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Addressees:

INVESTIGATION DERIVED WASTE PURGEWATER MANAGEMENT WORK PLAN, DOE/RL-2009-80, REVISION 0

This letter transmits the Investigation Derived Waste Purgewater Management Work Plan, DOE/RL-2009-80, Revision 0, for your information. This submittal is the result of a cooperative effort with the U.S. Department of Energy Richland Operations Office; the U.S. Environmental Protection Agency; and the State of Washington Department of Ecology; and the pertinent information to support the implementation of the Investigation-Derived Waste Purgewater Management Action Memorandum, DOE/RL-2009-39, Revision 0, which implements the selected alternative from the Investigation Derived Waste Purgewater Management Engineering Evaluation/Cost Analysis, DOE/RL-2009-31, Revision 0.

If you have any questions, please contact me, or your staff may contact Briant Charboneau, of my staff, on (509) 373-6137.

Sincerely,

Matthew S. McCormick, Assistant Manager
for the Central Plateau

AMCP:RDH

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DOE/RL-2009-80
Revision 0

Investigation Derived Waste Purgewater Management Work Plan

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

DOE/RL-2009-80
Revision 0

Investigation Derived Waste Purgewater Management Work Plan

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

U.S. DEPARTMENT OF ENERGY

Richland Operations Office

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Richland, Washington 99352

Release Approval Date 09/09/2009

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Concurrence

After consideration of the criteria in Section 7.2.4 of Ecology et al., 1989b, *Hanford Federal Facility Agreement and Consent Order Action Plan*, the U.S. Environmental Protection Agency concurs in this removal action work plan, DOE/RL-2009-80, *Investigation Derived Waste Purgewater Management Work Plan*, Rev. 0.

9 Sep 09

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D. A. Faulk, Program Manager
Office of Environmental Cleanup
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Concurrence

After consideration of the criteria in Section 7.2.4 of Ecology et al., 1989b, *Hanford Federal Facility Agreement and Consent Order Action Plan*, the Washington State Department of Ecology concurs in this removal action work plan, DOE/RL-2009-80, *Investigation Derived Waste Purgewater Management Work Plan*, Rev. 0.

J. A. Hedges, Program Manager
Nuclear Waste Program
State of Washington Department of Ecology

9/9/09
Date

Approval

DOE/RL-2009-80, *Investigation Derived Waste Purgewater Management Work Plan*, Rev. 0

M. S. McCormick, Assistant Manager
U.S. Department of Energy,
Richland Operations Office

9/9/09
Date

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Terms

ALARA	as low as reasonably achievable
ARAR	applicable or relevant and appropriate requirement
BARCT	best available radiological control technology
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
EPA	U. S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
HDPE	High Density Polyethylene
HEIS	Hanford Environmental Information System
LDR	land disposal restriction
MEI	maximally exposed individual
NCP	"National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR 300)
NPL	"National Priorities List" (40 CFR 300, Appendix B)
PPE	personal protective equipment
RL	Department of Energy, Richland Operations Office
RWP	radiological work permit
SSHASP	site-specific health and safety plan
TEDE	total effective dose equivalent
Tri-Parties	U.S. Environmental Protection Agency, Washington State Department of Ecology, and Department of Energy, Richland Operations Office
Tri-Party Agreement	Ecology et al., 1989a, *Hanford Federal Facility Agreement and Consent Order*
WSCF	Waste Sampling and Characterization Facility

1 Introduction

Presently, groundwater is withdrawn from Hanford Site wells for (1) developing newly constructed groundwater monitoring wells, (2) purging existing wells prior to sample collection, (3) aquifer testing, (4) periodic cleaning and renovating existing monitoring wells, and (5) abandoning existing wells. Such withdrawn groundwater is called "purgewater." The purgewater is investigation derived waste and is subject to management in accordance with the terms of Ecology et al. 1989a, *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement), which represents, in part, the legal document the U. S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology), and the Department of Energy (DOE), Richland Operations Office (RL) have agreed to follow in implementing the National Priorities List (NPL) (40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," [NCP] Appendix B, "National Priorities List") for Hanford work. Current plans for EPA, Ecology, and RL (Tri-Parties) include milestones for continuing Tri-Party Agreement work that drive an increased need for capacity to manage purgewater.

This work plan contains the pertinent information to support the implementation of DOE/RL-2009-39, *Investigation Derived Waste Purgewater Management Action Memorandum*, which implements the selected alternative from DOE/RL-2009-31, *Investigation Derived Waste Purgewater Management Engineering Evaluation/Cost Analysis*. The removal action will consist of re-lining an existing storage unit, building additional units, and operating the units solely for purgewater consolidation and management. These units will be referred to herein as the Modular Storage Units. Eventual demolition of the units is also included in DOE/RL-2009-39, but will not be addressed as part of this work plan. Prior to demolition of the Modular Storage Units, a removal action work plan will be developed for implementation of that action.

As part of this removal action, DOE has designated an On-Scene Coordinator pursuant to the requirements of 40 CFR 300.120, "On-Scene Coordinators and Remedial Project Managers: General Responsibilities," to ensure compliance with the NCP and the Tri-Party Agreement.

The removal action supports minimization of potential releases of hazardous substances from the groundwater wells throughout the Hanford Site that could adversely impact human health and the environment, is protective of site personnel and the environment, and contributes to the efficient performance of any future removal and/or remedial actions.

2 Removal Objectives

The key objective of this removal action will be to remove the potential threat presented by purgewater contaminants that are generated through Tri-Party Agreement work in support of the implementation of remedial actions required by the NCP and Tri-Party Agreement. The specific removal objectives are as follows:

- Reduce or eliminate the potential for public exposure to hazardous substances in purgewater above levels that are protective of human health and environment
- Reduce or eliminate the potential for release of hazardous substances from the management of purgewater
- Prevent adverse impacts to cultural and natural resources.

3 Facility, Process and Hazard Descriptions

This action includes the refurbishment of an existing Modular Storage Unit, and the possible construction of three additional units, located adjacent to the operating 600 Area Purgewater Storage and Treatment Facility[1] near the 200 East Area of the Hanford Site near Richland, Washington (Figure 1). The overall action includes eventual demolition of the units, which will be addressed through another work plan.

3.1 Facility Description

The Modular Storage Units will be surrounded by a fence, berm, and graveled roadway; will be supported by a compacted soil bottom; and the walls will be anchored to a concrete perimeter foundation. Also, the facility will have concrete sidewalks, an unloading ramp, and a splash pan (Figure 2).

The Modular Storage Units will consist of a primary and a secondary high-density polyethylene liner separated by a geotextile drainage media supported by metal walls and a structural support as shown in Figure 3. Each tank will be capable of holding at least 3,785.41 kL (1,000,000 gal) of purgewater and measures 55.78 m by 55.78 m (183 ft by 183 ft). The drainage media will interconnect with a leachate detection system consisting of a standpipe with measurable depth and sampling capability.

The Modular Storage Units will be constructed by bolting the double-liner system, separated by the geotextile, to a sheet metal backing support with a neoprene batten strip. The metal backing will be supported with a steel support frame bolted to a concrete slab. Seismic support will also be provided by tension cables.

Staging for the vehicles used to transport the purgewater to the Modular Storage Units will also be established.

3.1.1 Leak Detection

The leak detection system will consist of a 10.16 cm (4 inch) polyvinyl chloride capped standpipe connected to the outer liner as shown in Figure 3. The standpipe will be accessible for depth measurements and will be designed to facilitate sampling.

