

CATEGORICAL EXCLUSION FOR
RESOURCE CONSERVATION AND RECOVERY ACT CLOSURE
OF THE HEXONE STORAGE AND TREATMENT FACILITY,
200 WEST AREA, HANFORD SITE, RICHLAND, WASHINGTON

Proposed Action:

The U.S. Department of Energy (DOE), Richland Field Office (RL) proposes to clean close the Hexone Storage and Treatment Facility (Hexone Facility) in accordance with the *Resource Conservation and Recovery Act* (RCRA) in the 200 West Area.

Location of Action:

200 West Area, Hanford Site, Richland, Washington

Description of Proposed Action:

The proposed action is to close the Hexone Facility pursuant to regulations under RCRA. The Hexone Facility consists of two carbon steel, 23,500 gallon, underground storage tanks (Tanks 276-S-141 and 276-S-142); three 300-gallon vessels containing tarry residue (still bottoms); and ancillary equipment and piping. Closure would include disposition of all of these features.

During RCRA closure, all bulk hazardous waste would be removed as feasible from the tanks, still bottoms, and ancillary equipment. These units would then be decontaminated and/or disposed of as required for clean closure. Closure would be consistent with applicable laws and regulations and would be in accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement).

Closure of the Hexone Facility is sponsored by the Office of Environmental Restoration and Waste Management. The closure is expected to cost approximately \$1 million and is expected to take 8 to 12 months to complete. These estimates may be revised as the closure plan matures. The proposed action would meet the required time and cost limitations stipulated for categorically excludable removal actions.

The action would take place within the existing 200 West Area, on previously disturbed ground which is not on a floodplain, wetland, or other environmentally sensitive area.

Categorical Exclusions (CXs) to be applied:

The following CX is listed in the DOE National Environmental Policy Act (NEPA) Implementing Procedures, 10 Code of Federal Regulations (CFR) 1021, Subpart D, which was published in the Friday, April 24, 1992, Federal Register (57 FR 15151):

- B6.1 Removal actions under Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (including those taken as final response actions and those taken before remedial action) and removal-type actions similar in scope under RCRA and other authorities (including those taken as partial closure actions and those taken before corrective action), including treatment (e.g., incineration), recovery,

storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the removal action. These actions will meet the CERCLA regulatory cost and time limits or satisfy either of the two regulatory exemptions from those cost and time limits (National Contingency Plan, 40 CFR part 300). These actions include, but are not limited to:

- (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;

This CX is appropriate because the action would not have a significant effect on the human environment and meets the conditions for the CX: does not have extraordinary circumstances; is not connected to other actions with potentially significant impacts; is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211; does not threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, or health, including DOE Orders; does not require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities; does not disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum or natural gas products that preexist in the environment causing uncontrolled or unpermitted releases; does not adversely impact environmentally sensitive resources such as historic properties, cultural resources, threatened or endangered species, and floodplains and wetlands; meets the CERCLA regulatory time and cost limitations identified in the *National Contingency Plan*. Documentation for the project indicating satisfaction of the conditions of this CX will be retained by RL.

I have reviewed the documentation and do not object to the use of this CX.

Signature: Paul F. X. Dunigan, Jr.
Paul F. X. Dunigan, Jr.
RL NEPA Compliance Officer

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INFORMATION BULLETIN

PROPOSED ACTION: RESOURCE CONSERVATION AND RECOVERY ACT CLOSURE OF THE HEXONE STORAGE AND TREATMENT FACILITY, 200 WEST AREA, HANFORD SITE, RICHLAND, WASHINGTON

DESCRIPTION OF PROPOSED ACTION:

The proposed activity would be to perform clean closure of the Hexone Storage and Treatment Facility (Hexone Facility) in accordance with the *Resource Conservation and Recovery Act* (RCRA), and Washington Administrative Code (WAC) 173-303, *Dangerous Waste Regulations*.

