

Action Memorandum for the Non-Time-Critical Removal Action for the 212-N, -P and -R Facilities, Addendum 1: Disposition of Railcars

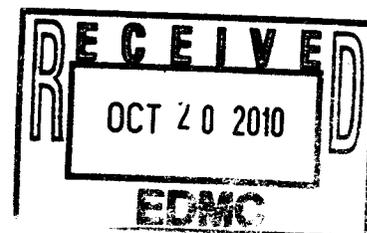
Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



U.S. DEPARTMENT OF
ENERGY

Richland Operations
Office

P.O. Box 550
Richland, Washington 99352



Approved for Public Release;
Further Dissemination Unlimited

Attached to: 00911665

Action Memorandum for the Non-Time-Critical Removal Action for the 212-N, -P and -R Facilities, Addendum 1: Disposition of Railcars

Date Published
September 2010

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



U.S. DEPARTMENT OF
ENERGY

Richland Operations
Office

P.O. Box 550
Richland, Washington 99352

S. R. Cardak 09/23/2010
Release Approval Date

Approved for Public Release;
Further Dissemination Unlimited

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy

Printed in the United States of America

Approval Page

Title: DOE/RL-2008-80-ADD1, *Action Memorandum for the Non-Time-Critical Removal Action for the 212-N, -P and -R Facilities, Addendum 1: Disposition of Railcars*

Approval R. A. Holten, Acting Assistant Manager, Central Plateau
U.S. Department of Energy, Richland Operations Office

Signature

Date

Concurrence D. A. Faulk, Program Manager
Hanford Site Project
U.S. Environmental Protection Agency

Signature

Date

Executive Summary

This Action Memorandum addendum documents the selected alternative to perform decommissioning of 16 railcars that are staged in the 200 North Area of the Hanford Site. Preparation of this Action Memorandum addendum has been in accordance with the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as amended by the "Superfund Amendments and Reauthorization Act of 1986", and in accordance with the "National Oil and Hazardous Substances Pollution Contingency Plan" (40 Code of Federal Regulations [CFR] 300). This action is consistent with the joint U.S. Department of Energy (DOE) and Environmental Protection Agency (EPA) *Policy on Decommissioning of Department of Energy Facilities Under the Comprehensive Environmental Response, Compensation, and Liability Act* (DOE and EPA 1995), which establishes the CERCLA non-time-critical removal action (NTCRA) process as an approach for decommissioning. This approach satisfies environmental review requirements and provides for stakeholder involvement, while providing a framework for selecting the decommissioning alternative. An Administrative Record has been established to record information used to support the selected alternative and provide documentation of decisions and the progress of the removal action.

An engineering evaluation/cost analysis (EE/CA) was prepared and released for public comment on evaluation of alternatives to disposition the railcars (which include 11 cask cars, 2 locomotives, 2 tank cars, and 1 flat car that are no longer needed). Comments received during the public comment period were considered for inclusion into the Action Memorandum addendum and are included in Appendix A, "Public Comments Received during the Comment Period."

Completion of the NTCRA will place the identified railcars in a condition protective of human health and the environment. The hazardous substances that may be encountered that are likely to require cleanup during the implementation of the NTCRA include, but are not limited to, radionuclides, asbestos, heavy metals, and polychlorinated biphenyls.

Three alternatives were considered for the railcars: (1) No Action; (2) Continued Surveillance and Maintenance; with future Decontamination, Deactivation, Decommissioning and Disposal of the Railcars; and (3) Near Term Decontamination, Deactivation, Decommissioning, and Disposal of the Railcars. The selected removal

action alternative is Alternative 3 (Near Term Decontamination, Deactivation, Decommissioning, and Disposal of the Railcars).

Alternative 3 meets the proposed removal action objectives (RAOs) regarding long-term risk, minimizes short-term risk and radiation exposure, is cost effective, meets applicable or relevant and appropriate requirements (ARARs), and provides a safe and stable configuration that is environmentally sound. U.S. Department of Energy, Richland Operations Office (RL) also considers Alternative 3 to contribute to the efficient performance of Hanford long-term remedial actions and promotes protection of ecological resources and restoration of the environment consistent with Tri-Party goals.

For contaminated wastes generated during the work, DOE and the EPA agree that to facilitate cost-effective, environmentally protective and efficient disposal, the Environmental Restoration Disposal Facility (ERDF) will be the preferred disposal location for wastes meeting the ERDF waste acceptance criteria. When the work involves generation of wastes subject to regulation under the *Washington State Hazardous Waste Management Act/Resource Conservation and Recovery Act* (HWMA/RCRA), these wastes will be addressed pursuant to the substantive requirements of those regulations.

Contents

1	Purpose.....	1
2	Site Conditions and Background	2
	2.1 Site Description	2
	2.1.1 Description of the Railcars.....	3
	2.2 Previous Closure/Cleanup Activities at the Hanford Site	5
3	Threat to Public Health, Welfare, and/or the Environment	6
4	Endangerment Determination	6
5	Proposed Action	7
	5.1 Removal Action Objectives.....	8
	5.2 Engineering Evaluation/Cost Analysis.....	8
	5.2.1 Alternative 1-No Action	8
	5.2.2 Alternative 2-Continued Surveillance and Maintenance; with Future Decontamination, Deactivation, Decommissioning, and Disposal of Railcars.....	8
	5.2.3 Alternative 3- Near Term Decontamination, Deactivation, Decommissioning, and Disposal of Railcars	9
	5.3 Compliance with Environmental Regulations, Including Those That Are Applicable or Relevant and Appropriate Requirements	9
	5.4 Cultural and Ecological Resources.....	10
	5.5 Compliance with Disposal Facility Waste Acceptance Criteria.....	10
	5.6 Other Considerations.....	10
6	Project Schedule	13
7	Project Cost.....	13
8	Expected Change Should Action be Delayed or Not Taken	14
9	Statutory and Regulatory Authority	14
10	Outstanding Policy Issues.....	14
11	Enforcement.....	14
12	Recommendation	15
13	Public Participation	15
14	References	15

Appendix

A	Public Comments Received During the Comment Period.....	A-i
---	---	-----

Figures

Figure 2-1. Location of Railcars within the 200 North Area	3
Figure 2-2. Railcars on 212-R Rail Spur Leading into the 212-R Facility	4

Tables

Table 2-1. Rail Car Identification Number and Railcar Type.....	4
Table 4-1. NEPA Values Evaluation	11
Table 7-1. Summary of Present Worth Cost Estimate	14

Terms

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos containing material
ALARACT	As low as reasonably achievable control technology
ARAR	applicable or relevant and appropriate requirement
BARCT	Best available radionuclide control technology
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFR	<i>Code of Federal Regulations</i>
CRMP	Cultural Resources Management Plan
D4	decontamination, deactivation, decommissioning and disposal
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
EE/CA	engineering evaluation/cost analysis
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration and Disposal Facility
HWMA/RCRA	<i>Washington State Hazardous Waste Management Act/Resource Conservation and Recovery Act</i>
LLW	low-level waste
NEPA	<i>National Environmental Policy Act of 1969</i>
NHPA	<i>National Historic Preservation Act</i>
NTCRA	non-time-critical removal action
PCB	polychlorinated biphenyl
RACM	regulated asbestos-containing material
RAO	removal action objective
RCRA	<i>Resource Conservation and Recovery Act</i>
RL	U.S. Department of Energy, Richland Operations Office
ROD	Record of Decision
S&M	surveillance and maintenance
SHPO	State Historic Preservation Officer
Tri-Parties	U.S. Department of Energy, Richland Operations Office, U.S. Environmental Protection Agency, Washington State Department of Ecology

Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order</i>
TSCA	<i>Toxic Substances Control Act</i>
TSD	treatment, storage, and/or disposal
USC	<i>United States Code</i>
WAC	<i>Washington Administrative Code</i>
WIDS	Waste Information Data System

1 Purpose

This Action Memorandum addendum documents the selection of the recommended alternative (Alternative 3, Near Term Decontamination, Deactivation, Decommissioning, and Disposal [D4] of the Railcars as identified in *212-N, -P, and -R Facilities Engineering Evaluation/Cost Analysis Addendum 1: Disposition of Rail Cars* [EE/CA] [DOE/RL-2008-07-ADD1].) The Action Memorandum addendum has been prepared in accordance with the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA), as amended by the "Superfund Amendments and Reauthorization Act of 1986," and the "National Oil and Hazardous Substances Pollution Contingency Plan" (40 Code of Federal Regulations [CFR] 300). Although the railcars are not specifically addressed in previous records of decision (RODs) on the Hanford Site, this removal action is consistent with the remedial action objectives of previous RODs and supports the overall cleanup objectives established through the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1989).

This action is also consistent with the joint U.S. Department of Energy (DOE) and U.S. Environmental Protection Agency (EPA) *Policy on Decommissioning of Department of Energy Facilities Under the Comprehensive Environmental Response, Compensation, and Liability Act* (DOE and EPA 1995), which establishes the CERCLA non-time-critical removal action (NTCRA) process as an approach for decommissioning. Under this policy, an NTCRA may be taken when DOE determines that the action will prevent, minimize, stabilize, or eliminate a risk to human health and/or the environment. When DOE determines that a CERCLA NTCRA is necessary, DOE is authorized to evaluate, select, and implement the removal action that DOE determines is most appropriate to address the potential risk posed by the release or threat of release. This policy states in part:

Although the full range of CERCLA response actions may be applicable to decommissioning activities, NTCRAs should be used for decommissioning, consistent with this Policy. The alternative approaches available to conduct decommissioning projects typically are clear and very limited. This often will eliminate the need for the more thorough analysis of alternatives required for remedial actions. NTCRA requirements provide greater flexibility to develop decommissioning plans that are appropriate for the circumstances presented. Statutory time and dollar limits on removal actions do not apply to removal actions conducted by DOE, which increases the scope of projects that may be addressed by DOE removal action. Most importantly, NTCRAs usually will provide benefits to worker safety, public health, and the environment more rapidly and cost effectively than remedial actions. For these reasons, DOE may exercise removal action authority to conduct decommissioning whenever such action is authorized by CERCLA, the NCP, and Executive Order 12580.

This NTCRA is intended to simplify administrative processes for management of wastes generated during performance of the work. The typical classifications of wastes likely to require disposal include, but are not limited to, solid waste, low-level radioactive waste, asbestos waste, and polychlorinated biphenyl (PCB)-contaminated waste.

For contaminated wastes generated during the work, U.S. Department of Energy, Richland Operations Office (RL), Washington State Department of Ecology (Ecology), and EPA (Tri-Parties) agree that to facilitate cost-effective, environmentally protective, and efficient disposal, the Environmental Restoration Disposal Facility (ERDF) would be the preferred disposal location for wastes meeting the ERDF waste acceptance criteria. Alternatively, wastes determined appropriate for dispositioning offsite (as defined by CERCLA) would be sent to an offsite facility in accordance with 40 CFR 300.440.

There is potential for encountering contamination in surrounding soils during the implementation of the removal action. Soil that is found to be contaminated with hazardous substances that can be readily cleaned up will be removed for disposal during performance of the work, if practicable. Such excavation will be performed using an observational approach with visual inspections, radiological, and chemical field screening, and focused judgmental sampling where appropriate. Depth of and completion of excavation in these situations will be determined by the on-scene coordinator in consultation with the EPA. Alternatively, if the soil contamination is extensive or unusually complex, the site will be identified by DOE for placement in the waste information data system (WIDS) and evaluation as a new site under the Tri-Party Agreement, with concurrence by the EPA and Ecology.

Performance of this removal action will place the railcars in a configuration that is protective of human health and the environment. Without D4 of the railcars, a potential threat of release of hazardous substances exists, and, without action, adverse threats to human health and the environment eventually could occur. As the lead agency, DOE has determined that a removal action is an appropriate means to accomplish the final end state and achieve environmental review requirements. The EPA concurs that a NTCRA is warranted to place these railcars in a configuration that is protective of human health and the environment. The removal activities under the scope of this NTCRA will, to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action, as required by 40 CFR 300.415(d).

2 Site Conditions and Background

This section provides summary background information and a description of the railcars and additional information relevant to the scope of this NTCRA. This section also provides a summary of the radiological and nonradiological hazardous substances that would potentially be encountered while performing the work.

2.1 Site Description

The railcars are located in the 200 North Area of the Hanford Site. Highway 240 is located to the southwest of the 200 North Area and the Columbia River is north-northwest (the highway and the river are each located less than 10 kilometers from the railcars). Figure 2-1 identifies the location of the railcars within this geographical area.



Figure 2-1. Location of Railcars within the 200 North Area

2.1.1 Description of the Railcars

Sixteen radiologically and chemically contaminated railcars are staged on the 212-R rail spur immediately south of the former location of the 212-R Facility (Figure 2-2). All of the cask cars and both locomotives were acquired in the 1940s through 1960s; 11 of the railcars (i.e., cask or well cars) supported the 212-N, -P, and -R facility interim storage mission by storing the fuel rods during transport between facilities. One flatcar, which is also staged on the 212-R rail spur, was used to transport miscellaneous equipment over the years and the two tanker cars were used to transport radiologically-contaminated liquid wastes on the Hanford Site.

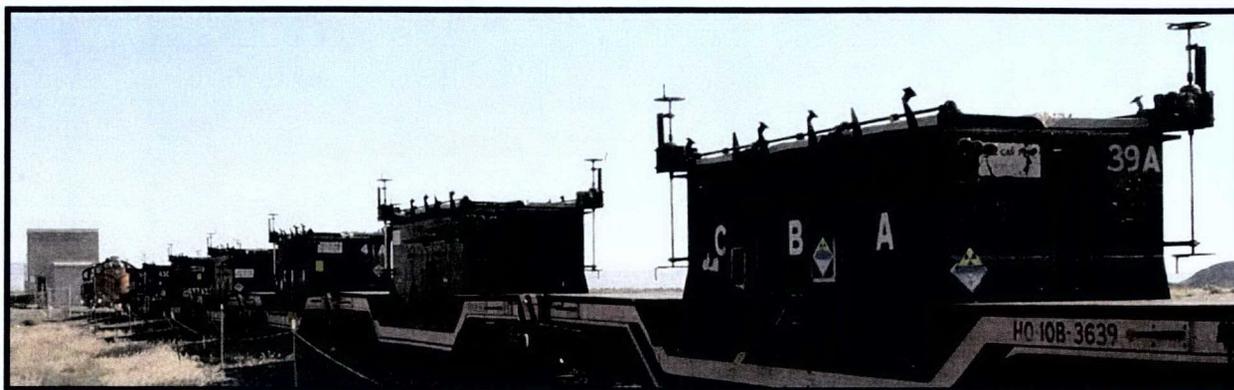


Figure 2-2. Railcars on 212-R Rail Spur

The railcars supported Hanford work; some railcars were used for the interim storage of irradiated fuel rods at the 212-N, -P, and -R facilities by housing the fuel rods during transport. As cited in PNL-7008, *Resource Book - Decommissioning of Contaminated Facilities at Hanford*, fuel operations in the 200 North Area were terminated in 1952.