3.1.2 Splash Pan

The splash pan is a trough that holds the discharge hose, similar to concrete conveyance ramps that connect the tankers and the Modular Storage Units. The splash pan supports the hose leading from the trucks to the Modular Storage Units and is designed to drain any spills into the Modular Storage Units.

3.2 Process Description

The Modular Storage Units will function to store and treat purgewater by solar evaporation. The operations involve transferring purgewater from tanker trucks into the Modular Storage Units and performing inspections of the Modular Storage Units and leak detection system.

[1] The 600 Area Purgewater Storage and Treatment Facility (although originally conceived as a multi-unit purgewater management facility that was intended to include the Modular Storage Units and more units) has operated using a single storage unit under *Resource Conservation and Recovery Act of 1976* interim status standards for approximately 19 years.

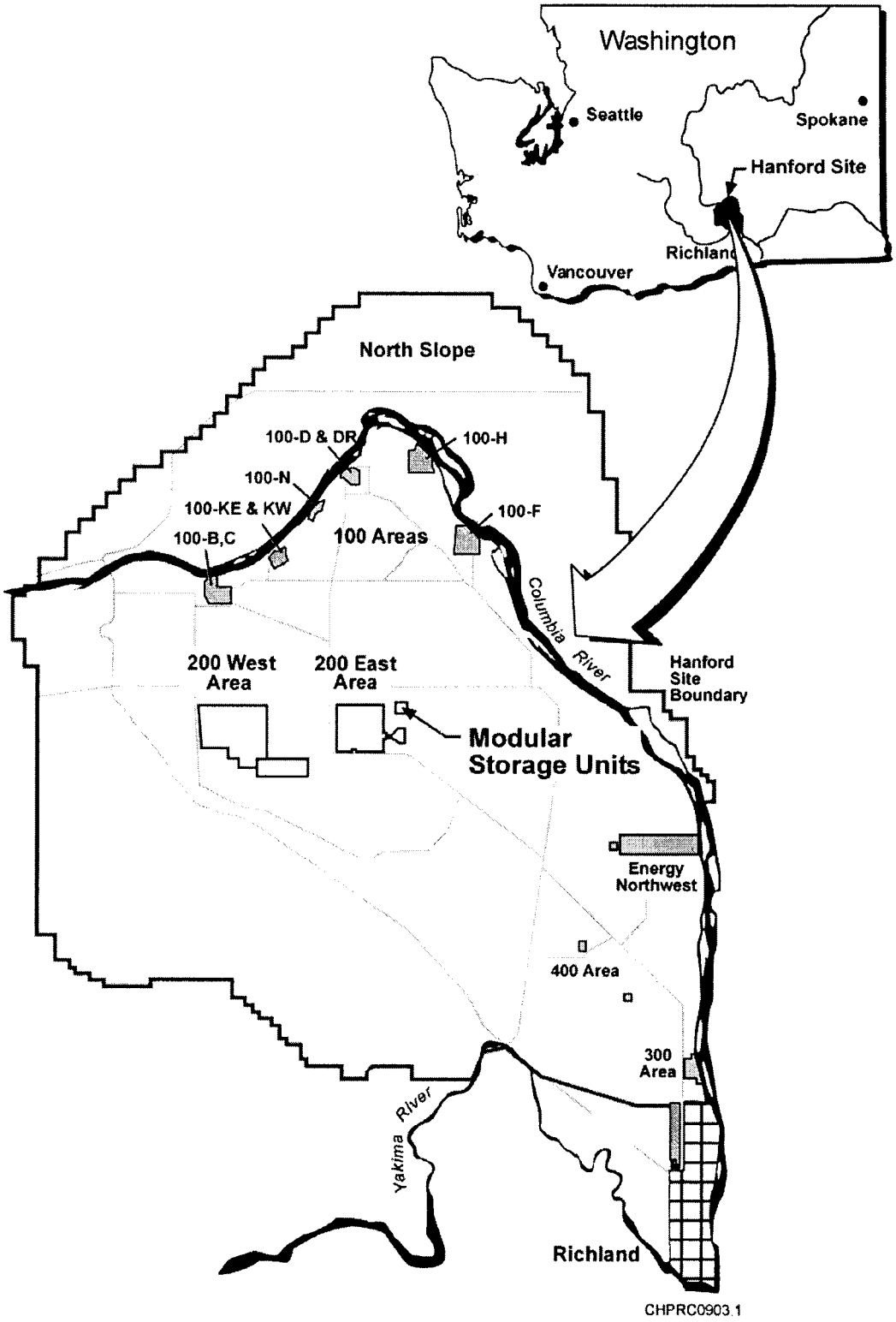

Figure 1. Location of the Modular Storage Units

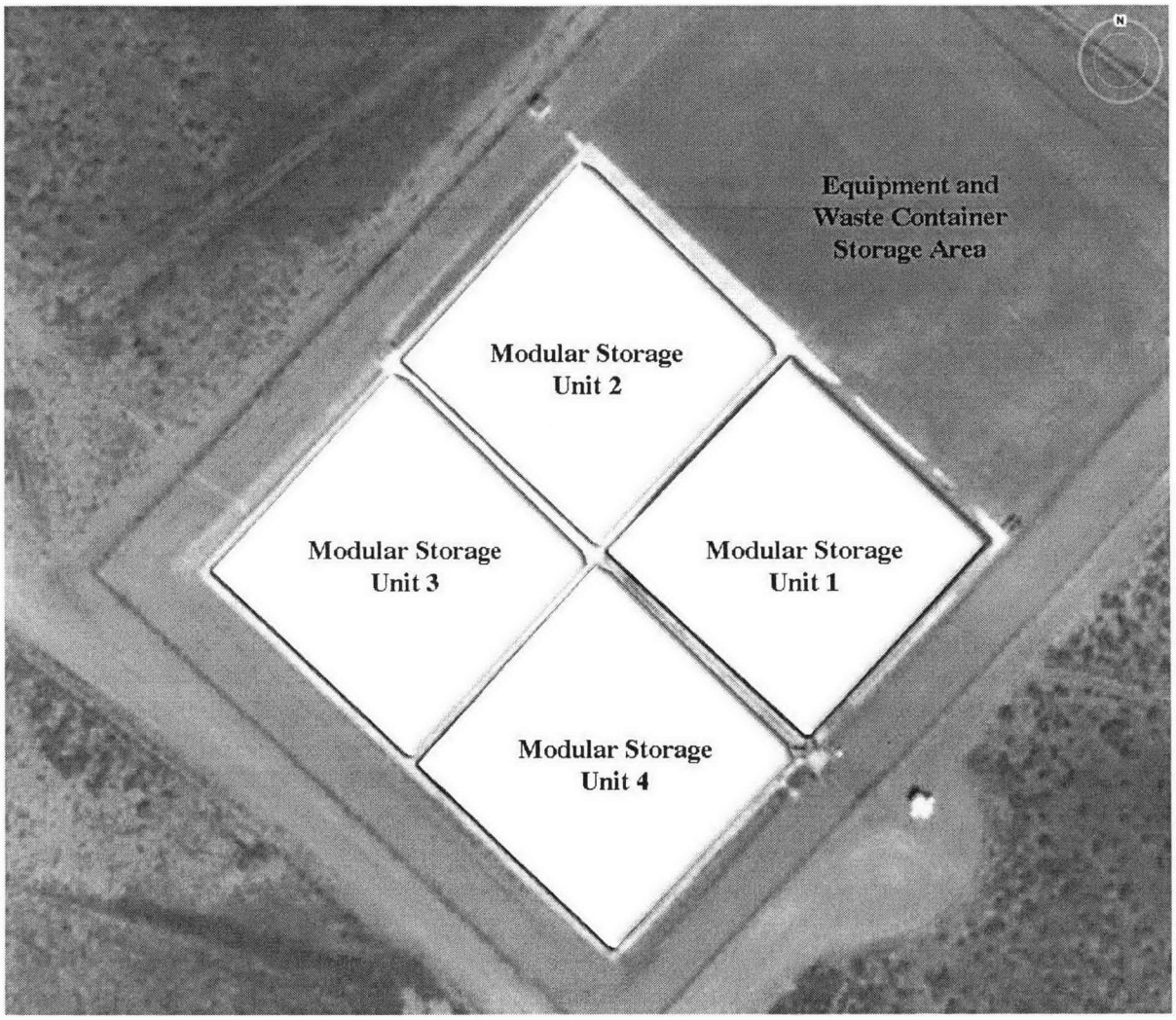

Figure 2. Facility Layout of the Modular Storage Units

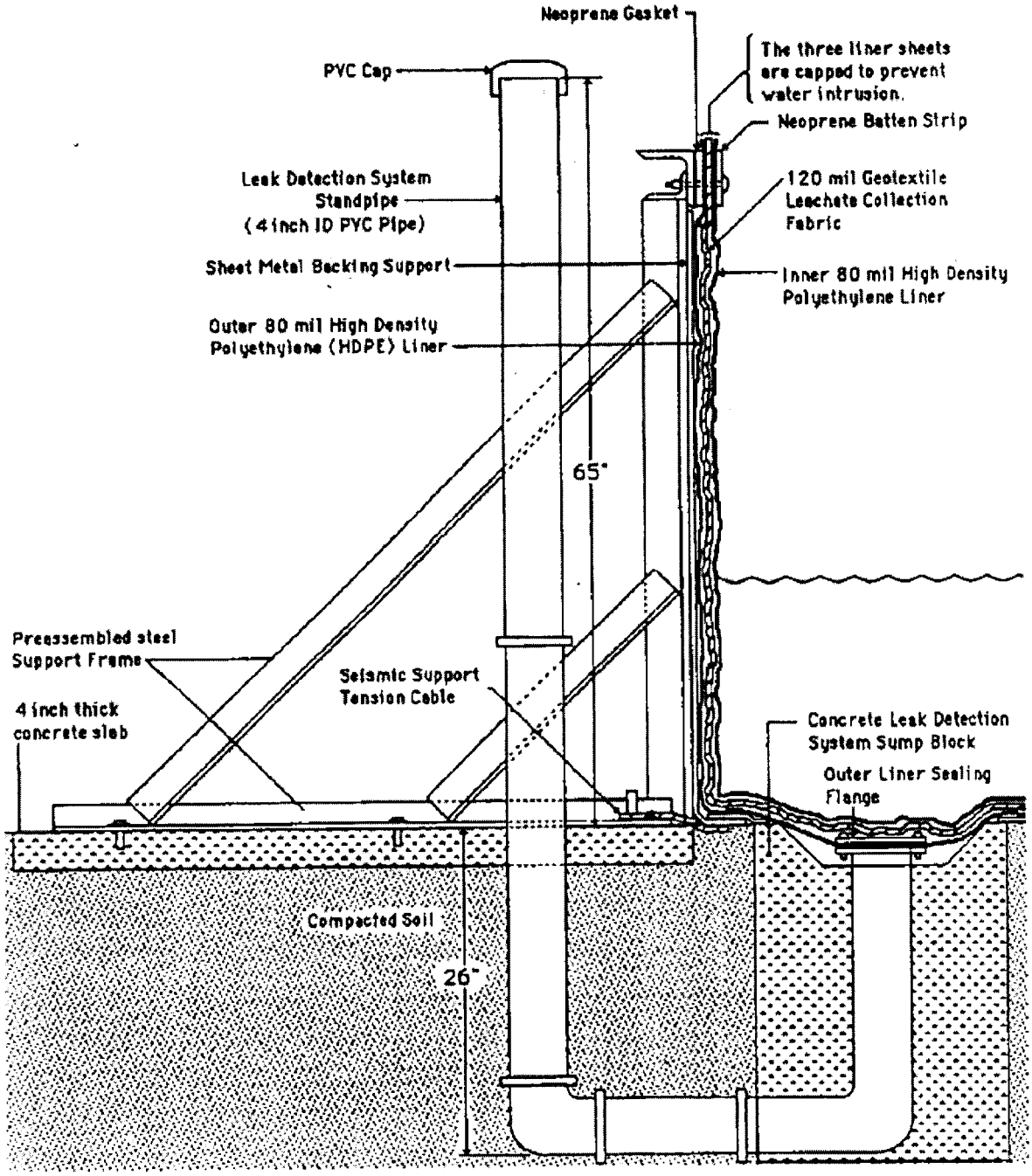

Figure 3. Design Elements Cross-Section of a Modular Storage Unit

3.2.1 Hazard Description

The purgewater potentially contains hazardous substances, including, but not limited to, the following chemical constituents:

- Carbon tetrachloride from a groundwater plume
- Methanol from the 100-N Area wells
- 1,1,1-Trichloroethane, methylene chloride, acetone, methyl isobutyl ketone, total cresols, and methyl ethyl ketone from Single-Shell Tank System wells in the 200 East and 200 West Areas.

In addition to chemical constituents, analysis of soil and purgewater from groundwater wells has identified low levels of the following radiological constituents: actinium-228, americium-241, bismuth-212, bismuth-214, cesium-134, cesium-137, cobalt-60, europium-155, lead-212, lead-214, plutonium-238, plutonium-239/240, radium-226, radium-228, strontium-90, technetium-99, thallium-208, thorium-228, thorium-234, tritium, uranium-233/234, uranium-235, uranium-238, and tritium.

4 Removal Action Elements

