APPENDIX G.13

200 AREA TRANSFER PIPELINE (CP-LS-7, CENTRAL PLATEAU) EVALUATION UNIT SUMMARY TEMPLATE

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PART I. EXECUTIVE SUMMARY

EU LOCATION

Cross-site transfer pipelines outside of Tank Farms evaluation units. Includes 200 East-West transfer lines, IMUSTS, catch tanks, diversion boxes, etc.

RELATED EUS

CP-TF-1 through CP-TF-9

PRIMARY CONTAMINANTS, CONTAMINATED MEDIA AND WASTES

The waste sites comprising the CP-LS-7 EU include legacy waste sites (unplanned releases (UPRs))[1] where liquid wastes were discharged and tanks, buildings, and pipelines and associated equipment. Five of the CP-LS-7 pipelines are associated with the single-shell tanks (DOE/RL-2010-114, DRAFT A, p. A-4 – A-15). Pipelines and associated equipment are treated in the Tank Waste and Farms EU (Appendix E.1 through Appendix E.11); it is assumed that all the CP-LS-7 EU pipelines and associated equipment are managed as part of the Tank Waste and Farms EU. Of the remaining waste sites, inventory information is reported for selected legacy sites (i.e., two MUSTs and two UPRs) in the Soil Inventory Model, Rev. 1 (Corbin, et al. 2005), which is used as the basis for analysis.

The primary contaminants listed in the Soil Inventory Model (Corbin, et al. 2005) for the CP-LS-9 EU include:[2]

- *Radionuclides*: tritium (H-3), Sr-90/Y-90, and Pu-All isotopes
- *Chemicals*: nitrate (NO_3) and U-Total

BRIEF NARRATIVE DESCRIPTION

The CP-LS-7 EU legacy waste sites with non-zero reported inventories (Table G.13-3 through Table G.13-5) are included in the 200-IS-1 (241-CX-72 and UPR-200-E-84) and 200-WA-1 (241-WR VAULT and UPR-200-W-138) Operable Units although there are CP-LS-7 waste sites included in the 200-EA-1 and 200-OA-1 OUs (Attachment A). The 200-IS-1 OU involves the pipeline system waste sites (DOE/RL-2010-114, Draft A), which are covered in the Tank Waste and Farms EU (Appendix E.1 through Appendix E.11) and

[1] Attachment A indicates that the 216-A-9 Crib and 216-A-40 retention basin (that have reported inventories) are part of the CP-LS-7 EU; however, these waste sites were already managed as part of the CP-TF-5 EU (Appendix E.6). The 200-E-29 unplanned release is part of both CP-LS-7 and CP-DD-2 (B Plant); however, this site has no reported inventory and will not be considered further in this evaluation. The 241-WR Vault is managed as part of the CP-LS-7 EU although it is also shown as being part of the CP-LS-3 EU (Appendix G.5.3).

[2] For radionuclides, those are listed if the total activity from the SIM, Rev. 1 exceeds 0.1 Ci or if they are listed in Table 6.1 (CRESP 2015a) and have a non-zero total activity. Unlike for the Interim Report (CRESP 2015b), the activities for all available uranium and plutonium were summed. For chemicals of potential concern, those are listed if the total mass from the SIM, Rev. 1 exceeds 1 kg or if they are listed in Table 6.1 (CRESP 2015a) and have a non-zero total mass. As indicated above, there were several WIDS codes that were included in the Data Sheets for multiple EUs; those WIDS codes with non-zero inventory were included in only a single EU for evaluation purposes (and to not double count inventory).

the 200-OA-1 OU involves the outer area in the Central Plateau (DOE/RL-2011-56, Rev. 1). Thus the focus will be on the 200-WA-1 OU (because the other sites are considered managed as part of the Tank Waste and Farms EU or other EUs or there is are no reported inventories for waste sites in other OUs). The 200-WA-1 Operable Unit (OU) is part of the Hanford 200 Area Site, which is on the EPA National Priority List (NPL) (DOE/RL-2011-56, Rev. 1). The 200-WA-1 OU consists of waste sites in the 200 West Inner Area not already assigned to other OUs. The CP-LS-7 EU waste sites primarily consist of cross-site transfer pipelines and associated equipment (and waste sites) outside of the Tank and Waste Farms evaluation units. Waste sites include transfer lines, MUSTs, tanks, sewers, a dumping area, diversion boxes, buildings, and unplanned release sites. The primary radioactive contaminants include H-3, Sr-90, and isotopes of plutonium. Primary chemical contaminants include NO_3 and uranium (total). All current land-use activities in the 200 West and 200 East Areas (where the CP-LS-7 is located) are *industrial* in nature (Hanford 200-Area ROD[3]). The following remedial actions alternatives will be considered:[4] i) No Action; ii) Monitored Natural Attenuation (MNA); iii) Removal, Treatment, and Disposal (RTD); iv) *In Situ* Treatment; v) Containment under a Planned Barrier, and vi) Removal of Pipeline System Waste Sites Versus Pre-ROD Characterization. The four (future) land-use scenarios listed in the Comprehensive Land Use Plan (CLUP) indicate that the 200 West and 200 East Areas are denoted *Industrial-Exclusive* (DOE/EIS-0222-F).

SUMMARY TABLES OF RISKS AND POTENTIAL IMPACTS TO RECEPTORS

Table G.13-1 provides a summary of nuclear and industrial safety related risks to humans and impacts to important physical Hanford site resources.

Human Health

A Facility Worker is deemed to be an individual located anywhere within the physical boundaries of the 200 Area Transfer Pipeline (CP-LS-7); a Co-located Person (CP) is an individual located 100 meters from the physical boundaries of the 200 Area Transfer Pipeline EU area; and Public is an individual located at the closest point on the Hanford Site boundary not subject to DOE access control. The nuclear-related risks to humans are based on unmitigated (unprotected or controlled conditions) dose exposures expressed in a range of from *Not Discernible* (*ND*) to *High*. The estimated mitigated exposure that takes engineered and administrative controls and protections into consideration, is shown in parentheses.

[3] http://www.epa.gov/region10/pdf/sites/hanford/200/hanford_200_rod.pdf

[4] There is no Documented Safety Analysis (DSA), Hazards Analysis, or feasibility study for waste sites in the CP-LS-7 EU. However, focused feasibility studies (FFS) have been prepared for 1) 200-UW-1 OU waste sites located in the U Plant Area in 200 West (DOE/RL-2003-23, Rev. 0) and 2) for the BC Cribs and Trenches Area waste sites (DOE/RL-2004-66, Draft A), which are in 200 East. The CP-LS-7 EU spans the Hanford Central Plateau from the 200 East to 200 West area as illustrated in Figure G.13-1 and Figure G.13-2; therefore, both focused feasibility studies will be used to evaluate risks and potential impacts associated with remedial options for the CP-LS-7 waste sites. Furthermore, the analyses provided in the 200-UW-1 FFS and BC Cribs and Trenches FFS will be used here as described in **Part VI** (instead of those provided in the Evaluation Unit Disposition Table (Appendix B)) because the hazards are assumed similar enough for the rough order of magnitude analysis provided in this Review. These alternatives are used instead of those provided in the Evaluation Unit Disposition Table (Appendix B) for this EU. Note that the basic remedial component activities (No Action, capping, and RTD) are captured in both sets of remedial alternatives.

Groundwater and Columbia River

Direct impacts to groundwater resources and the Columbia River have been rated based on available information for the current status and estimates for future time periods. These impacts are also expressed in a range of from *Not Discernible* (*ND*) to *Very High*.

Ecological Resources[5]

The risk ratings are based on the degree of physical disruption (and potential additional exposure to contaminants) in the current status and as a potential result of remediation options.

