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STATE ENVIRONMENTAL POLICY ACT
ENVIRONMENTAL CHECKLIST

FOR THE

HANFORD FACILITY,
216-S-10 POND AND DITCH CLOSURE

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

1 **8. List any environmental information you know about that has been prepared, or will be**
2 **prepared, directly related to this proposal.**

3 This SEPA Environmental Checklist is being submitted to Ecology to address the 216-S-10 Pond and
4 Ditch closure activities. Environmental information that has been prepared directly related to this
5 proposal is contained in DOE/RL-2004-017, *Remedial Investigation Report for the 200-CS-1 Chemical*
6 *Sewer Group Operable Unit* and groundwater data contained in the Hanford Environmental Information
7 System (HEIS). Environmental information that will be prepared directly related to this proposal will be
8 contained in the post closure groundwater monitoring plan. Any other information related to 216-S-10
9 Pond and Ditch after closure of the TSD unit will be performed in conjunction with Tri-Party Agreement
10 past practice activities for the 200-CS-1 source operable unit and 200-UP-1 groundwater operable unit.

11 General information concerning the Hanford Facility environment can be found in the *Hanford Site*
12 *National Environmental Policy Act (NEPA) Characterization*, PNL-6415, Revision 17, September 2005.
13 This document is updated annually by Pacific Northwest National Laboratory (PNNL), and provides
14 current information concerning climate and meteorology, ecology, history and archeology,
15 socioeconomic, land use and noise levels, and geology and hydrology. These baseline data for the
16 Hanford Site and past activities are useful for evaluating proposed activities and their potential
17 environmental impacts.

18
19 **9. Do you know whether applications are pending for government approvals of other proposals**
20 **directly affecting the property covered by your proposal? If yes, explain.**

21 No other applications are pending. However, see response to A8 regarding physical activities necessary
22 to complete remediation of non-TSD unit constituents.

23
24 **10. List any government approvals or permits that will be needed for your proposal, if known.**

25 DOE-RL forwards the aforementioned 216-S-10 Pond and Ditch closure plan, and the postclosure
26 groundwater monitoring plan to Ecology for approval.

27
28 **11. Give brief, complete description of your proposal, including the proposed uses and the size of**
29 **the project and site. There are several questions later in this checklist that ask you to describe**
30 **certain aspects of your proposal. You do not need to repeat those answers on this page.**

31 The DOE-RL proposes clean closure for the 216-S-10 Pond and Ditch soils; groundwater will require
32 post-closure monitoring.

33 The south end of the 216-S-10 Ditch remained in use until 1984, when two-thirds of the ditch was
34 backfilled and stabilized. In 1984, concurrent with the 216-S-10 Ditch, the pond was stabilized. The
35 north end of the 216-S-10 Ditch last received discharges during 1991 and the supplying pipeline was
36 plugged with concrete near the outfall in July 1994. The concrete plug was poured in manhole #2 to
37 achieve positive assurance of isolation. To preclude any further discharges to the unit and in support of
38 TSD unit closure, the 216-S-10 Pond and Ditch were physically isolated from receipt of effluent in 1994.

39 Existing data show all eight of the TSD unit constituents (sodium, potassium, nitrite, phosphate, chloride,
40 fluoride, chromium (total) and chromium VI) either meet the clean closure standard or the constituent is
41 not regulated. The data shows the 216-S-10 Pond and Ditch soils qualify for clean closure because
42 concentrations of TSD unit constituents of concern have been shown by remedial investigation sampling
43 to be below the action level for soil prescribed by WAC 173-303-610(2)(b)(i).

44

1 The 216-S-10 Pond and Ditch groundwater closure approach is post closure monitoring under a final
2 status detection monitoring program. Groundwater monitoring has shown an elevated level of chromium
3 in an upgradient well. Clean closure of the groundwater is not possible, due to chromium contamination.
4 A post closure final status detection monitoring program is required for TSD unit groundwater
5 monitoring. Post closure groundwater monitoring will be performed in order to meet the post closure
6 plan requirements of WAC 173-303-610(8)(b)(i) and the WAC 173-303-645 requirements of
7 WAC 173-303-610(8)(b)(ii).

8 No physical activities are required for soils clean closure. After closure, appearance of the land will be
9 consistent with land use determinations of the Hanford Facility. Groundwater monitoring activities will
10 be coordinated with monitoring requirements for the 200-UP-1 groundwater operable unit.

