

DETERMINATION OF NONSIGNIFICANCE

Description of proposal Approval of the Dangerous Waste Permit Part "B" Application for the Plutonium-Uranium Extraction (PUREX) Storage Tunnels

Proponent U.S. Department of Energy and Westinghouse Hanford Company

Location of proposal, including street address if any. The PUREX Storage Tunnels extend southerly from the east end of the PUREX Plant. The Plant is located in the the Southeast quarter of the Hanford Site 200 East Area, in the Southeast 1/4 of Section 2, Township 12 North, Range 26 East W.M. (Willamette Meridian). The Purex Storage Tunnels extend southerly into the Northeast 1/4 of Section 11, Township 12 North, Range 26 East W.M. (Willamette Meridian).

Lead agency Department of Ecology, Nuclear Waste Program

The lead agency for this proposal has determined that it does not have a probable significant impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

There is no comment period for this DNS.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 15 days from the date below. Comments must be submitted by June 21, 1996.

Responsible official: Mike Wilson

Position/title: Manager, Nuclear Waste Program

Address: Department of Ecology, 1315 West 4th Ave., Kennewick, WA. 99336-6018

Date May 23, 1996

Signature

Mike Wilson /rs/



STATE ENVIRONMENTAL POLICY ACT
ENVIRONMENTAL CHECKLIST FORMS

FOR THE

PUREX STORAGE TUNNELS

SUPPLEMENT 1

NOVEMBER 1995

WASHINGTON ADMINISTRATIVE CODE
ENVIRONMENTAL CHECKLIST FORMS
[WAC 197-11-960]

A. BACKGROUND

1
2
3
4 1. Name of proposed project:

5
6 Permitting of the Plutonium-Uranium Extraction (PUREX) Storage Tunnels.
7 Information contained in this checklist pertains only to the PUREX
8 Storage Tunnels [Tunnel Number 1 (218-E-14) and Tunnel Number 2
9 (218-E-15)]. In the context of the checklist, 'site' refers only to
10 those areas that are immediately underlain by the underground storage
11 tunnels.
12

13 2. Name of applicants:

14
15 U.S. Department of Energy-Richland Operations, and Westinghouse Hanford
16 Company.
17

18 3. Address and phone number of applicant and contact person:

19
20 U.S. Department of Energy Westinghouse Hanford Company
21 Richland Operations Office P.O. Box 1970
22 P.O. Box 550 Richland, Washington 99352
23 Richland, Washington 99352
24

25 Contact Persons:

26
27 J. E. Rasmussen, Director D. G. Hamrick, Director
28 Office of Environmental Assurance, PUREX Transition Project
29 Permits, and Policy Division Westinghouse Hanford Company
30 (509) 376-5441 (509) 373-4999
31

32 4. Date checklist prepared:

33
34 November 1995
35

36 5. Agency requesting the checklist:

37
38 Washington State
39 Department of Ecology
40 Mail Stop PV-11
41 Olympia, WA 98504
42

43 6. Proposed timing or schedule (including phasing, if applicable):

44
45 The PUREX Storage Tunnels are two parallel branches of a railroad tunnel
46 that extend southward from the east end of the PUREX Plant. Construction
47 of Tunnel Number 1 was completed in 1956. Tunnel Number 1 was first used
48 for storage of PUREX Plant process equipment in June 1960 and was filled
49 to capacity in January 1965. Construction of Tunnel Number 2 was
50 completed in 1964. Tunnel Number 2 was first used for storage in
51 December 1967 and presently has storage positions available.
52

1 Closure of the PUREX Storage Tunnels as a dangerous waste treatment,
2 storage, and/or disposal unit will take place in conjunction with the
3 final disposition of the PUREX Plant.
4

- 5 7. Do you have any plans for future additions, expansion, or further
6 activity related to or connected with this proposal? If yes, explain.
7

8 The PUREX Storage Tunnels will operate under the Hanford Facility RCRA
9 Dangerous Waste Permit No. WA7890008967 until a determination is made
10 that the tunnels are to be deactivated and closed.
11

- 12 8. List any environmental information you know about that has been prepared,
13 or will be prepared, directly related to this proposal.
14

