CATEGORICAL EXCLUSION FOR PURGEWATER STORAGE AND TREATMENT FACILITY UNIT #1 CLOSURE 600 AREA, HANFORD SITE, RICHLAND, WASHINGTON

Proposed Action

The U.S. Department of Energy, Richland Operations Office (RL), needs to close out a 1,000,000 gallon surface impoundment (RL's Purgewater Storage and Treatment Facility [PSTF], or ModuTank™ Unit #1 facility) located in the 600 Area of the Hanford Site. The PSTF Unit #1, which contains well water and sediment from various well drilling operations and has been in operation since 1990, has reached the end of its facility design life.

Location of Action

600 Area, Hanford Site, Richland, Washington (Figure 1).

Description of Proposed Action

The current PSTF consists of two aboveground, open-containment vessels (i.e., ModuTanks™) located just east of the 200 Area Effluent Treatment Facility on the Hanford Site (Figure 1). The surrounding area is undeveloped desert.

The two dangerous waste management units in the PSTF (Unit #1 and Unit #2) were designed and built to store extracted groundwater and well development water (also known as purgewater) resulting from groundwater monitoring activities on the Hanford Site. PSTF Unit #1 and Unit #2 are free-standing units. The capacity of the units is 3,785,400 liters (L) [1,000,000 gallons (gal)] each. The units have steel sidewalls that support a double layer of flexible membrane liners (FMLs). The FMLs are 80-mil high-density polyethylene, separated by a geotextile layer. A leak detection system consisting of a standpipe with measurable depth and sampling capability is connected between the two liners. Only one of the units (PSTF Unit #1, see Figure 2) has been operational since 1990. The second unit (PSTF Unit #2) was never placed into active service. The proposed action would close out the existing PSTF Unit #1[1].

The closure of PSTF Unit #1 would be a *Resource Conservation and Recovery Act of 1976* (RCRA) closure by removal or decontamination (clean-closure). Potentially contaminated waste residues, plastic liners, metal sidewalls, leachate collection system components, and loading facility components will be removed and disposed of at the Environmental Restoration Disposal Facility (ERDF) in accordance with the ERDF waste acceptance criteria.

Sampling and analysis of the sediments would be performed if necessary, to meet waste acceptance criteria for waste disposal profiling using a focused sampling technique. Prior to the execution of sediment sampling, annual sediment sampling data results would be reviewed to determine if existing data meet waste acceptance criteria for disposal of the sediments in ERDF. If the ERDF waste acceptable criteria can not be met with existing data, then a focused sampling

[1] PSTF Unit #2 will be refurbished and operated under *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) for storage of extracted groundwater and purgewater.

approach would be used on the sediments. Focused sampling is appropriate for waste characterization to ensure compliance with the receiving facilities' waste acceptance criteria.

If the sediments fail to meet applicable RCRA land disposal restrictions (LDR) treatment standards, they would be treated prior to disposal. A separate bench-scale test plan and sampling and analysis plan would be developed for any treatment design and incorporated into the RCRA closure. The treatment method used for metals concentrations exceeding applicable LDR treatment standards would be stabilization (i.e., grouting) in accordance with the LDR treatment standard for all inorganic underlying hazardous constituents. Although not expected, additional treatment may be necessary to address the LDR treatment standard for carbon tetrachloride or other organics identified as underlying hazardous constituents. Removal could be accomplished by any method that effectively reduces the organic concentration to treatment levels, such as treatment by reverse osmosis with activated carbon for carbon tetrachloride removal or treatment by ultraviolet light and/or hydrogen peroxide for organic destruction.

At the start of closure for PSTF Unit #1, water content in the unit would be reduced using natural evaporation, mechanical methods (e.g., pumping, filtration), and/or absorbent material until the sediments are dry enough to remove. A soil fixative would be applied to control dust and prevent the airborne spread of potential contaminants. The sediments and structures for Unit #1 would be removed using standard industrial equipment used for demolition and/or excavation. This waste would be packaged to meet ERDF acceptance criteria and loaded into transport containers for shipment to the ERDF. Approximately 1 m (3.3 ft) of soil under the bottom liner also could be removed and disposed at ERDF. Any sediment material introduced to the underlying soil as a result of spillage from the top and bottom liners would be removed and disposed at ERDF under an approved waste profile. Materials generated during the closure would be staged in a waste storage area established near the removal area prior to shipment. Verification sampling and equipment decontamination would be conducted as appropriate.