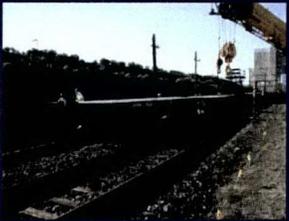
The Hanford Site railroad operations were suspended in 1997, and all remaining railcars were staged at selected locations around the Hanford Site. The main location for the storage of the railcars was the 212-R rail spur.

Table 2-1 provides the railcar identification (ID) number and railcar type, along with a photograph for the railcars.

Table 2-1. Rail Car Identification Number and Railcar Type

ID Number	Railcar Type and Photograph
3731	Diesel Locomotives 
3729	

Table 2-1. Rail Car Identification Number and Railcar Type

ID Number	Railcar Type and Photograph		
HO-10B-3637	Irradiated Fuel Cask Cars		
HO-10B-3643			
HO-10B-5598			
HO-10B-3640			
HO-10B-3641			
HO-10B-3636			
HO-10B-3639			
HO-10B-5599			
HO-10B-3645			
HO-10B-3642			
HO-10B-19945		Tall Irradiated Fuel Cask Car	
		HO-10H-3712	Rail Tank Car
			HO-10H-3663
			HO-10A-3602
			

2.2 Previous Closure/Cleanup Activities at the Hanford Site

Previous work nearby included D4 of the 212-N, -P, and -R Facilities and cleanup of waste sites.

3 Threat to Public Health, Welfare, and/or the Environment

The "National Oil and Hazardous Substance Pollution Prevention Contingency Plan," 40 CFR 300.415(b)(2), establishes factors to be considered in determining the appropriateness of a removal action. Those factors include the following:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released
- Hazardous substances or pollutants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.

Conditions persist wherein threats to the public health or the environment exist. Hazardous substances, including radionuclides, are present or could be present within the railcars and railcar components. These substances pose an increasing threat of release to humans and ecological receptors as the railcars continue to deteriorate with age. Should contamination become exposed or structural integrity compromised, the potential increases for direct exposure of nearby personnel and the environment. The potential for exposure to the public through the airborne spread of radioactive contaminants would also increase. The potential for wind or precipitation-related releases of hazardous substances also increases as the railcars continue to deteriorate with age. The external radiation, inhalation, and ingestion risks to the public and ecological receptors associated with potential releases of contamination justify a NTCRA.

Contaminant sources addressed by this NTCRA include both radioactive and nonradiological hazardous substances. The railcars are contaminated with hazardous substances used during Hanford Site operations. Based on process knowledge of the historical irradiated fuel activities at the Hanford Site, the primary hazardous substances of concern for these railcars are radioactive materials. Key radionuclide contaminants are uranium-234, uranium-235, uranium-238, plutonium-239/240, americium-241, and mixed fission products such as strontium-90 and cesium-137. The majority of contaminants are normally found in the form of adherent films and residues encrusted in the irradiated fuel cask cars, including wells and casks, and residues and liquids inside the tank cars, and as surface contamination on the locomotives and the flatcar.

The railcars are also anticipated to contain one or more of the following materials:

- PCBs used in paint coatings and in the oil and grease from the old journal boxes associated with the rail wheel assemblies
- Lead paint
- Lead for shielding, (inside the irradiated fuel cask cars)
- Used oil from motors, hydraulics and pumps
- Lead-acid batteries, residual fuel, hydraulic oil, and antifreeze associated with locomotives.

4 Endangerment Determination

Controls are currently in place to limit unauthorized entrance on the Hanford Site. Only authorized personnel are allowed entry into areas where hazards exist. As long as DOE retains control of these areas, institutional controls would prevent direct contact with and exposure to the hazardous substances.

However, institutional controls will not prevent deterioration of the railcars or eliminate the threat of release of radiological and hazardous substances to the environment. Hazardous substances could be released directly to the environment via a breach or as the railcars age and deteriorate. Radiological and hazardous substances could also be released to the environment through animal intrusion into contaminated railcar components. Historically, intrusion and spread of contamination by rodents, insects, birds, and other organisms has been difficult to prevent.

The potential exposure to human health, the environment, and wildlife, the potential threat of future releases, and the substantial risks associated with the hazardous substances at the railcars addressed by this Action Memorandum addendum justify use of CERCLA removal action authority in accordance with Section 300.415(b)(2) of the "National Oil and Hazardous Substances Pollution Contingency Plan." A removal action for the railcars supports overall Hanford Site cleanup priorities.

5 Proposed Action

The alternatives evaluated in the engineering evaluation/cost analysis are discussed in Section 5.2. The proposed removal action alternative is Alternative 3: Near Term Decontamination, Deactivation, Decommissioning, and Disposal (D4) of Railcars. The scope of Alternative 3 is intended to encompass dispositioning of the railcars. The types of wastes likely to require disposal include, but are not limited to, solid waste, dangerous waste, low-level radioactive and/or mixed waste, asbestos waste, and PCB-contaminated waste.

For contaminated wastes generated during the D4 of railcars, the ERDF is the preferred disposal location for wastes meeting the ERDF waste acceptance criteria. Waste that does not meet the ERDF waste acceptance criteria will be dispositioned at appropriate onsite or offsite waste disposal facilities, in accordance with the waste acceptance criteria of those facilities.

There is potential for encountering contamination in surrounding soils during performance of the work. Soil that is found to be contaminated with hazardous substances that can be readily cleaned up during the work will be removed for disposal during implementation, if practicable. Such excavation will be performed using an observational approach with visual inspections, radiological and chemical field screening, and focused judgmental sampling where appropriate. Depth of and completion of excavation in these situations will be determined by the on-scene coordinator in consultation with the EPA. Alternatively, if the soil contamination is extensive or unusually complex, the site will be identified by DOE for placement in the WIDS and evaluation as a new site under the Tri-Party Agreement with concurrence by the Ecology and EPA. If a site is included as a past-practice unit under the Tri-Party Agreement, the site will be subject to further investigation and a subsequent response action as necessary under the Tri-Party Agreement.

Some railcars slated for disposition may be found to be unsuitable for inclusion within the NTCRA, or RL may identify future uses for the railcars prior to or during performance of the work. Additionally, RL may identify additional railcar(s) for inclusion under the scope of this NTCRA. If this occurs and eliminating or adding one or more of the railcars from the scope is appropriate, RL will, with concurrence from Ecology and EPA, place a TPA change notice in the Administrative Record for this NTCRA identifying the subject railcar(s) and explaining why inclusion or removal from the scope of the NTCRA is appropriate.