- 15 • This SEPA Environmental Checklist is being submitted as a part of the
16 *Hanford Facility Dangerous Waste Permit Application, PUREX Storage*
17 *Tunnels* (DOE/RL-90-24, Revision 2).
18
- 19 • A RCRA Part A Dangerous Waste Permit Application, Form 3, for PUREX
20 Storage Tunnels was submitted to the Washington State Department of
21 Ecology (Ecology) in August, 1995.
22
- 23 • The PUREX Storage Tunnels are discussed in the following National
24 Environmental Policy Act documentation: *Environmental Impact*
25 *Statement, Operation of PUREX and Uranium Oxide Plant Facilities,*
26 *DOE/EIS-0089* (U.S. Department of Energy, 1983, Washington, D.C.).
27
- 28 • Tunnel Number 2 has an operating stack (296-A-10), which is registered
29 with the Washington State Department of Health (DOH) for radionuclide
30 emissions (*Radionuclide Air Emissions Report for the Hanford Site,*
31 *DOE/RL-95-49,* U.S. Department of Energy, 1995, Richland, Washington).
32 Tunnel Number 1 stack is not in operation and has been sealed. It is,
33 therefore, not registered under the *Clean Air Act of 1977.*
34 Supplemental information on all registered PUREX Plant stacks was
35 submitted to the DOH in *State of Washington Department of Health,*
36 *Radioactive Air Emissions Permit FF01 Supplemental Information,*
37 *DOE/RL-90-34* (U.S. Department of Energy, 1990, Richland, Washington).
38

39 Additional environmental information regarding the 200 Area plateau and
40 the Hanford Site, in general, can be found in the following references:
41

- 42 • *Final Environmental Impact Statement Disposal of Hanford Defense*
43 *High-Level, Transuranic and Tank Wastes,* DOE/EIS-0113 (U.S. Department
44 of Energy, 1987, Richland, Washington)
45
- 46 • *Hanford Site National Environmental Policy Act (NEPA)*
47 *Characterization,* Revision 7, PNL-6415 (Pacific Northwest Laboratory,
48 1995, Richland, Washington)
49
50

- 1 • *Draft Environmental Impact Statement Decommissioning of Eight Surplus*
2 *Production Reactors at the Hanford Site, Richland, Washington.*
3 *DOE/EIS-0119D (U.S. Department of Energy, 1989, Washington, U.C.)*
4
- 5 • *Archaeological Survey of the 200 East and 200 West Areas, Hanford*
6 *Site, Washington, PNL-7264 (Pacific Northwest Laboratory, 1990,*
7 *Richland, Washington).*
8

9 9. Do you know whether applications are pending for government approvals of
10 other proposals directly affecting property covered by your proposal? If
11 yes, explain.
12

13 No applications are known to be pending for government approval of other
14 proposals that would directly affect property covered by this proposal.
15

16 10. List any government approvals or permits that will be needed for your
17 proposal, if known.
18

19 Ecology, the Washington State Department of Health, and the
20 U.S. Environmental Protection Agency are the only agencies authorized to
21 approve and/or permit operation of the PUREX Storage Tunnels under
22 requirements authorized by RCRA, the *Clean Air Act* (42 USC 7401 et seq.),
23 WAC 173-303, WAC 246-247, and WAC 173-401.
24

25 11. Give a brief complete description of your proposal, including the
26 proposed uses and the size of the project and site.
27

28 The PUREX Storage Tunnels are used for storage of mixed waste from the
29 PUREX Plant and from other onsite sources. Some of this material could
30 contain varying amounts of dangerous waste that includes lead, mercury,
31 silver and silver salts, barium, selenium, cadmium, and chromium.
32

33 The PUREX Storage Tunnels are an extension of the rail spur on which
34 irradiated reactor fuels were delivered to the PUREX Plant for chemical
35 reprocessing. Each storage tunnel is isolated from the PUREX Plant
36 railroad tunnel by a water-fillable shielding door. Material selected
37 for storage in the tunnels is loaded onto modified railcars that serve as
38 transport and storage platforms. Normally, a remote-controlled,
39 battery-powered locomotive is used to position the railcar into the
40 storage tunnel. In the past and possibly in the future, other remote
41 movers, e.g., standard locomotive with a string of railcar spacers, power
42 winch, etc., have been or could be used to position a railcar into the
43 tunnel or withdraw a car from the tunnel.
44

45 Tunnel Number 1 is filled to capacity and contains eight railcars,
46 positioned end to end along the length of the tunnel. The inside
47 dimensions of Tunnel Number 1 are 109.1 meters long, 6.7 meters high, and
48 5.9 meters wide.
49

50 Tunnel Number 2 contains 21 railcars (as of August 1, 1995) and has the
51 capacity to contain 40 railcars, end to end. The inside dimensions of

1 Tunnel Number 2 are 514.5 meters long, 7.9 meters high, and 10.4 meters
2 wide.

3
4 A vent shaft is located at the south end of each tunnel. Each shaft is
5 approximately 1.5 meters by 1.5 meters square in cross section, extends
6 approximately 0.3 meter above grade, and is capped with a 6.1-meter-tall
7 exhaust stack. Tunnel Number 1 exhaust fan has been blanked and
8 electrically deactivated. Tunnel Number 2 exhaust fan could be operated
9 continuously, or de-energized and reactivated during waste placement
10 activities.