Cultural Resources[5]

No risk ratings are provided for Cultural Resources. The Table identifies the three overlapping Cultural Resource landscapes that have been evaluated: Native American (approximately 10,000 years ago to the present); Pre-Hanford Era (1805 to 1943) and Manhattan/Cold War Era (1943 to 1990); and provides initial information on whether an impact (both direct and indirect) is KNOWN (presence of cultural resources established), UNKNOWN (uncertainty about presence of cultural resources), or NONE (no cultural resources present) based on written or oral documentation gathered on the entire EU and buffer area. Direct impacts include but are not limited to physical destruction (all or part) or alteration such as diminished integrity. Indirect impacts include but are not limited to the introduction of visual, atmospheric, or audible elements that diminish the cultural resource's significant historic features. Impacts to Cultural Resources as a result of proposed future cleanup activities will be evaluated in depth under Section 106 of the National Historic Preservation Act (16 USC 470, et. seq.) during the planning for remedial action.

[5] References throughout this Evaluation Unit Summary Template supporting analyses related to Ecological Resources and/or Cultural Resources may be found in Appendices J and K, respectively. Refer to the specific EU when searching for the reference.

Table G.13-1. Risk Rating Summary (for Human Health, unmitigated nuclear safety basis indicated, mitigated basis indicated in parentheses (e.g., "Very High" (Low)).

Population or Resource		Evaluation Time Period: Active Cleanup (to 2064)	
		Current Condition: Monitoring and maintenance	**From Cleanup Actions:** Six alternatives considered
Human Health	Facility Worker	***Not Discernible (ND)-Low*** *(ND-Low)*	***Proposed Alternatives*: *ND-Low*** (*ND-Low)*
	Co-located Person	***ND-Low*** *(ND-Low)*	***Proposed Alternatives: ND-Low*** (*ND-Low*)
	Public	***ND*** (*ND*)	***Proposed Alternatives*: *ND*** (*ND*)
Environmental	Groundwater (A&B) from vadose zone[a]	*ND* (Sr-90 and U(tot))[c] and *Low* (all other PCs[d]) **Overall**: *Low*	*ND* (Sr-90 and U(tot))[c] and *Low* (all other PCs[d]) **Overall**: *Low*
	Columbia River from vadose zone[a]	Benthic and Riparian: *ND* Free-flowing: *ND* **Overall**: *ND*	Benthic and Riparian: *ND* Free-flowing: *ND* **Overall**: *ND*
	Ecological Resources[b]	Low	Low to High
Social	Cultural Resources[b]	**Native American** Direct: Unknown Indirect: Known **Historic Pre-Hanford** Direct: Unknown Indirect: Known **Manhattan/Cold War** Direct: Known Indirect: Known	**Native American** Direct: Unknown Indirect: Known **Historic Pre-Hanford** Direct: Unknown Indirect: Known **Manhattan/Cold War** Direct: Known Indirect: Known

a. Threat to groundwater or the Columbia River from Group A and B primary contaminants (PCs) (Table 6-1, CRESP 2015a) remaining in the vadose zone. Threats from plumes associated with the 200 Area Transfer Pipeline EU are described in **Part V** with additional information provided in Appendix G.6 (CP-GW-2) for the 200-UP Groundwater Interest Area (GWIA).

b. For both Ecological and Cultural Resources see Appendices J and K, respectively, for a complete description of Ecological Field Assessments and literature review for Cultural Resources. Ecological ratings are described in Table 4-11 of the Final Report.

c. These ratings are for PCs with reported inventories (Table G.13-3 through Table G.13-5). (See **Parts V** and **VI** for additional details.) The total uranium and Sr-90 disposed of in the 200 Area Transfer Pipeline EU would translate to *Low* ratings (Table G.13-6). Furthermore, there is no current total uranium or Sr-90 plume in the vicinity of the CP-LS-7 EU and it is unlikely that a significant quantity of either uranium or Sr-90 would reach the groundwater (**Part V**). The Sr-90 and total uranium ratings at the end of the Active Cleanup period are *Low* to account for uncertainties in the evaluation.

d. There are no Group C primary contaminant (PC) plumes associated with CP-LS-7 nor any expected, where the highest rating given to Group C PCs would be *Medium* (CRESP 2015a). Thus risks are driven by the Group A and B PCs.

SUPPORT FOR RISK AND IMPACT RATINGS FOR EACH POPULATION OR RESOURCE HUMAN HEALTH

There is no Documented Safety Analysis (DSA) or hazard analysis (HA) for the CP-LS-7 waste sites because these sites do not currently satisfy the requirements for performing these types of analyses. Thus evaluations of risk for this type of site (i.e., a legacy site) are often more qualitative in nature than those with a formal safety or hazard analysis.

Current

Facility workers are at risk when working near or within those areas with contaminated soil. Exposure to such contaminants is limited because contaminated soils are located below grade. However, during certain pipeline maintenance and contamination characterization activities (e.g., drilling and sampling), there may be the potential for exposure to hazardous and radioactive contaminants; however, the potential exposure would be small and limited in duration. The workforce involved with characterization activities (designated a Facility worker) would thus have an unmitigated *Not Discernible* (*ND*) to *Low* risk rating (as described below in **Part VI**). Risk to the Co-located Person (who is not in or near the contaminated soil) would also be rated *ND* to *Low.* The Public is rated as *ND* due to the remote distance to the site, depth from ground surface to soil contamination, and depth to groundwater contamination.

Unmitigated Consequences: Facility Worker – *ND* to *Low*, CP – *ND* to *Low*; Public – *ND*

Mitigation: The Department of Energy and contractor site-specific safety and health planning that includes work control, fire protection, training, occupational safety and industrial hygiene, emergency preparedness and response, and management and organization—which are fully integrated with nuclear safety and radiological protection—have proven effective in reducing industrial accidents at the Hanford Site to well below that in private industry. Further, the safety and health program must effectively ensure that ongoing task-specific hazard analyses are conducted so that the selection of appropriate PPE can be made and modified as conditions warrant. Task-specific hazard analyses must lead to the development of written work planning documents and standard operating procedures (SOPs) that specify the controls necessary to safely perform each task, to include continuous employee exposure monitoring. Finally, Institutional Controls (ICs) will be used to control access to residual contaminants in soil and groundwater as long as they exceed the cleanup levels (CULs). Thus resulting Facility worker risks remain rated as *ND* to *Low*; others also remain the same.

Mitigated Consequences: Facility Worker – *ND* to *Low*, CP – *ND* to *Low*; Public – *ND*

Risks and Potential Impacts from Selected or Potential Cleanup Approaches

The remedial alternatives considered range from no action (monitoring and natural attenuation) to significant actions, including removal, treatment, and disposal (RTD) (DOE/RL-2010-114, Draft A)[6]. In this case, impacts to Facility workers (i.e., those performing the cleanup actions) from potential cleanup approaches would not vary significantly because of very small Cs-137 inventories in the CP-LS-7 waste sites (with reported inventories). As described below (**Section VI**), the risk ratings for Facility workers are *ND-Low* for any remedial action(s) that would be taken. Other ratings would not be impacted.

[6] Because no DSA, Hazards Analysis, or feasibility study has been prepared for the 200 Area Transfer Pipeline (CP-LS-7) waste sites that spans 200 East to 200 West, the draft (FFS), alternatives, and quantitative analysis developed for both the BC Cribs and Trenches area (DOE/RL-2004-66, Draft A) in 200 East and for the 200-UW-1 OU waste sites located in the U Plant Area in 200 West (DOE/RL-2003-23, Rev. 0) are used to evaluate the risk and potential impacts associated with remedial options.

Unmitigated Risk: Facility Worker – *ND-Low*; CP – ND-*Low*; Public – ND

Mitigation: See description in **Section VI**. Thus resulting Facility worker risks remain *ND-Low* for the remedial actions evaluated; others remain the same.