After all sediments, liners and support equipment/structures have been removed, and verification sampling results show the site to be clean-closed, the site will be graded to an even surface and sloped slightly to prevent ponding of precipitation. Water and crusting agents or mulch will be utilized to prevent soil erosion and to limit dust emissions until revegetation of the area.

Closure activities are scheduled to start in FY 2009 and be completed in FY 2009. Total project costs for PSTF Unit #1 closure are estimated to be no greater than $1,000,000.

Categorical Exclusion (CX) to be Applied

The following CX is listed in Title 10, Code of Federal Regulations (CFR) 1021, "National Environmental Policy Act Implementing Procedures," Subpart D, Appendix B, published in the Tuesday, July 9, 1996, 61 Federal Register 36222:

B6.1 Small-scale, short-term cleanup actions, under RCRA, Atomic Energy Act, or other authorities less than approximately 5 million dollars in cost and 5 years duration, to reduce risk to human health or the environment from the release or threat of release of a hazardous substance other than high-level radioactive waste and spent nuclear fuel, including treatment (e.g., incineration), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the action. These actions include, but are not limited to:

(a) Excavation or consolidation of contaminated soils or materials from drainage channels, retention basins, ponds, and spill areas that are not receiving contaminated surface water or wastewater, if surface water or groundwater would not collect and if such actions would reduce the spread of, or direct contact with, the contamination;

(b) Removal of bulk containers (for example, drums, barrels) that contain or may contain hazardous substances, pollutants, contaminants, CERCLA-excluded petroleum or natural gas products, or hazardous wastes (designated in 40 CFR part 261 or applicable state requirements), if such actions would reduce the likelihood of spillage, leakage, fire, explosion, or exposure to humans, animals, or the food chain;

(c) removal of an underground storage tank including its associated piping and underlying containment systems in compliance with RCRA, subtitle I; 40 CFR part 265, subpart J; and 40 CFR part 280, subparts F and G if such action would reduce the likelihood of spillage, leakage, or the spread of, or direct contact with, contamination;

(d) Repair or replacement of leaking containers;

(e) Capping or other containment of contaminated soils or sludges if the capping or containment would not affect future groundwater remediation and if needed to reduce migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products into soil, groundwater, surface water, or air;

(f) Drainage or closing of man-made surface impoundments if needed to maintain the integrity of the structures;

(g) Confinement or perimeter protection using dikes, trenches, ditches, diversions, or installing underground barriers, if needed to reduce the spread of, or direct contact with, the contamination;

(h) Stabilization, but not expansion, of berms, dikes, impoundments, or caps if needed to maintain integrity of the structures;

(i) Drainage controls (for example, run-off or run-on diversion) if needed to reduce offsite migration of hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum or natural gas products or to prevent precipitation or run-off from other sources from entering the release area from other areas;

(j) Segregation of wastes that may react with one another or form a mixture that could result in adverse environmental impacts;

(k) Use of chemicals and other materials to neutralize the pH of wastes;

(l) Use of chemicals and other materials to retard the spread of the release or to mitigate its effects if the use of such chemicals would reduce the spread of, or direct contact with, the contamination;

(m) Installation and operation of gas ventilation systems in soil to remove methane or petroleum vapors without any toxic or radioactive co-contaminants if appropriate filtration or gas treatment is in place;

(n) Installation of fences, warning signs, or other security or site control precautions if humans or animals have access to the release; and

(o) Provision of an alternative water supply that would not create new water sources if necessary immediately to reduce exposure to contaminated household or industrial use water and continuing until such time as local authorities can satisfy the need for a permanent remedy.

ELIGIBILITY CRITERIA

Since there are no extraordinary circumstances that may affect the significance of the environmental effects of the proposal, the proposed activity meets the eligibility criteria of 10 CFR 1021.410(b), as shown in the following table. The proposed activity is not "connected" to other actions with potentially significant impacts [40 CFR 1508.25(a)(1)], or with cumulatively significant impacts [40 CFR 1508.25(a)(2)], and is not precluded by 10 CFR 1021.211.