11
12 **12. Location of the proposal. Give sufficient information for a person to understand the precise**
13 **location of your proposed project, including a street address, if any, and section, township,**
14 **and range, if known. If a proposal would occur over a range of area, provide the range or**
15 **boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic**
16 **map, if reasonably available. While you should submit any plans required by the agency, you**
17 **are not required to duplicate maps or detailed plans submitted with any permit applications**
18 **related to this checklist.**

19 The 216-S-10 Pond and Ditch are located in the Hanford 200 West Area southwest of the REDOX
20 complex. The pond and ditch begin approximately 445 m, (1,460 ft) southwest of the 202-S Building and
21 133 ft south of 10th street and end approximately 1330 m (4,350 ft) southwest of the 202-S Building.

22
23 The 216-S-10 Ditch was an uncovered, unlined man-made ditch that received wastewater from the
24 REDOX Facility. The ditch originated outside the 200 West Area perimeter fence and was estimated to
25 be 686 m (2250 ft) long, 1.8 m (6 ft) wide and averaged 1.8 m (6 ft) deep. The 216-S-10 Pond was an
26 irregular-shaped, man-made pond that covered approximately 20,300 m² (5 acres) and included four
27 finger-leach trenches. The pond was approximately 2.4 m (8 ft) at its deepest point. The 216-S-10 Ditch
28 fed the pond. Both the pond and ditch were designed to disposal of liquids through percolation into the
29 soil columns.

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1 B. ENVIRONMENTAL ELEMENTS

2 1. Earth

3 a. General description of the site (circle one): Flat, rolling, hilly,
4 steep slopes, mountainous, other _____.

5 Flat.

6
7 b. What is the steepest slope on the site (approximate percent
8 slope)?

9 The approximate slope of the land is less than 2 percent.

10

11 c. What general types of soils are found on the site? (for example,
12 clay, sandy gravel, peat, muck)? If you know the classification
13 of agricultural soils, specify them and note any prime farmland.

14 Soil types consist mainly of eolian and fluvial sands and gravel.
15 More detailed information concerning specific soil classifications
16 can be found in the *Hanford Site National Environmental Policy Act*
17 (*NEPA*) *Characterization*, PNL-6415, Revision 17, September 2005.
18 Farming is not permitted on the Hanford Facility.

19

20 d. Are there surface indications or history of unstable soils in the
21 immediate vicinity? If so, describe.

22 No.

23

24 e. Describe the purpose, type, and approximate quantities of any
25 filling or grading proposed. Indicate source of fill.

26 No filling or grading is required.

27

28 f. Could erosion occur as a result of clearing, construction, or use?
29 If so, generally describe.

30 No.

31

32 g. About what percent of the site will be covered with impervious
33 surfaces after project construction (for example, asphalt or
34 buildings)?

35 Not applicable. No construction is proposed as part of this project.

36

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1 h. Proposed measures to reduce or control erosion, or other
2 impacts to the earth, if any:

3 None.

4
5 2. Air

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

10 Routine postclosure monitoring activities would generate dust.

11

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

14 No.

15

16 c. Proposed measures to reduce or control emissions or other
17 impacts to the air, if any?

18 None since no emissions are anticipated for the closure of the
19 216-S-10 Pond and Ditch.

20

21 3. Water

22 a. Surface

23 1) Is there any surface water body on or in the immediate
24 vicinity of the site (including year-round and seasonal
25 streams, saltwater, lakes, ponds, wetlands)? If yes, describe
26 type and provide names. If appropriate, state what stream
27 or river it flows into.

28 No. The 216-S-10 Pond and Ditch are over 7 kilometers from
29 the Columbia River.

30

31 2) Will the project require any work over, in, or adjacent to
32 (within 200 feet) the described waters? If yes, please describe
33 and attach available plans.

34 The work would not require any activity in or near the described
35 waters and drainage.

36

37 3) Estimate the amount of fill and dredge material that would
38 be placed in or removed from surface water or wetlands and

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1 indicate the area of the site that would be affected. Indicate
2 the source of fill material.

3 There would be no dredging or filling from or to surface water
4 or wetlands.

5
6 4) Will the proposal require surface water withdrawals or
7 diversions? Give general description, purpose, and
8 approximate quantities if known.