The Hexone Facility consists of two, 23,500 gallon carbon steel underground tanks (Tanks 276-S-141 and 276-S-142), located in the south-central part of the 200 West Area (Figure 1). The tanks were constructed in 1951 and stored reagent grade hexone for use in uranium extraction processes until 1967. The tanks were subsequently used to store radioactively contaminated solvents from the REDOX and possibly from the Hot Semiworks Facilities. The area containing the tanks (approximately 2,500 square feet) is enclosed by a chain link fence. The ground surface is covered with a layer of sand and gravel. Catch pans provide secondary containment beneath all piping, threaded fittings and flexible lines. Above-ground valves allow liquid transfers and tank ventilation. Adjacent to the fenced area are several rail cars: four tank rail cars which held distilled hexone, a fifth tank rail car provided secondary containment, and another rail car holds a portable distillation system.

Certain closure activities have already been completed under RCRA interim status, and are described in a RCRA Part A permit application (May 1988) which was submitted to the State of Washington Department of Ecology (Ecology). These activities included pumping out the accessible liquid contents of the tanks and distilling the liquid. A Memorandum-To-File and Environmental Evaluation were prepared in 1989 for the distillation. Tank 276-S-141 held 20,000 gallons of essentially pure liquid hexone, contaminated with approximately 0.6 curies of radionuclides, most of which is tritium. Tank 276-S-142 held about 2,000 gallons of water and 14,000 gallons of a liquid organic mixture consisting of 60% hexone, 25% normal paraffin hydrocarbons, and 12% of metallic tributyl phosphate complexes. There is approximately 0.3 curies radioactive material in this tank (mostly heavy radionuclides). Both tanks contain a tarry sludge at the base.

Approximately 35,000 gallons of liquid were pumped from the tanks and distilled twice, reducing the radioactivity sufficiently to allow incineration in a permitted off-site facility. The distillation took place from July through December 1990. The essentially non-radioactive distillate was stored temporarily in four rail cars at the Hexone Facility before being shipped to the incinerator in a tank truck. The rail cars and distillation system were decontaminated and will be made available for other uses on the Hanford Site.

If determined practical and consistent with remediation plans for the 200 West Area as a whole, the proposed activity would be to perform clean closure of the Hexone Facility in accordance with WAC 173-303 and RCRA. Clean closure would include decontamination/disposal of:

- Two underground storage tanks and residual contents
- Ancillary equipment and piping
- Three partially filled 300-gallon sacrificial vessels containing a tarry distillation residue (still bottoms)
- Contaminated soil, if present.

Closure activities would meet the closure performance standards of WAC 173-303-610.

A RCRA closure plan is being prepared with review, advice, and concurrence provided by Ecology, as stipulated in the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement). Submittal of the closure plan will meet Milestone M-20-27 (submittal date of November 1992 to Ecology). The closure plan may not be finalized and approved for several years, but in accordance with RCRA regulations, some of the closure activities will probably be conducted before final closure plan approval. This might include the decontamination/disposal of ancillary equipment and piping.

During closure, all bulk hazardous waste would be removed as feasible from the tanks and ancillary equipment. These units would then be decontaminated or disposed of as required for clean closure. Specific closure activities are currently under preparation, and details will evolve during review cycles with Tri-Party Agreement regulators.

The tank sludge heels and the tarry residue in the still bottoms would be designated and disposed of as appropriate. Although the data is not yet complete, the residue in the still bottoms may be Transuranic (TRU) mixed waste. Designated TRU waste would be transported in approved shipping containers to the TRU Waste Storage and Assay Facility. If the waste is not designated TRU waste, it would likely be low-level mixed waste, and would be stored in accordance with U.S. Department of Energy (DOE) guidance until disposal options are available.

Regular monitoring of liquid levels in the underground storage tanks (before the contents were removed for distillation) suggests there was no tank leakage, although analysis of sludge heels reveals the presence of tank corrosion products. Prior to tank decontamination, a visual tank integrity examination would be performed. If no staining from leaks is apparent in the vicinity of the tanks, soil sampling would be limited accordingly. If soil contamination is present, soil treatment or removal would be included in the RCRA closure of the facility.

Although not expected, if significant soil contamination extends beyond the closure boundaries, or contamination from other sources is present, soil remediation would be deferred until the cleanup of the 200-RO-2 Operable Unit in accordance with the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA). The 200-RO-2 CERCLA Operable Unit includes the Hexone Facility. In this case, the Hexone Facility would not undergo immediate closure, but would be kept under appropriate surveillance,

segregation, and monitoring, until cleanup can be coordinated with the larger CERCLA cleanup.

