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Revision 2

Waste Control Plan for the Video Monitoring and Sampling of the 241-U-361 Settling Tank within the 200-UW-1 Operable Unit

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

United States
Department of Energy
P.O. Box 550
Richland, Washington 99352

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CONTENTS

ATTACHMENTS

TERMS

ALARA	as low as reasonably achievable
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR	Code of Federal Regulations
COC	contaminants of concern
COPC	contaminant of potential concern
CWC	Central Waste Complex
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DOT	U.S. Department of Transportation
ERDF	Environmental Restoration Disposal Facility
ETF	200 Area Effluent Treatment Facility
HASP	health and safety plan
HVU	HEPA vacuum
IDW	investigation derived waste
LIGO	Laser Interferometer Gravitational Wave Observatory
MEI	maximally exposed individual
N/A	not applicable
PPE	personal protective equipment
PTE	potential-to-emit
RAWP	removal action work plan
RCW	Revised Code of Washington
RWP	radiological work permit
SAP	sampling and analysis plan
WAC	Washington Administrative Code
WCP	waste control plan
WIDS	Waste Identification Data System

WASTE CONTROL PLAN (Phase I)	Page 1 of 4

Work Scope Description Phase I – This Waste Control Plan (WCP) applies to the management of investigation derived waste (IDW) generated from the video monitoring of the 241-U-361 Settling Tank located within the 200-UW-1 Operable Unit, and equipment decontamination for the 241-U-361 Settling Tank investigations, as appropriate. The scope of work for the 241-U-361 Settling Tank Phase I activities include data collection for tank headspace vapors and radiological dose rates to ensure that health and safety requirements are met before the tank contents are sampled in Phase II, and inspection of the tank interior (to aid in determining integrity); and inspection of tank contents to verify process knowledge [e.g., depth to sludge, sludge thickness, and presence of supernate (i.e., liquid)] through the use of video monitoring.

Attachment 1 of this WCP identifies specific IDW management.

List Contaminants of Concern (COCs) – The COCs identified for the 200-UW-1 Operable Unit include Cesium-137, Technetium-99, Nitrogen as Nitrate and Nitrite, and Uranium metal. The Contaminants of Potential Concern (COPCs) also include 1,4-Dichlorobenzene, 2-Butanone, 2-Chlorophenol, Acenaphthene, Acetone, Arsenic, Asbestos, Barium, Benzoic acid, Bis (2-ethylhexyl) phthalate, Bromomethane, Cadmium, Carbon disulfide, Chloride, Chloromethane, Copper, Di-n-butylphthalate, Fluoride, Hexane, Hexavalent chromium, Lead, Mercury, Methylene chloride, Nickel, Normal paraffin hydrocarbon, Pentachlorophenol, Pyrene, Selenium, Silver, Strontium (metal), Sulfate, Tetrachloroethene, Total petroleum hydrocarbons, Toluene, Tributyl phosphate, PCBs, Americium-241, Cobalt-60, Europium-154, Europium-155, Neptunium-237, Plutonium-238, Plutonium -239/240, Strontium-90, Uranium-233/234, Uranium-235, Uraunium-238.

Site Description – 241-U-361 Settling Tank, 200-UW-1 Operable Unit, United States Department of Energy, Hanford Site, Richland, WA, 99352

Reference – *Focused Feasibility Study for the 200-UW-1 Operable Unit*, DOE/RL-2003-23
Rev. 0 **Date Approved:** 2005

Reference – *Reissued Proposed Plan for the 200-UW-1 Operable Unit*, DOE/RL-2003-24
Rev. 0 **Date Approved:** Reissued, 2005

Preparer – Deanna Klages (Fluor)

Sign Name Deanna L. Klages **Date** 11/21/06

Field Task Manager –Mike Stevens (Fluor)
IDW Coordinator/Environmental Compliance Officer – Deanna Klages (Fluor)
Project Manager –Debbie Johnson (Fluor)

Planned Start and Finish Dates – This activity is scheduled to begin November 2006 and a completion date of February 2007.

