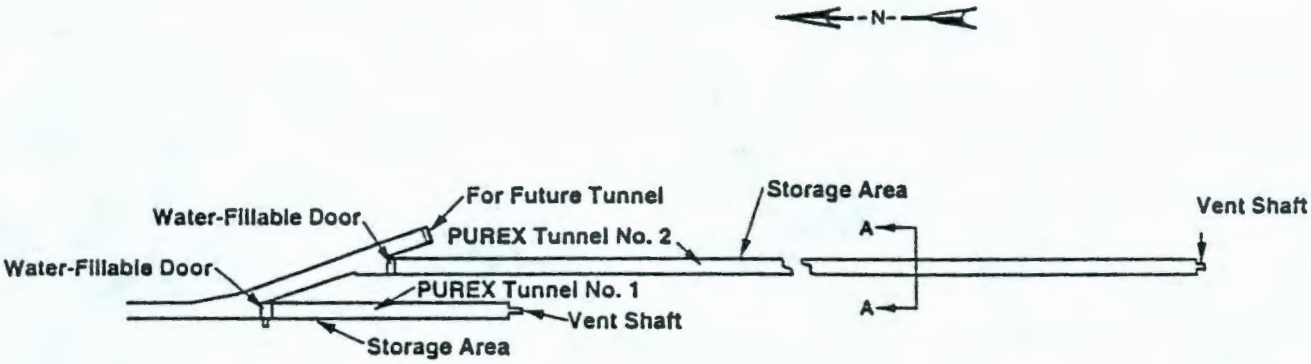
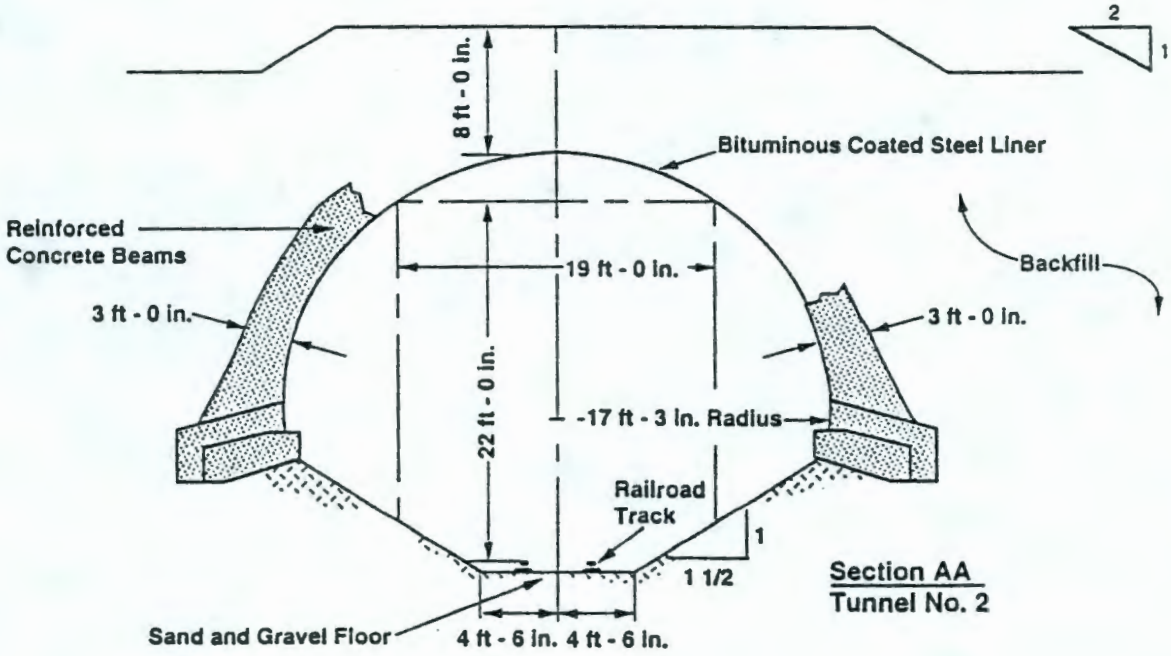
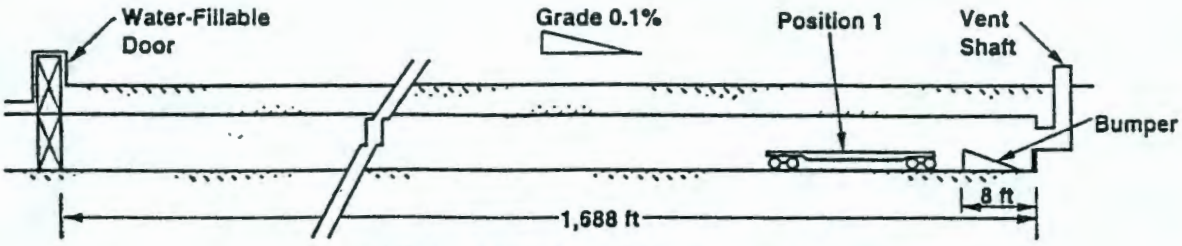


