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D&D-38841
Revision 0

Waste Control Plan for the Washington State Department of Ecology Comparison of Discrete and Multi-Increment Sampling for Site Characterization and Cleanup

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

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

FLUOR

P.O. Box 1000
Richland, Washington

attached to 0078807

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ATTACHMENTS

TERMS

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CWC	Central Waste Complex
ERDF	Environmental Restoration Disposal Facility
ETF	200 Area Effluent Treatment Facility
IDW	investigation derived waste
MIS	multi-increment sampling
N/A	not applicable
PCB	polychlorinated biphenyl
SAP	sampling and analysis plan
TBP	tributyl phosphate
WAC	Washington Administrative Code
WCP	waste control plan
WCSA	Waste Container Storage Areas

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Work Scope Description– This Waste Control Plan (WCP) applies to the management of investigation derived waste (IDW) generated from the sampling and analysis and cleanup of UPR-200-E-56 Waste Site in the 200 East Area and 216-S-19 Waste Site in the 200 West Area, and equipment decontamination for the waste site investigations, as appropriate. The scope of work for the waste sites is further described in the *Sampling and Analysis Plan for the Washington State Department of Ecology Comparison of Discrete and Multi-Increment Sampling for Site Characterization and Cleanup* (SAP) DOE/RL-2008-50.

The field work will be carried out in three phases. The first phase (pre-screening) will collect a limited number of samples for lab analysis to confirm the acceptability of the preferred test sites. The second phase (variance) will collect a full suite of discrete and multi-increment sampling (MIS) samples for laboratory analysis to generate pre-cleanup characterization data for each site. The third phase (confirmatory) will be to collect a full suite of discrete and MIS samples for verification after removal of contaminated soil from the test sites. The variance and confirmatory sampling data will be used to generate performance comparisons between the data generated using each sampling approach. Attachment 1 of this WCP identifies specific IDW management.

List Waste Site Contaminants – The contaminants identified include gamma spectroscopy isotopes, uranium (total), plutonium isotopic, total radiostrontium, metals, mercury, total cyanide, anions, semivolatiles, tributyl phosphate (TBP), polychlorinated biphenyl (PCB) congeners.

Site Description – The two waste sites are UPR-200-E-56 in the 200 East Area and 216-S-19 in the 200 West Area. Both sites are located within the United State Department of Energy, Hanford Site, Richland, WA 99352. Attachment 2 shows the location of each waste site.

Reference – *Sampling and Analysis Plan for the Washington State Department of Ecology Comparison of Discrete and Multi-Increment Sampling for Site Characterization and Cleanup* (DOE/RL-2008-50).

Rev. 0 **Date Approved:** 9/8/08

Preparer – Deanna Klages

Sign Name Deanna Klages **Date** 8/19/08

Impact Level N/A

Field Task Manager – Rich Stephenson (Fluor) R L Stephenson 8/19/08

IDW Coordinator/Environmental Compliance Officer – Deanna Klages (Fluor) Deanna Klages 8/19/08

Project Manager – Jennie Seaver (Fluor) 8/19/08

Planned Start and Finish Dates – This activity is scheduled to begin September 2008 with a completion date of January 2010.

Waste Storage Facility ID Number – N/A

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Field Screening Methods – Defined in the SAP.

Method	Frequency	Reference	Detection Range	Analyst

Laboratory Methods (Waste Site Contaminants) - Defined in the SAP.

Method	Frequency	Reference	Detection Range	Analyst

Waste Container Storage Area(s) Coordinate Location (s) – Waste generated from the activities will be stored in the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) *of 1980* Waste Container Storage Areas shown in Attachment 2.

Requirements for Soil Pile Sampling (if any) – N/A – No spoils piles will be generated.

Non-regulated Material Disposal Location(s) – An offsite Subtitle "D" landfill can be used for disposal of nonregulated miscellaneous solid waste. Nonregulated soil and liquid may be returned/disposed to the ground at or near the point of excavation.

Sketch of Work Site –The Waste Container Storage Areas (WCSA) within the scope of this WCP are included in Attachment 2.