The following sections provide a general description of how work activities will be performed during construction and operation of the Modular Storage Units.

4.1 Construction of Modular Storage Units

The Modular Storage Units are above-ground liquid storage units and will be constructed following the design (Section 3.1) and following the steps outlined in Section 4.1.3.

4.1.1 Mobilization and Site Preparation

Mobilization and site preparation include the following activities, which are necessary to prepare the site for Modular Storage Unit construction:

- Establishing site utility services as required
- Stripping the existing vegetation and debris; stripping removes surface and near-surface materials (including vegetation and roots, cobbles, and boulders).

4.1.2 Site Excavation

Excavation requires equipment operations in uncontaminated soil and debris of varying physical properties (for example, fine sand to boulders of varying sizes). Guidance for the excavation shall be consistent with the requirements of 29 CFR 1910, "Occupational Safety and Health Standards," and 29 CFR 1926, "Safety and Health Regulations for Construction," Subpart P, "Excavations." The site for each Modular Storage Unit will have a minimum of 1 percent of slope into the leak detection system for each unit. Active excavations shall use water or/and fixatives for dust control.

4.1.3 Modular Storage Unit Installation

Once the site has been prepared, assembly of each Modular Storage Unit will include the following steps.

- Prepare site with a minimum of 1 percent slope into the leak detection system.
- Lay out the support frames and wall panels.
- Construct the corner wall panels.

- Add framework, overlap wall panels, and bolt frames to walls.
- Square-up walls and tape joints on inside of unit after walls are erected.
- Cover bottom of unit with geotextile layer, including a couple inches up each wall.
- Bolt top rails, liner mounting studs, and inside gaskets to framework.
- Install liner making sure it fits tightly into corners and at the foot of wall panels and attach to liner mounting studs.
- Attach gaskets and batten strips to liner mounting studs.
- Anchor framework.
- Install leak detection system.
- Perform acceptance testing after construction completion.