Waste Storage Facility ID Number – N/A

Field Screening Methods -- Not Applicable for Phase I

Laboratory Methods (COCs and COPCs) - Not Applicable for Phase I

WASTE CONTROL PLAN (Phase I)	Page 2 of 4

Waste Container Storage Area(s) Coordinate Location (s) – Waste generated from the Phase I activities will be stored in the 200-UW-1 Operable Unit *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) *of 1980* CERCLA Waste Management Area shown in Attachment 2.

Requirements for Soil Pile Sampling (if any) – Not Applicable.

Non-regulated Material Disposal Location(s) – Waste generated from the Phase I activities that are not radiologically contaminated and not a hazardous waste may be disposed of to a Subtitle 'D' landfill contractually obligated to receive Hanford Site waste or an onsite demolition landfill as appropriate.

Sketch of Work Site –The area within the Phase I scope of this WCP is included in Attachment 3.

APPROVALS (Print / Sign Name and Date)

Deanna Klages — 11/21/06
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IDW Coordinator/Environmental Compliance Officer

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Matt McCormick, Assistant Manager
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Richland Operations Office
Date

11/22/06
Cheryl Whalen, Environmental Restoration Section Manager
Washington State Department of Ecology
Date

WASTE CONTROL PLAN (Phase II)	Page 3 of 4

Work Scope Description Phase II– This Waste Control Plan (WCP) applies to the management of investigation derived waste (IDW) generated from the sampling and analysis of the 241-U-361 Settling Tank located within the 200-UW-1 Operable Unit, and equipment decontamination for the 241-U-361 Settling Tank investigations, as appropriate. The scope of work for the 241-U-361 Settling Tank is further described in the *Sampling and Analysis Plan for the 241-U-361 Settling Tank* (SAP) DOE/RL-2006-34. Analysis of the tank contents will support waste designation and disposition. Attachment 1 of this WCP identifies specific IDW management.

List Contaminants of Concern (COCs) – The COCs identified for the 200-UW-1 Operable Unit include Cesium-137, Technetium-99, Nitrogen as Nitrate and Nitrite, and Uranium metal. The SAP includes a table listing all of the Contaminants of Potential Concern (COPCs), which will also be analyzed for. In addition, other parameters may be measured in the tank to provide information necessary to evaluate future disposition options.

Site Description – 241-U-361 Settling Tank, 200-UW-1 Operable Unit, United States Department of Energy, Hanford Site, Richland, WA, 99352

Reference – *Sampling and Analysis Plan for the 241-U-361 Settling Tank*, DOE/RL-2006-34.
Rev. 0 **Date Approved:**

Preparer – Deanna Klages (Fluor)

Sign Name Originally Signed by D Klages **Date** 01/25/07

Field Task Manager –Mike Stevens (Fluor)
IDW Coordinator/Environmental Compliance Officer – Deanna Klages (Fluor)
Project Manager –Debbie Johnson (Fluor)

Planned Start and Finish Dates – This activity is scheduled to begin January 2007 and a completion date of September 2007.

Waste Storage Facility ID Number – N/A

Field Screening Methods – Defined in the SAP.

Method	Frequency	Reference	Detection Range	Analyst

Laboratory Methods (COCs and COPCs) - Defined in the SAP.

Method	Frequency	Reference	Detection Range	Analyst

WASTE CONTROL PLAN (Phase II)	Page 4 of 4

Waste Container Storage Area(s) Coordinate Location (s) – Waste generated from the Phase II activities will be stored in the 200-UW-1 Operable Unit *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) *of 1980* CERCLA Waste Management Area shown in Attachment 2.

Requirements for Soil Pile Sampling (if any) – Not Applicable.

Non-regulated Material Disposal Location(s) – Waste generated from the Phase II activities that are not radiologically contaminated and not a hazardous waste may be disposed of to a Subtitle 'D' landfill contractually obligated to receive Hanford Site waste or an onsite demolition landfill as appropriate.

Sketch of Work Site –The area within the Phase II scope of this WCP is included in Attachment 3.

APPROVALS (Print / Sign Name and Date)

Deanna Kluges for JE Hyatt — Date: 25 January 07
IDW Coordinator/Environmental Compliance Officer

Mike Stevens — Date: 1/25/07
Field Task Manager

Debbie Johnson — Date: 1/25/07
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Matt McCormick, Assistant Manager — Date: 2/12/07
U.S. Department of Energy
Richland Operations Office

Cheryl Whalen, Environmental Restoration Section Manager — Date: 4/2/07
Washington State Department of Ecology

ATTACHMENT 1

INVESTIGATION DERIVED WASTE (IDW) MANAGEMENT

1.0 WASTE MANAGEMENT

The following sections describe how the waste generated from the Phase I and Phase II activities will be managed.

