U.S. Department of Energy
Hanford Site

Aug 31, 2021

21-SGD-002729

Dr. Laura Buelow, Project Manager
Superfund and Emergency Management Division
Site Cleanup Section 4
U.S. Environmental Protection Agency
825 Jadwin Avenue, Suite 210
Richland, Washington 99352

Dear Dr. Buelow:

INTERIM ACTION WASTE MANAGEMENT PLAN FOR THE 100-KR-4 OPERABLE UNIT, DOE/RL-97-01, REVISION 7

This letter transmits the Interim Action Waste Management Plan for the 100-KR-4 Operable Unit, DOE/RL-97-01, Revision 7 to the U.S. Environmental Protection Agency for information.

If you have any questions, please contact me, or your staff may contact Ellwood Glossbrenner, Project Lead, Soil and Groundwater Division, on (509) 376-5828.

Sincerely,

MICHAEL CLINE Digitally signed by MICHAEL CLINE
Date: 2021.08.31 08:30:55 -07'00'

Michael W. Cline, Director
Soil and Groundwater Division

SGD:MWC

Attachment:
DOE/RL-97-01, Rev. 7

cc: See page 2

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Administrative Record (100-KR-4)
Environmental Portal

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Attachment 1
21-SGD-002729

Interim Action Waste Management Plan for the 100-KR-4 Operable Unit

DOE/RL-97-01, Rev. 7

28 pages including cover page

DOE/RL-97-01
Revision 7

Interim Action Waste Management Plan for the 100-KR-4 Operable Unit

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

P.O. Box 550
Richland, Washington 99352

Approved for Public Release;
Further Dissemination Unlimited

DOE/RL-97-01
Revision 7

Interim Action Waste Management Plan for the 100-KR-4 Operable Unit

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

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APPROVED
By Julia Raymer at 9:13 am, Aug 17, 2021

Release Approval | Date

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Signature Sheet

Title: *Interim Action Waste Management Plan for the 100-KR-4 Operable Unit*

Michael W. Cline — Digitally signed by Michael W. Cline Date: 2021.08.18 07:36:32 -07'00'

Print Name	Signature	Date

U.S. Department of Energy,
Richland Operations Office

Buelow, Laura — Digitally signed by Buelow, Laura Date: 2021.08.18 07:47:26 -07'00'

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U.S. Environmental Protection Agency

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Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
MSU	modular storage unit
OU	operable unit
P&T	pump and treat
RCRA	*Resource Conservation and Recovery Act of 1976*
RCT	radiological control technician
ROD	record of decision
TPA	Tri-Party Agreement
TPA-CN	Tri-Party Agreement Change Notice
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
UPR	unplanned release

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1 Purpose

This interim action waste management plan establishes the requirements for management and disposal of waste associated with interim actions in the 100-KR-4 Groundwater Operable Unit (OU). Previously, waste management requirements were established in DOE/RL-97-01, Rev. 6, *Interim Action Waste Management Plan for the 100-HR-3 and 100-KR-4 Operable Units.* In 2018, however, a record of decision (ROD) (EPA et al., 2018, *Record of Decision Hanford 100 Area Superfund Site 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units*) was finalized for the 100-HR-3 OU. As such, any waste generated in support of the 100-HR-3 OU will be covered by DOE/RL-2017-13, *Remedial Design/Remedial Action Work Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units.* Interim actions at the 100-KR-4 OU are being implemented as described in the following interim action ROD and explanations of significant differences:

- EPA/ROD/R10-96/134, *Record of Decision for the 100-HR-3 and 100-KR-4 Operable Units Interim Remedial Actions, Hanford Site, Benton County, Washington*
- EPA et al., 2009, *Explanation of Significant Differences for the 100-HR-3 and 100-KR-4 Operable Units Interim Action Record of Decision: Hanford Site Benton County, Washington*
- EPA et al., 2019, *Explanation of Significant Differences for the 100-HR-3 and 100-KR-4 Operable Units Interim Action Record of Decision: Hanford Site Benton County, Washington*

Liquid and solid wastes disposed at some 100-KR-1 and 100-KR-2 Source OU waste sites are known to have contributed to groundwater contamination. Since 1997, interim actions are being implemented in the 100-KR-4 OU to protect human and ecological receptors as described in the interim action decision documents.