9 No surface water withdrawal or diversion would be required.

10
11 5) Does the proposal lie within a 100-year floodplain? If so,
12 note location on the site plan.

13 The 216-S-10 Pond and Ditch are not within the 100-year or
14 500-year floodplain [*Hanford Site National Environmental*
15 *Policy Act (NEPA) Characterization*, PNL-6415, Revision 17,
16 September 2005].

17
18 6) Does the proposal involve any discharges of waste materials
19 to surface waters? If so, describe the type of waste and
20 anticipated volume of discharge.

21 No.

22
23 b. Ground

24 1) Will ground water be withdrawn, or will water be
25 discharged to ground water? Give general description,
26 purpose, and approximate quantities if known.

27 Besides the usual groundwater monitoring under post closure monitoring, no groundwater
28 will be withdrawn and no water will be discharged during closure.

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

37 None.

38

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1 **c. Water Run-off (including storm water)**

2 1) Describe the source of run-off (including storm water) and
3 method of collection and disposal, if any (include quantities,
4 if known). Where will this water flow? Will this water flow
5 into other waters? If so, describe.

6 The Hanford Facility receives only 15.2 to 17.8 centimeters of
7 annual precipitation. Precipitation runs off the existing
8 buildings and seeps into the soil on and near the buildings. This
9 precipitation does not reach the groundwater or surface waters.

10
11 2) Could waste materials enter ground or surface waters? If
12 so, generally describe.

13 No waste materials can enter ground or surface waters as a result of
14 closure.

15
16 **d. Proposed measures to reduce or control surface, ground, and**
17 **run-off water impacts, if any:**

18 No measures are proposed to reduce or control surface, ground, and
19 run-off impacts.

20
21 **4. Plants**

22 **a. Check or circle the types of vegetation found on the site.**

- 23 deciduous tree: alder, maple, aspen, other
24 evergreen tree: fir, cedar, pine, other
25 shrubs
26 grass
27 pasture
28 crop or grain
29 wet soil plants: cattail, buttercup, bulrush, skunk cabbage,
30 other
31 water plants: water lily, eelgrass, milfoil, other
32 other types of vegetation

33
34 The most common vegetation community in the 200 West Area is
35 sagebrush/cheatgrass or Sandberg's bluegrass. Native vegetation
36 resides in the immediate vicinity of the 216-S-10 Pond and Ditch.

37

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- 1 b. What kind and amount of vegetation will be removed or
2 altered?

3 No vegetation would be removed or altered during 216-S-10 Pond
4 and Ditch closure activities.

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

8 No known threatened or endangered species are known to be on or
9 near the 216-S-10 Pond and Ditch. Additional information on
10 species can be found in *Hanford Site National Environmental Policy*
11 *Act (NEPA) Characterization*, PNL-6415 (Revision 17,
12 September 2005).

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

16 None.

17
18 5. Animals

- 19 a. Indicate (by underlining) any birds and animals which have
20 been observed on or near the site or are known to be on or near
21 the site:

22 birds: Raptors (burrowing owls, ferruginous, redtail, and Swainson's
23 hawks) eagles, songbirds,
24 animals: deer, elk, coyotes, rabbits, rodents.

25
26 Additional information on animals can be found in *Hanford Site*
27 *National Environmental Policy Act (NEPA) Characterization*,
28 PNL-6415 (Revision 17, September 2005).

- 29
30
31 b. List any threatened or endangered species known to be on or
32 near the site.

33 One federal and state listed threatened or endangered species has
34 been identified on the 1,517 square kilometer Hanford Site along the
35 Columbia River (the bald eagle) and three in the Columbia River
36 (steelhead, spring-run Chinook salmon, and bull trout). In addition,
37 the state listed white pelican, sandhill crane, and ferruginous hawk
38 also occur on or migrate through the Hanford Site.
39