Phase I activities include data collection for tank headspace vapors and radiological dose rates to ensure that health and safety requirements are met before the tank contents are sampled in Phase II, and inspection of the tank interior (to aid in determining integrity); and inspection of tank contents to verify process knowledge [e.g., depth to sludge, sludge thickness, and presence of supernate (i.e., liquid)] through the use of video monitoring.

Phase II activities involve waste designation sampling for data collection of waste materials (i.e., settling tank sludge and liquid) to ensure compliance with the receiving facilities' waste acceptance criteria.

1.1 Waste Streams

Expected waste streams from Phase I activities may include:

- Miscellaneous solid waste such as filters, wipes, gloves and other personal protective equipment, cloth, sampling and measuring equipment, pumps, hoses, pipe, wire, plastic sheeting, tools, paper, metal, glass, etc.
- Decontamination fluids
- Soil from uncovering the tank riser
- Equipment (e.g., video monitoring equipment).

Expected waste streams from Phase II activities may include:

- Miscellaneous solid waste such as filters, wipes, gloves and other personal protective equipment, cloth, sampling and measuring equipment, pumps, hoses, pipe, wire, plastic sheeting, tools, paper, metal, glass, etc.
- Decontamination fluids
- Liquid or solid waste generated during sampling and analysis
- Equipment (e.g., sampling equipment).

1.2 Designation

Waste from both phases 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-2006-34, Rev. 0, *Sampling and Analysis Plan for the 241-U-361 Settling Tank*, as appropriate.

1.3 Management of Specific Waste Streams

All subsections within this Management of Specific Waste Streams section apply to both Phases I and II, with the exception of subsection 1.3.3, Sample Analysis Waste, which is only applicable to Phase II activities.

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. 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 operable unit 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 Sample Analysis Wastes

Sample wastes will be disposed to ETF, ERDF, or other appropriate facility as authorized by the lead regulatory agency depending on the waste designation. Some liquids may be neutralized and/or stabilized to meet disposal facility waste acceptance criteria following a Waste Treatment Plan, as needed.

1.4 Packaging, Marking and Labeling

Materials requiring collection will generally be placed in drums. However, packaging for large or irregular shaped IDW (e.g., sampling equipment) may include containment other than drums. The packaging shall provide insurance against migration of contaminants and protection from environmental degradation. The packaging may include, but is not limited to, plastic wrap or a Standard Waste Box.

Low-volume miscellaneous materials associated with activities such as video monitoring, sampling, and tank volume measurements may be bagged, taped and labeled with the 241-U-361 Settling Tank number.

The bagged material will be transported in a protective manner (i.e., containment of the material is maintained) while proceeding to the waste storage area within the 200-UW-1 Operable Unit. Upon arrival at the storage location, the materials will be placed in an accumulation container and managed as waste.

All containers of IDW will be managed in accordance with the applicable federal and/or state requirements as established in 40 CFR 264, subpart I, WAC 173-303-160 and 630. Containers of IDW will be marked and/or labeled with the known major risks, dangerous waste codes as applicable, and if awaiting analysis, wording which states, "waste pending analysis" with the initial date of sampling.

Packaging, marking, and labeling for transportation will be in accordance with U.S. Department of Transportation (DOT) 49 Code of Federal Regulations (CFR) requirements, as appropriate. With appropriate documentation (such as safety analysis report for packaging or risk-based exemption), packaging exceptions to DOT requirements that provide an equivalent degree of safety during transportation may be used for waste shipments. Coordination and preparation of these documents will be approved by the U.S. Department of Energy, Richland Operations Office (DOE-RL).