EPA/ROD/R10-96/134 included a requirement for treating hexavalent chromium (Cr(VI))-contaminated groundwater in the 100-HR-3 and 100-KR-4 OUs using pump and treat (P&T) technology. The P&T systems were installed as described in DOE/RL-96-84, *Remedial Design Report and Remedial Action Work Plan for the 100-HR-3 and 100-KR-4 Groundwater Operable Units' Interim Action*. The interim action ROD also established requirements for implementing institutional controls to prevent exposure to contaminated groundwater.

Currently there are three operating P&T systems within the 100-KR-4 OU under the current interim action ROD (EPA/ROD/R10-96/134). The KR4 P&T system was the first installed in 1997 (DOE/RL-96-84). The KW P&T system was the second system installed and began remediating Cr(VI) in the KW Reactor area in February 2007 (DOE/RL-2006-52, *The KW Pump and Treat System Remedial Design and Remedial Action Work Plan, Supplement to the 100-KR-4 Groundwater Operable Unit Interim Action*). The third and newest P&T system was implemented based on EPA et al., 2009. This explanation of significant differences authorized implementation of the KX P&T system in the 100-KR-4 OU, which began operating in November 2009. The KX P&T system is used primarily to treat Cr(VI) in groundwater that migrated from the 116-K-2 Trench area toward the N Reactor, and near the proximal end of the trench near the KE Reactor area.

Operational histories of these P&T systems are updated and reported in annual P&T reports (e.g., DOE/RL-2017-67, *Calendar Year 2017 Annual Summary Report for the 100-HR-3 and 100-KR-4 Pump and Treat Operations, and 100-NR-2 Groundwater Remediation*).

Detailed information regarding implementation of the interim actions for the 100-KR-4 OU is provided in the following documents:

- CCN 062039, "Sampling Changes to the 100-HR-3 and 100-KR-4 Operable Units (OU)"
- DOE/RL-96-84, *Remedial Design Report and Remedial Action Work Plan for the 100-HR-3 and 100-KR-4 Groundwater Operable Units' Interim Action* (Rev. 0 and Rev. 0-A), as modified by the following *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement [TPA]) (Ecology et al., 1989) change notice (TPA-CN):
  - TPA-CN-657
- DOE/RL-96-90, *Interim Action Monitoring Plan for the 100-HR-3 and 100-KR-4 Operable Units*, as modified by the following TPA-CNs:
  - TPA-CN-298
  - TPA-CN-330
- DOE/RL-2006-52, *The KW Pump and Treat System Remedial Design and Remedial Action Work Plan, Supplement to the 100-KR-4 Groundwater Operable Unit Interim Action*
- DOE/RL-2006-75, *Supplement to the 100-HR-3 and 100-KR-4 Remedial Design Report and Remedial Action Workplan for Expansion of the 100-KR-4 Pump-and-Treat System*
- DOE/RL-2013-33, *Remedial Design/Remedial Action Work Plan for the 100-KR-4 Groundwater Operable Unit Interim Action*, as modified by:
  - TPA-CN-0858

This plan supersedes DOE/RL-97-01, Rev. 6, which was modified through the following TPA-CNs:

- TPA-CN-0760 updated the well lists associated with the 100-HR-3 and 100-KR-4 OUs with wells to be drilled during fiscal year 2017.
- TPA-CN-0773 allowed use of the consolidated waste complex in the Central Plateau.
- TPA-CN-0808 updated the well lists associated with the 100-HR-3 and 100-KR-4 OUs with wells to be drilled during fiscal year 2018.
- TPA-CN-0823 updated the well lists associated with the 100-HR-3 and 100-KR-4 OUs with wells to be drilled during fiscal year 2019.
- TPA-CN-0859 updated the well lists associated with the 100-HR-3 and 100-KR-4 OUs with wells to be drilled during fiscal year 2020.
- TPA-CN-0899 updated the well lists associated with the 100-HR-3 and 100-KR-4 OUs with wells to be drilled during fiscal year 2021.