The recommended alternative meets the proposed removal action objectives (RAOs) regarding long-term risk, minimizes short-term worker risk and radiation exposure, is cost effective, meets applicable or relevant and appropriate requirements (ARARs), and provides a safe and stable configuration that is environmentally sound. RL also considers Alternative 3 to contribute to the efficient performance of

Hanford long-term remedial actions and promotes protection of ecological resources and restoration of the environment consistent with Tri-Party goals. Issuance of this decision also supports RL plans for use of *American Reinvestment and Recovery Act of 2009* (ARRA) funding.

5.1 Removal Action Objectives

The hazardous substances that may be encountered during D4 of the railcars include, but are not limited to radionuclides, asbestos, heavy metals, and PCBs. The RAOs for this NTCRA are to disposition the railcars in a manner that will, to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action at Hanford. The RAOs include the following.

1. Reduce/eliminate the inventory of hazardous/radioactive substances within the railcars
2. Reduce or eliminate the potential for a release to the environment
3. Safely manage (treat and/or dispose) waste streams generated through the removal action
4. Be consistent with the future remediation plans for the 200 North Area
5. Prevent adverse impacts to cultural and natural resources
6. Reduce or eliminate the need for future Surveillance & Maintenance (S&M) activities.
7. Protect human health and the environment from physical, chemical, and radiological hazards posed by each railcar.

Note: The numbering of the above RAOs is not intended to be a ranking or a prioritization.

5.2 Engineering Evaluation/Cost Analysis

212-N, -P, and -R Facilities Engineering Evaluation/Cost Analysis, Addendum 1: Disposition of Railcars (DOE/RL-2008-07-ADD1) is available through the Administrative Record for the removal action. Three alternatives were considered for the disposition of railcars to be performed under the NTCRA: (1) No Action; (2) Continued Surveillance and Maintenance; with future Decontamination, Deactivation, Decommissioning, and Disposal of Railcars; and (3) Near Term D4 of Railcars. Alternative 3 consists of D4 of the railcars with associated waste disposal. Alternative 2 included a period of facility maintenance and monitoring for 25 years, followed by D4. Alternative 2 would have only delayed the start of decommissioning and would have required expenditures for the continued S&M over the interim.

5.2.1 Alternative 1-No Action

Alternative 1 assumed that the railcars were abandoned without any further actions. Surveillance, maintenance, and periodic inspection activities would be discontinued and degradation would continue indefinitely. Alternative 1 would not have eliminated, reduced, or controlled risks to human health and the environment because it would not meet the requirements of federal orders and substantive provisions of applicable or relevant and appropriate state and federal laws. Therefore, the No Action alternative was not considered a viable alternative.

5.2.2 Alternative 2-Continued Surveillance and Maintenance; with Future Decontamination, Deactivation, Decommissioning, and Disposal of Railcars

Under Alternative 2, the railcars would have remained in the S&M program for 25 years followed by D4. The railcars would have been maintained in a quiescent state for a considerable duration while ongoing preventive measures would be implemented. These measures would include periodic monitoring for potential radiological and industrial hazards, preventive maintenance, and general visual inspections.

Additionally, limited decontamination and application of fixatives would be used to control the spread of contamination for the railcars. Initially, minimal waste would be generated with little or no need for waste treatment prior to disposal. Over time, railcar degradation and other factors would have resulted in an increased need for maintenance and possibly increased waste generation. Alternative 2 would have merely resulted in a delay for the start of D4 and would require expenditures for the continued surveillance, maintenance, and periodic inspections over the interim period. The cost analysis includes the period of S&M, followed by D4 of the railcars. For the alternative of a continued S&M program, data evaluation from surveys, inspection/observations, and future plans were factored into planning and implementing the continued S&M.

5.2.3 Alternative 3- Near Term Decontamination, Deactivation, Decommissioning, and Disposal of Railcars

Alternative 3 consists of performing D4 of the railcars, including preparation and transport of the railcars and associated wastes to ERDF or other approved onsite or offsite disposal facility for treatment, as needed, and disposal. Alternative 3 will ensure that any hazardous substances potentially within or on the railcars are placed in a protective and safe condition for the foreseeable future, without the need for ongoing preventative measures and inspections. This alternative would include the following primary elements:

- Decontamination of and/or application of fixative to the railcars, as needed
- Physical modification, as required for shipment to and acceptance at the ERDF or other EPA-approved facility, such as removal of equipment protrusions on the railcars, and sealing of penetrations or openings
- Treatment, as needed, to meet waste acceptance criteria (WCH-191, *Environmental Restoration Disposal Facility Waste Acceptance Criteria*) and disposal of railcars; the 11 cask cars will require macroencapsulation due to the lead-lined casks in each railcar in accordance with ARARs
- Deactivation of railcars prior to decommissioning, (e.g., perform visual inspections and radiological surveys of internal surfaces, characterize liquids and wastes for designation, drain or solidify liquids for treatment and disposal, remove hazardous materials, etc.) as appropriate for disposition purposes
- Evaluation of recycling non-contaminated (or decontaminated) portions of the railcars and contents, as applicable.

Alternative 3 is the selected alternative by this Action Memorandum addendum.

5.3 Compliance with Environmental Regulations, Including Those That Are Applicable or Relevant and Appropriate Requirements

Section 121 of CERCLA (42 USC § 9621) requires the responsible CERCLA implementing agency to ensure that the substantive standards of HWMA/RCRA and other applicable laws will be incorporated into the federal agency's design and operation of its long-term remedial actions and into its more immediate removal actions. DOE is the implementing agency for this NTCRA. EPA concurs that a NTCRA is warranted to protect human health and the environment.

The disposition of the railcars addressed in this addendum will be performed in compliance with the approved ARARs in the existing AM to which this document is an addendum. In addition, the substantive provisions of 40 CFR 761.60(a) through (c), 761.61, 761.62 and 761.79, as appropriate, will be followed for PCBs requiring disposal during the NTCRA.

5.4 Cultural and Ecological Resources

Section 106 of the *National Historic Preservation Act of 1966* (NHPA), as amended, requires agencies to consider the impact of undertakings on properties listed or eligible for listing in the National Register of Historic Places and to consult with the State Historic Preservation Officer (SHPO) and other interested parties when impacts are likely. It also requires federal agencies to invite the Advisory Council on Historic Preservation (ACHP) to participate in consultation when impacts may be adverse. The NHPA Section 106 process has been tailored to meet the unique needs of the Hanford Site. Section 110 of the NHPA directs federal agencies to establish programs to find, evaluate, and nominate eligible properties to the National Register of Historic Places, including previously unidentified historic properties that may be discovered during the implementation of a project (36 CFR 800). In addition, the *Archaeological Resources Protection Act of 1979*, as amended, provides for the protection and management of archaeological resources on federal lands. Procedures and strategies to tailor these requirements to the unique needs of the Hanford Site are described in the *Hanford Cultural Resource Management Plan* (CRMP) (DOE/RL-98-10). The CRMP is implemented through a Programmatic Agreement among DOE, the SHPO, and the ACHP.

DOE is required to review as guidance the most current U.S. Fish and Wildlife Service list for threatened and endangered plant and animal species. DOE determined that none of the alternatives would impact any threatened and endangered species and also determined that formal consultation with the U.S. Fish and Wildlife Service is not required for this action.