1.5 Storage and Transportation

Waste will be stored in the CERCLA Waste Management Area (identified in Attachment 2) within the CERCLA Response Area boundary, which includes the entire area shown in Attachment 2, until analytical data are evaluated for proper waste designation. Record all waste generated in a logbook, including such details as the location and type of waste, depth of sample (if applicable), date of initial placement into the container, date container was closed and Package Identification Number (PIN). Some waste (e.g., field decontamination fluids) may be temporarily (generally less than 2 weeks after generation) accumulated near the point of generation at the 241-U-361 Settling Tank area, then staged at the waste storage location. Waste will be transported in accordance with WAC 173-303 and DOT requirements as appropriate.

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. An extension is required for storage beyond 6 months.

1.6 Container Management

Weekly inspections will be performed to document integrity of the containers, marking and labeling of containers, physical container placement, storage area, boundaries/identification/warning signs and spill control.

2.0 STANDARDS CONTROLLING RELEASES TO THE ENVIRONMENT

All sections within this chapter apply to both Phases I and II combined since the potential-to-emit calculations and the toxic air pollutants evaluation must be conducted for the entire project. In addition, the reporting of nonroutine releases is applicable to both phases.

2.1 Air Emissions

The Federal *Clean Air Act of 1990* and Amendments (42 United States Code 7401 et seq.), and the Washington Clean Air Act [Revised Code of Washington (RCW) 70.94] require regulation of air pollutants. Under federal implementing regulations, the 40 CFR 61, Subpart H requires that radionuclide airborne emissions from the facility shall be controlled so as not to exceed amounts that would cause an exposure to any member of the public of greater than 10 millirem per year effective dose equivalent. The same regulation addresses point sources (i.e., stacks or vents) emitting radioactive airborne emissions, requiring monitoring of such sources with a major potential for radioactive airborne emissions, and requiring periodic confirmatory measurement sufficient to verify low emissions from such sources with a minor potential for emissions. Under state implementing regulations, the federal regulations are paralleled by adoption, and in addition require added control of radioactive airborne emissions where economically and technologically feasible [WAC 246-247-040(3) and –040(4) and associated definitions].

In order to address the substantive aspect of these requirements, best or reasonable control technology will be addressed by ensuring that applicable emission control technologies (those reasonably operated in similar applications, e.g., HEPA filtration) will be utilized when economically and technologically feasible (i.e., based upon cost/benefit). Additionally, the substantive aspect of the requirements for monitoring of fugitive or non-point sources emitting radioactive airborne emissions [WAC 246-247-075(8)] will be addressed by sampling the effluent streams and/or ambient air as appropriate using reasonable and effective methods.

2.1.1 Airborne Source Information (Non-Rad)

The constituents of Table 1 were compared against those listed in WAC 173-460-150 Class A and WAC 173-460-160 Class B toxic air pollutants. Nickel, Na_2SO_4, NaOH (assumed), Mn, and U are identified TAPs. One constituent, nickel, exceeds the ASIL quantity for Class A. Four constituents exceed the ASIL for Class B as follows: Na_2SO_4, NaOH (assumed), Mn, and U. However, it would require over 1100 vapor space exchanges over a year's time to exceed the SQER limits. This operation will take less than 40 hours and will exchange less than one volume of vapor space, 65 cubic meters, therefore the maximum incremental ambient air impact levels of the 241-U-361 Settling Tank contents will not exceed the SQERS and there is no adverse impact from this activity to the environment from toxic air pollutants.

Table 1. Analysis of 241-U-361 Settling Tank Sludge.

Bulk Density	1.49 g/cc
Particle Density	5.97 g/cc
H_2O	65.6%
Al_2O_3	2.4%
Na_2CO_3	<1.0%
FeOH	2.9%
$NaNO_2$	<1.0%
$NaNO_3$	27.2%
Mg	0.06%
Mn	0.6%
Na_2SO_4	1.3%

Table 1. Analysis of 241-U-361 Settling Tank Sludge.

Na_3PO_4	<1.0%	
Ni	0.5%	
SiO_2	0.3%	
Na	4.4%	
U	0.133 µCi/gm	(Assume U-234)
Pu	9.97E-7 µCi/gm	(Assume Pu-239/240)
$^{89+90}Sr$	4.9 µCi/gm	
^{137}Cs	8.8 µCi/gm	

From *Summary of Radioactive Underground Tanks Managed by Hanford Restoration Operations*, Page 17 (WHC-SD-DD-TI-057).