Mitigated Risk: Facility Worker – *ND-Low*; CP – *ND-Low*; Public – *ND*

Groundwater, Vadose Zone, and Columbia River

Current

The CP-LS-7 EU "connects" the 200 East and 200 West areas (Figure G.13-3) and includes an area overlaying parts of the 200-UP (200 West) and 200-BP and 200-PO (200 East) groundwater interest areas (GWIAs) that are described in the CP-GW-2 EU (Appendix D.6) for the 200 West GWIAs and in CP-GW-1 EU (Appendix D.5) for the 200 East GWIAs. The saturated zone beneath the vicinity of the CP-LS-7 (200 Area Transfer Pipeline) area has elevated levels of total and hexavalent chromium (200 West only), nitrate, Tc-99, uranium (total), carbon tetrachloride (CCl_4) (200 West only), trichloroethene (TCE) (200 West only), tritium (H-3), I-129, and uranium based on the 2014 groundwater monitoring results (http://phoenix.pnnl.gov/apps/gw/phoenix.html); no sites within the CP-LS-7 EU are suspected of being able to contribute mobile contaminants to the saturated zone (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). The current threats to groundwater and the Columbia River from contaminants already in the groundwater are evaluated as part of the CP-GW-1 (Appendix D.5) and CP-GW-2 (Appendix D.6) EUs. However, current threats to groundwater corresponding to only the CP-LS-7 EU contaminants *remaining* in the vadose zone (Table G.13-6) has an overall rating of *Low* (based on multiple contaminants) as described in **Part V**. Contaminated groundwater is treated in the 200-UP GWIA using the WMA S-SX groundwater extraction system[7], the U Plant area P&T system (uranium plume), and the I-129 plume hydraulic control system and in the 200-ZP GWIA using the 200 West Pump and Treat (P&T) system[8] (DOE/RL-2016-09, Rev. 0). As indicated in **Part V**, no plumes have been linked to CP-LS-7 waste sites. Threats from contaminated groundwater in the area to contaminate additional groundwater or the Columbia River are evaluated as part of the CP-GW-1 (Appendix D.5) and CP-GW-2 (Appendix D.6) EUs.

For the 200-UP GWIA (in 200 West) and the 200-BP and 200-PO GWIAs (in 200 East), no plume currently emanating *from the CP-LS-7 waste sites*[9] intersects the Columbia River at concentrations exceeding the corresponding water quality standard (WQS) as described in **Part V**. Thus current impacts to the Columbia River benthic and riparian ecology would be rated as *Not Discernible* (*ND*). Furthermore, the large dilution effect of the Columbia River on contamination from the seeps and groundwater upwellings also results in *ND* ratings. Thus the overall rating for the Columbia River during the Current period is *ND*.

[7] The WMA S-SX groundwater extraction system began operations in 2012 where extracted contaminated water is pumped to the 200 West P&T for treatment (Section 11.12.2, DOE/RL-2016-09, Rev. 0).

[8] Soil vapor extraction was used between 1992 and 2012 to remove carbon tetrachloride vapors migrating through the vadose zone into 200-ZP groundwater (Section 12.10.2, DOE/RL-2016-09, Rev. 0).

[9] As described in Appendix E.7 (CP-TF-5), only the tritium (Group C) plume from 200-PO currently intersects the Columbia River at concentrations exceeding the appropriate water quality standard (WQS). Using the methodology (CRESP 2015a), since this plume is not associated with the CP-LS-7 EU (DOE/RL-2016-09, Rev. 0), a *Not Discernible* (*ND*) rating for the current impact of tritium on the Columbia River would be ascribed.

Risks and Potential Impacts from Selected or Potential Cleanup Approaches

As described in **Part VI**, the preliminary remedial actions being considered for the CP-LS-7 EU waste sites include: i) No Action; ii) Monitored Natural Attenuation (MNA); iii) Removal, Treatment, and Disposal (RTD); iv) In Situ Treatment; v) Containment under a Planned Barrier, and vi) Removal of Pipeline System Waste Sites Versus Pre-ROD Characterization; however, no final cleanup decisions have been made. Because no final cleanup decisions have been made, there is no way to definitively determine the risks and potential impacts to protected resources (i.e., groundwater and Columbia River). However, final cleanup decisions will be made to be protective of human health and the environment and thus it is possible that at least some equipment and contamination may be removed to satisfy remedial goals and a cover may be installed (at least in places) to limit infiltrating water that tends to be the primary motive force to mobilize contamination in the vadose zone. Thus even though there are risks to workers associated with the cleanup of the CP-LS-7 waste sites (described above and in **Part VI**), there is unlikely any discernible impact from likely cleanup actions on groundwater or the Columbia River (and thus no changes were made to the current ratings to account for these impacts and to address uncertainties in the evaluation).

Contaminants from the CP-LS-7 EU waste sites are in the vadose zone and may eventually reach groundwater although not in concentrations (from solely CP-LS-7 waste sites) likely to impact groundwater (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Thus concentrations in the groundwater from the CP-LS-7 EU waste sites are likely far below thresholds before the Active Cleanup phase commences. Secondary sources in the vadose are unlikely to significantly threaten groundwater in the future, including during and after the Active Cleanup period[10]. The *Low* rating associated with the CP-LS-7 EU waste sites (Table G.13-6) is associated with multiple Group A and B primary contaminants (CRESP 2015a) that are unlikely to deleteriously impact the 200-UP (Appendix G.6) or 200-BP/200-PO GWIAs (Appendix G.5). Furthermore, any impacts (as described in the TC&WM EIS and summarized in **Part V**) from radioactive decay, changes in recharge rate, and treatment in the 200-UP GWIA would reinforce the *Low* ratings (including for Sr-90 and total uranium) by the end of the Active Cleanup period[11]. There would not be a sufficient impact on peak concentrations in near-shore region of the Columbia River during or after cleanup to modify ratings (which are already *ND*). Thus the ratings for current threats provided in Table G.13-6 would only be modified (after the Active Cleanup period) to *Low* for total uranium and Sr-90 (to address uncertainties in the evaluation) as described in **Part V**. The ratings for the remaining Group A and B primary contaminants remain unchanged (*Low*) as in Table G.13-6 also to address uncertainties. Thus the overall rating remains *Low* at the end of the Active Cleanup period.

[10] Note that Sr-90 and total uranium have small remaining vadose zone sources (relative to drinking water standards) and are not considered significant threats to groundwater due also to limited mobility in the Hanford subsurface and decay (for Sr-90). See **Part V** for details.

[11] As indicated in the Table 6-3 in the Methodology Report (CRESP 2015a), a non-zero plume area for a Group A or B primary component would translate into a *Low* rating.

Ecological Resources

Current

23% of EU and 47% of the buffer is level 4 resources, particularly in the region of the pipeline between 200 East and 200 West areas. Buffer areas along the pipeline was computed differently because the EU is long and narrow. While the pipeline corridor is not vegetated (herbicide applications allow invasive species), the width of the pipeline does not disrupt wildlife movement. The level 4 resources on both sides of the pipeline are large continuous habitat.

Risks and Potential Impacts from Selected or Potential Cleanup Approaches

Any remediation along the transfer pipeline where level 4 resources are current will have a high potential for degradation due to the introduction of exotic species. Increased truck traffic will compact soil and will destroy biologically active soil. Backfill material lack a seed banks, increase the potential for establishment of invasive species, and decrease the potential for establishment of native species. Revegetation of area after remediation needs to consider the potential for competition with other level 4 resources.

Cultural Resources

Current

Area is highly disturbed with small pockets of undisturbed deposits and portions of the EU have been inventoried for archaeological resources. Geomorphology indicates a moderate potential to contain intact archaeological resources on the surface and/or subsurface. There are no known recorded cultural resources within the EU. Three archaeological sites have been recorded within 500 meters of the EU. Two TCPs are visible from the EU.