5.5 Compliance with Disposal Facility Waste Acceptance Criteria

Wastes generated through implementation of Alternative 3 will be dispositioned at appropriate onsite or offsite waste disposal facilities, in accordance with the waste acceptance criteria of those facilities. The ERDF will be the preferred disposal location for wastes meeting the ERDF waste acceptance criteria. The ERDF is considered to be "onsite" for management and/or disposal of waste from activities addressed in this document. The ERDF was constructed to manage CERCLA waste generated at Hanford. It is expected that most or all of the waste generated during the removal action selected in this document will be disposed onsite at the ERDF.

5.6 Other Considerations

This section identifies other considerations associated with the proposed removal action alternatives such as *National Environmental Policy Act of 1969* (NEPA) values.

In accordance with DOE Order 451.1B Change 2, DOE CERCLA documents are required to incorporate NEPA values (e.g., analysis of cumulative, offsite, ecological, and socioeconomic impacts) to the extent practicable.

Table 5-1 describes the NEPA values (i.e., resource area and relevant NEPA considerations) most relevant to and potentially affected by the actions taken under this removal action.

Table 5-1. NEPA Values Evaluation

NEPA Values	Description	Evaluation (Includes the Evaluation for Each Alternative)
Transportation	Considers impacts of the proposed action on local traffic (i.e., traffic at the Hanford Site) and traffic in the surrounding region.	Implementation of Alternatives 2 or 3 would be expected to produce short-term impacts on local traffic. A majority of the impact would be increased truck traffic associated with Alternative 3, when transporting wastes to the ERDF. Transportation impacts associated with transport of contaminated material to ERDF were considered in DOE/RL-93-99, <i>Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility</i> , as part of the evaluation of short-term effectiveness and implementability. NEPA values specifically associated with the ERDF were addressed in DOE/RL-94-41, <i>NEPA Roadmap for the Environmental Restoration Disposal Facility Regulatory Package</i> . See the discussion of cumulative impacts for a perspective of transportation to the ERDF.
Air Quality	Considers potential air quality concerns associated with emissions generated during the proposed action.	Airborne releases associated with Alternatives 2 and 3 would be expected to be minor with the use of appropriate work controls (e.g., limiting certain work activities during unfavorable wind conditions, and use of fixatives). Airborne release of contaminants during this removal action would be controlled in accordance with DOE radiation control and air pollution control standards to minimize emissions of air pollutants at the Hanford Site and protect all communities outside the Hanford Site boundaries. Operation of trucks and other diesel-powered equipment for these alternatives would be expected, in the short-term, to introduce quantities of sulfur dioxide, nitrogen dioxide, particulates, and other pollutants to the atmosphere, typical of similar-sized construction projects. These releases would not be expected to cause any air quality standards to be exceeded and dust generated during removal activities would be minimized by watering or other dust-control measures as necessary. Vehicular and equipment emissions will be controlled and mitigated in compliance with the substantive standards for air quality protection that apply to the Hanford Site.
Natural, Cultural, and Historical Resources	Considers impacts of the proposed action on wildlife, wildlife habitat, archeological sites and artifacts, and historically significant properties.	Impacts on ecological resources in the vicinity of the removal actions would continue to be mitigated in accordance with DOE/RL-96-32, <i>Hanford Site Biological Resources Management Plan</i> and DOE/RL-96-88, <i>Biological Resources Mitigation Strategy</i> , and with the applicable standards of all relevant biological species protection regulations. Appropriate ecological reviews would be conducted before implementing field activities. Because these railcars and their location either have already been disturbed or minimal soil disturbance would be expected, it is anticipated that only isolated artifacts could be encountered during project activities under any of the alternatives. Implementation of CRMP and consultation with area Tribes would help ensure appropriate mitigation to avoid or minimize any adverse cultural or historical resource effects and address any relevant concerns. Potential impacts to cultural and historical resources that may be encountered during the short-term activities

Table 5-1. NEPA Values Evaluation

NEPA Values	Description	Evaluation (Includes the Evaluation for Each Alternative)
		associated with implementing Alternative 3 of the removal action would be mitigated through compliance with the appropriate substantive requirements of the <i>National Historic Preservation Act of 1966</i> and other ARARs related to cultural preservation. As appropriate, cultural resource reviews would be conducted before implementing field activities (see Section 5.4).
Socioeconomic Impacts	Considers impacts pertaining to employment, income, other services (e.g., water and power utilities), and the effect of implementation of the proposed action on the availability of services and materials.	The proposed action is within the scope of current RL environmental restoration activities and would have minimal impact on the current availability of services and materials. This work would be expected to be accomplished largely using employees from the existing contractor workforce. Even if the removal activities create additional service sector jobs, the total expected increase in employment would be expected to be less than 1 percent of the current employment levels. The socioeconomic impact of the project would contribute to the continuing overall positive employment and economic impacts on eastern Washington communities from Hanford Site cleanup operations.
Environmental Justice	Considers whether the proposed response actions would have inappropriately or disproportionately high and adverse human health or environmental effects on minority or low-income populations.	Per Executive Order 12898, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations</i> , DOE seeks to ensure that no group of people bears a disproportionate share of negative environmental consequences resulting from proposed federal actions. No impacts would be associated with proposed activities associated with the railcars that could reasonably be determined to affect any member of the public; therefore, they would not have the potential for high and disproportional adverse impacts on minority or low-income groups.
Cumulative Impacts (Direct and Indirect)	Considers whether the proposed action could have cumulative impacts on human health or the environment when considered together with other activities locally, at the Hanford Site, or in the region.	<p>Because of the temporary nature of the activities and their remote location, cumulative impacts on air quality or noise with other Hanford Site or regional construction and cleanup projects would be minimal. When the railcars in this area are found to be contaminated with hazardous substances in concentrations presenting a material threat to human health and the environment, that threat would be mitigated. The net anticipated effect could be a positive contribution to cumulative environmental effects at the Hanford Site through removal, treatment, and disposal of such hazardous substances and contaminants of concern into a facility such as the ERDF that has been designed and legally authorized to safely contain such contaminants. The railcars removed under Alternatives 2 and 3 would meet the ERDF waste acceptable criteria as described in WCH-191, <i>Environmental Restoration Disposal Waste Acceptance Criteria</i>.</p> <p>Wastes generated during the proposed activities would be manageable within the capacities of existing facilities. For perspective, the ERDF received more than 700,000 tons of waste in calendar year 2008 and more than 430,000 tons in calendar year 2007. Radiological contamination is expected to be within the acceptance criteria levels for ERDF disposal. The ERDF received approximately 22,500 Ci of radioisotopes in calendar year 2008 and approximately</p>

Table 5-1. NEPA Values Evaluation

NEPA Values	Description	Evaluation (Includes the Evaluation for Each Alternative)
		<p>13,000 Ci in calendar year 2007.</p> <p>It is expected that the total amount of waste that could be generated for disposal in the ERDF for this removal action is approximately 2100 tons. This volume is still small when compared with the 700,000 tons disposed in the ERDF in calendar year 2008.</p>
Mitigation	<p>Considers whether, if adverse impacts cannot be avoided, response action planning should minimize them to the extent practicable. This value identifies required mitigation activities.</p>	<p>Compliance with the substantive requirements of the ARARs would mitigate potential environmental impacts on the natural environment, including migratory birds and endangered species. DOE has also established policies and procedures for the management of ecological and cultural resources when actions might affect such resources (DOE/RL-96-32; DOE/RL-96-88; DOE/RL-98-10). Cultural resource and biological species reviews/surveys are undertaken that also provide suggested mitigation activities to ensure adverse effects associated with implementing the actions are minimized or avoided. Health and safety procedures, documented in a Health and Safety Plan established by site contractors, would mitigate risks to workers from the removal activities.</p>
Irreversible and Irretrievable Commitment of Resources	<p>Considers the use of nonrenewable resources for the proposed response actions and the effects that resource consumption would have on future generations.</p> <p>(When a resource [e.g., energy minerals, water, wetland] is used or destroyed and cannot be replaced within a reasonable amount of time, its use is considered irreversible.)</p>	<p>For both Alternatives 2 and 3, normal usage of resources during S&M and D4 activities, such as fuel and water, would be irreversibly used.</p>

6 Project Schedule

This removal action is expected to begin with the D4 of railcars upon issuance of this Action Memorandum addendum. A project schedule will be included in the RAWP.