4.2 Operation of Modular Storage Units

Routine operation of the Modular Storage Units includes:

- Inspections of the units
- Measuring freeboard
- Maintenance of sediments
- Measuring water level in leak detection risers
- Tank Truck Transfers
- Inter-unit Transfers.

The Modular Storage Units are also equipped with a leak detection system that includes an alarm with audible and visual signals for detected leaks. Waste management activities are a part of routine operation of the Modular Storage Units and are discussed in detail in Section 6.2.

4.2.1 Inspections

Inspections of the Modular Storage Units and the leak detection system are performed for liquid level, leaks in the primary liner, and other containment problems. Each Modular Storage Unit is inspected on a schedule determined by the contents of the unit and its individual operating status. The results of the inspections are documented in a field logbook. Inspection schedules are as follows.

- Units holding purgewater containing radioactive constituents will be inspected in a manner that meets DOE requirements for inspection of low-level radioactive waste during all periods of such storage.
- Units holding purgewater exhibiting one or more characteristic of a dangerous waste as defined by WAC 173-303-090, "Dangerous Waste Characteristics," will be inspected at a minimum of once each operating day during all periods of such storage.
- Units holding purgewater that do not exhibit any characteristic of dangerous waste or holding nonradioactive, nondangerous purgewater will be inspected at a minimum of once weekly to assure proper and safe management.

Inspection items include:

- Visual observation for potential spills or leaks
- Measurement of level in the leak detection system
- High water level, freeboard less than 30.5 cm (12 inch)
- Low water level conditions that could result in suspension of potentially contaminated sediments accumulated within a Modular Storage Unit
- Documentation of abnormal conditions following existing contractor procedures.

4.2.2 Measuring Freeboard

Freeboard is defined as the distance from the water level to the top of the Modular Storage Unit bracket, measured at the corner where the four units converge.

As part of the inspection, the freeboard for each Modular Storage Unit will be measured and recorded. If the markings on the staff gauge are not legible, then the freeboard will be measured using a tape measure from the water level to one of the L-shaped brackets that attaches to the liner at or near the leak detector riser.

NOTE: If the freeboard is approximately 30.5 cm (12 inch) or less, then decanting from one unit into another unit may be necessary. The freeboard must remain greater than 24.4 cm (9.6 inch).

4.2.3 Maintenance of Sediments

Sedimentation accumulated in the Modular Storage Units must remain wetted at all times to prevent release of potentially contaminated particulates. During warm weather, up to 2.54 cm (1 inch) of water can evaporate every three to four days. Therefore, sediments need to be covered with water to prevent drying out. Raw water may need to be added to prevent the exposure of sediments that have accumulated within each unit.

4.2.4 Measuring Water Level in Leak Detection Risers

An electronic tape meter will be used to measure the water level in the leak detection riser. When the electronic tape probe is submersed in water, this completes a circuit that activates the buzzer and light on the electronic tape meter. To operate the meter, the electronic tape probe is lowered so the tip touches the bottom of the leak detection system standpipe. This allows for the observation of the distance on the electronic tape measurement at the lower edge of the tape guide.

The electronic tape probe is then raised in the leak detection riser until the tone from the electronic tape meter stops, indicating that the electronic tape probe is no longer in contact with the water, and again, allow for the observation of the distance on the electronic tape measurement at the lower edge of the tape guide.

Finally, determine the difference between the two measurements, and record the value to the nearest tenth (0.10) of a foot (12 in.) as the leak detection riser water depth. If no tone is heard, water level should be recorded as zero. Due to the tip design, any water level less than 7.6 cm (3 inch) will not be detected.

NOTE: Water may slowly accumulate in the leak detection riser due to condensation between liners, diffusion through the High Density Polyethylene (HDPE) liner, or potentially, from leaks at the sides where the fabric sandwich is attached to the frame. Water accumulation rates of up to 3.8 L (1 gal) per day are anticipated.

If a leak is found in the primary liner and/or repairs are required, a pump will be available to transfer purgewater contents from one Modular Storage Unit to another. Piping and hoses will be capable of extending from one Modular Storage Unit to any one of the other units.

4.2.5 Tank Truck Transfers

Purgewater is transferred, by gravity through a drain hose, from the tanker truck to the Modular Storage Units. A splash pan will be used to support purgewater discharges into each Modular Storage Unit.

4.2.6 Inter-unit Transfers

Inter-unit transfers between Modular Storage Units may be performed if leaks are detected in the primary liner, or if imminent failure of a unit is detected. An inter-unit transfer will be performed by connecting piping to a system that transfers the contents from the leaking unit to another one unit, as necessary.

5 Safety and Health Management and Controls

All emergency planning and preparedness activities for this project will be consistent with planning and preparedness actions taken by other Hanford Site contractors and similar projects. Activities will be in a manner that ensures the health and safety of workers and the public and the protection of the environment in the event of an abnormal incident during removal action activities.

5.1 Emergency Management

The contractor's Emergency Management Program (including preparedness, planning, and response) contains the administrative responsibilities for compliance with DOE/RL-94-02, *Hanford Emergency Response Plan,* and all applicable DOE Orders. The Emergency Management Program establishes a coordinated emergency response organization capable of planning for, responding to, and recovering from industrial, security, and hazardous material incidents. Emergency action plans for contractor-managed hazardous facilities identify the capabilities necessary to respond to emergency conditions, provide guidance and instruction for initiating emergency response actions, and serve as a basis for training personnel in emergency actions for each facility.

The emergency response actions within the emergency action plan are provided for recognizing incidents and/or abnormal conditions, initiating protective actions, and making the proper notifications. Emergency response for this project will include Nuclear Regulatory Commission notification for reportable quantity releases and On-Scene Coordinator notification for other emergency situations.

5.2 Safeguards and Security

Access to the Hanford Site is controlled via manned guard stations. Access to the Modular Storage Units is controlled by the contractor using fences and signs. The access gate to the Modular Storage Units will be secured at all times when staff members are not present.

5.3 Health and Safety Program

The contractor's Hazardous Waste Operations Safety and Health Program was developed for employees involved in hazardous waste site activities. The program was developed to comply with the requirements of 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," and 10 CFR 835, "Occupational Radiation Protection," to ensure the safety and health of workers during hazardous waste operations.

5.3.1 Worker Safety Program

The Integrated Safety Management System will be incorporated into all work activities. The program includes the following elements:

- Organizational structure specifying the official chain of command and the overall responsibilities of supervisors and employees
- Comprehensive work plan developed before work begins at a site to identify operations and objectives and to address the logistics and resources required to accomplish project goals
- Site-Specific Health and Safety Plan (SSHASP) developed when workers could be exposed to hazardous substances
- Worker training commensurate with individual job duties and work assignments
- Medical surveillance program administered to comply with the Occupational Safety and Health Administration requirements (29 CFR 1910.120)
- Contractor's internal work requirements and processes
- Voluntary protection program.

5.3.2 Health and Safety Plan and Activity Hazards Analysis

A SSHASP will be prepared that defines the chemical, radiological, and physical hazards and specifies the controls and requirements for work activities. Access and work activities are controlled in accordance with approved work packages, as required by established internal work requirements and processes. The SSHASP will address the health and safety hazards of site construction and operation and includes the requirements for hazardous waste operations, as specified in 29 CFR 1910.120. As part of work package development, a job or activity hazards analysis will be written to identify the hazards associated with specific tasks already not covered under a SSHASP. Elements included in the SSHASP are as follows:

- General overview of hazards associated with the area
- List of employee training assignments
- List of personal protective equipment (PPE) to be used at the work site
- Medical surveillance requirements
- Work site control measures
- Emergency response
- Confined space entry internal work requirements and processes
- Spill containment program.