Closure of the Hexone Facility is sponsored by the DOE Environmental Restoration and Waste Management program. Although the estimates are still developing, the closure is expected to cost approximately \$1 million, and to take 8 to 12 months of activity to complete. These estimates will become more firm as the closure plan matures.

Potential environmental impacts associated with closure of the Hexone Facility will be addressed in the Hanford Remedial Action Environmental Impact Statement (EIS), expected to be finalized in 1995. This EIS will address potential cumulative and incremental environmental impacts of a number of Hanford Site environmental restoration activities, including the Hexone Facility, but will not address specific proposed cleanup actions at each facility.

IMPACTS

The following checklist summarizes environmental impacts that were considered for the proposed action. All "YES" answers are explained in detail in the text following the checklist.

IMPACT TO THE AIR

Would the proposed action:		YES	NO
1	Result in gaseous discharges to the environment?	X	
2	Release particulates or drops to the atmosphere?	X	
3	Result in thermal discharges to the environment?	X	
4	Violate federal, state, or local emission standards?		X
5	Cause any other atmospheric disturbance?		X
6	Violate ambient air quality standards (e.g., CO, NO _x)		X
7	Increase offsite radiation dose to >0.1 mrem (40 CFR 61 Subpart H)?		X

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IMPACT TO WATER

Would the proposed action:		YES	NO
8	Discharge any liquids to the environment?		X
9	Discharge heat to surface or subsurface water?		X
10	Alter stream flow rates?		X
11	Significantly alter natural evaporation rates?		X
12	Release soluble solids to natural waters?		X
13	Provide interconnection between aquifers?		X
14	Require installation of wells?		X
15	Require a Spill Control and Prevention Plan?		X
16	Violate water quality standards (COD, BOD, pH etc.)		X

IMPACT TO LAND

Would the proposed action:		YES	NO
17	Conflict with existing zoning or land use?		X
18	Be located on wetlands?		X
19	Be located on the 100-year floodplain?		X
20	Generate non-hazardous solid waste?	X	
21	Create hazardous, radioactive, PCB, or asbestos waste?	X	
22	Cause erosion?		X
23	Impact prime or unique farmland?		X
24	Be located on the Arid Land Ecology Reserve?		X
25	Require excavations?	X	
26	Disturb an undeveloped area?		X

GENERAL

Would the proposed action:		YES	NO
27	Increase noise level?	X	
28	Adversely impact endangered species or critical habitats?		X
29	Be within the Hanford Reach Study Area?		X
30	Make a long-term commitment of nonrenewable resources?	X	
31	Require new utilities or modifications to utilities?		X
32	Use pesticides, carcinogens, or toxic chemicals?		X
33	Require a radiation work permit?	X	
34	Adversely affect archaeological or historical property?		X

Gaseous discharges would be limited to minor amounts of equipment exhaust emissions from vehicles and motors used during these activities. Particulates

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raised by tank excavation activities would be limited to dust that might occur temporarily and would cease when closure activities are completed.

The tanks and ancillary piping are purged with nitrogen to exclude high oxygen concentrations. Discharges of residual hexone or related organic vapors from the tank off-gas stream are controlled through High Efficiency Particulate Air filters and activated charcoal filters.

Minor amounts of heat would be generated by the equipment and vehicles used to gain access to the site. Noise levels would be increased temporarily over short periods in the immediate vicinity as a result of project activities.

Small amounts of nonrenewable resources (i.e., petroleum products, gravel) would be consumed by this activity. However, such resources would be consumed on a short-term basis, and would cease when the activities terminate.

Work at the Hexone Facility would potentially expose workers to radiation above background levels. Worker safety would be monitored and maintained in accordance with existing DOE and DOE Contractor procedures, including 'as low as reasonably achievable' procedures. Tank excavation, removal, and cleanup would likely be accomplished within a temporary greenhouse to limit adverse impacts to workers and the environment.

The volume of waste potentially generated by the closure of the Hexone Facility would not significantly affect existing waste disposal units. All handling, storage, disposal, treatment and removal of wastes and contaminated equipment/materials would be conducted in accordance with approved procedures and applicable federal and state regulations.