7 Project Cost

Cost estimates were prepared for the alternatives evaluated in DOE/RL-2008-07-ADD1. The estimates were prepared in accordance with *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study* (EPA 2000). Costs were calculated for both capital expenditures and future operation and maintenance expenses. In accordance with EPA guidance, the cost for the alternatives over time was calculated as present net worth costs, which are sometimes referred to as net present value, to represent the costs in 2010 dollars. Table 7-1 shows the present worth cost estimate for the proposed alternative. The estimate is calculated using present-day (2010) dollars, also called constant dollars. Constant dollars are not affected by general price inflation (i.e., they represent "units of stable purchasing power"). Thus, the cost of a particular good or service would be the same in Year 0, Year 1, Year 2, and so forth. Consistent with EPA guidance, constant dollars are used in cost estimates to make it possible to evaluate

expenditures associated with alternatives that occur during different time periods (EPA 2000). This method allows the cost of the alternatives to be compared on the basis of a single figure representing the amount of money that, if invested in the base year and disbursed as needed, would be sufficient to cover all costs associated with the CERCLA action over its planned life. Since present-worth costs are used, the actual costs that will occur during the years of implementation will be greater than the present worth 2010 costs due to inflation.

The information in the cost estimate summary is based upon the best available information regarding the anticipated scope of the selected alternative. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30% of actual project cost. The present-worth cost estimate for the selected alternative is \$6,422,000 (Table 7-1). The costs are based on present-day (2010) dollars.

Table 7-1. Summary of Present Worth Cost Estimate

Alternative	Present-Worth Cost
Alternative 3: Near Term Decontamination, Deactivation, Decommissioning, and Disposal (D4) of Railcars	\$6,422,000
Accuracy range of the cost estimate is -30% to +50%.	

8 Expected Change Should Action be Delayed or Not Taken

The expected change to the D4 of railcars should action be delayed, or not taken, would be that the railcars would remain under administrative and institutional control, as they are today. However, as the railcars continue to age, the threat of substantial release of radiological and hazardous substances increases with time, and containing these materials and preventing them from being released to the environment becomes more difficult. The S&M activities required to confine the hazardous substances may increase the risk of potential exposure to personnel. If the action was delayed, continued expenditures for surveillance and maintenance costs would accrue during the time interval elapsed until final decommissioning activities are performed.

9 Statutory and Regulatory Authority

The proposed removal action is being undertaken by DOE, as the lead agency, pursuant to CERCLA, Section 104(a), and Executive Order 12580, as recognized by Section 7.2.4 of the Tri-Party Agreement Action Plan (Ecology et al. 1989). In accordance with 40 CFR 300.415(j) and DOE guidance, onsite removal actions conducted under the CERCLA are required to meet ARARs to the extent practicable considering the exigencies of the situation. The DOE will comply with the ARARs as set forth in Section 5.3.

10 Outstanding Policy Issues

There are no outstanding policy issues.

11 Enforcement

DOE is conducting this removal action as the lead agency under the authority of 40 CFR 300.5, "Definitions," and 40 CFR 300.415(b)(1), "Removal Action."

12 Recommendation

This decision document represents the selected removal action alternative prepared in accordance with CERCLA, as amended by the "Superfund Amendments and Reauthorization Act of 1986." The conditions of the railcars meet the criteria in 40 CFR 300.415(b)(2) of the "National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR 300).

The recommended removal action alternative identified in the EE/CA is Alternative 3, Near Term Decontamination, Deactivation, Decommissioning, and Disposal of Railcars. This alternative has been selected for implementation because it meets the proposed RAOs regarding long-term risk, minimizes short-term risk and radiation exposure, is cost-effective, and provides a safe and stable configuration that is environmentally sound. DOE also considers Alternative 3 to be consistent with and contribute to the efficient performance of Hanford long-term remedial actions and promotes protection of ecological resources and restoration of the environment consistent with Tri-Party goals.

13 Public Participation

The public participation period for the *212-N, -P, and -R Facilities Engineering Evaluation/Cost Analysis, Addendum 1: Disposition of Railcars* (DOE/RL-2008-07-ADD1) was from July 14, 2010, through August 13, 2010. A public notice was published in the Tri-City Herald newspaper on July 14, 2010. The notice was posted in public reading rooms in Richland, Seattle, and Spokane in Washington and in Portland, Oregon. An announcement was provided to the Hanford Advisory Board on July 14, 2010. Four letters regarding the EE/CA were received during the comment period and are included in Appendix A.

14 References

- 36 CFR 800, 2004, "Protection of Historic Properties," *Code of Federal Regulations*, Office of the Federal Register, August 2004. Available at <http://www.achp.gov/regs-rev04.pdf>
- 40 CFR 61, Subpart M, "National Emission Standard for Asbestos," *Code of Federal Regulations*. Available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:8.0.1.1.1.13&idno=40>
- 40 CFR 61.150, 2006, "Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations," *Code of Federal Regulations*, Office of the Federal Register, July 2006. Available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div6&view=text&node=40:8.0.1.1.1.13&idno=40>
- 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," *Code of Federal Regulations*. Available at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=f11ec333d6f059bc4460e6b1e81716f9&rgn=div5&view=text&node=40:25.0.1.1.5&idno=40>
- 40 CFR 268, "Land Disposal Restrictions," *Code of Federal Regulations*. Available at http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr268_main_02.tpl
- 40 CFR 300, 2006, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, Office of the Federal Register, August 2006. Available at http://www.access.gpo.gov/nara/cfr/waisidx_03/40cfr300_03.html

40 CFR 761, "Polychlorinated Biphenyls (PCBs) Manufacturing Processing, Distribution in Commerce, and Use Prohibitions." Available at http://www.access.gpo.gov/nara/cfr/waisidx_07/40cfr761_07.html

Archaeological Resources Protection Act of 1979, 16 USC 470aa-mm. Available at http://www.nps.gov/history/local-law/fhpl_ArchRsresProt.pdf

Atomic Energy Act of 1954, 42 USC 2011 et seq. Available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/ml022200075-vol1.pdf#pagemode=bookmarks&page=14>

Clean Air Act, 42 USC 7401, et seq. Available at <http://www.epa.gov/air/caa/>.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601, et seq. Available at <http://www.law.cornell.edu/uscode/42/9601.html>.

DOE and EPA, 1995, *Policy on Decommissioning of Department of Energy Facilities Under the Comprehensive Environmental Response, Compensation and Liability Act*, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington. Available at http://www.epa.gov/fedfac/pdf/decommissioning_doe.pdf.