This waste management plan includes the requirements for the management and disposal of waste generated from activities such as monitoring at groundwater wells, seeps, and aquifer tubes. The groundwater wells, seeps, and aquifer tubes addressed by this plan are identified in Appendix A. Additional wells drilled, constructed, or monitored, and new waste streams may be added to this plan. The TPA-CNs will be generated and approved to document modification of this waste management plan as needed. Lead agency and lead regulatory agency approval for managing waste generated from any

additional wells or new waste streams will be sought and granted prior to generating waste. The approval will be documented and placed in the Administrative Record.

The following activities may generate waste:

- Borehole drilling
- Soil sampling and analysis
- Construction, operation, maintenance, and decommissioning of groundwater remediation systems
- Groundwater well or aquifer tube installation
- Groundwater well or aquifer tube development, redevelopment, sampling, and decommissioning
- Well and aquifer tube maintenance
- Water-level and other in situ groundwater measurements
- Seep sampling
- Sample screening/analysis
- Decontamination of equipment and material
- Aquifer testing, geophysical logging, and treatability studies
- Borehole, well, and aquifer tube decommissioning
- Activities associated with the extraction and injection wellheads and associated valves and piping

Testing or other special activities not specifically identified will be evaluated with the regulatory agencies for inclusion under this plan. A supplement to this plan or a separate waste management plan (or waste control plan) may be required in accordance with DOE/RL-2011-41, *Hanford Site Strategy for Management of Investigation Derived Waste*.

Site-specific waste management instructions will be developed as needed for the various activities identified in the previous paragraphs in order to implement the requirements identified in the following chapters.

2 Project Waste Streams

Similar types of OU-specific waste, whether categorized as investigation-derived waste, treatability test waste, or remediation waste, will be managed uniformly. Projected waste streams may include the following:

- Drill cuttings (soil and slurries)
- Seep liquids
- Spent resin and filter elements
- Solids from the treatment process
- Spent/excess chemicals from the treatment process (e.g., sulfuric acid used for process stream pH adjustment)
- Purge water generated during groundwater well installation, aquifer tube installation, development, testing, monitoring, maintenance, and decommissioning
- Purge water generated during decanting of soil and slurries
- Water from slurry pumping and gravity draining P&T resin

- Extracted groundwater containing reaction products and unreacted reagent
- Process sampling and screening analysis liquids
- Water from unplanned releases (UPRs)
- Miscellaneous solid waste such as bentonite, sand, syringes, filters, wipes, gloves and other personal protective equipment, cloth, sampling and measuring equipment, pumps, pipe, wire, plastic sheeting, tools, and materials generated from cleanup of UPRs
- Decommissioning debris such as concrete, wood, rebar, metal/plastic pipe and screens, equipment, pump, wire, liners, and bentonite/sand/gravel
- Decontamination fluids
- Spent/excess chemicals/reagent (e.g., calibration standards and reagents that are used during field screening/analysis of groundwater samples) and used oil

3 Waste Designation and Disposal

Waste will be designated in accordance with the interim action ROD (EPA/ROD/R10-96/134) and the substantive standards of WAC 173-303, "Dangerous Waste Regulations," using process knowledge, historical analytical data, and sample analysis. The 100-KR-4 OU has an established groundwater well and aquifer tube sampling network. Characterization data and P&T system operation data have been obtained that can be used as the basis for waste designation. New waste streams will be characterized as necessary for designation purposes.