2.1.2 Airborne Source Information (Rad)

The total potential fugitive emissions were calculated for the sampling activities identified as shown in Table 2.

There is a potential for particulate radioactive airborne emissions to result from the video/sampling activities. The primary radionuclides detected within the site, at this time, are U-234, Cs-137, Pu-239/240, and Sr-90. The tank is an underground tank (Figure 1) and entry into the tank will be via a riser which penetrates the tank 2 m (6 ft) below grade.

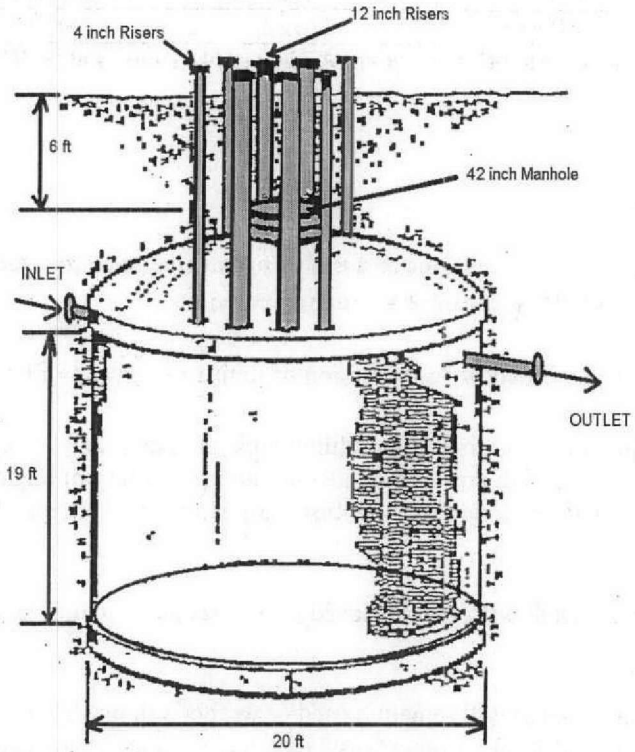

Figure 1. 241-U-361 Settling Tank.

The distance to the Laser Interferometer Gravitational Wave Observatory (LIGO) receptor is 18,310 meters East-Southeast of the 200 West Area. This location represents the nearest unrestricted public access and therefore the Maximally Exposed Individual (MEI) for purposes of assessing potential public exposure due to airborne releases. The total unabated and abated potential-to-emit (PTE) to the receptor from the video and sampling activities radioactive airborne emissions could result in up to 2.4E-03 mrem/yr effective dose equivalent to the MEI (HNF-3602).

Table 2. 241-U-361 Settling Tank Potential to Emit Calculations.

Isotopes	Waste Concentration Ci/gm*	Curies released	Dose Factor mrem/Ci**	Unabated Onsite Dose mrem/yr TEDE to MEI
Cs-137	8.80E-06	6.23E-03	0.31	1.93E-03
Sr-90	4.90E-06	3.47E-03	1.10E-02	3.81E-05
U-234	1.33E-07	9.41E-05	4.2	3.95E-04
Pu-239/340	9.97E-13	7.05E-10	1.10E+01	7.76E-09
Total		9.79E-03		2.36E-03
Bulk Density (g/L)	Volume (L)	Time Weighted Fraction at (40 hours/year)	Release Fraction	
1.49E+03	1.04E+05	4.57E-03	1.00E-03	

* Information from Waste Identification Data System (WIDS) site 241-U-361 and WHC-SD-DD-TI-057, Rev 0.
** HNF-3602, latest revision

2.1.3 Emission Controls

Based on analysis of the potential emissions and analysis of available control technologies, the following controls have been selected for use during the sampling activities.

- Water will be applied, as needed, for suppression of fugitive emissions and dust.
- Fixatives will be applied to soil around the settling tank and equipment, as needed, to minimize airborne dust and contamination during the video monitoring and sampling activities. Fixative application techniques may include spraying, brushing on, pouring or some other method, as necessary.
- The 241-U-361 Settling Tank will remain closed or covered, except during video monitoring and sampling activities.
- Any waste packages generated will remain closed or wrapped in plastic and taped closed, except during packaging and inspection, or other waste management activities, such as sampling.
- High-efficiency particulate air (HEPA) vacuum (HVU) cleaners and portable exhausters may be used to support the sampling activities, and will be equipped with HEPA filters. Emissions will be estimated prior to use of either the HVU or the exhausters to ensure the associated PTE from each

will be less than 0.05 mrem/yr. A smear sample of the exhaust port for either the vacuum cleaners and/or portable exhausters will be surveyed at the end of each shift, if used.