The EU traverses a National Register eligible Manhattan Project and Cold War Era archaeological resource which has been mitigated. Direct impacts to contributing components of the archaeological site have not been addressed and are dealt with on a project-by-project basis.

Risks and Potential Impacts from Selected or Potential Cleanup Approaches

Archaeological investigations and monitoring may need to occur prior to remediation. The geomorphology indicates a moderate potential for intact archaeological resources. Remediation disturbance may result in impacts to archaeological resources if they are present in the subsurface. Permanent indirect effects to viewshed are possible if everything is left in place. Temporary indirect effects to viewshed are possible during remediation.

National Register eligible Manhattan Project/Cold War Era resources have already been mitigated. Direct effects to contributing components of the National Register-eligible archaeological resource may occur if remediation activities disturb these areas. Archaeological monitoring or mitigation may need to occur.

Considerations for Timing of the Cleanup Actions

The saturated zone directly beneath the 200 Area Transfer Pipeline (CP-LS-7) area currently has elevated levels of carbon tetrachloride (CCl_4), I-129, nitrate, trichloroethene (TCE), Tc-99, and uranium (http://phoenix.pnnl.gov/apps/gw/phoenix.html); however, waste sites within the CP-LS-7 EU are not suspected of contributing significant amounts of even mobile contaminants to the saturated zone

(DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0)[12]. Furthermore, for those CP-LS-7 EU waste sites with reported inventories (Table G.13-3 through Table G.13-5), contaminants are either contained in underground storage vaults and tanks, or most contaminants are not suspected of being mobile in the subsurface (and thus will not likely impact groundwater over the time period considered in this Review). The one exception is nitrate from the UPR-200-W-138, which is both a Group C primary contaminant (CRESP 2015a) and likely a negligible part of the total nitrate inventory to the Central Plateau GW EUs (Appendix D.5 and Appendix D.6).

Near-Term, Post-Cleanup Risks and Potential Impacts

Groundwater: During the Near-term, Post-Cleanup period (described in **Parts V** and **VI** and Table G.13-7), the ratings for the Group A and B primary contaminants are *Low* to account for uncertainties.

Columbia River: As indicated in **Part V**, no Group A or B primary contaminants from the 200 West or 200 East Area[13] (that includes the CP-LS-7 EU waste sites) are predicted to have concentrations exceeding screening values in this evaluation period. Thus the rating will not be modified and all ratings are *Not Discernible* (*ND*) as is the overall rating (Table G.13-7).

PART II. ADMINISTRATIVE INFORMATION

OU AND/OR TSDF DESIGNATION(S)

CP-LS-7. The *Operable Unit Cross-Walk* in Attachment 1 indicates 200-IS-1. Other Operable Units mentioned in Attachment 1 (for WIDS codes included in the evaluation) are 200-OA-1, 200-WA-1, and 200-EA-1.

COMMON NAME(S) FOR EU

200 Area Transfer Pipeline

KEY WORDS

200 Area Transfer Pipeline, Central Plateau, 200 Area, 200-IS-1, 200-OA-1, 200-WA-1, 200-EA-1

[12] The 216-A-9 Crib is shown as originally part of the CP-LS-7 EU (Attachment A), which is suspected of being able to contribute mobile contaminants to groundwater (DOE/RL-92-19, Rev. 0, p. 2T-2a). However, this waste site is instead evaluated as part of the A-AX Tank Farms (CP-TF-5) EU. The 216-A-40 retention basin or trench, which was also evaluated as part of the CP-TF-5 EU, was not suspected of being able to contribute groundwater contamination (DOE/RL-92-19, Rev. 0, p. 2T-2c).

[13] As described in Appendix E.7 (CP-TF-5), only the tritium (Group C) plume from 200-PO currently intersects the Columbia River at concentrations exceeding the appropriate water quality standard (WQS). Using the methodology (CRESP 2015a), because this plume is not associated with the CP-LS-7 EU (DOE/RL-2016-09, Rev. 0), a *Not Discernible* (*ND*) rating for the current impact of tritium on the Columbia River would be ascribed. Because there is no likely scenario where CP-LS-7 EU waste sites could contaminate the Columbia River in amounts exceeding the WQS, ratings remain *ND* for the Near-term, Post-Cleanup period.

REGULATORY STATUS

Regulatory basis

The Hanford Federal Facility Agreement and Consent Order (also known as the Tri-Party Agreement or TPA) (Ecology et al., 1996) identifies the responsibilities of DOE, EPA, and the Washington State Department of Ecology under Section 120, "Federal Facilities," of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERLCA) to jointly administer remedial actions on the Hanford Site (DOE/RL-2010-49, Draft B). The CERCLA process is clearly established and described in detail at: www.epa.gov/superfund.

The TPA is a living document incorporating the remedial investigations (RIs), decisions, and actions agreed upon by DOE, EPA, and Ecology. DOE is the lead agency responsible for the remedial process at the Hanford Site, involving conducting the appropriate CERLCA and RCRA studies, developing a plan and record of decision (ROD), and performing the remedial actions. Planning follows EPA guidance for the RI/FS, which are intended to meet RCRA facility investigation/corrective measures study (RFI/CMS) requirements. Finally, the TPA requires that the technical requirements of the Resource Conservation and Recovery Act (RCRA) corrective action process be fulfilled (DOE/RL-2010-49, Draft B).

A draft work plan has been developed describing the activities needed to complete the CERCLA RI/FS activities[14] and make a remedial decision for the 200-IS-1 OU waste sites (DOE/RL-2010-114, Draft A). Remedial actions for the pipeline waste sites in the Inner Area of the Central Plateau (including those in CP-LS-7) are also required to incorporate the RCRA corrective action process[15] and apply the RCRA closure process to pertinent treatment, storage, and disposal (TSD) units and ancillary equipment (DOE/RL-2010-114, Draft A, p. iii). A coordinated approach is described in the draft work plan to perform RI/FS activities and also comply with the applicable RCRA elements (i.e., RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) and closure plan(s)) for tank system ancillary equipment, including CP-LS-7 waste sites.

The 200-IS-1 OU includes three RCRA TSD units; one of which (i.e., the CX Tank System, including Tanks 241-CX-70, 241-CX-71, and 241-CX-72) is part of the CP-LS-7 EU. The CX Tank System has a RCRA TSD Closure Plan (DOE/RL-2008-51, Rev. 1). Plans to interim stabilize the 241-WR Vault (part of the CP-LS-7 EU) were also developed (WHC-SD-DD-TI-074, Rev. 0; WHC-SD-DD-TI-080, Rev. 0).

Applicable regulatory documentation

DOE/RL-2010-114, Draft A, *200-IS-1 Operable Unit Pipeline System Waste Sites RFI/CMS/RI/FS Work Plan*, U.S. Department of Energy, Richlands Operations Office, Richland, Washington.

DOE/RL-2008-51, Rev. 1, *241-CX Tank System Closure Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

WHC-SD-DD-TI-074, Rev. 0, *Interim Stabilization Plan and Alternatives Evaluation for 241-WR Vault and 216-Z-12, 216-T-3, 216-T-6 and 241-T-361 Waste Sites*, Westinghouse Hanford Company, Richland, Washington.

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[14] *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 USC 9601, et seq. Available at: http://uscode.house.gov/download/pls/42C103.txt.

[15] *Resource Conservation and Recovery Act of 1976*, 42 USC 6901, et seq. Available at: http://www.epa.gov/epawaste/inforesources/online/index.htm.

WHC-SD-DD-TI-080, Rev. 0, *Safety Evaluation for the Interim Stabilization of Radioactive Surface Contamination at 241-WR Vault, and 216-U-5 and 216-U-6 Waste Sites*, Westinghouse Hanford Company, Richland, Washington.