11
12 At the time of construction, 2.4 meters of earth fill was placed over the
13 roof of each storage area to serve as radiation shielding. The earth
14 fill was gently sloped and uniformly contoured to provide side slopes of
15 2 (horizontal) to 1 (vertical) for stability.

- 16
17 12. Give the location of the proposal. Give sufficient information for a
18 person to understand the precise location of the proposed project,
19 including a street address, if any, and section, township, and range, if
20 known. If a proposal would occur over a range of area, provide the range
21 or boundaries of the site(s). Provide a legal description, site plan,
22 vicinity map, and topographic map, if reasonably available.

23
24 The PUREX Storage Tunnels extend southward from the east end of the PUREX
25 Plant, in the southeast quarter of the Hanford Site 200 East Area, on the
26 200 Area Plateau. Maps and plans of the area are contained in the RCRA
27 Part B Permit Application (DOE/RL-90-24) for which this SEPA
28 Environmental Checklist was prepared. The PUREX Plant is located in the
29 T12N SE 1/4 of Section 2, T22N, R26E, and the PUREX Storage Tunnels extend
30 southward into the NE 1/4 of Section 11, T12N, R26E of the Willamette
31 Base and Meridian.

32
33
34 TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR
AGENCY USE ONLY

35
36 B. ENVIRONMENTAL ELEMENTS

37
38 1. Earth.

39
40 a. General description of the site:

41
42 Gently sloping.

43
44 b. What is the steepest slope on the site
45 (approximate percent slope)?

46
47 During construction, the soil overburden
48 covering the PUREX Storage Tunnels was
49 contoured to provide side slopes of 2
50 (horizontal) to 1 (vertical) (or 50 percent)
51 for stability. The approximate slope of the

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1 land adjacent to the PUREX Storage Tunnels
2 site is less than two percent.
3

- 4 c. What general types of soils are found on the
5 site (for example, clay, sand, gravel, peat,
6 muck)? If you know the classification of
7 agricultural soils, specify them and note any
8 prime farmland.
9

10 The soil at the site is coarse sand and
11 gravel. No farming is allowed on the site.
12

- 13 d. Are there surface indications or history of
14 unstable soils in the immediate vicinity? If
15 so, describe.
16

17 No.
18

- 19 e. Describe the purpose, type, and approximate
20 quantities of any filling or grading proposed.
21 Indicate the source of the fill.
22

23 Does not apply.
24

- 25 f. Could erosion occur as a result of clearing,
26 construction, or use? If so, describe.
27

28 No.
29

- 30 g. Approximately what percentage of the site will
31 be covered with impervious surfaces after
32 project construction (for example, asphalt or
33 buildings)?
34

35 Does not apply.
36

- 37 h. Proposed measures to reduce or control
38 erosion, or other impacts to the earth, if
39 there are any?
40

41 Following construction, the soil overburden
42 that covers the PUREX Storage Tunnels was
43 contoured to a 2 to 1 slope for stability.
44 Natural vegetation has been allowed to cover
45 the tunnel mounds to minimize both wind and
46 water erosion.
47

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1 2. Air
2

- 3 a. What types of emissions to the air would
4 result from the proposal (i.e., dust,
5 automobile, odors, industrial wood smoke)
6 during construction and when the project is
7 completed? If any, generally describe and
8 give approximate quantities if known.
9

10 In *Radionuclide Air Emissions Report for the*
11 *Hanford Site*, DOE/RL 95-49 (U.S. Department of
12 Energy, 1995, Richland, Washington), the
13 Tunnel Number 2 vent shaft stack (296-A-10) is
14 reported to have discharged no detectable
15 gross alpha or gross beta emitting
16 radionuclides in calendar year 1994.
17

- 18 b. Are there any off-site sources of emissions or
19 odors that may affect your proposal? If so,
20 generally describe.
21

22 No.
23

- 24 c. Proposed measures to reduce or control
25 emissions or other impacts to the air, if any?
26

27 The PUREX Storage Tunnel Number 1 exhaust
28 system was deactivated in January 1965 when
29 the tunnel was filled to capacity. Presently,
30 no ventilation is provided to Tunnel Number 1
31 as the exhaust vent has been blanked ahead of
32 the filter housing.
33