DOE/RL-93-99, 1994, *Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at <http://www2.hanford.gov/arpir/?content=findpage&AKey=D196061256>.

DOE/RL-94-41, 1994, *NEPA Roadmap for the Environmental Restoration Disposal Facility Regulatory Package*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at <http://www2.hanford.gov/arpir/?content=findpage&AKey=D196074918>.

DOE/RL-96-32, 2001, *Hanford Site Biological Resources Management Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at <http://www.pnl.gov/ecomon/docs/brmap/BRMaP.pdf>.

DOE/RL-98-10, 2003, *Hanford Cultural Resources Management Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at <http://www.hanford.gov/doe/history/?history=rmp>.

DOE/RL-96-88, 2003, *Biological Resources Mitigation Strategy*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. <http://www.pnl.gov/ecomon/docs/BRMiS.pdf>.

DOE/RL-2008-07-ADD1, Decisional Draft, *212-N, 212-P, and 212-R Facilities Engineering Evaluation/Cost Analysis Addendum 1: Disposition of Rail Cars*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-2010-14, 2010, *Engineering Evaluation/Cost Analysis for General Hanford Site Decommissioning Activities*, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at http://www.hanford.gov/files.cfm/CAL_rl2010-14_Rev0_021210.pdf

Ecology, EPA, and DOE, 1989, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington. Available at <http://www.hanford.gov/?page=81>

- EPA, 1995, *Record of Decision for the Environmental Restoration Disposal Facility, Hanford Site, Benton County, Washington, Washington*, U.S. Environmental Protection Agency, Washington, D.C. Available at <http://www.epa.gov/superfund/sites/rods/fulltext/r1095100.pdf>
- EPA, 2000, *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, EPA/540-R-00-002, U.S. Environmental Protection Agency, July 2000. Available at <http://www.epa.gov/superfund/policy/remedy/pdfs/finaldoc.pdf>
- EPA, 2008, *Comparison of the Alternative Asbestos Control Method and the NESHAP Method from Demolition of Asbestos-Containing Buildings*, EPA/600/R-08/094, U.S. Environmental Protection Agency, October 2008, Revised December 2009, Available at http://www.epa.gov/nrmrl/pubs/600r08094/600r08094_rev120909.pdf
- Executive Order 12580, 1987, Superfund Implementation, dated January 23, 1987, 52 FR 2923. Available at <http://www.archives.gov/federal-register/codification/executive-order/12580.html>
- Executive Order 12898, 1994, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, William J. Clinton, February 11. Available at <http://www.epa.gov/history/topics/justice/02.htm>.
- National Environmental Policy Act of 1969*, 42 USC 4321, et seq. Available at: <http://www.nepa.gov/nepa/regs/nepa/nepaeqia.htm>
- National Historic Preservation Act of 1966*, 16 USC 470 et seq. Available at <http://www.achp.gov/docs/nhpa%202008-final.pdf>
- RCW 70.94, "Washington Clean Air Act," *Revised Code of Washington*. Available at <http://apps.leg.wa.gov/RCW/dispo.aspx?cite=70.94>
- Resource Conservation and Recovery Act of 1976*, 42 U.S.C. 6901, et seq. Available at <http://wildlifelaw.unm.edu/fedbook/rcra.html>
- Superfund Amendments and Reauthorization Act of 1986*, Public Law 99-499, as amended. Available at <http://www.epa.gov/superfund/policy/sara.htm>
- Toxic Substances Control Act of 1976*, 15 USC 2605 et seq. Available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=browse_usc&docid=Cite:+15USC2605
- WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington. Available at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>
- WAC 173-400, "General Regulations for Air Pollution Sources," *Washington Administrative Code*, as amended. Available at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-400>
- WAC 173-460, "Controls for New Sources of Toxic Air Pollutants," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington. Available at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-460>
- WAC 173-480, "Ambient Air Quality Standards and Emission Limits for Radionuclides," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington. Available at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-480>

WAC 246-247, "Radiation Protection - Air Emissions", *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington. Available at [http://apps.leg.wa.gov/WAC/default.aspx?cite=246 247](http://apps.leg.wa.gov/WAC/default.aspx?cite=246%20247)

Washington State Hazardous Waste Management Act, Chapter 70.105 Revised Code of Washington, as amended. Available at <http://apps.leg.wa.gov/Rcw/default.aspx?cite=70.105>

WCH-191, 2008, *Environmental Restoration Disposal Facility Waste Acceptance Criteria*, Rev. 1, Washington Closure Hanford, LLC, Richland, Washington.

Appendix A

Public Comments Received During the Comment Period

COMMENTER:

Jason Hill

Comment: My name is Jason Hill. I am a volunteer for the Mt Rainier Scenic Railroad, which is a railroad museum located in Mineral, Wa. I am contacting you in regards to an article I read in the tri-city Herald about the contaminated railroad equipment on the Hanford nuclear site. We are currently restoring a similar locomotive at our shops in mineral, an alco RSD-1 that we received as a donation some years ago. I would like to discuss with you about the possible purchase or donation of the locomotive air horns currently mounted on these two locomotives you guys are looking at getting rid of or scrapping. I'd like to clarify that I am not representing the Mt Rainier Scenic Railroad, but merely looking to front the cost and acquire these old pieces of history to restore and donate to the railroad for the restoration of our old RSD-1. Now I understand this is potentially hazardous equipment being contaminated and all but being a horn collector and having restored many air horns myself that there isn't much in one that could become contaminated. They are made mostly of alimunum (sic) and a bit of stainless steel or brass. But if they would need to be decontaminated I am hoping we can work something out to save these from the scrapper and return them to service in a museum.

Response to Comment: Thank you for your comments. We appreciate your interest and participation in Hanford issues. If any railcars and/or parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display.

COMMENTER:

Mike Smith

Comment: Please do not bury or otherwise destroy any of the railroad equipment. This equipment is not only an important part of Hanford history, but an important part of railroad history as well. Equipment like this will never be built again, and pictures and descriptions will never adequately tell the story to future generations. There is no reason that the cars can't be decontaminated and put on display, either on the Hanford site or at railroad museums that have a place for them.

Response to Comment: Thank you for your comments. DOE agrees that the railcars are an important part of Hanford and railroad history. If any railcars and/or any parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display.

COMMENTER:

State of Washington, Department of Health

Richland, WA

Comment 1: Continuous monitoring of all radioactive air emissions is required for activities that have the potential-to-emit greater than 0,1 mrem/yr. This can be attained by use of containment, ventilation and monitoring of the ventilation stack, unless an approved alternative method is approved by RABS. In some activities, such as low-level soil excavation where the potential-to-emit may be below 0.1 mrem/yr,

emissions can be calculated using soil sample data and a calculation method approved by the regulatory authority. Containment, ventilation, and stack air monitoring must be considered in a Best Available Radionuclide Control Technology (BARCT) analysis.

Response to Comment 1: Thank you for your comments. These aspects of the work to be done are included in the ARARs and will be considered during development of the associated removal action work plan (RAWP).

Comment 2: The BARCT standard of WAC 246-247-040 requires an activity-based BARCT evaluation, as described in WAC 246-247-120. The regulatory authority is responsible to ensure a thorough and complete BARCT evaluation is addressed, at or near time of the performance of the activity.