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- 1 c. Is the site part of a migration route? If so, explain.
- 2 The Hanford Site is a part of the broad Pacific Flyway. However,
3 the 216-S-10 Pond and Ditch location is not known as a haven for
4 migratory birds.
5
- 6 d. Proposed measures to preserve or enhance wildlife, if any:
- 7 This project contains no specific measures to preserve or enhance
8 wildlife.
9
- 10 **6. Energy and Natural Resources**
- 11 a. What kinds of energy (electric, natural gas, oil, wood stove,
12 solar) will be used to meet the completed project's energy needs?
13 Describe whether it will be used for heating, manufacturing, etc.
- 14 None.
15
- 16 b. Would your project affect the potential use of solar energy by
17 adjacent properties? If so, generally describe.
- 18 No.
19
- 20 c. What kinds of energy conservation features are included in the
21 plans of this proposal? List other proposed measures to reduce
22 or control energy impacts, if any:
- 23 None.
24
- 25 **7. Environmental Health**
- 26 a. Are there any environmental health hazards, including exposure
27 to toxic chemicals, risk of fire and explosion, spill, or hazardous
28 waste that could occur as a result of this proposal? If so,
29 describe.
- 30 Clean closure of the groundwater is not possible, due to potential
31 chromium contamination. A post closure final status detection
32 monitoring program is required.
33
- 34 1) Describe special emergency services that might be required.
- 35 No special emergency services are known to be required.
36

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**EVALUATIONS FOR
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1 2) **Proposed measures to reduce or control environmental**
2 **health hazards, if any:**

3 Clean closure of the groundwater is not possible, due to chromium
4 contamination in the groundwater. A post closure final status
5 detection monitoring program is required.
6

7 b. **Noise**

8 1) **What type of noise exists in the area which may affect your**
9 **project (for example: traffic, equipment, operation, other)?**

10 There could be a minor amount of traffic associated with post
11 closure well monitoring operations.
12

13 2) **What types and levels of noise would be created by or**
14 **associated with the project on a short-term or a long-term**
15 **basis (for example: traffic, construction, operation, other)?**
16 **Indicate what hours noise would come from the site.**

17 Minor amounts of noise from traffic and equipment are expected
18 for operation and maintenance of post-closure monitoring wells.
19

20 3) **Proposed measures to reduce or control noise impacts, if**
21 **any:**

22 None.
23

24 8. **Land and Shoreline Use**

25 a. **What is the current use of the site and adjacent properties?**

26 The 216-S-10 Pond and Ditch site is not in use. Adjacent properties
27 are industrial/research.
28

29 b. **Has the site been used for agriculture? If so, describe.**

30 No portion of the 200 West Area has been used for agricultural
31 purposes since 1943.
32

33 c. **Describe any structures on the site.**

34 There are no structures at the 216-S-10 Pond and Ditch site.
35

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- 1 d. Will any structures be demolished? If so, what?
- 2 Not applicable. There are no structures on the site (refer to Section
3 B.8.c).
- 4
- 5 e. What is the current zoning classification of the site?
- 6 Does not apply. The site is located on Federal lands and as such is
7 not subject to the Growth Management Act (State of Washington
8 land use authority). However, for completeness, the Hanford Site is
9 currently included in the Benton County Comprehensive Plan (June
10 22, 1998) as the undesignated "Hanford Sub-Area".
- 11
- 12 f. What is the current comprehensive plan designation of the site?
- 13 The Federal land management decision process has determined
14 through NEPA [*Hanford Comprehensive Land-Use Plan*
15 *Environmental Impact Statement Record of Decision* (64 FR 61615,
16 November 12, 1999)] that the 200 West Area geographic area,
17 designated Industrial-Exclusive. The 216-S-10 Ditch crosses the
18 boundary, and the 216-S-10 Pond is outside of the boundary.
- 19
- 20 g. If applicable, what is the current shoreline master program
21 designation of the site?
- 22 Does not apply.
- 23
- 24 h. Has any part of the site been classified as an "environmentally
25 sensitive" area? If so, specify.
- 26 No.
- 27
- 28 i. Approximately how many people would reside or work in the
29 completed project?
- 30 Minimal staff would provide appropriate surveillance and
31 maintenance of the post-closure wells after closure.
- 32
- 33 j. Approximately how many people would the completed project
34 displace?
- 35 None.
- 36
- 37 k. Proposed measures to avoid or reduce displacement impacts, if
38 any:
- 39 Does not apply.

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1
2 l. Proposed measures to ensure the proposal is compatible with
3 existing and projected land uses and plans, if any:

4 Does not apply (refer to Section B.8.f.).
5

6 9. Housing

7 a. Approximately how many units would be provided, if any?
8 Indicate whether high, middle, or low-income housing.