34 Presently, PUREX Storage Tunnel Number 2 has
35 an operating stack (296-A-10) registered and
36 permitted for radionuclide emissions with the
37 DOH. Tunnel Number 2 stack could be operated
38 continuously, or de-energized and reactivated
39 during waste placement activities. The
40 exhaust air from the tunnel stack is sampled
41 periodically in accordance with established
42 controls for radioactive airborne emissions.
43 Collected particulates are analyzed for total
44 alpha and total beta activity. The air
45 sampler is inspected daily when operating.
46

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1 3. Water

2
3 a. Surface:

4
5 1) Is there any surface water body on or in
6 the immediate vicinity of the site
7 (including year-round and seasonal
8 streams, saltwater, lakes, ponds,
9 wetlands)? If yes, describe type and
10 provide names. If appropriate, state what
11 stream or river it flows into.

12
13 No.

14
15 2) Will the project require any work over,
16 in, or adjacent to (within 200 feet of)
17 the described waters? If yes, please
18 describe and attach available plans.

19
20 No.

21
22 3) Estimate the amount of fill and dredge
23 material that would be placed in or
24 removed from surface water or wetlands and
25 indicate the area of the site that would
26 be affected. Indicate the source of fill
27 material.

28
29 None.

30
31 4) Will the proposal require surface water
32 withdrawals or diversions? Give general
33 description, purpose, and approximate
34 quantities if known.

35
36 No.

37
38 5) Does the proposal lie within a 100-year
39 floodplain? If so, note location on the
40 site plan.

41
42 No.

43

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EVALUATIONS FOR
AGENCY USE ONLY

1 6) Does the proposal involve any discharges
2 of waste materials to surface waters? If
3 so, describe the type of waste and
4 anticipated volume of discharge.

5
6 No

7
8 b. Ground:

9
10 1) Will ground water be withdrawn, or will
11 water be discharged to ground water? Give
12 general description, purpose, and
13 approximate quantities, if known.

14
15 Approximately 90,850 liters of water in
16 the water-fillable shielding door for
17 Tunnel No. 1 will be discharged via
18 pipeline to the 200 Area Treated Effluent
19 Disposal Facility and treated to
20 acceptable contaminant levels. There are
21 no other sources of water associated with
22 the operation of the storage tunnels.

23
24 2) Describe waste materials that will be
25 discharged into the ground from septic
26 waste tanks or other sources, if any (for
27 example: domestic sewage; industrial,
28 containing the following chemicals...;
29 agricultural; etc.). Describe the general
30 size of the system, the number of such
31 systems, the number of houses to be served
32 (if applicable), or the number of animals
33 or humans the system(s) are expected to
34 serve.

35
36 None.

37
38 c. Water Run-off (including storm water):

39
40 1) Describe the source of run-off (including
41 storm water) and methods of collection and
42 disposal, if any (include quantities, if
43 known). Where will this water flow? Will
44 this water flow into other waters? If so,
45 describe.

46
47 The Hanford Site receives 15 to 20
48 centimeters of precipitation annually.

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1 Storm water run-off is diverted away from
2 the storage area of the PUREX Storage
3 Tunnels by the sloped soil overburden and
4 eventually infiltrates into the porous
5 soils in the general vicinity.
6

7 2) Could waste materials enter ground or
8 surface waters? If so, generally
9 describe.

10
11 No.

12
13 d. Proposed measures to reduce or control
14 surface, ground, and run-off water impacts, if
15 any:

16
17 The storage area of each tunnel has a roof and
18 wall system designed to prevent infiltration
19 of run-off into the PUREX Storage Tunnels.
20 The external surfaces of the roof and the wall
21 timbers of Tunnel Number 1 are covered with
22 40.8-kilogram-mineral-surface roofing
23 material. For Tunnel Number 2, the
24 semicircular shaped, bituminous-coated steel
25 roof construction provides infiltration
26 protection. In addition, the 2.4-meter soil
27 overburden and surrounding surface area have
28 been contoured to alleviate ponding and to
29 divert surface water away from the PUREX
30 Storage Tunnels.

31
32 Other potential impacts include the water
33 contained in the water-fillable doors (Tunnel
34 Number 1 door is presently filled; Tunnel
35 Number 2 door is presently empty and there are
36 no plans to fill the door) and nonregulated
37 liquid heels remaining in some of the
38 equipment stored in the tunnels. To mitigate
39 spills of the equipment heels during
40 transport, catch pans are attached on the
41 railcars under the equipment where such
42 leakage could occur. A sump with a drain is
43 present beneath each water-fillable door to
44 prevent water from overflowing and/or leakage
45 from entering the tunnel storage area. As
46 part of PUREX Facility deactivation, any water
47 remaining in the doors will be removed and the
48 drains will be capped.