APPROVALS (Print / Sign Name and Date)

TWF FMP

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

8/28/08
Date

John B. Price John B. Price

John Price, Project Manager
Environmental Restoration
Washington State Department of Ecology

8-27-2008
Date

ATTACHMENT 1

INVESTIGATION DERIVED WASTE MANAGEMENT

1.0 WASTE MANAGEMENT

All wastes generated from this project will be managed in accordance with this waste control plan and State and Federal regulations. An overview of the waste management strategy for the 200 Areas waste sites is presented in Appendix E of DOE/RL-98-28, *200 Areas Remedial Investigation/Feasibility Study Implementation Plan – Environmental Restoration Program*. Every effort will be used to minimize waste generated during this project.

The following sections describe how the waste generated from the investigation activities will be managed.

1.1 Waste Streams

One or all of the waste streams listed below are anticipated and may fall into any combination of the following categories: radioactive, mixed, hazardous, dangerous, suspect radioactive, suspect dangerous, suspect mixed, and nonregulated:

- Miscellaneous solid waste that has contacted potentially contaminated materials (e.g., soils, rubber, glass, paper, personal protective equipment, cloth, plastic, metal, wood)
- Decontamination fluids
- Equipment and construction materials (e.g., drift fences, pitfall traps, wood, related materials and sampling equipment)
- Nondangerous/nonradioactive solid waste (e.g., paper, wood, construction debris, metal, plastic, glass).

1.2 Designation

Waste will be designated in accordance with Washington Administrative Code (WAC) 173-303 using a combination of process knowledge, historical analytical data, and analyses of samples required by DOE/RL-2008-50, Rev. 0, *Sampling and Analysis Plan for the Washington State Department of Ecology Comparison of Discrete and Multi-Increment Sampling for Site Characterization and Cleanup*, as appropriate.

1.3 Management of Specific Waste Streams

Wastes will be stored at the appropriate Waste Container Storage Area (WCSA) located near each waste site as shown in Attachment 2.

The following subsections provide details on the types and management of expected wastes.

1.3.1 Miscellaneous Solid Waste

Miscellaneous solid waste that has contacted potentially contaminated materials will be segregated from other materials and will be disposed of based on the waste designation. Miscellaneous solid waste will be placed in plastic bags, taped closed, marked to indicate the associated borehole or test pit footage interval, and placed in container(s) specific to each potential contaminated area. Contaminated materials or materials that have contacted contaminated media may be disposed to the Environmental Restoration Disposal Facility (ERDF) if the acceptance criteria can be met, or to another offsite approved facility or Hanford Site Facility, if the ERDF criteria cannot be met. Waste may also be shipped to the Central Waste Complex (CWC) for storage pending final disposition. An offsite determination will be required for any waste that is not sent to the ERDF for storage or disposal with the exception of solid waste that is non-hazardous and radiologically released or waste that has not contacted potentially contaminated materials. This type of solid waste may be disposed off the Hanford Site to a solid waste landfill, or recycled as appropriate without an offsite determination.

1.3.2 Decontamination Fluids

Decontamination of specialized equipment may be necessary or warranted to enable reuse or redeployment. If decontamination is performed, the resulting waste stream will consist of decontamination fluids and miscellaneous solid waste.

Decontamination fluids (water and/or non-hazardous cleaning solutions) generated from cleaning equipment and tools in the waste sites will be containerized and transported to the Effluent Treatment Facility (ETF) (provided the ETF acceptance criteria can be met), or another facility as authorized by the lead regulatory agency. Small volumes of decontamination fluids may be stabilized to eliminate free liquids and then disposed to ERDF provided the solid waste acceptance criteria can be met.

1.3.3 Equipment and Construction Materials

Equipment and construction materials in contact with suspect dangerous and suspect mixed waste will be decontaminated with either a three-bucket wash or a high-pressure wash (>1000 lbf/in^2) within a wash basin capable of retaining rinsate or will be treated as miscellaneous solid waste. All water used for decontamination activities shall be potable (i.e., Hanford Site potable water or City of Richland water). Rinsate shall be managed as described in Section 1.3.2. Sampling equipment shall be cleaned and decontaminated for chemical contamination after radiological release by a radiological control technician as needed. If contamination is determined to be fixed for any equipment or materials, the radiological control technician, environmental compliance officer, and task manager will make the decision to remove the contamination using more aggressive methods or to dispose of the equipment. If equipment is to be disposed of, a declaration of excess form will be required only if the equipment has a Hanford Site identification number. If necessary, equipment and construction materials can be containerized, or for larger materials, packaged on a pallet, and stored at the designated site-specific WCSA.