The Environmental Restoration Disposal Facility (ERDF) is the preferred disposal site for waste generated from the 100-KR-4 OU. Waste (e.g., solid waste, miscellaneous solid waste, and demolition debris) that has been in contact with contaminated media and meets ERDF waste acceptance criteria (ERDF-00011, *Environmental Restoration Disposal Facility Waste Acceptance Criteria*) may be disposed at the facility. Solid waste and demolition debris that are considered nondangerous waste and are free of radiological contamination (i.e., surveyed and released by a qualified radiological control technician [RCT]) may be disposed at an offsite *Resource Conservation and Recovery Act of 1976* (RCRA) Subtitle D landfill, onsite demolition debris landfill, or recycled, as appropriate. Uncontaminated drill cuttings and slurries may be placed on the ground near the point of generation. Waste handling and disposal options are further described in Chapter 4.

Contaminated liquids may be sent to the purge water modular storage units (MSUs) or the KR4, KX, or KW P&T facilities. Small volumes of stabilized liquids may be disposed at ERDF, provided that the facility's waste acceptance criteria can be met.

Waste that does not meet ERDF waste acceptance criteria (ERDF-00011) may be stored at the Central Waste Complex (mixed waste) or sent off the Hanford Site for disposal (of nonradiological waste) at a treatment, storage, and disposal facility that has been authorized by the facility's own U.S. Environmental Protection Agency (EPA) Region, in accordance with the Offsite Rule, 40 CFR 300.440, "National Oil and Hazardous Substances Pollution Contingency Plan," "Procedures for Planning and Implementing Off-Site Response Actions," to receive waste from any *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) site in the nation. Wastes may be treated within the OU or at ERDF if needed to meet ERDF waste acceptance criteria. Treatment options include, but are not limited to, stabilization or neutralization, or both. The land disposal restriction requirements in place at the time that EPA/ROD/R10-96/134 was signed must be met.

Contaminated solid waste and drill cuttings that meet ERDF waste acceptance criteria (ERDF-00011), or that can be treated to meet the criteria, will also be disposed at ERDF. Purge water will be collected and contained at the wellhead, if necessary, until transport to the MSUs or it may be dispositioned to the influent side of the KX, KW, or KR4 P&T systems. Used oil will be recycled. Spent or unusable chemicals/reagents may also be generated during field sampling and analysis and will require disposal based on their designations.

The Offsite Rule (40 CFR 300.440) does not apply to disposal outside of the Hanford Site of solid waste that has not contacted media contaminated with hazardous substances or solid waste that has only come into contact with processed effluent; these types of solid waste will be disposed at an offsite RCRA Subtitle D solid waste landfill.

4 Waste Stream-Specific Management

This chapter discusses waste stream-specific management for drill cuttings; spent resins; spent filter elements; solids from process treatment lines; liquids; miscellaneous solid waste and decommissioning debris; and spent or unusable chemicals/reagents, used oil, and returned sample waste.

4.1 Drill Cuttings

Drill cuttings (i.e., soil and slurries) from outside of an area of known or suspected contamination may be collected and stockpiled near the point of generation. Drill cuttings from known or suspect contaminated areas will be placed on a tarp or will be containerized near the point of generation. Water contained in drill cuttings will be decanted, and the free liquids remaining in the containers will be reduced by evaporation or adding sorbent material prior to disposal, as necessary. Decanted water will be managed as purge water and may be sent to the MSUs or the KX, KW, or KR4 P&T facilities. Decanted water withdrawn from drill cuttings will be handled by the particular P&T system that treats groundwater from the same OU. Drill cuttings that are not designated as dangerous waste and do not contain constituent concentrations greater than WAC 173-340-705, “Model Toxics Control Act–Cleanup,” “Use of Method B,” soil concentrations for protection of groundwater may be placed on the ground near the point of generation. A qualified RCT shall also confirm that onsite radiological controls are not required before cuttings are placed on the ground.

4.2 Spent Resins

Ion-exchange resins are used in the 100-KR-4 OU P&T systems. Spent resin will be analyzed and designated before shipment. As a minimum, the resins will be tested for dangerous waste characteristics (specifically for chromium using the toxicity characteristic leaching procedure) and the applicable OU co-contaminants. Co-contaminants for the 100-KR-4 OU include tritium, strontium-90, carbon-14, nitrate, and trichloroethene. Offsite shipments will be verified to be below radiological release criteria, as specified in DOE O 458.1 Admin Chg 3, *Radiation Protection of the Public and the Environment*, and 10 CFR 835, “Occupational Radiation Protection.”