In addition to the SSHASP, a radiological work permit (RWP) will be prepared, as needed, for work in areas with potential radiological hazards. The RWP extends the Radiological Protection Program

(discussed in Section 5.3.3) to the specific work site or operation. All personnel assigned to the project and all work site visitors must strictly adhere to the provisions identified in the SSHASP and RWP.

Before work and before each activity begins, a pre-job briefing will be held with the involved workers. This briefing will include reviews of the hazards that could be encountered and the associated requirements. Throughout an activity, daily briefings also could be held, as well as special briefings before major evolutions.

5.3.3 Radiological Controls and Protection

The Radiological Controls and Protection Program is defined in DOE-approved programs and contractor-approved internal work requirements and processes. The Radiological Controls and Protection Program implements the contractor's policy to reduce risks to occupational safety or health to levels that are as low as reasonably achievable (ALARA) and to ensure the adequate protection of workers. The contractor's radiological protection program meets the requirements of 10 CFR 835. Appropriate dosimetry, RWPs, PPE, ALARA planning, periodic surveys, and radiological control technical support also will be provided.

The contractor's standard controls for work in radiological areas are assessed as adequate to control project activities. These controls will provide for radiological control planning to identify the specific conditions, and the controls also will govern the specific requirements for an activity, periodic radiation and contamination surveys of the work area, and periodic or continuous observation of the work by the radiological controls organization. The ALARA planning process will be used to identify shielding requirements, contamination control requirements, radiation monitoring requirements, and other radiation control requirements for the individual tasks conducted during the project. Radiological worker exposure must also be monitored using approved occupational radiation protection methods.

Measures also will be taken to minimize the possibility of releases to the environment. Section 6.3 of this work plan quantitatively addresses the radionuclide inventory and controls which may be utilized during project activities that could minimize the potential release of the inventory, but not to the exclusion of 10 CFR 835 requirements. Therefore, monitoring will be completed as described in Section 6.3.5.

6 Environmental Management and Controls

A discussion of environmental management and controls is provided in the following sections.

6.1 Applicable or Relevant and Appropriate Requirements

The applicable or relevant and appropriate requirements (ARARs) for this removal action are identified in DOE/RL-2009-39 and are discussed briefly in the following sections.

6.2 Waste Management Plan

Waste management activities described in this work plan will be performed in accordance with DOE/RL-2009-39.

This section addresses the standards that will be relevant to waste management activities, including generation, designation, storage, transportation, packaging, and other waste handling as appropriate for purgewater and purgewater-related waste streams.

6.2.1 Projected Waste Streams

In addition to the purgewater, different types of waste streams discussed within this section are anticipated to be generated during the removal action. Such wastes will be managed as appropriate, based

on classification under one or more of the following categories: radioactive, mixed, dangerous, nonradioactive, and/or nondangerous. Wastes may be conservatively managed as suspect radioactive, suspect dangerous, and suspect mixed. The anticipated waste streams include the following different types:

- Miscellaneous waste (e.g., rubber, soil, glass, paper, personal protective equipment, cloth, plastic, metal)
- Equipment and construction materials (e.g., secondary containment pads, purgewater truck parts, sampling equipment)
- Waste water from decontamination activities (e.g., sampling equipment and cleaning of purgewater truck tanks).

6.2.2 Waste Characterization, Designation, and Disposal

Groundwater analytical data are maintained in the Hanford Environmental Information System (HEIS) database. This site-wide database contains the historical and current listing of the sample analytical results for all Hanford Site wells. The HEIS database is updated continually as sampling data are generated. A query of HEIS data will be conducted annually to identify any well samples that have exceeded the threshold for classification as characteristic waste. If a sample from a source that is not profiled as a characteristic waste exceeds the threshold, additional shipments of that waste to the Modular Storage Units will cease if necessary, until waste acceptance documentation is modified to accommodate the new classification.

Other waste that has contacted or become contaminated by waste managed under this removal action may be disposed at the Environmental Restoration Disposal Facility (ERDF) if such waste meets the ERDF acceptance criteria and is characterized using an EPA-approved sampling and analysis plan. Waste will be designated using process knowledge, historical analytical data, engineering calculations, and/or analyses of samples identified in the sampling and analysis plan, as appropriate.

The ERDF is the preferred disposal location, provided that the waste acceptance criteria are met. Waste will be staged within the onsite *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) Area (Figure 2), or at the ERDF.

Offsite facilities that receive contaminated waste must be deemed acceptable by the EPA in accordance with 40 CFR 300.440, "Procedures for Planning and Implementing Off-Site Response Actions." Used oil will be sent offsite for recycling or disposal. Spent or unusable chemicals/reagents may also be generated during field sampling and analysis and would require disposal at the appropriate facility based on the designation.

6.2.3 Decontamination

Decontamination of equipment, waste containers, etc. to support excavation activities will generally be performed using dry methods (such as wiping) to the extent possible. When wet methods (i.e., pressure washers) are used to achieve decontamination objectives, the associated water or cleaning solutions will be collected, and work will be conducted by trained site workers in accordance with the following best management practices.

- Decontamination activities will be performed within the onsite CERCLA Area.
- Amount of water used to clean equipment will be minimized to the extent practicable.
- Raw or potable water will be used whenever practicable.

- Regulated soaps, detergents, or other cleaning agents will not be added to wash water unless necessary to achieve decontamination.
- Pressure washing will normally use cold water.

6.2.4 Waste Generation Management

The following sections describe types and management of expected wastes.

6.2.4.1 Miscellaneous Waste

Miscellaneous waste containers will be staged within the onsite CERCLA Area. Containers of miscellaneous waste will be dispositioned based on waste determination results.

6.2.4.2 Decontamination Fluids

Decontamination fluids (water and/or nondangerous cleaning solutions) generated from cleaning equipment and tools in the onsite CERCLA Area will be contained, sampled if necessary, and transported as appropriate to the Effluent Treatment Facility. If necessary, decontamination fluids can be containerized, over-packed, and temporarily stored within the onsite CERCLA Area.

Additional chemical decontamination of sample equipment may be conducted at the Waste Sampling and Characterization Facility (WSCF) because decontamination and containment systems already are established at this location.

6.2.4.3 Equipment and Construction Materials

Equipment and construction materials that contact suspect dangerous and/or suspect mixed waste will be decontaminated as necessary (e.g., with a three-bucket wash or with a high-pressure wash within a wash basin capable of retaining rinsate), or will be treated as miscellaneous waste. All water used for decontamination activities shall be potable (that is, Hanford Site potable water). Rinsates shall be managed as decontamination fluids. All sampling equipment shall be cleaned and decontaminated for chemical contamination after radiological release by a radiological control technician.

If equipment is to be dispositioned, a declaration of excess form will be completed. If necessary, equipment and construction materials can be containerized and stored within the onsite CERCLA Area.

6.2.5 Management of Waste Containers

Waste containers are inspected prior to use to ensure the integrity of the container. The containers will be staged within the onsite CERCLA Area. Containers awaiting analytical results will be marked and labeled as appropriate. Weekly inspections will be performed to document the integrity, container marking/labeling, physical container placement, storage area boundaries/identification/warning signs, and any potential leakage. Containers showing signs of deterioration will be identified on the container inspection form and will be overpacked or repackaged. Spills or releases will be reported as stated in Section 6.3.6. In the event of a spill or release, appropriate and immediate action will be taken to protect human health and the environment.