Applicable Consent Decree or TPA milestones

Federal Facility Agreement and Consent Order, 1989 and amended through June 16, 2014 (Ecology et al., 1996):

- Milestone M-015-92C; Lead Regulatory Agency: Ecology. *Submit RCRA Facility Investigation/Corrective Measures Study & Remedial Investigation/Feasibility Study Report and Proposed Corrective Action Decision/Proposed Plan for the 200-IS-1 OU to Ecology.* Due Date: 03/31/2023.
- Milestone M-015-112; Lead Regulatory Agency: Ecology. *Submit Draft B, 200-IS-1 Operable Unit Pipeline System Waste Sites RFI/CMS/RI/FS Work Plan to Ecology, including a schedule of completion dates for major tasks and deliverables*. Due Date: 02/28/2014.
- Milestone M-037-13; Lead Regulatory Agency: Ecology. *Complete Unit-Specific Closure Requirements according to the closure plan-241-CX Tank System (241-CX-70/71/72).* Due Date: 09/30/2022.

RISK REVIEW EVALUATION INFORMATION

Completed

February 24, 2017

Evaluated by

Kevin G. Brown

Ratings/Impacts Reviewed by

Kathryn Higley

PART III. SUMMARY DESCRIPTION

CURRENT LAND USE

DOE Hanford Site for industrial use. All current land-use activities in the 200 East and 200 West Areas (which the CP-LS-7 waste sites span) are *industrial* in nature (EPA 2012).

DESIGNATED FUTURE LAND USE

Industrial-Exclusive. All four land-use scenarios listed in the Comprehensive Land Use Plan (CLUP) indicate that the 200 East and 200 West Areas are denoted *Industrial-Exclusive* (DOE/EIS-0222-F). An industrial-exclusive area is “suitable and desirable for treatment, storage, and disposal of hazardous, dangerous, radioactive, and nonradioactive wastes” (DOE/EIS-0222-F).

PRIMARY EU SOURCE COMPONENTS

Legacy Source Sites

The CP-LS-7 waste sites primarily consist of cross-site transfer pipelines outside of the Tank and Waste Farms evaluation units (Appendix E.1 through Appendix E.11). The CP-LS-7 waste sites include 200 East to West transfer lines, IMUSTS, catch tanks, diversion boxes, etc.

High-Level Waste Tanks and Ancillary Equipment

The CP-LS-7 EU waste sites include five pipelines associated with the Single Shell Tank System (DOE/RL-2010-114, Draft A, p. A-4 – A-15) and thus the Tank and Waste Farms EU (Appendix E.1 through Appendix E.11). However, no CP-LS-7 pipeline waste sites have reported inventories (Table G.13-3 through Table G.13-5). Pipelines and associated equipment waste sites are considered treated in the Tank Waste and Farms EU (Appendix E.1 through Appendix E.11). Any remaining pipeline and related wastes sites will not be evaluated further due to a lack of inventory information. Known leaks from pipelines and associated equipment are managed as UPRs.

Groundwater Plumes

The saturated zone directly beneath the CP-LS-7 EU area currently has elevated levels of carbon tetrachloride (CCl_4), I-129, nitrate, trichloroethene (TCE), Tc-99, and uranium based on 2014 groundwater monitoring results (http://phoenix.pnnl.gov/apps/gw/phoenix.html); however, waste sites within the CP-LS-7 EU are not suspected of contributing significant amounts of even mobile contaminants to the saturated zone (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Furthermore, for those CP-LS-7 EU waste sites with reported inventories (Table G.13-3 through Table G.13-5), contaminants are either contained in underground storage vaults and tanks, or most contaminants are not suspected of being mobile in the subsurface (and thus would not likely impact groundwater over the time period considered in this Review). The one exception is nitrate from the UPR-200-W-138, which is a Group C primary contaminant (CRESP 2015a) and likely a negligible part of the total nitrate inventory to the Central Plateau GW EUs (Appendix D.5 and Appendix D.6).

Operating Facilities

Not applicable

D&D of Inactive Facilities

Not applicable

LOCATION AND LAYOUT MAPS

The 200-IS-1 OU (which contains many of the waste sites comprising the CP-LS-7 EU) is located in the Hanford Central Plateau Inner Area (shown in Figure G.13-1 and Figure G.13-2). The 200 Area Transfer Pipeline EU (Figure G.13-3) spans a limited area between the 200 West and 200 East Areas.

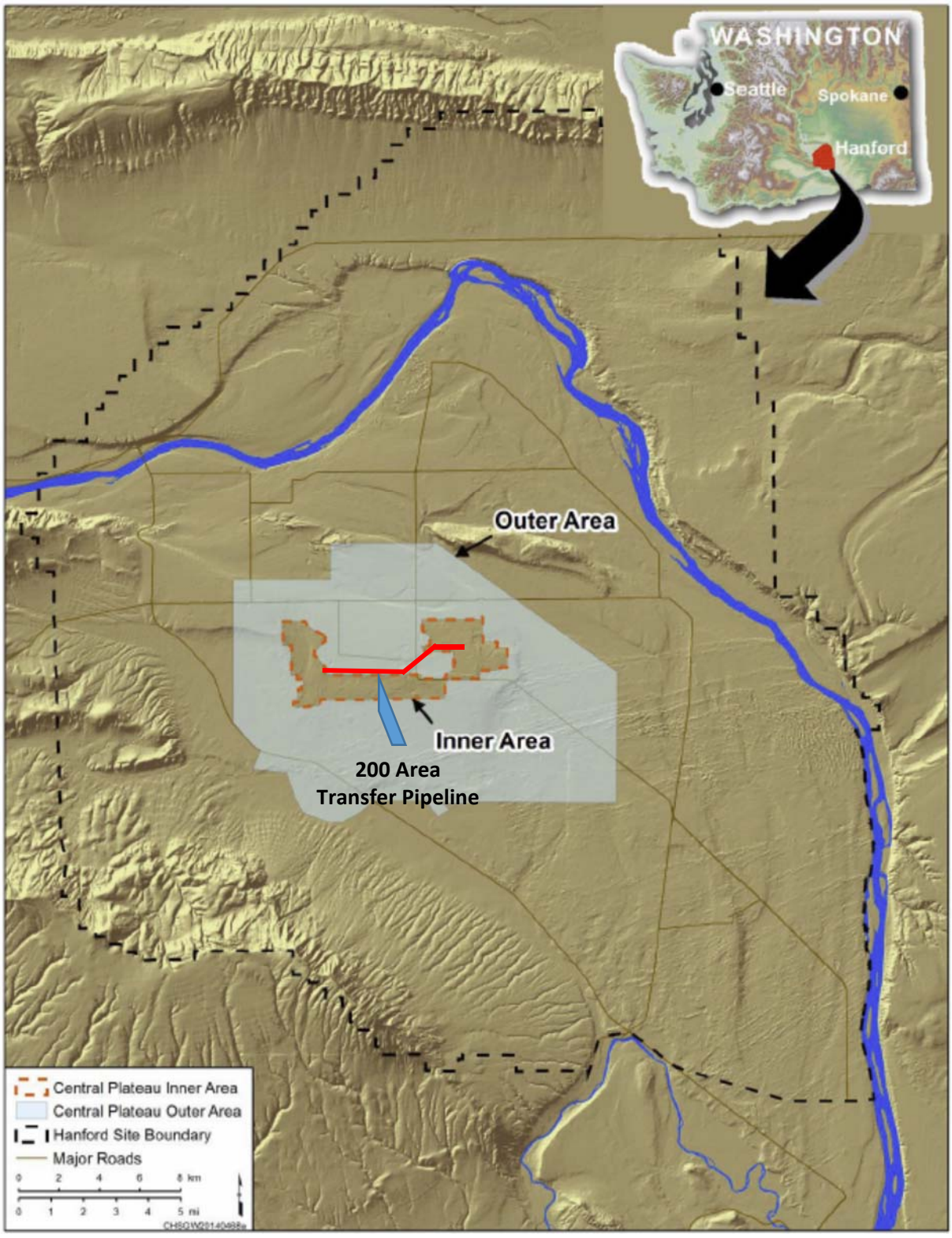

Figure G.13-1. The Hanford Site showing the Central Plateau Inner and Outer Areas (reproduced from (DOE/RL-2010-49, Draft B, p. 1-2))