9 None.
10

11 b. Approximately how many units, if any, would be eliminated?
12 Indicate whether high, middle, or low-income housing.

13 None.
14

15 c. Proposed measures to reduce or control housing impacts, if any:

16 Does not apply.
17

18 10. Aesthetics

19 a. What is the tallest height of any proposed structure(s), not
20 including antennas; what is the principal exterior building
21 material(s) proposed?

22 No new structures are being proposed.
23

24 b. What views in the immediate vicinity would be altered or
25 obstructed?

26 None.
27

28 c. Proposed measures to reduce or control aesthetic impacts, if
29 any:

30 None.
31

32 11. Light and Glare

33 a. What type of light or glare will the proposal produce? What
34 time of day would it mainly occur?

35 None.
36

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1 b. Could light or glare from the finished project be a safety hazard
2 or interfere with views?

3 No.

4
5 c. What existing off-site sources of light or glare may affect your
6 proposal?

7 None.

8
9 d. Proposed measures to reduce or control light and glare impacts,
10 if any:

11 None.

12
13 **12. Recreation**

14 a. What designated and informal recreational opportunities are in
15 the immediate vicinity?

16 None.

17
18 b. Would the proposed project displace any existing recreational
19 uses? If so, describe.

20 No.

21
22 c. Proposed measures to reduce or control impacts on recreation,
23 including recreation opportunities to be provided by the project
24 or applicant, if any?

25 None.

26
27 **13. Historic and Cultural Preservation**

28 a. Are there any places or objects listed on, or proposed for,
29 national, state, or local preservation registers known to be on or
30 next to the site? If so, generally describe.

31 No places or objects listed on, or proposed for, national, state, or
32 local preservation registers are known to be on or next to the
33 216-S-10 Pond and Ditch.
34

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- 1 b. Generally describe any landmarks or evidence of historic,
2 archaeological, scientific, or cultural importance known to be on
3 or next to the site.

4 There are no known archaeological, historical, or Native American
5 religious sites on or near the 216-S-10 Pond and Ditch.

- 6
7 c. Proposed measures to reduce or control impacts, if any:

8 None.

9
10 14. Transportation

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

14 Does not apply.

- 15
16 b. Is site currently served by public transit? If not, what is the
17 approximate distance to the nearest transit stop?

18 No. The distance to the nearest public transit stop is approximately
19 50 kilometers, located at Washington State University Tri-Cities.

- 20
21 c. How many parking spaces would the completed project have?
22 How many would the project eliminate?

23 Not applicable.

- 24
25 d. Will the proposal require any new roads or streets, or
26 improvements to existing roads or streets, not including
27 driveways? If so, generally describe (indicate whether public or
28 private).

29 No.

- 30
31 e. Will the project use (or occur in the immediate vicinity of)
32 water, rail, or air transportation? If so, generally describe.

33 No.

34

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1 f. How many vehicular trips per day would be generated by the
2 completed project? If known, indicate when peak volumes
3 would occur.

4 No additional vehicular traffic will be required. Groundwater
5 monitoring requirements will be coordinated with similar activities
6 supporting the 200-UP-1 groundwater operable unit.

7
8 g. Proposed measures to reduce or control transportation impacts,
9 if any:

10 None.

11
12 **15. Public Services**

13 a. Would the project result in an increased need for public services
14 (for example: fire protection, police protection, health care,
15 schools, other)? If so, generally describe.

16 No.

17
18 b. Proposed measures to reduce or control direct impacts on public
19 services, if any:

20 Does not apply.

21
22 **16. Utilities**

23 a. Circle utilities currently available at the site: electricity, natural
24 gas, water, refuse service, telephone, sanitary sewer, septic
25 system, other:

26 No utilities currently are available at the 216-S-10 Pond and Ditch.

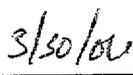
27
28 b. Describe the utilities that are proposed for the project, the utility
29 providing the service, and the general construction activities on
30 the site or in the immediate vicinity which might be needed.

31 No utilities are proposed supporting closure of the 216-S-10 Pond
32 and Ditch.

1 SIGNATURES

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

5
6
7
8
9 


Date

10 Keith A. Klein, Manager
11 U.S. Department of Energy
12 Richland Operations Office
13
14
15