Resins that contain radionuclides above U.S. Department of Energy release criteria will be disposed at ERDF, provided the waste acceptance criteria for the facility are met. If treatment is necessary for resins that are designated as dangerous waste before disposal at ERDF, treatment will be in accordance with an approved treatment plan.

4.3 Spent Filter Elements

The P&T systems are equipped with in-line filters to collect groundwater particulates. The filters also prevent the injection of any carryover resins or other suspended solids into the injection wells. The filter elements are removed and replaced as needed to maintain system efficiency. The filters and associated filter cake are dewatered and the water is returned to the P&T system. The used filters and associated solids are disposed at ERDF, provided the facility's waste acceptance criteria are met. If ERDF waste acceptance criteria (ERDF-00011) cannot be met, the solids will be disposed at an approved offsite waste disposal facility.

4.4 Solids from Treatment Process Lines

Solids such as plate-out or precipitate that are present in treatment process lines at the P&T facilities will be disposed at ERDF, provided the facility's waste acceptance criteria are met. If ERDF waste acceptance criteria (ERDF-00011) cannot be met, the solids will be disposed at an approved offsite waste disposal facility.

4.5 Liquids

Various liquid wastes are generated from the operation, maintenance, and construction of the P&T systems and from groundwater well-related activities. Groundwater waste streams will be processed through the 100-KR-4 OU P&T systems. Introduction of contamination that is not found in the specific OUs is not allowed. Groundwater pH is adjusted in the P&T system process water by adding sulfuric acid. Spent or excess sulfuric acid solution may be neutralized using an elementary neutralization process prior to disposal.

Neutralized liquid waste will be solidified and disposed at ERDF, provided the facility's waste acceptance criteria can be met. If ERDF waste acceptance criteria (ERDF-00011) cannot be met, the waste will be disposed at an approved offsite waste disposal facility.

4.5.1 Purge Water

Purge water may be generated during well or aquifer tube installation, development, testing, monitoring, sampling, maintenance, and decanting of saturated soil during drilling activities. Purge water from wells and aquifer tubes will be collected and contained at the wellhead, if necessary, until transport to the MSUs, or it may be dispositioned to the influent side of the KX, KW, or KR4 P&T facilities. Some aquifer tubes are located within the seasonal high-water mark of the Columbia River. When these tubes are sampled during high-water periods, these low-volume discharges to the Columbia River are allowed (DOE/RL-2011-41).

4.5.2 Water from Slurry Pumping and Gravity Draining Resins

Water is generated during slurry pumping and gravity draining of resins. This water is pumped back into the influent side of the P&T system. Water generated during dewatering of filter elements is also returned to the P&T system.

4.5.3 Liquids from Unplanned Releases

Water that is generated from UPRs of groundwater from the treatment process stream and that is contained within the P&T systems will be returned to the P&T system, if appropriate. If release occurs, environmental compliance notification is required. The reporting requirements will be met as required by DOE O 232.2, *Occurrence Reporting and Processing of Operations Information*. The project spill

reporting point of contact will determine the actions required to address the spill. The environmental organization will make the required notification to the appropriate regulatory agency, if required.

The water generated from UPRs of groundwater from the process stream at the 100-KR-4 OU P&T systems is not expected to exceed dangerous waste limits. If a substantial UPR occurs in the system, automated monitoring systems should detect the release and activate alarms and automatically stop the system. Flow measurement equipment will detect a significant UPR in the lines from the wells to the transfer buildings and the process buildings which will automatically switch the pumps off.

Treatment process chemical UPRs (i.e., sulfuric acid solutions) will initiate a spill response. The spill response will include neutralizing the sulfuric acid and disposing these materials at ERDF, provided that the facility's waste acceptance criteria can be met. If ERDF waste acceptance criteria (ERDF-00011) cannot be met, the waste will be disposed at an approved offsite waste disposal facility.