Figure G.13-2. Operable Units in the Hanford Central Plateau Inner Area (reproduced from (DOE/RL-2010-49, Draft B, p. 1-10))

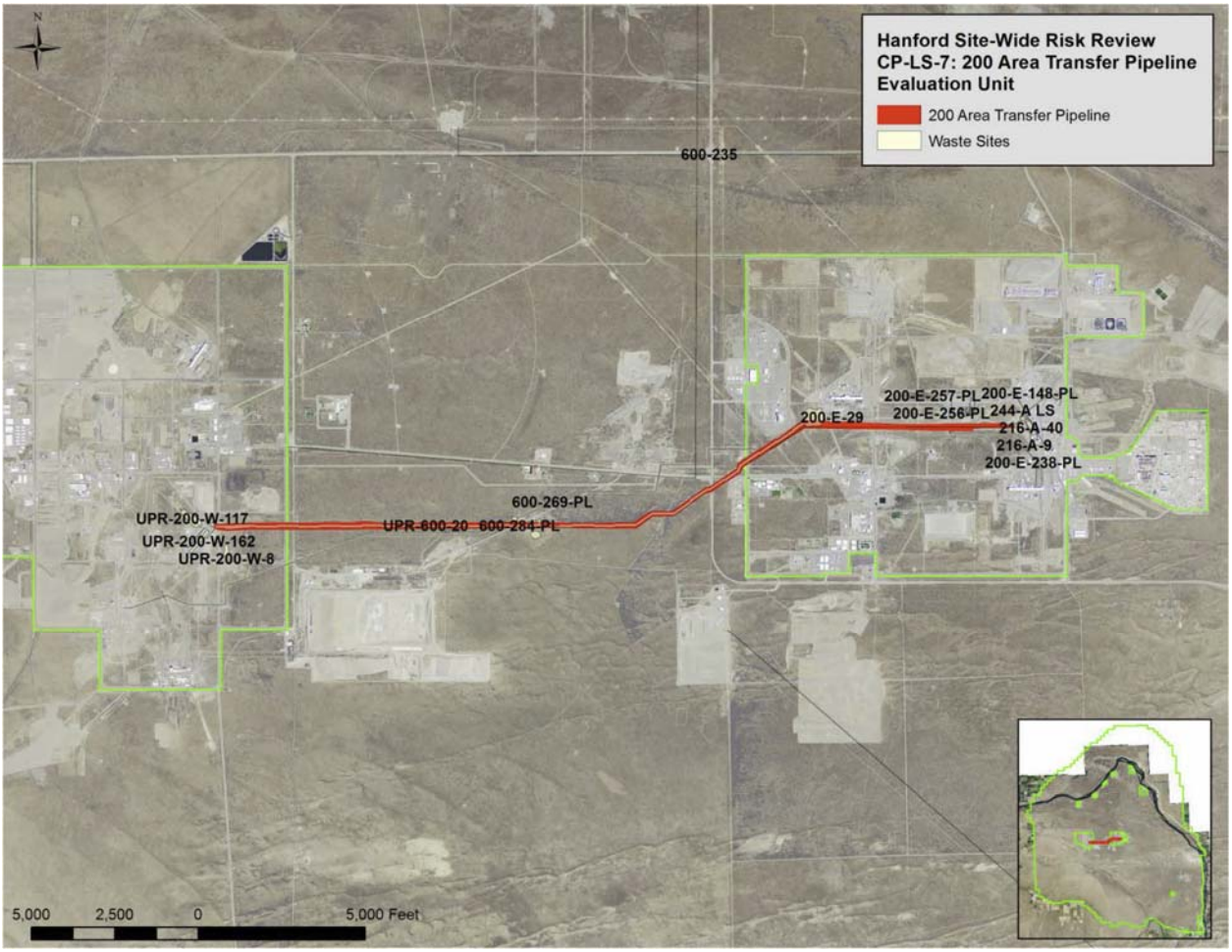

Figure G.13-3. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map and WIDS Locations

PART IV. UNIT DESCRIPTION AND HISTORY

EU FORMER/CURRENT USE(S)

The CP-LS-7 waste sites primarily consist of cross-site transfer pipelines outside of Tank Farms evaluation units. These pipelines and associated equipment were used to move waste within the 200 West and 200 East Areas as well as to move waste from 200 West to 200 East Areas (e.g., see the 600-284-PL or old cross-site transfer line that has been replaced with 600-269-PL or the new cross-site transfer tine).

LEGACY SOURCE SITES

For the CP-LS-7 waste sites with reported inventories, the 241-CX-72 is a below-grade storage tank that operated for one year during 1957 and 1958 and stored Strontium Semiworks Complex (SSC) waste generated from PUREX process pilot studies (DOE/RL-2008-51, Rev. 1). Between 1952 and 1976, the 241-WR Vault received uranium and thorium slurry solutions (via underground pipelines) from the single shell tanks and prepared the waste to be fed into 221-U facility to extract the uranium and thorium (DOE/RL-88-30, Rev. 23).There are nine 189,000-liter (50,000-gallon) tanks of which four are suspected

of leaking. The UPR-200-E-release of contaminated acid from the 241-ER-311(A) Catch Tank occurred in March 1953 (DOE/RL-88-30, Rev. 23). UPR-200-W-138 occurred in 1953 when uranyl nitrate hexahydrate solution overflowed into the 221-U Building Vessel Vent Blower Pit and then onto the ground through a French Drain (DOE/RL-88-30, Rev. 23). As indicated in Table G.13-3 through Table G.13-5, the 200 Area Transfer Pipeline EU waste sites *with reported inventory data* consists of two MUSTs and two UPRs. These waste sites are considered representative of the major inventory sources and thus risks from this EU.

GROUNDWATER PLUMES

The saturated zone beneath the CP-LS-7 EU area, including parts of the 200-UP GWIA (in 200 West) and the 200-BP and 200-PO GWIAs (in 200 East), currently has elevated contaminant levels; however, waste sites within the CP-LS-7 EU are not suspected of contributing contaminants to the saturated zone (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Thus no plumes have been associated with the CP-LS-7 waste sites.

D&D OF INACTIVE FACILITIES

Not applicable.

ECOLOGICAL RESOURCES SETTING

Landscape Evaluation and Resource Classification

The 200 Area Transfer Pipeline EU comprises almost 79 acres of biological resources classified as level 2 or lower (Appendix J, Table J.20). Less than 5 % of the EU is classified as level 3 resources, while 22.5% (24.5 acres) is classified as level 4. The latter area is in the segment of pipeline between 200 East and 200 West areas, where there is a large expanse of relatively continuous higher level biological resources.

Table G.13-2. Area and Proportion of Each Biological Resource Level Within the 200 Area Transfer Pipeline EU in Relation to Adjacent Landscape and Potential Maximum Change in Resources.