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1 The potential for leakage from the equipment
2 heels or from the water-fillable doors coming
3 into contact with mixed waste stored in the
4 tunnels is not considered to be a credible
5 occurrence. However, should any liquid from
6 either the equipment or the water-fillable
7 door leak, the generation of a mixed waste
8 leachate is not considered likely because all
9 mixed waste is stored above the floor level on
10 railcars and is either encased within or
11 stored in a storage container.

12
13 The only liquid dangerous waste stored in
14 either tunnel is the elemental mercury stored
15 in Tunnel Number 2. The mercury is sealed in
16 stainless steel thermowells within stainless
17 steel vessels that are stored above the floor
18 level on railcars. A spill or leak of mercury
19 is not considered to be a probable occurrence.

20
21 4. Plants

- 22 a. Check the types of vegetation found on the
23 site:
24
25 deciduous tree: alder, maple, aspen,
26 other
27 evergreen tree: fir, cedar, pine, other
28 shrubs
29 grass pasture
30 crop or grain wet soil plants: cattail,
31 buttercup, bulrush, skunk cabbage,
32 other
33 water plants: water lily, eelgrass,
34 millfoil, other
35 other types of vegetation

36
37
38 Natural vegetation has been allowed to cover
39 the tunnel mounds to minimize both wind and
40 water erosion. The vegetation consists of
41 sagebrush, grasses, and other common central
42 Washington desert plant species.

- 43
44 b. What kind and amount of vegetation will be
45 removed or altered?

46
47 The original vegetation at the site was
48 disturbed during construction, although this

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1 natural vegetation has regrown to cover the
2 site.

- 3
4 c. List threatened or endangered species known to
5 be on or near the site.

6
7 None. However, additional information
8 concerning endangered and threatened plants on
9 the Hanford Site can be found in the
10 environmental documents referred to in the
11 answer to Checklist Question A.8.

- 12
13 d. Proposed landscaping, use of native plants, or
14 other measures to preserve or enhance
15 vegetation on the site, if any:

16
17 As mentioned previously, native plants have
18 been allowed to cover the site of the PUREX
19 Storage Tunnels. The site can be revegetated
20 if disturbed.

21
22 5. Animals

- 23
24 a. Circle any birds and animals which have been
25 observed on or near the site or are known to
26 be on or near the site:

27
28 birds: hawk, heron, eagle, songbirds, other
29 mammals: deer, bear, elk, beaver, other fish:
30 bass, salmon, trout, herring, shellfish, other

31
32 A variety of insects, birds, and small mammals
33 common to the Hanford Site, including pigeons,
34 songbirds, rodents, and hares, have been
35 observed at or near the PUREX Storage Tunnels
36 site. Larger mammals commonly seen in the
37 vicinity include deer and coyote. Additional
38 information on birds and animals on the
39 Hanford Site can be found in the environmental
40 documents referred to in the answer to
41 Checklist Question A.8.

- 42
43 b. List any threatened or endangered species
44 known to be on or near the site.

45
46 None. However, additional information
47 concerning endangered and threatened species
48 on the Hanford Site can be found in the

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1 environmental documents referred to in the
2 answer to Checklist Question A.8.

- 3
4 c. Is the site part of a migration route?
5 If so, explain.

6
7 The site is located within the region-wide
8 Pacific flyway for waterfowl.

- 9
10 d. Proposed measures to preserve or enhance
11 wildlife, if any:

12
13 The PUREX Storage Tunnels are covered with a
14 minimum of 2.4 meters of soil to isolate their
15 contents from local fauna.

16
17 6. Energy and Natural Resources

- 18
19 a. What kinds of energy (electric, natural gas,
20 oil, wood stove, solar) will be used to meet
21 the completed project's energy needs?
22 Describe whether it will be used for heating,
23 manufacturing, etc.

24
25 Currently, electricity is used to power the
26 PUREX Storage Tunnels water-fillable shielding
27 doors and the Tunnel Number 2 ventilation
28 system. The locomotive normally used to
29 position each loaded railcar into a storage
30 tunnel is battery operated. If necessary,
31 diesel fuel, gasoline, and oil will be used to
32 operate equipment during final disposition.

- 33
34 b. Would your project affect the potential use of
35 solar energy by adjacent properties? If so,
36 generally describe.

37
38 No.

- 39
40 c. What kinds of energy conservation features are
41 included in the plans of this proposal? List
42 other proposed measures to reduce or control
43 energy impacts, if any:

44
45 Does not apply.
46

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1 7. Environmental Health.