4.5.4 Decontamination Fluids

Decontamination fluids will be kept to a minimum. To the extent practicable, decontamination fluids (i.e., water or nonhazardous cleaning solutions) from tool and equipment cleaning will be contained and managed as purge water (as described in Section 4.5.1). Small volumes of decontamination fluids may be stabilized to eliminate free liquids and then be disposed at ERDF if the facility's waste acceptance criteria can be met.

Decontamination of some equipment (e.g., split-spoon samplers) may be conducted at the Soil and Groundwater Remediation Project sampling equipment cleaning facility because decontamination and containment systems already are established at this location. The waste generated at this facility will be managed in accordance with applicable regulations and the waste management procedures of the facility.

4.5.5 Sample Analysis and Screening Liquids

Unaltered groundwater samples (i.e., samples containing no preservatives, reagents, or other chemical additives) generated during sample screening and analysis may be managed as purge water (as described in Section 4.5.1). Altered groundwater samples may be treated at the respective P&T facility or be disposed at the MSUs or ERDF, provided that the facility's waste acceptance criteria are met. If ERDF waste acceptance criteria (ERDF-00011) cannot be met, waste will be disposed at an approved offsite waste disposal facility.

4.6 Miscellaneous Solid Waste and Decommissioning Debris

Miscellaneous solid waste and decommissioning debris that have contacted potentially contaminated materials will be segregated from other materials and disposed based on the waste designation. Contaminated materials, or materials that have contacted contaminated media, may be disposed at ERDF if the waste acceptance criteria for the facility can be met, or at another approved onsite or offsite facility if the ERDF waste acceptance criteria (ERDF-00011) cannot be met. Treatment, storage, and disposal facilities outside the Hanford Site that receive this hazardous waste must have received an authorization from their own EPA Region to receive CERCLA waste, in accordance with 40 CFR 300.440. Contact solid waste that is categorized as nondangerous and has been surveyed and released by a qualified RCT (i.e., radiologically released), or waste that has not contacted potentially-contaminated materials, may be disposed offsite at a RCRA Subtitle D landfill, disposed at an onsite demolition landfill in the case of demolition debris (e.g., concrete), or recycled, as appropriate.

4.7 Spent or Expired Chemicals/Reagents, Used Oil, and Sample-Related Waste

Spent or expired chemicals/reagents that are generated during field sampling and analysis or from 100-KR-4 OU P&T operations will be managed, designated, and disposed as appropriate for the specific chemical or reagent. Used oil generated during operation of the treatment system will be managed by the Hanford Site used oil program administered by the Consolidated Central Recycle Center or will properly be dispositioned as waste, as appropriate. Offsite facilities that receive CERCLA contaminated waste must be approved by EPA in accordance with 40 CFR 300.440.

Screening and analysis of solid and liquid samples may be conducted in the field sampling and analysis or from 100-KR-4 OU P&T operations. Once testing is complete, liquid sample material may be returned to the influent side of the KR4, KW, or KX P&T system or properly dispositioned to the MSUs or ERDF.

5 Packaging and Labeling

Materials requiring collection will be placed in containers appropriate for the material and the receiving facility. ERDF roll-on/roll-off containers or drums may be used for some materials (e.g., drill cuttings); however, packaging for large or irregular shaped waste (e.g., well casings) may include other containers (e.g., ERDF flat). The packaging will ensure that contaminants do not migrate and will protect against environmental degradation. The packaging may include, but is not limited to, plastic wrap or metal/wooden boxes.

Low-volume miscellaneous materials associated with activities such as groundwater well sampling, water-level measurements, and groundwater well maintenance may be bagged, taped, and labeled with the well number at the wellhead. The bagged material will be transported in a protective manner (i.e., containment of the material is maintained) by the workers while proceeding from well to well in the OU. Upon arrival at the storage location, the materials will be placed in an accumulation container and managed as waste.