Response to Comment 2: The BARCT standard of WAC 246-247-040 is ARAR to this removal action and will be considered during development of the associated RAWP.

Comment 3: The As Low as Reasonably Achievable (ALARA) emission standard (WAC 173-480-050). An activity-specific ALARA standard exists in WAC 246-247, by reference to WAC 173-480-050. It is not sufficient that the Hanford Site (sic) as a whole remain below 10 m/remyr (sic) standard of the Code of Federal Regulations (CFR) 61.92. Each activity should have an emission limit, to represent ALARA by the regulatory authority.

Response to Comment 3: The new actions taken for this work will invoke the substantive provisions of BARCT per WAC 246-247-040(3), which are more restrictive than the ALARACT ARAR for emission controls. The BARCT evaluation will identify all required ALARA-based controls for use in performing the work.

Comment 4: Provisions to demonstrate and record compliance with the ARARs cited. Substantive provisions for monitoring radioactive air emissions per WAC 246-247 requirements are a fundamental part of the state regulations. These requirements are necessary to determine the environmental impact of the cleanup activities on the Hanford Site. Although some of the requirements are administrative in nature, it is clearly in the public interest to ensure transparency in regard to radioactive air emissions during Hanford clean-up activities. Demonstration of monitoring radioactive air emissions and accessibility of records to RAES and the public should be covered in the requirements.

Response to Comment 4: Thank you for your comments. Appropriate substantive and administrative provisions for air emissions monitoring during this work, including related records, will be established in the removal action work plan.

COMMENTER:

Nancy Matela
Portland, OR

Comment: Can you tell me where the railcars would be moved to?

Response to Comment: The selected alternative calls for near term decontamination, deactivation, decommissioning, and disposal of the railcars. They will most likely be taken to the Environmental Restoration Disposal Facility, where they will be treated as necessary and disposed. If any parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display. Thank you for your comment.

COMMENTER:

Keith Smith

Comment: A puzzling aspect of that is the cost, which is notably less than doing the disposition near term. How can a protracted surveillance time, on top of the same type of disposition proposed in Alternative 3 be less expensive? Can you please elucidate this matter?

Response to Comment: Costs for both Alternative 2 and Alternative 3 were calculated using a present value analysis, which is the specified approach under CERCLA to establish a common baseline to evaluate and compare alternatives that have costs occurring over different time periods. This standard methodology allows for cost comparisons of different alternatives on the basis of a single cost figure for each alternative. This single cost figure, referred to as present value, represents the amount of money needed to be set aside in the base year (i.e., the initial time work begins) to assure that funds will be available in the future as they are needed (assuming certain economic conditions). In contrast to the present value analysis, total non-discounted costs do not take into account the value of money over time. The non-discounted cost method displays the total costs occurring over the entire duration of an alternative, with no adjustment or discounting. Non-discounted costs do not reflect the changing value of funds over time. Consequently, the actual (non-discounted) cost calculated for Alternative 2 would be \$7,685,000, which is greater than the cost of \$6,422,000 for Alternative 3 as reflected in Table 5-1 of the Engineering Evaluation/Cost Analysis.

COMMENTER:

Glenda Phillips
Selah, WA

Comment: After review of the three alternatives, I favor Alternative 3, with a more defined description of what would happen to the locomotive that is sent to the museum. The alternative should have a requirement that an evaluation of the cost to make this locomotive "safe" for public viewing be done. If this cost exceeded more than \$100,000 beyond the cost of removal of the fuels and other fluids, plus the cost of moving it to the facility it should be sent with the other railcars for disposal. If the museum wants to pay for the added cost of adding it to its collection of other artifacts, then it should raise the money to pay for it. In this time of recession we can't afford the luxury of saving old radioactive locomotives to go to a museum. This is a poor use of taxpayer's monies.

Response to Comment: Thank you for your interest and participation in Hanford issues. Further evaluation will be performed to determine the feasibility of preserving one or more railcars. If recycling is determined to be feasible for any railcars and/or parts of the railcars, then consideration will be given to options such as restoration and museum display.

COMMENTER:

Maynard Plahuta
B Reactor Museum Association

Comment: Thank you for the opportunity to comment on the subject EE/CA. The B Reactor Museum Association (BRMA) partially supports Alternative 3. BRMA is extremely disappointed that none of the Alternatives provide for decontaminating and sending a cask railcar to the B Reactor museum. How discouraging! BRMA recognizes and supports DOE's responsibility to ensure all precautions are taken to

guarantee public health and safety. Hopefully DOE will also recognize its responsibility to preserve this meaningful cask railcar artifact when making its safety evaluations.

BRMA fully supports recycling one of the locomotives to the B Reactor. However, a cask railcar should be included in Alternative 3 to ensure historical critical artifacts are preserved and not summarily discarded. This is necessary to make the museum more complete by portraying the full B Reactor process from start to finish.

It would be "penny wise and pound foolish" not to include a cask railcar as an essential artifact relevant to telling the full history of B Reactor to (sic) present and future generations. We all must work together to take advantage of this opportunity now to preserve a cask railcar --- and not lose it.

In summary, we strongly request DOE to decontaminate as minimally necessary one of the cask railcars and transfer it to B Reactor museum. It would be absolutely abominable to now dismiss the only opportunity to ever have a cask railcar part of the Museum Project National Historic Park.

BRMA would welcome an opportunity to meet with appropriate DOE officials to explore this matter in more detail, including feasible/practical resolutions. As noted above this issue is of major concern for BRMA members, but also for others who have expressed an interest in being able to see a real Hanford cask railcar and obtain a more complete understanding of B Reactor operations.

Response: Thank you for your interest and participation in Hanford issues. Further evaluation will be performed to determine the feasibility of preserving one or more railcars. If any railcars and/or parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display.

COMMENTER:

Mark Heisley
Lake Oswego, OR

Comment: In regards to the Oregonian Newspaper story date 07-25-2010 paper story Hanford Nuclear Reservation, in regards to the Manhattan Project, I would like to see all of the places that had to do with making (sic) of the A-bomb cleaned of all the nuclear contamination, including the contaminated locomotives (diesel) and rail cars and to be added to the display near the historic B Reactor. Hopefully the train engines and railcars can be decontaminated. After all this is a part of World War II history. As for the nuclear clean up will continue. It is time to destroy that nasty stuff laying around underground? Thank you for your time and interesting story.

Response: Thank you for your interest and participation in Hanford issues. Further evaluation will be performed to determine the feasibility of preserving one or more railcars. If any railcars and/or parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display.

COMMENTER:

Arlen L. Sheldrake
Portland, OR

Comment: I appreciate that the USDOE is considering the preservation for public viewing a locomotive and maybe a railcar at the Hanford Site.

With 158 miles of railroad track at the Hanford Site, one must come to the conclusion that rail transportation was a very important part of the development as well as operation of this former nuclear facility. Preservation of at least a portion of this history is vital for future generations. It is my understanding that both RS-1 locomotives, 3729 and 3731, were purchased new and spent their entire working lives at the Hanford facility so preservation of one of these locomotives would be very appropriate. If possible/feasible, preservation of one of the Irradiated Fuel Cask Cars would also be appropriate.

Response: Thank you for your interest and participation in Hanford issues. Further evaluation will be performed to determine the feasibility of preserving one or more railcars. If any railcars and/or parts of the railcars are removed and determined to be recyclable, then consideration will be given to options such as restoration and museum display.