Transportation of waste would be in accordance with applicable federal, state and DOE regulations and guidelines, and would not adversely impact the public, employees, or the environment.

The proposed activity is located within the previously developed 200 West Area. There are no known archaeological, historical, or native American religious sites in the immediate vicinity of this activity. The Hanford Cultural Resources Laboratory has cleared this portion of the 200 West Area for these activities (HCRC# 89-200-007). All mitigation measures stipulated in the cultural resources clearance would be followed.

Because of the previously developed, heavily industrialized nature of the site, little disturbance to plant or animal populations would occur during this activity. No long-term effects to any species are anticipated. The activity would not affect or be located on environmentally sensitive areas, such as critical habitats, floodplains, wetlands, or sole-source aquifers. The 200 West Area is not located within the 100-year floodplain of the Columbia River, nor within 1/4 mile of the Columbia River.

Closure of the Hexone Facility would prevent the potential release of hazardous substances to the vadose zone and the larger environment. Closure of the Hexone Facility may expedite cleanup of the CERCLA 200-RO-2 Operable

Unit, by preventing the potential release of hexone before initiation of the CERCLA remedial action.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REVIEW

The Westinghouse Hanford Company NEPA Documentation Group has reviewed this project for appropriate NEPA documentation and believes that this project might be covered under a Categorical Exclusion (CX) as defined in Subpart D of the DOE NEPA Implementing Procedures (1992)(to be codified at 10 Code of Federal Regulations [CFR] 1021). This CX is included below for DOE review and determination.

B6.1 Removal actions under CERCLA (including those taken as final response actions and those taken before remedial action) and removal-type actions similar in scope under RCRA and other authorities (including those taken as partial closure actions and those taken before corrective action), including treatment (e.g., incineration), recovery, storage, or disposal of wastes at existing facilities currently handling the type of waste involved in the removal action. These actions will meet the CERCLA regulatory cost and time limits or satisfy either of the two regulatory exemptions from those cost and time limits (National Contingency Plan, 40 CFR part 300). These actions include, but are not limited to:

- (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.

ELIGIBILITY CRITERIA

The proposed clean closure meets the eligibility criteria of 10 CFR 1021.410(b) since there are no extraordinary circumstances that may affect the significance of the environmental effects of the proposed action. Further, the proposed activity is not connected to other actions with potentially significant impacts, or with cumulatively significant impacts, and is not precluded by 10 CFR 1021.211. This action would not limit the choice of reasonable alternatives for the Hanford Remedial Action EIS.