6.2.6 Final Waste Disposal/Storage

All waste will be stored in the onsite CERCLA Area until the proper waste shipping papers are completed. The process for developing proper waste shipping papers includes: receipt of analytical results, designation, profiling, and proper disposal paperwork. Designation process ensures waste will be profiled for the appropriate disposal facility. Waste profiling provides information concerning each waste stream. Designation and profiling are conducted in accordance with the requirements of WAC 173-303-070, "Designation of Dangerous Waste," specifically WAC 173-303-070(3), "Designation Procedures." Dangerous waste will be evaluated for applicable land disposal restrictions in accordance with WAC 173-303-140, "Land Disposal Restrictions."

Any waste that does not meet the ERDF waste acceptance criteria will remain within the onsite CERCLA Area pending disposal at an appropriate location or treatment to meet ERDF acceptance. A case-by-case disposal determination will be made in instances where waste exceeds the ERDF waste acceptance criteria. Any waste requiring treatment before disposal requires approval by the lead regulatory agency.

Waste above radiological release levels that meet the ERDF waste acceptance criteria will be transported to the ERDF for disposal. Nonradiologically-contaminated dangerous waste may be shipped to ERDF or to an offsite facility, contingent upon the waste meeting the offsite *Resource Conservation and Recovery Act of 1976* disposal facility's waste acceptance criteria and offsite determination of acceptability by the EPA.

6.2.7 Waste Transfer and Disposal Records

Original copies of all sampling records, waste inventory documentation, and waste container certification forms will be forwarded to the assigned waste specialist to be included in the waste file and to initiate waste tracking. Completed waste files will be included in the project file following final waste disposition.

6.2.8 Waste Treatment

When necessary, treatment may be conducted at the site, at the ERDF (in special cases), or at an EPA-approved offsite facility. If land disposal restriction (LDR) wastes are encountered, the requirements of 40 CFR 268, "Land Disposal Restrictions," will be applied, unless the EPA approves a treatability variance. Offsite treatment must be performed at a facility approved by the EPA in accordance with 40 CFR 300.440. Return of treated waste from offsite treatment facilities for disposal at the ERDF will require additional authorization from the EPA.

6.2.9 Waste Minimization and Recycling

By using waste separation and segregation, waste generation will be kept to a minimum. Waste will be segregated within the onsite CERCLA Area as generated, which will minimize the volume of regulated waste.

Waste minimization practices will be followed to the extent technically and economically feasible during all phases of waste management. Contamination of clean materials will be minimized to the extent practicable. During all phases of waste management, emphasis will be placed on source reduction to eliminate or minimize the volume of waste generated.

All materials released offsite for disposal/recycle must be certified free of contamination in accordance with DOE guidance for nonreal property. Waste materials with no or de minimis levels of CERCLA hazardous substances are not considered CERCLA waste and, therefore, are not subject to the 40 CFR 300.440 offsite acceptability determinations.

6.3 Standards Controlling Releases to the Environment

6.3.1 Radiological Air Emissions

The state implementing regulation WAC 173-480, "Ambient Air Quality Standards and Emission Limits for Radionuclides," sets standards that are as stringent or more so than the federal *Clean Air Act of 1990* and Amendments (42 USC 7401 et seq.), and under the federal implementing regulation, 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," Subpart H, "National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities." EPA's partial delegation of the 40 CFR 61 authority to the State of Washington includes all substantive emissions monitoring, abatement, and reporting aspects of the federal regulation. The state standards protect the public by conservatively establishing exposure standards applicable to even the maximally exposed public individual. Under WAC 246-247-030, "Definitions," Item (15), "Maximally Exposed Individual," (MEI) is any member of the public (real or hypothetical) who abides or resides in an unrestricted area, and may receive the highest total effective dose equivalent (TEDE) from the emission unit(s) under consideration, taking into account all exposure pathways affected by the radioactive air emissions. All combined radionuclide airborne emissions from the DOE Hanford Site "facility" are not to exceed amounts that would cause an exposure to any member of the public of greater than 10 mrem/yr effective dose equivalent. The state implementing regulation WAC 246-247, "Radiation Protection – Air Emissions," which adopts the WAC 173-480 standards and the 40 CFR 61, Subpart H standard, requires verification of compliance with the 10 mrem/yr standard, and would potentially be applicable to the removal action.

The WAC 246-247 further addresses emission sources emitting radioactive airborne emissions by requiring monitoring of such sources. Such monitoring requires physical measurement of the effluent or ambient air. The substantive provisions of WAC 246-247 that require monitoring of radioactive airborne emissions would be applicable to the removal action.

The above state implementing regulations further address control of radioactive airborne emissions where economically and technologically feasible (WAC 246-247-040, "General Standards," Items [3] and [4], and associated definitions). To address the substantive aspect of these requirements, best or reasonably achieved control technology will be addressed by ensuring that applicable emission control technologies (those successfully operated in similar applications) will be used when economically and technologically feasible (i.e., based on cost/benefit). If it is determined that there are substantive aspects of the requirement for control of radioactive airborne emissions, then controls will be administered as appropriate using reasonable and effective methods.

Site-specific radiological emission potential-to-emit calculations, controls, and monitoring are addressed in Sections 6.3.3 through 6.3.5.

6.3.2 Criteria/Toxic Air Emissions

Under WAC 173-400, "General Regulations for Air Pollution Sources," and WAC 173-460, "Controls for New Sources of Toxic Air Pollutants," requirements are established for the regulation of emissions of criteria/toxic air pollutants. Primary nonradioactive emissions resulting from this removal action will be fugitive particulate matter. In accordance with WAC 173-400-040, "General Standards for Maximum Emissions," reasonable precautions must be taken to (1) prevent release of air contaminants associated with fugitive emissions resulting from excavation, materials handling, or other operations; and (2) prevent fugitive dust from becoming airborne from fugitive sources of emissions. Use of treatment technologies that would result in emissions of toxic air pollutants that would be subject to the substantive applicable requirements of WAC 173-460 are not anticipated to be a part of this removal action. Treatment of some waste encountered during the removal action may be required to meet ERDF waste acceptance criteria. In

most cases, the type of treatment anticipated would consist of solidification/stabilization techniques such as macroencapsulation or grouting, and WAC 173-460 would not be considered an ARAR. If more aggressive treatment is required that would result in the emission of regulated air pollutants, the substantive requirements of WAC 173-400-113, "Requirements for New Sources in Attainment or Unclassifiable Areas," Item (2) and WAC 173-460-060, "Control Technology Requirements," would be evaluated to determine applicability. After evaluating activities supporting operation of the Modular Storage Units (e.g., solar evaporation), the only pollutant of concern was hexavalent chromium. After further review, the emission of hexavalent chromium from windblown activities will be less than the de minimis value of 2.9E-05 kg/yr (6.4E-05 lb/yr). Emissions to the air will be minimized during implementation of the CERCLA action through use of standard industry practices as described in Section 6.3.4.

6.3.3 Radiological Airborne Source Information

For the construction of the Modular Storage Units, there will initially be two 3,800,000 L (1,000,000-gal) units. Up to two additional units of comparable size may be added to the area, although there are currently no plans for construction of the additional units. There is no potential for radiological airborne releases from the construction activities.

During operation of the Modular Storage Units, however, purgewater potentially containing radiological and/or chemical constituents will be placed into the units and will undergo solar evaporation. Up to 3,200,000 L (850,000 gal) of purgewater could evaporate annually from each Modular Storage Unit. Purgewater samples are analyzed on a regular basis for chemical and radionuclide constituents. Using a sample history since January 1, 1989 for wells, maximum values were assigned for radionuclide content and concentration in purgewater stored in the previously used Modular Storage Units. From these waste inventory values, a radionuclide source term was developed for purgewater that will be evaporated from the new Modular Storage Units. The primary radionuclides are listed in Section 3.3. Other radionuclides may also be encountered during the operation of the Modular Storage Units, but are not anticipated at this time in other than negligible quantities. Based on historical process and analytical information, the total conservatively estimated curie values for alpha emissions are 2.83E-07 Ci/yr and the beta-gamma emissions are 7.39E-01 Ci/yr.