- Temporary contamination control structures may be utilized with or without a portable HEPA-filtered exhauster(s) during some portion of the sampling activities, as needed.

2.1.4 Monitoring and Reporting of Emissions

The calculated unabated annual dose combined for all related activities including HVU and exhausters during the video monitoring and sampling activities is below 0.1 mrem/year; therefore, this activity is not subject to continuous emissions monitoring as required by 40 CFR 61.93. Periodic confirmatory measurement will be provided, however, as required by 40 CFR 61.93. Alternative monitoring techniques have been considered and near-facility monitors are sufficient to meet the periodic confirmatory measurement requirement. HVU and exhauster emissions will not be monitored but will rely on calculated values.

Near-Facility Monitoring Stations N168, N550, N956 and N963 (Attachment 2) will be utilized for the fugitive/diffuse emissions from sampling activities. The Hanford Site protocol established for near-facility monitors will be followed for data collection, sampling frequencies, sample analysis, and data reporting (*Environmental Monitoring Plan*, DOE/RL-91-50, or latest revision).

Air monitor downtime will be minimized and all four designated air monitors shall be operated, as required. However, if a downwind designated air monitor suffers an unplanned outage for more than 48 hours during normal work operations (excluding weekends and holidays, and/or when work activities are not being conducted), where there is a potential for radiological emissions, the U.S. Department of Energy (DOE) and Washington State Department of Ecology (Ecology) will be notified. If two or more downwind designated air monitors suffer an unplanned outage during normal work operations, activities where there is a potential for disrupting radioactive contamination shall be temporarily suspended until operation of at least two downwind designated air monitors are restored or backup equipment is deployed and operational.

2.2 Reporting Requirements for Nonroutine Releases

The following reporting requirements apply for hazardous substances that could be released during the video and sampling 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.

3.0 QUALITY ASSURANCE REQUIREMENTS

Overall quality assurance for the Phase II sampling and analysis activity will be planned and implemented in accordance with 10 CFR 830, Subpart A, *Quality Assurance Requirements*, *EPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5) and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA/SW-846). 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 SAP (DOE/RL-2006-34) also contains a quality assurance project plan, which will be used to support the sampling and analysis activities. Other specific activities will include quality assurance implementation, responsibilities and authority, document control, quality assurance records, and audits. These activities are discussed in the SAP.

4.0 HEALTH AND SAFETY PROGRAM

The contractor's Safety and Health Program, for both the Phase I and Phase II activities, was developed for employees involved in hazardous waste site activities. The program was developed to comply with the requirements of 29 CFR 1910.120 and 10 CFR 835 to ensure the safety and health of workers during hazardous waste operations.

4.1 Health and Safety Plan and Activity Hazards Analysis

A health and safety plan (HASP) (*Health and Safety Plan to Support Activities for the 241-U-361 Settling Tank Project*, D&D-31581), which includes both the Phase I and Phase II activities has been prepared, and 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 HASP addresses the health and safety hazards of each phase of site operation and includes the requirements for hazardous waste operations and/or construction activities, 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 HASP. The elements included in the HASP are as follows:

- General overview of the 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 HASP, 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 3.5.3) to the specific work site or operation. All personnel assigned to the project and all work site visitors strictly must adhere to the provisions identified in the HASP 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.

4.2 Radiological Controls and Protection

The radiological controls and protection program, applicable to both Phase I and Phase II activities, 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 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 standard contractor's controls for work in radiological areas are assessed as adequate to control project activities. These controls will provide for radiological controls 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 (including local ventilation controls), radiation monitoring requirements, and other radiation control requirements for the individual tasks conducted during the projects.

Measures also will be taken to minimize the possibility of releases to the environment and radiological worker exposure will also be monitored using approved occupational radiological protection methods.