- 2
3 a. Are there any environmental health hazards,
4 including exposure to toxic chemicals, risk of
5 fire and explosion, spill, or hazardous waste,
6 that could occur as a result of this proposal?
7 If so, describe.

8
9 Dangerous waste that could be stored in the
10 PUREX Storage Tunnels includes elemental
11 mercury, lead, silver, silver salts, cadmium,
12 chromium, barium, and selenium. None of this
13 waste presents a risk to personnel, the
14 public, or the environment.

15
16 The silver nitrate fraction of the mixture of
17 silver salts exhibits the characteristic of
18 ignitability as defined in WAC 173-303-095(5).
19 However, this material is contained within
20 stainless steel vessels, and ignition of the
21 material is not considered to be a credible
22 event. The risk of fire associated with the
23 storage of silver nitrate is considered to be
24 extremely low.

- 25
26 1) Describe special emergency services that
27 might be required.

28
29 Hanford Patrol, fire response, and
30 ambulance services are on call 24-hours a
31 day in the event of an onsite emergency.

- 32
33 2) Proposed measures to reduce or control
34 environmental health hazards, if any:

35
36 The PUREX Storage Tunnels are located
37 approximately 37 kilometers from Richland,
38 Washington, the nearest population center.
39 This isolation, coupled with multiple
40 security barriers, prevents unauthorized
41 access to the PUREX Storage Tunnels.
42 Approval for each entry is evaluated on a
43 case-by-case basis. Access to the PUREX
44 Storage Tunnels by employees is restricted
45 only to personnel having proper training
46 and management approval.
47

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1 The management practice of keeping
2 personnel radiological exposures to as low
3 as reasonably achievable (ALARA) levels is
4 adhered to strictly. Personnel entering
5 the PUREX Storage Tunnels are required to
6 wear special protective clothing and
7 respirators. Operations at the PUREX
8 Storage Tunnels are carefully managed to
9 ensure that all activities are conducted
10 in a safe and environmentally sound
11 manner.

12
13 b. Noise

- 14
15 1) What type of noise exists in the area
16 which may affect your project (for
17 example: traffic, equipment, operation,
18 other)?

19
20 None.

- 21
22 2) What types and levels of noise would be
23 created by or associated with the project
24 on a short-term or a long-term basis (for
25 example: traffic, construction,
26 operation, other)? Indicate what hours
27 noise would come from the site.

28
29 Operation of the PUREX Storage Tunnels
30 requires infrequent use of a
31 battery-powered locomotive to push
32 railcars into position. This operation
33 does not generate excessive noise.

- 34
35 3) Proposed measures to reduce or control
36 noise impacts, if any:

37
38 Does not apply.

39
40 8. Land and Shoreline Use

- 41
42 a. What is the current use of the site and
43 adjacent properties?

44
45 The PUREX Storage Tunnels are located within
46 the 200 East Area of the Hanford Site. The
47 Hanford Site is owned by the U.S. Government
48 and is currently undergoing environmental

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1 restoration associated with the past
2 production of special nuclear materials.

- 3
4 b. Has the site been used for agriculture? If
5 so, describe.

6
7 No portion of the Hanford Site, including the
8 site of the PUREX Storage Tunnels, has been
9 used for agricultural purposes since 1943.

- 10
11 c. Describe any structures on the site.

12
13 Construction details of the PUREX Storage
14 Tunnels are provided in Chapter 2.0 of the
15 accompanying RCRA Part B Permit Application
16 documentation. Each storage tunnel consists
17 of three areas: a water-fillable door, a
18 storage area, and a vent shaft. The
19 water-fillable doors are approximately
20 7.5 meters high, 6.6 meters wide, and
21 2.1 meters thick. Electric hoists for raising
22 (opening) and lowering (closing) the doors are
23 located on top of the concrete door
24 enclosures.

25
26 Tunnel Number 1 is constructed primarily of
27 treated Douglas Fir timbers, covered with a
28 40.8-kilogram-mineral-surface roofing
29 material. The 2.4 meters of earth fill placed
30 over the roof timbers serve as radiation
31 shielding. The floor consists of a railroad
32 track laid on a gravel bed that slopes on a
33 1.0 percent grade southward.