The total potential fugitive emissions were calculated for the operation of all four Modular Storage Units. Emissions and dose information related to the operation of the four Modular Storage Units were taken from Notice of Construction approval AIR 06-1004 issued by the Washington Department of Health on October 5, 2006 (AOP 00-05-006, *Hanford Site Air Operating Permit*). Therefore, the distance to the Laser Interferometer Gravitational Wave Observatory receptor is identified as 16,630 m (54,560 ft) east-southeast of the 200 East Area. Dose factors used specific to this location were taken from DOE/RL-2006-29, *Calculating Potential-to-Emit Radiological Releases and Doses*. The total unabated potential for exposure to the maximally exposed public receptor from the operation of the four Modular Storage Units is 1.50E-04 mrem/yr.

6.3.4 Emission Controls

Due to the simple nature of the removal action and the very low potential for radiological airborne emissions, no elaborate best available radiological control technology (BARCT) analysis was performed in regards to potential emissions in this work plan. In general, the BARCT evaluation for an outdoor, low emission level removal action supports using proven technology on a cost/benefit basis. Based on analysis of the potential emissions and analysis of available and successful control technologies, the following controls have been selected for use during the removal action.

- Water will be applied, as needed, during any construction and operation activities, for fugitive emissions and dust during construction activities and to minimize wind suspension of radioactive solids that may settle to the bottom of the Modular Storage Units to maintain the minimum liquid level in each unit.
- Fixatives or cover material (e.g., soil, gravel, etc.) will be applied to disturbed soil, associated with the construction activities when left inactive more than 24 hours except as noted in the next bullet.
- Aerodynamic covers may also be used on the Modular Storage Units for maintenance of a minimum liquid level in each unit.
- Field activities will be temporarily ceased and the area will be placed in a safe configuration if contamination control measures are not adequate, based on site conditions (e.g., excessive wind) until adequate control measures are reestablished.
- Waste packages will remain closed, except during packaging and waste inspection activities, once the waste packages are staged, but within the onsite CERCLA Area.

6.3.5 Monitoring

Calculated unabated annual dose combined for all related activities during the operation of the Modular Storage Units is below 0.1 mrem/yr; therefore, this activity is not subject to continuous emissions monitoring as required by WAC 246-247-075, "Monitoring, Testing, and Quality Assurance," Item (1). Periodic confirmatory measurement will be provided, however, as required by WAC 246-247-075(3) and (8). Periodic confirmatory monitoring techniques have been considered and the existing network of proximal near-facility monitors combined with radiological field surveys are sufficient to meet the periodic confirmatory measurement requirement.

Radiological surveys may be conducted using hand-held instruments. Both alpha and beta/gamma surveys will be performed for all removable contamination surveys and for direct readings surveys.

6.3.6 Reporting Requirements for Nonroutine Releases

The following reporting requirements apply for hazardous substances that could be released during the removal action activities.

- 40 CFR 302, "Designation, Reportable Quantities, and Notification," requires immediate notification to the National Response Center on discovery of a hazardous substance release into the environment in excess of a reportable quantity.
- 40 CFR 355, "Emergency Planning and Notification," requires immediate notification to the community emergency coordinator for the local emergency planning committee and to the State Emergency Response Commission for a release of a reportable quantity of an extremely hazardous substance, a comprehensive release of a reportable quantity of an extremely hazardous substance, or a CERCLA hazardous substance.

6.4 Release of Property

All property released for offsite disposal and/or reuse and recycle is nonreal property. The release of nonreal property will follow DOE guidance. If the property meets the surface contamination limits based on radiological surveys and/or characterization information, and the person or entity receiving the property is aware of the measured radioactivity on the property, the property could be dispositioned with

low-levels of residual radioactivity. Property released via this process will be viewed as containing no or de minimis levels of CERCLA hazardous substances, and therefore will not be subject to CERCLA.

6.5 Cultural, Historical, and Ecological Resource Protection Standards

Cultural and ecological resource reviews will be performed before starting the construction and operation activities to identify any potential impacts. Impacts on ecological resources in the vicinity of the removal actions will continue to be mitigated in accordance with DOE/RL-96-32, *Hanford Site Biological Resources Management Plan,* and DOE/RL-96-88, *Hanford Site Biological Resources Mitigation Strategy*, and with the applicable standards of all relevant biological species protection regulations.

This site has already been disturbed; however, implementation of DOE/RL-98-10, *Hanford Cultural Resources Management Plan,* and consultation with area Tribes will help ensure appropriate mitigation to avoid or minimize any adverse cultural or historical resource effects and address any relevant concerns.

Impacts to other cultural values including the viewshed from nearby traditional cultural properties will be minimized through implementation of DOE/RL-98-10; DOE/RL-2005-27, *Revised Mitigation Action Plan for Environmental Restoration Disposal Facility*; and consultation with area Tribes as needed. This will help ensure appropriate mitigation to avoid or minimize any adverse effects to natural and cultural resources and address any other relevant concerns.

Potential impacts to cultural and historical resources that may be encountered during the short-term construction activities associated with implementing the removal action will be mitigated through compliance with the appropriate substantive requirements of the *National Historic Preservation Act of 1966* and other ARARs related to cultural preservation.

7 Project Administration

7.1 Project Schedule and Cost Estimate

Construction of the Modular Storage Units began in July 2009. In the fourth year of use of the Modular Storage Units, the Tri-Parties will evaluate the continued usage of the Modular Storage Units and determine if improved methods for purgewater management should be employed for longer term. If the Modular Storage Units will be used after five years or if there is evidence of leakage from the Modular Storage Units to the environment, RL will implement groundwater monitoring. The installation of the four monitoring wells is currently included as part of the 200-BP-5 Groundwater Operable Unit baseline occurring after October 2014.

Summarized cost estimates are shown in Table 1, which includes a projection of costs over the operation period (approximately 5 years). Total cost in today's dollars is approximately $10,995,000. An estimated additional cost for the installation of a groundwater monitoring well system is included at the end of Table 1 for information. If the Modular Storage Units are in use for more than 5 years, or if there is evidence of leakage, then a groundwater monitoring system will be installed.

Table 1. Modular Storage Units for Purgewater Management

Number	Item	Estimated Cost ($)	Comments
1	System Installation	$3,738,000	Includes removal of existing Modular Storage Unit liner and installation of new liner in existing 3,716 m^2 (40,000-ft^2) tank structure – supply and installation of three new 3,716 m^2 (40,000-ft^2) modular storage-type tanks and liners on new concrete ring slab and graded gravel floor surface. Regrade one new tank site. Other tanks will use previously graded sites.
2	O&M	$4,260,000	Over a 5-year plant life, includes all O&M costs based on cost analysis for FY 2006, FY 2007, and FY 2008 of $213,000/year for each tank.
3	D&D	$3,969,100	Decontamination, monitoring, demolition, excavation, containerizing of all demolition materials, hauling, and disposal at ERDF.
4	Total Non-Discounted	$11,967,000	
5	Present Worth Discounted	$10,995,000	Discount rate of 2.9 percent.
6	Groundwater monitoring well installation	$915,000	This is an estimated additional cost for the installation of a groundwater monitoring well system, which could be needed if the Modular Storage Units are in operation for more than 5 years, or if there is evidence of leakage from the units. The costs do not include monitoring or maintenance and were not calculated at a discounted rate. This cost was not included in DOE/RL-2009-31, because it is not anticipated to be needed for the 5 year life of the Modular Storage Units.