The "Integral Elements" of 10 CFR 1021 are satisfied as discussed below.

INTEGRAL ELEMENTS 10 CFR 1021, SUBPART D, APPENDIX B	
Would the Proposed Action:	Comment or explanation:
Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including requirements of DOE and/or Executive Orders?	No applicable laws, regulations, or orders would be violated by the proposed actions.
Require siting and construction or major expansion of waste storage, disposal, recovery or treatment facilities (including incinerators)? The proposal may include categorically excluded waste storage, disposal, recovery or treatment actions.	Wastes generated during the proposed action would not require expansion/modification of existing waste management facilities.
Disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases?	No. There would be no uncontrolled or unpermitted releases.
Adversely affect environmentally sensitive resources including, but not limited to: (i) Property (e.g., sites, buildings, structures, objects) of historic, archeological, or architectural significance designated by Federal, state, or local governments or property eligible for listing on the National Register of Historic Places (ii) Federally-listed threatened or endangered species or their habitat (including critical habitat), Federally-proposed or candidate species or their habitat or state-listed endangered or threatened species or their habitat (iii) Wetlands regulated under the Clean Water Act (33 U.S.C. 1344) and floodplains (iv) Federally- and state-designated wilderness areas, national parks, national natural landmarks, wild and scenic rivers, state and Federal wildlife refuges, and marine sanctuaries (v) Prime agricultural lands (vi) Special sources of water (such as sole-source aquifers, wellhead protection areas, and other water sources that are vital in a region) (vii) Tundra, coral reefs, or rainforests?	None of the environmentally sensitive resources listed (i through vii) will be adversely affected.

CULTURAL AND BIOLOGICAL RESOURCES REVIEWS

A cultural resources review has been conducted for closure of PSTF Unit #1. A No Potential to Cause Effect Finding (NPCE # 2009-600-017) was recommended; subsequently DOE determined per 36 CFR Part 800, Subpart B, 800.3.a, that this project is not the type of undertaking with potential to cause effects to historic properties and no further actions are required (E-mail, A. Till, PNNL, to M. Jansky, CHPRC, "Closure of Purgewater Storage and Treatment Facility Unit #1 east of 200 East Area, NPCE # 2009-600-017, dated July 21, 2009).

A biological review specifically for the project has been conducted (Letter, M. Sackschewsky, PNNL, to M. Jansky, CHPRC, "Biological Review of the Purgewater Storage and Treatment Facility Unit #1 Closure Project, 600 Area, ECR #2009-600-017," dated July 17, 2009). No plant or animal species protected under the Endangered Species Act, candidates for such protection, or species listed by the Washington State government as threatened or endangered are likely to occur in the vicinity of the proposed sites. No adverse impacts to protected species, priority habitats, or other biological resources of concern are expected to result from the proposed action.

Compliance Action: I have determined that the proposed action meets the requirements for the referenced CX. Therefore, using the authority delegated to me by DOE Order 451.1B, Change 1, I have determined that the proposed activities may be categorically excluded from further NEPA review and documentation.

Signature/Date: Wade Russell 8/19/09
R. W. Russell
Hanford NEPA Compliance Officer

cc:

M. T. Jansky, CHPRC
C. E. Kennedy, CHPRC
A. L. Rodriguez, RL
R. S. Weeks, PNNL

The following checklist summarizes environmental impacts that were considered

IMPACT TO AIR

	Would the proposed action:	YES	NO
1.	Result in more than minor and temporary gaseous discharges to the environment?		X
2.	Release other than nominal and temporary particulates or drops to the atmosphere?		X
3.	Result in more than minor thermal discharges?		X
4.	Increase offsite radiation dose to >0.1 mrem (40 CFR 61 Subpart H)?		X

IMPACT TO WATER

	Would the proposed action:	YES	NO
5.	Discharge any liquids to the environment?	X	
6.	Discharge heat to surface or subsurface water?		X
7.	Release soluble solids to natural waters?		X
8.	Provide Interconnection between aquifers?		X
9.	Require installation of wells?		X
10.	Require a Spill Prevention Countermeasure and Control Plan (40 CFR 112 and 761).		X
11.	Violate water quality standards (WAC 173-200, Table 1)		X