1.3.4 Nondangerous/Nonradioactive Solid Waste

All nondangerous/nonradioactive solid waste will be radiologically released and may be disposed to an offsite solid waste landfill. This waste will not have contacted any suspect dangerous or mixed waste and will be free of any liquids. Items in this category include paper, wood, construction debris, metals, plastic, glass, etc. A radiological release certification form should be attached and visible from outside the trash bag. If necessary, nondangerous/nonradioactive solid waste can be containerized, segregated, and stored at the designated site-specific WCSA. If the waste does not meet the release criteria and can

not be radiologically released, the materials will then be disposed to the ERDF as suspect environmentally controlled material.

1.4 Management of Waste Containers

The containers will be stored inside the applicable site-specific WCSA. The WCSAs are shown in Attachment 2, but may be relocated within or adjacent to the identified waste site to accommodate changes in the investigation field operations. If a WCSA is relocated, the lead regulatory agency will be notified before the change and relocation of the WCSA. Signs will be posted identifying the WCSAs. All containers of IDW will be managed in accordance with the applicable substantive Federal and/or state requirements including labels that define the known major risks, dangerous waste codes, and if awaiting analysis, wording that state "waste pending analysis" with the date of initial sampling. Containers will also be labeled "Investigation Derived Waste" as applicable. Weekly inspections will be performed to document the integrity, container marking/labeling, physical container placement, storage area boundaries/identification/warning signs, and spill control. Containers showing signs of deterioration will be identified on the container inspection form and immediately overpacked or repackaged. Spills or releases will be reported as stated in Section 1.7. In the event of a spill or release, appropriate immediate action will be taken to protect human health and the environment.

1.5 Final Disposal/Storage

All IDW will be stored in the appropriate site-specific WCSA until the waste samples are returned and the proper waste shipping papers are completed. Much of the IDW is generated in small quantities on an ongoing basis. The IDW waste may be stored for up to 6 months after analyses are completed. Any waste generated after analyses are completed may be stored for up to 6 months from the date of waste generation. An extension is required from the lead regulatory agency for storage beyond 6 months.

The process to develop proper waste shipping papers includes, at a minimum, the following activities: receipt of analytical results, designation, profiling, and proper disposal paperwork. The designation process ensures that the waste will be profiled for the proper disposal facility. Waste profiling provides information concerning each waste stream. The designation and profile are conducted in accordance with dangerous waste regulation requirements (WAC 173-303-070, "Designation of Dangerous Waste," through 173-303-100). Dangerous waste will be evaluated for applicable land disposal restrictions in accordance with WAC 173-303-140, "Land Disposal Restrictions."

The IDW that does not meet the ERDF waste acceptance criteria will remain at the designated site-specific WCSA pending disposal at an appropriate location. A case-by-case disposal determination will be made in instances where IDW exceeds the ERDF waste acceptance criteria. Any IDW requiring treatment before disposal requires approval by the lead regulatory agency.

Waste above radiological release levels that meets the ERDF waste acceptance criteria will be transported to the ERDF for disposal (ERDF is an "onsite" approved waste disposal facility). Nonradiologically contaminated dangerous waste may be shipped onsite 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 U.S. Environmental Protection Agency.

Soils determined to (1) have a low risk of being radiologically contaminated, (2) have been field surveyed to verify they contain no detectable radioactivity above background, (3) are not a dangerous waste based on process knowledge and available data, and (4) contain no hazardous constituents above the WAC 173-340 MTCA Method B soil cleanup standards, may be returned to the environment near their

point of origin, after the requisite project approvals (the project approvals include the Project Task Lead, the RadCon Manager or delegate, the Waste Management Lead or delegate, and the project Environmental Compliance Officer) have been obtained.

After representative samples are analyzed and the material is characterized/designated, the proper disposal facility will be selected. Miscellaneous solid waste identified as nondangerous/nonradioactive solid waste that does not require disposal at ERDF and meets the Hanford Site free-release criteria may be disposed of in an appropriate solid waste disposal facility (Subtitle "D" landfill).

1.6 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(s) and to initiate waste tracking in the *Solid Waste Information Tracking System*, as applicable. The completed waste files will be included in the project file following final waste disposition.