Resource Level[a]	Evaluation Unit Area (ac)	Adjacent Landscape Buffer (ac)	Combined Total Area (ac)	Resource Level in Combined Total Area (%)	Resource Level in Combined Total Area After Cleanup[b] (%)	Difference at Landscape Scale After Cleanup[b] (%)
0	71.8	90.9	162.7	26.34%	32.31%	5.97%
1	1.3	27.8	29.1	4.71%	4.50%	-0.21%
2	5.7	85.2	90.9	14.73%	13.80%	-0.93%
3	5.3	64.3	69.6	11.28%	10.41%	-0.86%
4	24.5	240.7	265.2	42.95%	38.98%	-3.97%
5	0	0	0	0.00%	0.00%	0.00%
Total	108.7	508.9	617.5	100.00%	100.00%	

a. Resource levels for both the evaluation unit and adjacent landscape boundary were reviewed in the field and via imagery during May-August 2015 and revised to reflect current habitats conditions.

b. Potential maximum change in area of a given resource level within the combined total area (Evaluation Unit + Adjacent Landscape Buffer) that would occur assuming that all habitat within the evaluation unit is destroyed by remediation activities and the resource level of the evaluation unit is level 0.

The amount and proximity of biological resources surrounding the 200 Area Transfer Pipeline EU were examined within the adjacent landscape buffer area. A circular buffer area around such a long and narrow EU was not reasonable; therefore a strip 2 times the average width of the EU (430 ft [131 m]) was added to all sides of the EU boundary (Appendix J, Figure J.22). Nearly 283 acres (~46%) of the combined EU and buffer area is classified as a level 2 or lower resource. Of the remaining 335 acres of combined EU and buffer area, 79% is classified as level 4 and 21% as level 3 habitat.

Field Survey

The EU is long and narrow, with a length of over 4.7 miles (7.6 km) and a width varying from 55 ft to 245 ft (16.5 to 74.5 m) wide. PNNL ecologists conducted a driving survey to confirm the resource levels within and adjacent to the 200 Area Transfer Pipeline EU. Percent canopy cover data in Table J.19 (Appendix J)Error! Reference source not found. are based on previous ECAP data, photographs taken in June 2015 at various points along the pipeline, and a visual survey in October 2015.The driving survey was performed on June 15, 2015. The area immediately above and adjacent to the pipeline is kept free of vegetation through regular applications of herbicides, and the EU polygon is centered on this vegetation free area (Appendix J, Figure J.22). Along either side of the vegetation free zone is a band of Russian thistle (*Salsola tragus*), an introduced forb, where herbicides have been applied. Beyond the area impacted by herbicide, a narrow strip of habitat occurs within the EU that is contiguous with habitats located beyond the EU boundary. The following discussion addresses these narrow habitat bands within the 200 East and 200 West Areas and the segment between them (Appendix J, Figure J.22).

Inside the 200 East Area, the 200 Area Transfer Pipeline EU is bounded on the south by the 200E Miscellaneous Waste Sites and on the north by the CSB, B Plant Cribs and Trenches, and 200E Burial Ground EUs. Summaries for each of these EUs provide additional details and species lists for the vegetation, birds and other animals occurring near the 200 Area Transfer Pipeline EU. Throughout most of the portion of the EU that lies within the 200 East Area, the EU is almost entirely bare ground bordered by a band of habitat with varying amounts of Russian thistle. However, in several places the EU boundary extends beyond this band of weeds into surrounding habitat. On the north side of the EU, the native habitat consists of successional shrubs, primarily gray rabbitbrush (*Ericameria nauseosa*) with a mix of Sandberg's bluegrass (*Poa secunda*) and introduced cheatgrass (*Bromus tectorum*) in the understory and Russian thistle scattered throughout. On the south side of the EU within 200 East, a few patches of mature shrub-steppe dominated by big sagebrush (*Artemisia tridentata*) lie within the EU boundary and contain cheatgrass and a mixture of sand-loving native and introduced forbs in the understory.

Habitat between the 200 East and 200 West Areas is primarily undisturbed shrub-steppethat is bisected by an increasing number of pipelines and roads constructed to support Hanford Site cleanup activities. In 2000, a large wildfire burned up to the south side of the pipeline removing much of the shrub cover between ERDF and the 200 East Area. The burned area habitat within the EU is dominated now by cheatgrass and Russian thistle with scattered native grasses and forbs (Appendix J, Table J.19**Error! Reference source not found.**). In areas not burned, the climax community is dominated by big sagebrush (30% cover) with a mixed understory of cheatgrass (10%), Russian thistle (20%) and native grasses and forbs (Appendix J, Table J.19**Error! Reference source not found.**). Sand has blown in around the sagebrush bordering the cleared areas, resulting in a high percentage of bare ground with very little understory vegetation. Evidence of recent use by black-tailed jackrabbits (*Lepus californicus*) was observed in several locations along this segment of the EU. Black-tailed jackrabbits are a Washington state candidate species. Lists of observed plant and animal species are provided in the Field Data Records at the end of this EU description in Appendix J.

The portion of the EU within the 200 West boundary abuts the 200W Miscellaneous Waste Sites and U Plant Cribs and Trenches EUs. Summaries for those EUs provide additional details and species lists for the vegetation, birds and other animals. Near the 200 West fence, the 200 Area Transfer Pipeline EU runs through mature shrub-steppe where sagebrush cover is approximately 20% with an understory of native and introduced grasses (Appendix J, Table J.19**Error! Reference source not found.**). The EU also includes a patch of successional vegetation consisting of gray rabbit brush (around 15%) with an understory of Sandberg's bluegrass (15%) and cheatgrass (25%) and Russian thistle before terminating in graveled and disturbed area at the west end of the EU (Appendix J, Table J.19**Error! Reference source not found.**).

CULTURAL RESOURCES SETTING

Portions of the CP-LS-7, 200 Area Transfer Pipeline EU have been inventoried for archaeological resources. It is unknown if an NHPA Section 106 review has been completed specifically for the remediation of the CP-LS-7, 200 Area Transfer Pipeline EU. One archaeological site associated with the Manhattan Project and Cold War Era Landscape lies within the boundary of the EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis. Additionally, a segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the EU. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998), all documentation requirements have been completed for this property

Three archaeological sites have been recorded within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, one is associated with the Pre-Hanford Early Settlers/Farming Landscape and one is a multi-component site with elements from both of these landscapes. The archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape is the only one that has been evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The other two sites remain unevaluated. In addition, there are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within the Evaluation Unit (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with documentation required and 24 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998) and building demolition is ongoing.

Historic maps and aerial imagery indicate that the area was largely undeveloped, suggesting a low potential for the presence of archaeological resources associated with the Pre-Hanford Early Settlers/Farming Landscape. The geomorphology within the CP-LS-7, 200 Area Transfer Pipeline EU suggests a moderate potential for the presence of archaeological resources associated with the Native American Precontact and Ethnographic Landscape within the surface and subsurface component of this EU. A review of recent aerial imagery of the area indicates most of the EU is heavily disturbed from the installation and maintenance of the transfer pipeline, however small pockets of undisturbed deposits do appear to exist adjacent to these areas, suggesting a moderate potential for intact surface and

subsurface archaeological resources. Resources, if present, would likely be limited to areas of intact or undisturbed soils.

Because of the potential for intact archaeological deposits within the CP-LS-7, 200 Area Transfer Pipeline EU, it may be appropriate to conduct surface and possibly subsurface archaeological investigations in these areas prior to initiating any remediation activities. Indirect effects are always possible when TCPs are known to be located in the general vicinity. Consultation with Hanford Tribes (Confederated Bands of the Yakama Nation, Wanapum, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce) and other groups who may have an interest in the areas (e.g. East Benton Historical Society, Prosser Cemetery Association, Franklin County Historical Society, the Reach, and the B-Reactor Museum Association) may need to occur. Consultation with Hanford Tribes may also be necessary to provide input on indirect effects to both recorded and potential unrecorded TCPs in the area and other cultural resource issues of concern.