PUREX Tunnels - Plan View



Section AA
Tunnel No. 2

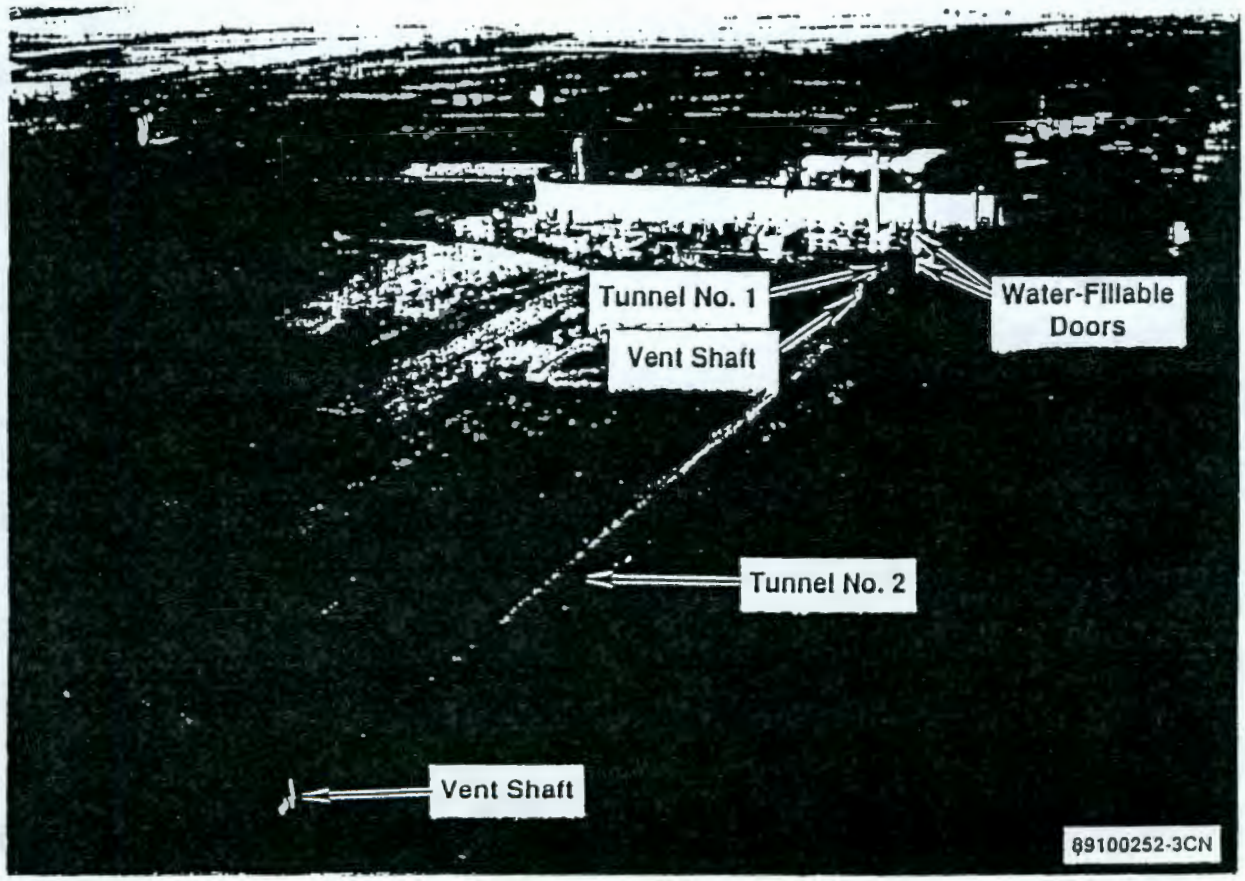


PUREX Tunnel No. 2 - Elevation View

78910032.1

1010369811116

PUREX STORAGE TUNNELS



46°32'47"
119°31'07"

89100252-3CN
(PHOTO TAKEN 1989)

9111869301002

DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
S. M. Price, 376-1653	Mr. T. L. Nord, Ecology	Incoming 9004226

Subject

PUREX STORAGE TUNNELS DANGEROUS WASTE PERMIT APPLICATION

Internal Distribution

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	
		CHEMICAL PROCESSING		
		R. V. Bowersock	S5-80	
		N. C. Boyter	R2-52	
		J. H. Ellis	S5-66	
		R. R. Grantham	S6-22	
		K. A. Hadley	R2-42	
		D. G. Harlow	S5-80	
		G. J. LeBaron	S5-80	
		J. C. Midgett	S5-66	
		M. A. Payne	S5-66	
		R. C. Roal	S6-08	
		ENVIRONMENTAL DIVISION		
		M. R. Adams	H4-55	
		J. R. Bellomy	H4-57	
		L. C. Brown	H4-51	
		G. D. Carpenter	H4-15	
		L. P. Diediker	T1-30	
		J. J. Dorian	H4-15	
		C. J. Geier	H4-57	
		G. C. Henckel	H4-55	
		R. J. Landon	B2-19	
		R. E. Lerch (Assignee)	B2-35	
		R. B. Mercer	H4-56	
		S. M. Price	H4-57	
		J. M. Ring	H4-57	
		F. A. Ruck	H4-57	
		D. R. Speer	R2-77	
		G. E. Vansickle	R1-51	
		S. A. Weigmam	B2-19	
		J. F. Williams	H4-57	

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Subject: PUREX STORAGE TUNNELS DANGEROUS WASTE PERMIT APPLICATION

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