DOE/RL-2009-31, *Investigation Derived Waste Purgewater Management Engineering Evaluation/Cost Analysis*

D&D = decontaminating and demolishing

FY = fiscal year

O&M = operations and maintenance

7.2 Project Cost and Schedule Tracking

Performance measurement and analysis will be performed by the contractor. Project cost and schedule will be controlled and updated using the contractor's project management system.

An earned-value system will track the cost, schedule, and performance as the project progresses towards completion. Cost/schedule performance reports will provide budgeted cost of work-scheduled comparisons and budgeted costs of work performed against the actual cost of work performed. These reports will provide variances to the baseline schedule and cost as budgeted. Variances above threshold values will be documented, as well as the rationale for the variance(s) and any recovery plan required.

Trends and baseline change proposals readily will be identified through the contractor's formal trend and change control program. All changes that affect the baseline will be documented. The contractor's trend register, which will be reviewed monthly by contractor senior management, categorizes trends from

conception to final resolution. Trends will be identified as either performance trends or scope trends and will be defined further as resolved or unresolved.

Fiscal year project staffing, as budgeted, will be reconciled monthly during project review meetings to the actual number of full-time-equivalent personnel used during the month. Likewise, the corresponding number of hours actually worked will be presented and compared to the budgeted current work plan. Actual overtime will be monitored monthly (by department) and will be reconciled to the current budgeted overtime.

Cost and schedule variances to the current budget will be tracked monthly and on a to-date basis and will be reconciled back to the cause of the variance. Project impacts because of the cost and/or schedule variance will be described and corrective actions identified and tracked to the point of final resolution.

7.3 Change Management/Configuration Control

Three types of changes in this removal action that could affect compliance with the requirements in DOE/RL-2009-39 include (1) a nonsignificant or minor change, (2) a significant change to a component of the alternative, and (3) a fundamental change to the overall alternative.

A nonsignificant or minor change falls within the normal scope of changes occurring during the removal action processes. These minor changes should be documented in the appropriate post-decision project file (for example, through interoffice memoranda or logbooks). Nonsignificant changes shall not impact the requirements of DOE/RL-2009-39; nor will nonsignificant changes impact the functional requirements. An example of nonsignificant changes may include, but are not limited to, modifications to the removal action schedule that do not impact agreed-upon milestones.

It may be determined that a significant change to the selected alternative as described in DOE/RL-2009-39 is necessary after DOE/RL-2009-39 has been signed. Significant changes are defined as changes that significantly modify the scope, performance, or component cost for the alternative as presented in DOE/RL-2009-39. All significant changes will be addressed in a fact sheet. Examples of significant changes may include, but are not limited to, the following:

- Significant increase or decrease in the total cost of site removal action (greater than +50 percent or more than –30 percent) addressed in DOE/RL-2009-39
- Significant delay in the point in time when the removal action or objectives are met.

A fundamental change is a change that does not meet the requirements set forth in DOE/RL-2009-39 or that incorporates removal activities not defined in the scope of the DOE/RL-2009-39. In few cases are there fundamental changes to an action memorandum. Should the situation arise, DOE/RL-2009-39 must be amended. Significant changes that fundamentally alter the alternative occur when a land use is defined that is not compatible with DOE/RL-2009-39.

Determining the significance of the change is the lead regulatory agency's responsibility. The project manager is responsible for tracking all changes and obtaining appropriate reviews by staff. The project manager will discuss the change with RL, and RL will discuss the type of change that is necessary with Ecology, up to and including changes in Ecology et al., 1989b, *Hanford Federal Facility Agreement and Consent Order Action Plan,* Sections 9.3 or 12. Appropriate documentation will follow, in accordance with the requirements for the type of change.

7.4 Personnel Training and Qualifications

During the performance of project activities, the experience and capabilities of the operating staff will be extremely important in maintaining worker and environmental safety. Day-to-day knowledge of ongoing operations, month-to-month understanding of conditions encountered, and lessons learned will be utilized for continued safe operations.

Training requirements will ensure that personnel have been instructed in the technologies to work safely in and around radiological areas, and to maintain their individual radiation exposure and the radiation exposures of others ALARA. Standardized core courses and training material will be presented, and site-specific information and technologies will be added to adequately train workers. Records of required training will be maintained in accessible files.

Health physics workers will be required to have completed and be current in radiological control technician qualification training. These training courses require the successful completion of examinations to demonstrate understanding of theoretical and classroom material.

Specialized training will be provided as needed to instruct workers in the use of nonstandard equipment, in the performance of abnormal operations, and in the hazards of specific activities.

Specialized training could be provided by on-the-job training activities, classroom instruction and testing, or pre-job briefings. The depth of training in any discipline will be commensurate with the degree of the hazard(s) involved and the knowledge required for task performance.

Some activities will require the acquisition of expert services as opposed to project staff training.

The contractor Training Program will provide workers with the knowledge and skills necessary to safely execute assigned duties. A graded approach will be used to ensure that workers receive a level of training commensurate with their responsibility that complies with applicable requirements. Specialized employee training will include pre-job safety briefings, plan-of-the-day meetings, and facility/work site orientations. Training and qualifications will be determined as required by job assignment for work activities.

The SSHASP, RWP, and activity hazards analysis will include specific requirements for project activities being conducted, which will include PPE and required training for project personnel.

7.5 Quality Assurance/Quality Control Requirements

Overall quality assurance for this work plan will be planned and implemented in accordance with 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements;" EPA/240/B-01/003, *EPA Requirements for Quality Assurance Project Plans*; and SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*. The quality assurance activities will use a graded approach based on the potential impact on the environment, safety, health, reliability, and continuity of operations. The sampling and analysis plan will also contain a quality assurance project plan, which is used to support sampling and characterization activities.

Removal action quality control shall be performed in accordance with contractor's best management practices and established quality control program. Such a program will include the following:

- Summary of responsibilities and authorities of all organizations and key personnel involved in the design and construction of site removal action
- Qualifications of the quality assurance personnel to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities

- Sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures as addressed in the plans and specifications
- Descriptions of the reporting requirements for quality assurance activities (including such items as daily summary reports, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation) and descriptions of the provisions for the final storage of all records consistent with overall requirements of the contractor's records management program.

7.6 Post-Removal Action Activities

Post-removal action activities for the Modular Storage Units will involve the demolition of the units. Activities will include structural and waste removal, sample collection, demonstration of attainment of removal objectives, cleanup documentation, and site closure. The demolition of the units will be addressed in a separate removal action work plan.

7.6.1 CERCLA Cleanup Documentation

After completion of the CERCLA actions described in Section 1 of this work plan, an additional work plan will be developed for the demolition of the units. Once the units have been removed, an On-Scene Coordinator Report will be completed for use in future remedial actions. The report will be placed in the administrative record.

8 References

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10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*. Available at: http://www.access.gpo.gov/nara/cfr/waisidx_09/10cfr835_09.html.

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40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*. Available at: http://www.access.gpo.gov/nara/cfr/waisidx_09/40cfr300_09.html.

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40 CFR 300.440, "Procedures for Planning and Implementing Off-Site Response Actions," *Code of Federal Regulations*. Available at: http://edocket.access.gpo.gov/cfr_2008/julqtr/40cfr300.440.htm.

40 CFR 302, "Designation, Reportable Quantities, and Notification," *Code of Federal Regulations*. Available at: http://www.access.gpo.gov/nara/cfr/waisidx_08/40cfr302_08.html.

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