1.7 Reporting Requirements for Nonroutine Releases

The following reporting requirements apply for hazardous substances that could be released during the sampling and field analysis activities. For Federal Hazardous Substances:

- 40 CFR 302 requires immediate notification to the National Response Center on discovery of a release of a hazardous substance into the environment in excess of a reportable quantity.

- 40 CFR 355 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.

- Spills and discharges of dangerous waste and hazardous substances into the environment will be handled in accordance with WAC 173-303-145.

ATTACHMENT 2

WASTE CONTAINER STORAGE AREAS

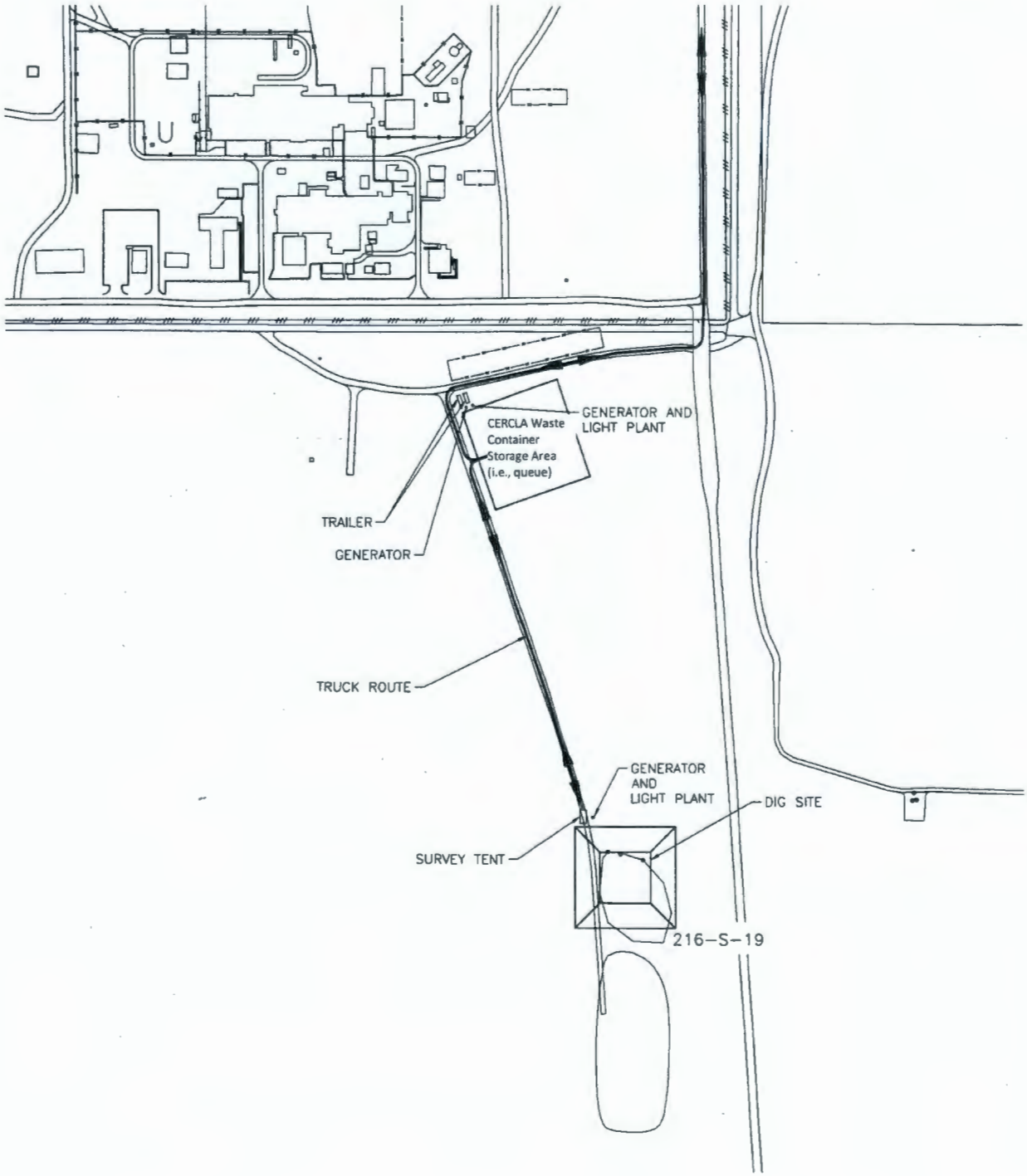

Figure 1. 216-S-19 Waste Site.