5.0 REFERENCES

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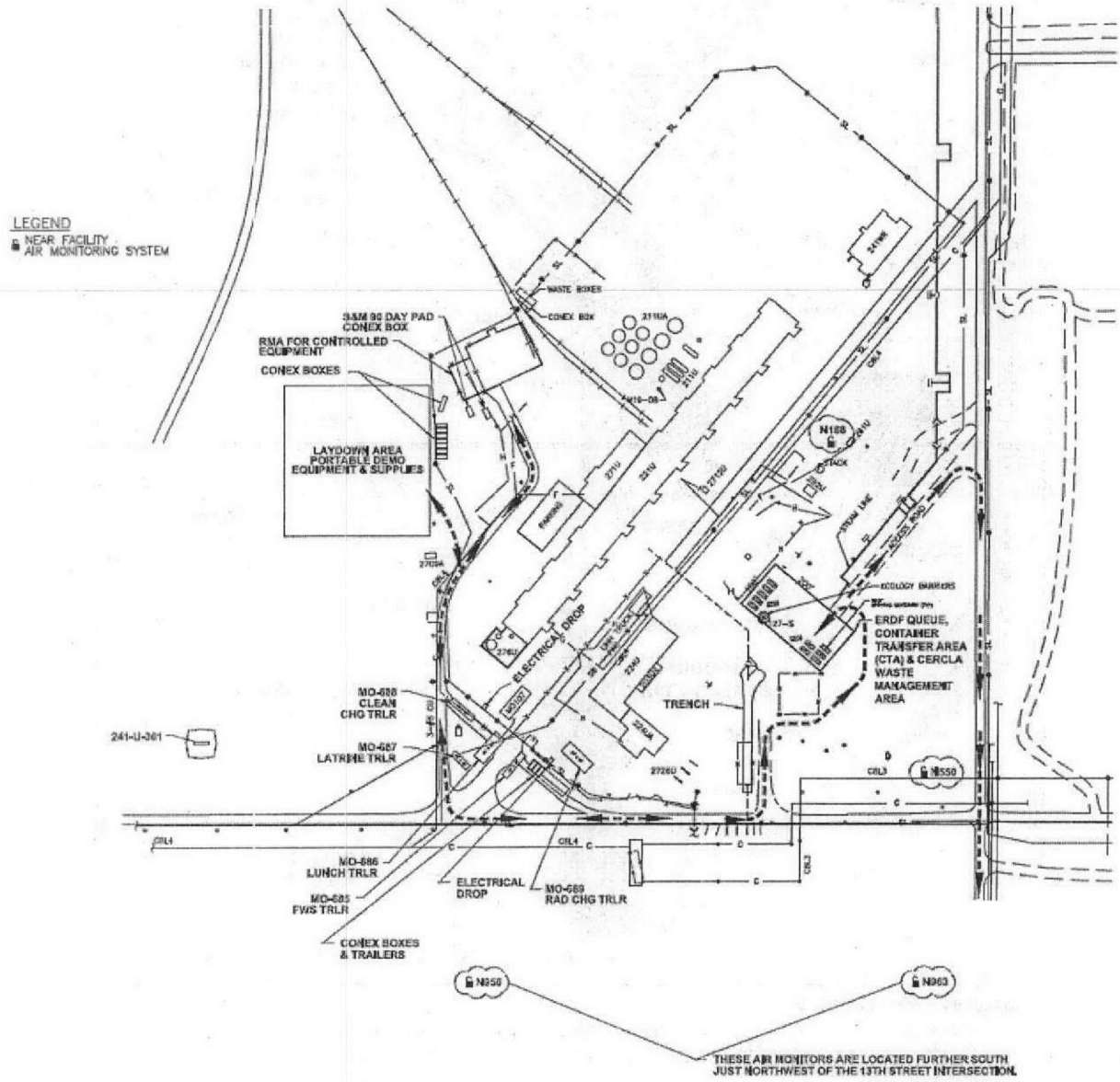
WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington.

WHC-SD-DD-TI-057, *Summary of Radioactive Underground Tanks Managed by Hanford Restoration Operations*, Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 2

WASTE CONTAINER STORAGE AND NEAR-FACILITY MONITORS



ATTACHMENT 3

LOCATION OF THE 241-U-361 SETTLING TANK