34
35 A combination of steel and reinforced concrete
36 was used to construct the storage area of
37 Tunnel Number 2. Tunnel Number 2 has a
38 10.4-meter diameter, nearly semicircular,
39 steel roof supported by internal I-beam wales
40 attached to external, reinforced concrete
41 arches. The structure is supported on
42 reinforced concrete-grade beams that run the
43 full length of the tunnel. The interior and
44 exterior surfaces of the steel roof are coated
45 with a bituminous coating compound to inhibit
46 corrosion, and the entire storage area is
47 covered with 2.4 meters of earth fill that
48 serves as radiation shielding. The floor

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1 consists of a railroad track laid on a gravel
2 bed that slopes on a one-tenth of 1 percent
3 grade southward.
4

5 A vent shaft is located at the south end of
6 each tunnel. The shafts are constructed of
7 reinforced concrete. Each shaft extends
8 approximately 0.3 meter above grade and is
9 capped with a single high-efficiency
10 particulate air filter, a 153-cubic-meter per
11 minute exhaust fan, and a 6.1-meter-tall
12 exhaust stack. The exhaust fan on Tunnel
13 Number 1 has been deactivated, and the fan on
14 Tunnel Number 2 has been damped to provide
15 only about 100-cubic meters per minute exhaust
16 flow.
17

- 18 d. Will any structures be demolished? If so,
19 what?
20

21 No structures will be demolished as a part of
22 this proposal.
23

- 24 e. What is the current zoning classification of
25 the site?
26

27 The Hanford Site is zoned by Benton County as
28 an Unclassified Use (U) district.
29

- 30 f. What is the current comprehensive plan
31 designation of the site?
32

33 The *1985 Benton County Comprehensive Land Use*
34 *Plan* designates the Hanford Site as the
35 "Hanford Reservation". Under this
36 designation, land on the Hanford Site may be
37 used for "activities nuclear in nature".
38 Non-nuclear activities are authorized "if and
39 when DOE approval for such activities is
40 obtained".
41

- 42 g. If applicable, what is the current shoreline
43 master program designation of the site?
44

45 Does not apply.
46

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- 1 h. Has any part of the site been classified as an
2 "environmentally sensitive" area? If so,
3 specify.
4
5 No.
6
7 i. Approximately how many people would reside or
8 work in the completed project?
9
10 None.
11
12 j. Approximately how many people would the
13 completed project displace?
14
15 None.
16
17 k. Proposed measures to avoid or reduce
18 displacement impacts, if any:
19
20 Does not apply.
21
22 l. Proposed measures to ensure the proposal is
23 compatible with existing and projected land
24 uses and plans, if any:
25
26 Does not apply. (Refer to answer to Checklist
27 Question B.8.f.)
28
29 9. Housing
30
31 a. Approximately how many units would be
32 provided, if any? Indicate whether high-,
33 middle-, or low-income housing.
34
35 None.
36
37 b. Approximately how many units, if any, would be
38 eliminated? Indicate whether high-, middle-,
39 or low-income housing.
40
41 None.
42
43 c. Proposed measures to reduce or control housing
44 impacts, if any:
45
46 Does not apply.
47

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1 10. Aesthetics

- 2
3 a. What is the tallest height of any proposed
4 structure(s), not including antennas; what is
5 the principal exterior building material(s)
6 proposed?

7
8 The tallest aboveground structures associated
9 with the PUREX Storage Tunnels are the
10 existing water-fillable doors, which are
11 approximately 7.5 meters high. Electric
12 hoists for raising (opening) and lowering
13 (closing) the doors and steel handrails are
14 located on top of the concrete door
15 enclosures.

- 16
17 b. What views in the immediate vicinity would be
18 altered or obstructed?

19
20 None.

- 21
22 c. Proposed measures to reduce or control
23 aesthetic impacts, if any:

24
25 Does not apply.

26
27 11. Light and Glare

- 28
29 a. What type of light or glare will the proposal
30 produce? What time of day would it mainly
31 occur?

32
33 None.

- 34
35 b. Could light or glare from the finished project
36 be a safety hazard or interfere with views?

37
38 No.

- 39
40 c. What existing off-site sources of light or
41 glare may affect your proposal?

42
43 None.

- 44
45 d. Proposed measures to reduce or control light
46 and glare impacts, if any:

47
48 Does not apply.

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AGENCY USE ONLY

1 12. Recreation

- 2
3 a. What designated and informal recreational
4 opportunities are in the immediate vicinity?

5
6 None.

- 7
8 b. Would the proposed project displace any
9 existing recreational uses? If so, describe.

10
11 Does not apply.

- 12
13 c. Proposed measures to reduce or control impacts
14 on recreation, including recreation
15 opportunities to be provided by the project or
16 applicant, if any?

17
18 Does not apply.