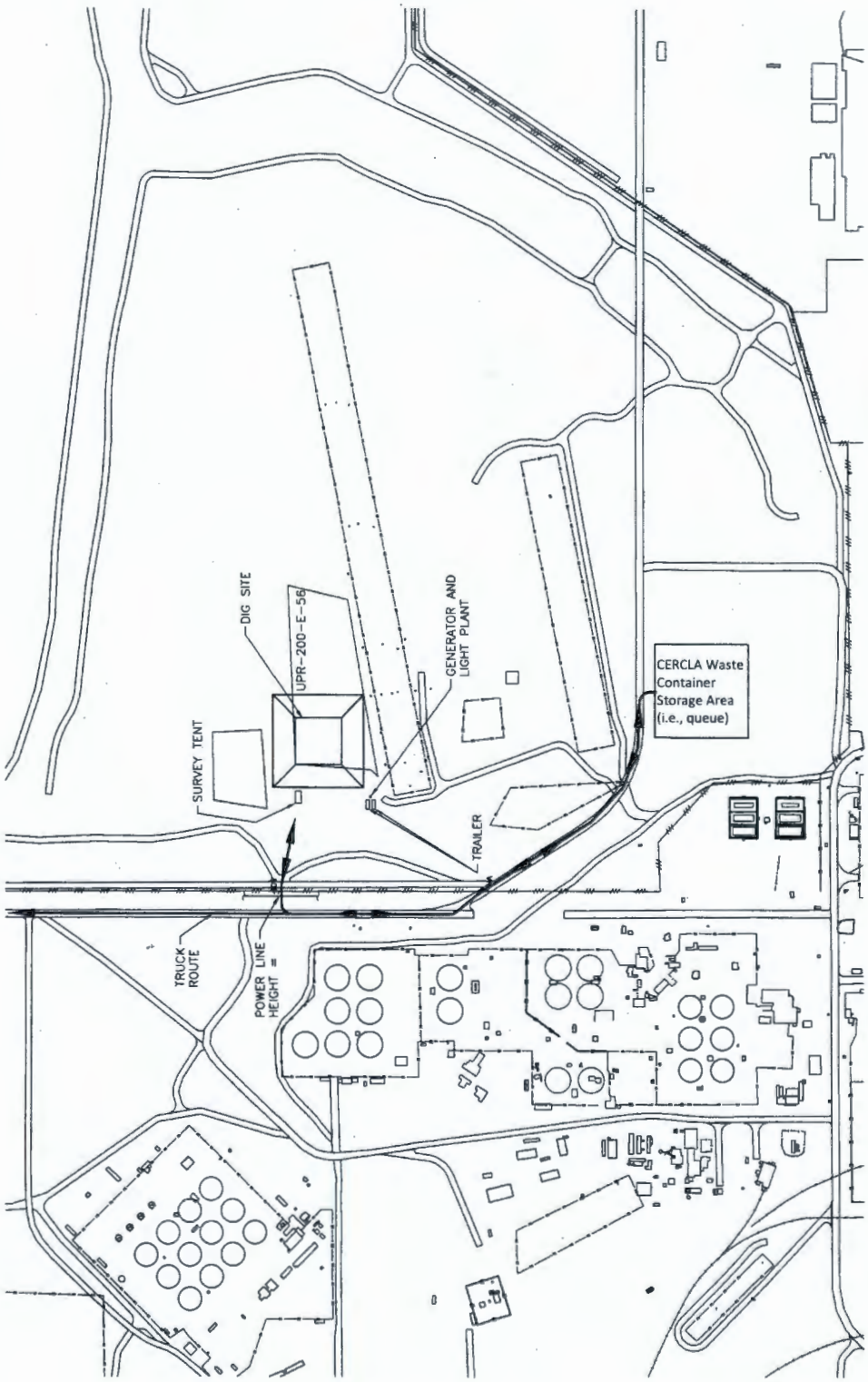

Figure 2. UPR-200-E-56 Waste Site.