Packaging and labeling during storage and transportation must meet the substantive standards of WAC 173-303 and U.S. Department of Transportation (DOT) requirements, as appropriate. Packaging exceptions to the DOT requirements that are documented and provide an equivalent degree of safety during transportation may be used for onsite waste shipments. Containers must be labeled and marked appropriately to match the designation established for each waste stream. The containers will be labeled to indicate the type of waste contained (i.e., investigation derived waste, remediation waste, or unregulated waste). The containers will be sealed and stored near the point of generation or will be transported directly to ERDF without storage, as appropriate.

6 Storage and Transportation

The amount of waste stored at the storage area should be kept to a minimum. Full containers should be prepared for disposal as quickly as economically feasible. Any designated dangerous waste will be stored in a temporary storage area that meets the substantive requirements of WAC 173-303-630, “Use and Management of Containers,” and will be inspected weekly. Some wastes (e.g., drill cuttings) may be temporarily accumulated near the point of generation. Any waste that is generated under this waste management plan may be stored for up to 6 months after waste characterization is complete; an extension is required to be approved for storage beyond 6 months. Radioactive waste will be managed separately from nonradioactive waste in accordance with applicable procedures and U.S. Department of Energy requirements.

Miscellaneous solid waste generated in support of the 100-KR-4 OU may be transferred and stored at the onsite storage facility, 6265A, located in the Central Plateau. The collection, transport, and storage of the solid waste will be conducted in accordance with the applicable or relevant and appropriate requirements. Waste stored at the 6265A storage facility will be kept segregated by OU. Once waste activities are completed, the substantive requirements of WAC 173-303-200, "Conditions for Exemption for a Large Quantity Generator That Accumulates Dangerous Waste," regarding closure will be implemented.

Container tracking and traceability will be controlled through the Hanford Site Solid Waste Information and Tracking System. The containers will be sealed and shipped to the identified disposal facility. The waste will be transported in accordance with the substantive standards of WAC 173-303 and DOT requirements, as appropriate.

7 References

10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*. Available at: https://www.govinfo.gov/content/pkg/CFR-2010-title10-vol4/xml/CFR-2010-title10-vol4-part835.xml.

40 CFR 300.440, "National Oil and Hazardous Substances Pollution Contingency Plan," "Procedures for Planning and Implementing Off-Site Response Actions," *Code of Federal Regulations*. Available at: https://www.govinfo.gov/content/pkg/CFR-2010-title40-vol27/xml/CFR-2010-title40-vol27-sec300-440.xml.

CCN 062039, 1998, "Sampling Changes to the 100-HR-3 and 100-KR-4 Operable Units (OU)" (letter to S.M. Alexander, Washington State Department of Ecology, and D.R. Sherwood, U.S. Environmental Protection Agency, from D.M. Wanek), U.S. Department of Energy, Richland Operations Office, Richland, Washington, September 16. Available at: https://pdw.hanford.gov/document/1304030112.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601, et seq., Pub. L. 107-377, December 31, 2002. Available at: https://www.csu.edu/cerc/researchreports/documents/CERCLASummary1980.pdf.

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Appendix A

100-KR-4 Groundwater Monitoring Wells, Aquifer Tubes, and Seeps

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Tables

Table A-1. 100-KR-4 Operable Unit Groundwater Monitoring Wells (September 2021) A-1
Table A-2. 100-KR-4 Operable Unit Aquifer Tubes and Seeps (September 2021)..... A-2

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Table A-1. 100-KR-4 Operable Unit Groundwater Monitoring Wells (September 2021)