IMPACT TO LAND

	Would the proposed action:	YES	NO
12.	Conflict with existing zoning or land use?		X
13.	Involve hazardous, radioactive, PCB, or asbestos waste?		X
14.	Cause erosion?		X
15.	Require an excavation permit?	X	
16.	Disturb an undeveloped area?		X

GENERAL

	Would the proposed action:	YES	NO
17.	Disturb Arid Lands Ecology or Wahluke Slope Reserves		X
18.	Cause other than a minor increase in noise level?		X
19.	Make a long-term commitment of large quantities of nonrenewable resources?		X
20.	Require new utilities or modifications to utilities?		X
21.	Use pesticides, carcinogens, or toxic chemicals?		X
22.	Require a radiation work permit?		X

Items marked "yes" in the Environmental Impact Checklist located above, are addressed in the following paragraphs:

5. Water content in PSTF Unit #1 would be reduced using natural evaporation, mechanical methods (e.g., pumping, filtration), and/or absorbent material.

15. An excavation permit would be required before removal of soils under the liner.

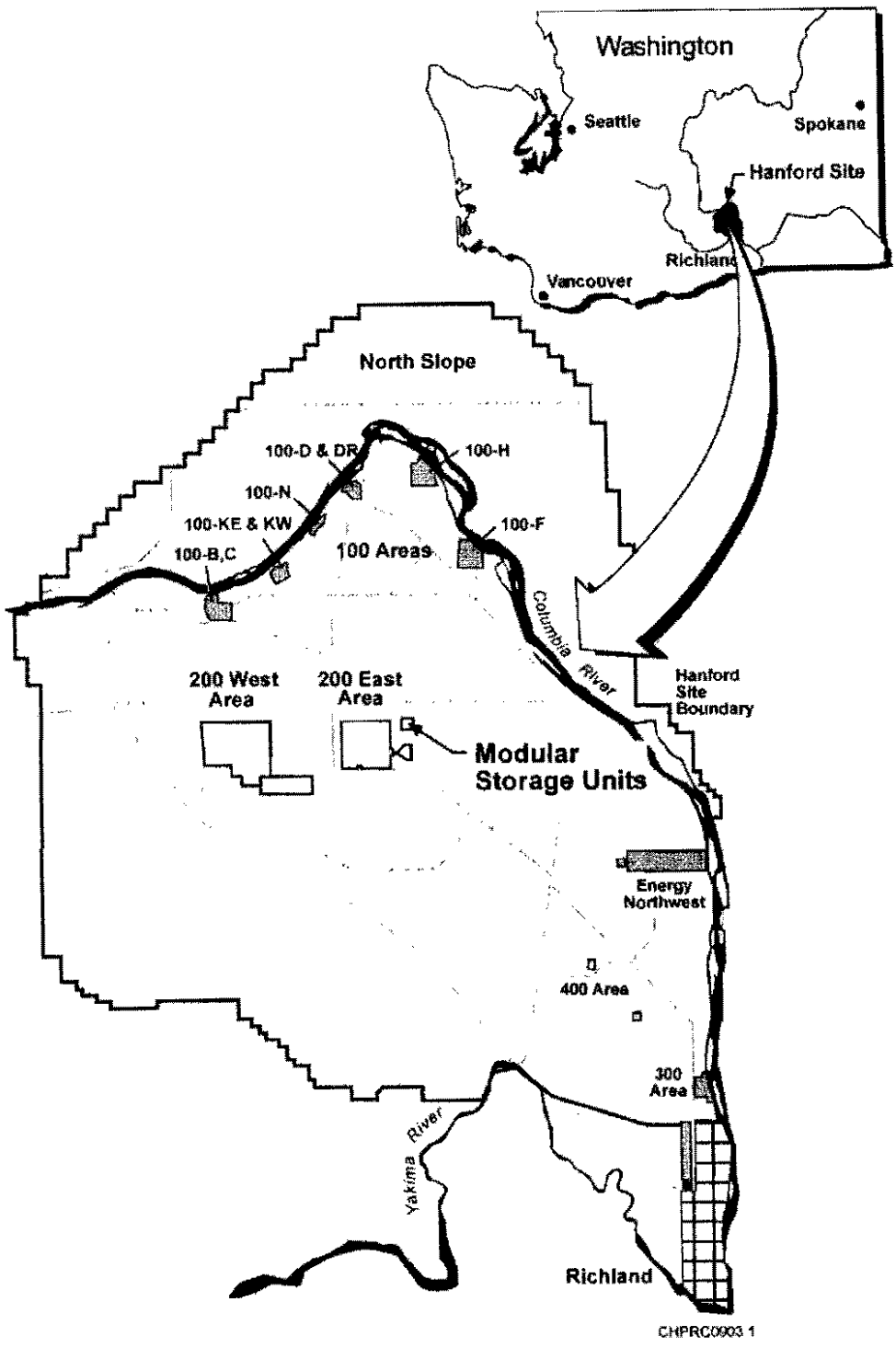
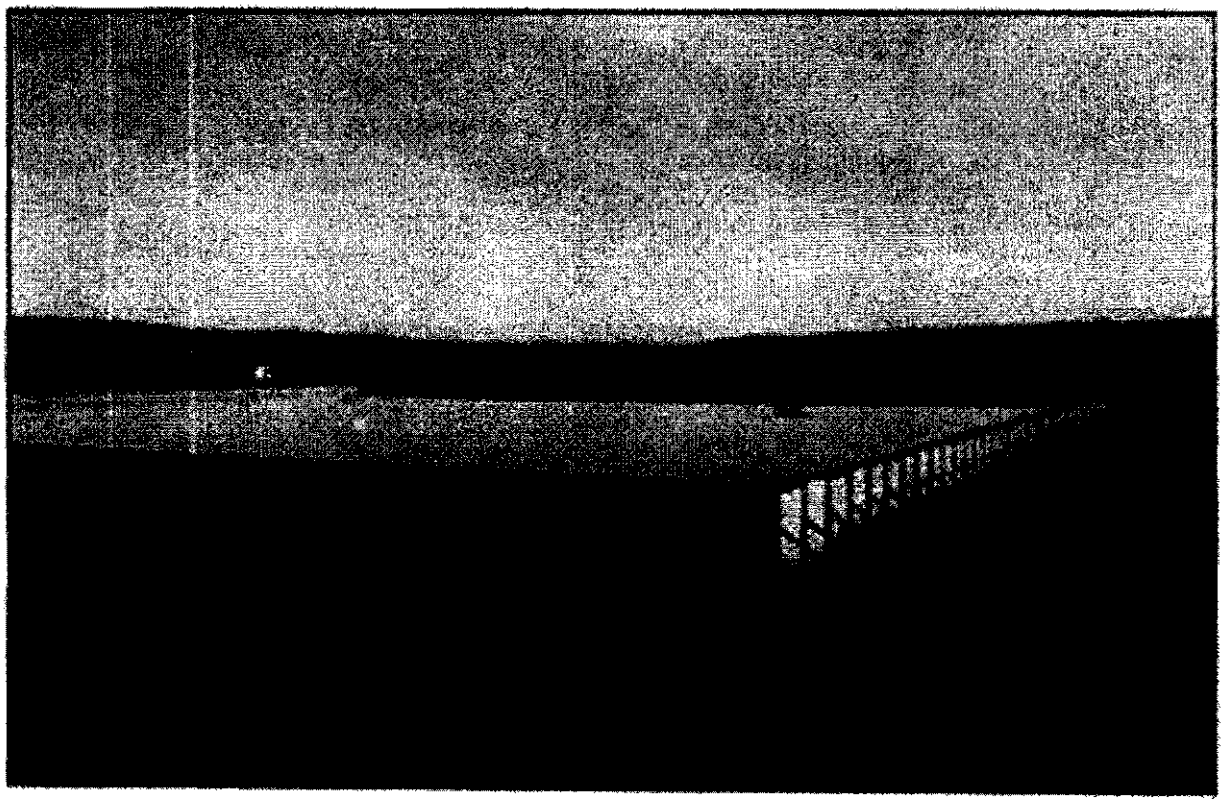


Figure 1. Hanford Site showing relative location of PSTF Unit #1.



Modular Purgewater Storage Unit