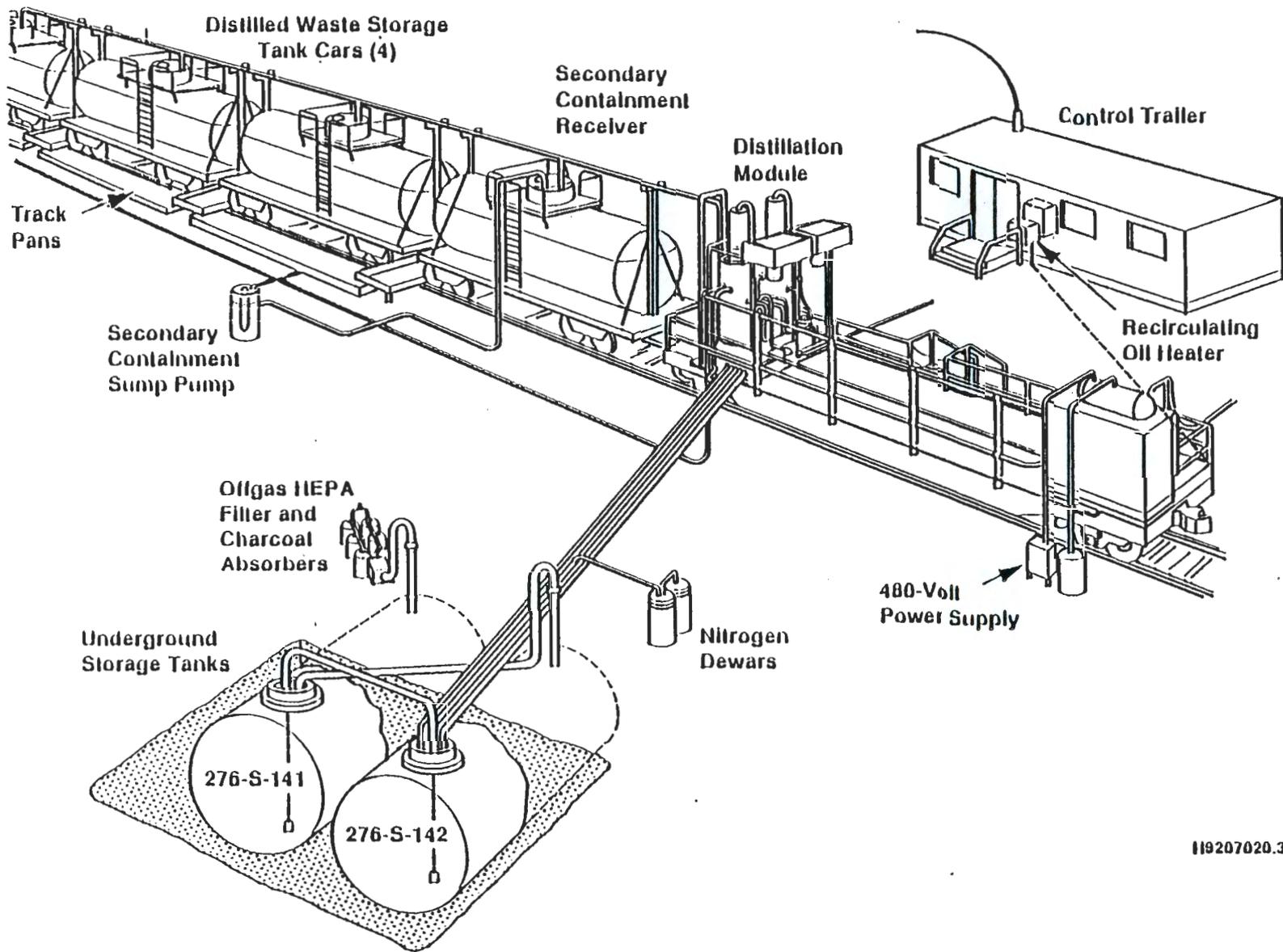
The "Integral Elements" of 10 CFR 1021 are satisfied as discussed below:

INTEGRAL ELEMENTS 10 CFR 1021, SUBPART D, APPENDIX B	
Would the Proposed Action:	Comment or explanation:
Threaten a violation of environmental, safety or health laws, regulations, or DOE Orders?	The closure activity would not violate environmental laws, regulations, or DOE Orders.
Require siting, construction or major expansion of waste treatment, storage, or disposal facilities?	The closure activity would not create large amounts of waste. Waste would be disposed of in existing facilities.
Disturb hazardous substances preexisting in the environment, allowing uncontrolled releases?	The closure would occur in an area that is contaminated, however, there would be no uncontrolled or unpermitted releases of preexisting hazardous substances. Activities would be performed in accordance with applicable environmental and safety regulations.
Adversely affect archeological or historical property?	Appropriate clearances were obtained for the activity. Please refer to the Impacts Section.
Adversely affect Federally- or state listed, proposed or candidate, threatened or endangered species or habitat?	Because of the previously disturbed nature of the Hexone Facility, clearances are not applicable for this closure. Please refer to the Impacts Section.
Adversely affect floodplains or wetlands?	The closure would not be located on 100-year floodplains or within designated wetlands.
Adversely affect wild and scenic rivers, state or Federal wildlife refuges or specially designated areas?	The closure activity would not be located on any specially designated areas.
Affect special sources of water?	The closure activities would not affect special sources of water.

The proposed action fulfills the conditions of CX B6.1, as the activity would be a final response action under RCRA, and closure would be performed in accordance with 40 CFR 265 part J, *Tank Systems*. Waste would be disposed of in existing waste disposal units currently handling the type of waste involved in this removal action. The removal action would meet the CERCLA regulatory time and cost limitations identified in the *National Contingency Plan*, 40 CFR Part 300. A cultural resources clearance has been obtained for the Hexone Facility removal action (#89-200-007), and the previously disturbed, industrial nature of the facility makes an ecological survey unnecessary.

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Figure 1. Hexone Storage and Treatment Facility



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