Well Names				
199-K-11	199-K-127	199-K-161	199-K-199	199-K-241
199-K-13	199-K-128	199-K-162	199-K-200	199-K-242
199-K-18	199-K-129	199-K-163	199-K-201	199-K-243
199-K-19	199-K-130	199-K-164	199-K-202	199-N-27
199-K-20	199-K-131	199-K-165	199-K-203	199-N-28
199-K-21	199-K-132	199-K-166	199-K-204	199-N-41
199-K-22	199-K-133	199-K-168	199-K-205	199-N-50
199-K-31	199-K-134	199-K-169	199-K-206	199-N-51
199-K-32A	199-K-135	199-K-170	199-K-207	199-N-71
199-K-32B	199-K-136	199-K-171	199-K-208	199-N-74
199-K-34	199-K-137	199-K-172	199-K-209	199-N-77
199-K-36	199-K-138	199-K-174	199-K-210	199-N-80
199-K-37	199-K-139	199-K-175	199-K-212	199-N-96A
199-K-106A	199-K-140	199-K-178	199-K-220	199-N-164
199-K-107A	199-K-141	199-K-179	199-K-221	199-N-165
199-K-108A	199-K-142	199-K-180	199-K-222	199-N-183
199-K-110A	199-K-143	199-K-181	199-K-223	199-N-189
199-K-111A	199-K-144	199-K-182	199-K-224	199-N-373
199-K-112A	199-K-145	199-K-183	199-K-225	699-70-68
199-K-113A	199-K-146	199-K-184	199-K-226	699-71-52
199-K-114A	199-K-147	199-K-185	199-K-227	699-73-61
199-K-115A	199-K-148	199-K-186	199-K-228	699-74-44
199-K-116A	199-K-149	199-K-187	199-K-229	699-77-54
199-K-117A	199-K-150	199-K-188	199-K-230	699-78-62
199-K-118A	199-K-151	199-K-189	199-K-231	699-81-58
199-K-119A	199-K-152	199-K-190	199-K-232	699-81-62
199-K-120A	199-K-153	199-K-191	199-K-233	699-83-47
199-K-121A	199-K-154	199-K-192	199-K-234	699-87-42A
199-K-122A	199-K-156	199-K-193	199-K-235	699-87-55
199-K-123A	199-K-157	199-K-194	199-K-236	—

Table A-1. 100-KR-4 Operable Unit Groundwater Monitoring Wells (September 2021)

Well Names				
199-K-124A	199-K-158	199-K-196	199-K-238	—
199-K-125A	199-K-159	199-K-197	199-K-239	—
199-K-126	199-K-160	199-K-198	199-K-240	—

Table A-2. 100-KR-4 Operable Unit Aquifer Tubes and Seeps (September 2021)

Aquifer Tube Name (Identification)				
14-D (B8152)	26-S (B8228)	AT-K-5-M (C4331)	C6245 (C6245)	C6259 (C6259)
14-M (B8153)	AT-K-1-D (C4339)	AT-K-5-S (C4335)	C6246 (C6246)	C6260 (C6260)
17-D (B8161)	AT-K-1-M (C4340)	AT-K-6-D (C4332)	C6247 (C6247)	C6261 (C6261)
17-M (B8162)	AT-K-1-S (C4341)	AT-K-6-S (C4333)	C6248 (C6248)	C6263 (C6263)
18-S (B8204)	AT-K-2-D (C4328)	C6236 (C6236)	C6249 (C6249)	C6264 (C6264)
19-M (B8206)	AT-K-2-M (C4327)	C6237 (C6237)	C6250 (C6250)	C6265 (C6265)
21-M (B8212)	AT-K-2-S (C4329)	C6238 (C6238)	C6251 (C6251)	C7641 (C7641)
22-D (B8214)	AT-K-3-D (C4342)	C6239 (C6239)	C6252 (C6252)	C7642 (C7642)
22-M (B8215)	AT-K-3-M (C4343)	C6240 (C6240)	C6253 (C6253)	C7643 (C7643)
23-M (B8218)	AT-K-3-S (C4344)	C6241 (C6241)	C6254 (C6254)	D0218 (D0218)
25-D (B8223)	AT-K-4-M (C4337)	C6242 (C6242)	C6255 (C6255)	D0219 (D0219)
26-D (B8226)	AT-K-4-S (C4338)	C6243 (C6243)	C6256 (C6256)	DK-04-2 (B8526)
26-M (B8227)	AT-K-5-D (C4330)	C6244 (C6244)	C6258 (C6258)	DK-04-3 (B8527)
Seep Name				
SK-057-3	SK-063-2	SK-068-1	SK-077-1	SK-082-2
SK-063-1	—	—	—	—