19
20 13. Historic and Cultural Preservation

- 21
22 a. Are there any places or objects listed on, or
23 proposed for, national, state, or local
24 preservation registers known to be on or next
25 to the site? If so, generally describe. No
26 places or objects listed on, or proposed for,
27 national, state, or local preservation
28 registers are known to be on or next to the
29 site.

30
31 The PUREX Storage Tunnels are located in an
32 area that was disturbed extensively during
33 construction of the PUREX Facility.
34 Additional information on the Hanford Site
35 environment can be found in the environmental
36 documents referred to in the answer to
37 Checklist Question A.8.

- 38
39 b. Generally describe any landmarks or evidence
40 of historic, archaeological, scientific, or
41 cultural importance known to be on or next to
42 the site.

43
44 There are no known archaeological, historical,
45 or native American religious sites at or next
46 to the PUREX Storage Tunnels. Additional
47 information on the Hanford Site environment
48 can be found in the environmental documents

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1 referred to in the answer to Checklist
2 Question A.8.

- 3
4 c. Proposed measures to reduce or control
5 impacts, if any:

6
7 As appropriate, detailed cultural resource
8 reviews will provide the vehicle for necessary
9 approvals required under the *National Historic*
10 *Preservation Act*.

11
12 14. Transportation

- 13
14 a. Identify public streets and highways serving
15 the site, and describe proposed access to the
16 existing street system. Show on site plans,
17 if any.

18
19 Does not apply.

- 20
21 b. Is site currently served by public transit?
22 If not, what is the approximate distance to
23 the nearest transit stop?

24
25 The site is not publicly accessible, and,
26 therefore, is not served by public
27 transportation.

- 28
29 c. How many parking spaces would the completed
30 project have? How many would the project
31 eliminate?

32
33 None.

- 34
35 d. Will the proposal require any new roads or
36 streets, or improvements to existing roads or
37 streets, not including driveways? If so,
38 generally describe (indicate whether public or
39 private).

40
41 No.

- 42
43 e. Will the project use (or occur in the
44 immediate vicinity of) water, rail, or air
45 transportation? If so, generally describe.

46
47 The PUREX Storage Tunnels are an extension of
48 the rail spur on which irradiated reactor

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1 fuels were delivered to the PUREX Plant for
2 chemical reprocessing. Material to be stored
3 in the tunnels is loaded on modified railcars
4 that serve as transport and storage platforms.
5 Normally, a remote-controlled, battery-powered
6 locomotive is used to position each loaded
7 railcar into a storage tunnel, however, other
8 remote movers have been or could be used to
9 position a railcar in the tunnel or to
10 withdraw a car from the tunnel.

11
12 f. How many vehicular trips per day would be
13 generated by the completed project? If known,
14 indicate when peak volumes would occur.

15
16 None.

17
18 g. Proposed measures to reduce or control
19 transportation impacts, if any:

20
21 Does not apply.

22
23 15. Public Services

24
25 a. Would the project result in an increased need
26 for public services (for example: fire
27 protection, police protection, health care,
28 schools, other)? If so, generally describe.

29
30 No.

31
32 b. Proposed measures to reduce or control direct
33 impacts on public services, if any:

34
35 Does not apply.

36
37 16. Utilities

38
39 a. List utilities currently available at the site
40 (electricity, natural gas, water, refuse
41 service, telephone, sanitary sewer, septic
42 system, other):

43
44 There are no electrical utilities, water
45 supply systems, drains, fire detection
46 systems, or communications systems provided
47 inside the storage area of the PUREX Storage
48 Tunnels. All electricity, water supply lines,

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1 and drain lines used in the operation of the
2 PUREX Storage Tunnels are external.
3 Electricity, communications systems, and other
4 utilities will be available within the PUREX
5 Plant until deactivation is complete. In the
6 event the PUREX Storage Tunnels receive waste
7 after PUREX Plant deactivation, necessary
8 utilities will have to be brought in from
9 outside the PUREX Facility.

10
11 b. Describe the utilities that are proposed for
12 the project, the utility providing the
13 service, and the general construction
14 activities on the site or in the immediate
15 vicinity which might be needed.

16
17 No additional utilities are proposed.

18
19

1 SIGNATURES

2
3 The above answers are true and complete to the best of my knowledge. We
4 understand that the lead agency is relying on them to make its decision.
5
6
7

8
9
10 
11 James E. Rasmussen, Director
12 Office of Environmental Assurance,
13 Permits, and Policy Division
14 U.S. Department of Energy
15 Richland Operations Office
16
17

11/21/95
Date

18
19
20 
21 D. G. Hamrick, Director
22 PUREX Transition Project
23 Westinghouse Hanford Company
24
25
26
27

11/8/95
Date