PART V. WASTE AND CONTAMINATION INVENTORY

There are four waste sites in the CP-LS-7 EU that have reported inventory information in Appendix S of the EIS (DOE/EIS-0391) and SIM, Rev. 1 (Corbin, et al., 2005) (i.e., Table G.13-3 through Table G.13-5) and are considered representative of the major inventory sources and risks from this EU. These waste sites (with reported inventories) include two MUSTs:

- The 241-CX Tank System is a unit with three below-grade tanks and associated ancillary equipment located in the 200 East Area that operated from 1952 to 1958 to support the Reduction-Oxidation Plant (REDOX) and Plutonium-Uranium Extraction Plant (PUREX) process pilot studies (WA7890008967 Part V, Closure Unit Group 15, 241-CX Tank System). Tank 241-CX-72 contains waste overlain with grout that was added in 1986 for stabilization. A containment building is in place over tank 241-CX-72.
- The 241-WR vault is located immediately northeast of U Plant, in the east central portion of the 200 West Area (WHC-SD-DD-TI-074 Rev. 0). The vault is a below-grade structure with nine chambers, each with 50,000-gal tank. It was estimated that a 2-ft tank heel remains in each tank although one tank was reportedly damaged and would not hold liquid and two others were leaking (WHC-SD-DD-TI-080, Rev. 0). Some decommissioning work has been completed, including removal of the exhaust stack, utilities, and isolation of facility exhaust lines (WHC-SD-DD-TI-074 Rev. 0).

The CP-LS-7 EU waste sites also include two UPRs (DOE/RL-92-19, Rev. 0):

- The UPR-200-E-84 UPR consisted of contaminated acid with approximately 10 curies of fission products from the 241-ER-311(A) Catch Tank released in March 1953 adjacent to the 241-ER-151 Diversion Box, southwest of the 221-B Building (DOE/RL-88-30, Rev. 23).
- The UPR-200-W-138 UPR occurred at the northwest corner of the 221-U Building and is located inside the larger, surface stabilized area, UPR-200-W-162. Uranyl nitrate hexahydrate (UNH) solution overflowed into the 221-U Building Vessel Vent Blower Pit, and then onto the ground through the French Drain (DOE/RL-88-30, Rev. 23). The area has been surface stabilized and posted with Underground Radioactive Material signs.

CONTAMINATION WITHIN PRIMARY EU SOURCE COMPONENTS

Legacy Source Sites

The CP-LS-7 EU waste sites are legacy sites and the inventory information is provided in Table G.13-3 through Table G.13-5.

Vadose Zone Contamination

Two of the four CP-LS-7 EU waste sites with reported inventories are legacy sites (i.e., UPRs) that represent soil and other vadose zone contamination, and the inventory information is provided in Table G.13-3 through Table G.13-5. The two MUSTs (241-CX-72 and 241-WR VAULT) are excluded because there is no indication that leaks have occurred outside these sites (although tank leaks within the 241-WR Vault were noted in the 1960s (DOE/RL-88-30, Rev. 23, pp. 1129-1130)).

The inventories provided in Table G.13-3 through Table G.13-5 (minus those for 241-CX-72 and 241-WR VAULT) represent the reported contamination originally discharged (without decay correction[16]) to the vadose zone from the CP-LS-7 EU waste sites. These values are used to estimate the inventory remaining in the vadose zone using the process described in the Methodology Report (CRESP 2015a) for the 2013 groundwater plume information as revised for the 2015 Groundwater Monitoring Data (DOE/RL-2016-09, Rev. 0) described in Appendix D.1. The focus in this section will be on the Group A and B contaminants (CRESP 2015a) in the vadose zone due to their mobility and persistence and potential threats to groundwater (a protected resource). To summarize (where no current plumes are associated with the CP-LS-7 EU waste sites as described below)[17]:

- *Chromium* – There are reported inventories for chromium in the CP-LS-3 waste sites (Table G.13-5) and current plumes in the vicinity; however, none of these have been associated with the CP-LS-7 waste sites (DOE/RL-2016-09, Rev. 0). The inventory is dominated by UPR-200-W-138.
- *Carbon tetrachloride (CCl_4) and trichloroethene (TCE)* – There are current plumes in the vicinity but no reported vadose zone inventories for these contaminants (Table G.13-5).
- *I-129* – There is a small reported inventory for I-129 (Table G.13-3) and plumes in the vicinity. The vadose zone inventory is small (4E-06 Ci) and is dominated by UPR-200-E-84.
- *Tc-99* – There are reported inventories for Tc-99 (Table G.13-4) and plumes in the vicinity. The vadose zone inventory is small (4E-04 Ci) and dominated by UPR-200-W-138.
- *Uranium* – There are plumes in the vicinity and reported vadose zone inventories for uranium (Table G.13-4 and Table G.13-5). The vadose zone inventory is dominated by UPR-200-W-138.
- *Sr-90 and other Group A&B Primary Contaminants (PCs)* – There are no current plumes for Sr-90 or other Group A&B PCs not mentioned above (i.e., C-14, Cl-36, or CN) in the vicinity (although there are Sr-90 plumes within 0.4 km). There are small reported vadose zone inventories for Sr-

[16] As described in the Methodology Report (CRESP 2015a) values are typically not decay corrected because of the large uncertainties in many of the values used in the CRESP evaluations and the rough-order-of-magnitude evaluations presented in the Review. One exception, for example, is when evaluating long-term impacts to groundwater for Group A and B radionuclides (e.g., Sr-90) with half-lives that are relatively short relative to the evaluation period (CRESP 2015a).

[17] The plume information is primarily taken from PHOENIX (http://phoenix.pnnl.gov/apps/gw/phoenix.html) that show the 2014 groundwater plumes. These plumes were assumed representative of 2015 groundwater plumes.

90 (Table G.13-4) and C-14 (Table G.13-3) but none for Cl-36 (Table G.13-3) or CN (Table G.13-5). The small reported Sr-90 vadose zone inventory (1E-4 Ci) is for UPR-200-E-84. The small reported C-14 inventory (4E-8 Ci) is for UPR-200-E-84 and is likely too small to be distinguishable from other major Central Plateau sources evaluated in other EUs. The majority of the small amount of Sr-90 originally discharged into the vadose zone would have had to travel through much of the vadose zone to impact groundwater and is likely to have significantly dispersed and decayed. Thus Sr-90 (and the remaining Group A and B PCs for the reasons mentioned above) are not considered significant threats to the Hanford groundwater.

Using the process outlined in Chapter 6 of the Methodology Report (CRESP 2015a) for the 2013 groundwater results as revised for the 2015 Groundwater Monitoring Data (DOE/RL-2016-09, Rev. 0) described in Appendix D.1, the remaining vadose zone inventories in Table G.13-6 are estimated by difference and used to calculate Groundwater Threat Metric (GTM) values for the Group A and B contaminants remaining in the vadose zone as illustrated in Table G.13-6. Note that the vadose zone (VZ) ratings range from *ND* for total uranium and Sr-90 to *Low* for the other Group A and B PCs with reported inventories. Because there is no current Sr-90 or total uranium plume nor one expected for the next 150 years as described above, the current ratings for Sr-90 and total uranium are *Not Discernible* (*ND*). The overall current rating is defined as the highest over all the ratings and thus *Low*.

Groundwater Plumes

Sites within the CP-LS-7 EU are not suspected of contributing (even mobile) contaminants to the saturated zone in detectable quantities (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Monitoring and treatment of groundwater is being conducted within the 200-UP GWIA (using the WMA S-SX groundwater extraction system, U Plant area P&T system, and I-129 plume hydraulic control system) (Appendix D.6) and groundwater is also monitored in the 200-BP and 200-PO GWIAs (Appendix D.5). The saturated zone inventories related to the CP-LS-7 EU, which are zeros, are provided in Table G.13-6; the process for deriving these inventories is described in CRESP Methodology Report (CRESP 2015a) originally for the 2013 groundwater plume information as revised for the 2015 Groundwater Monitoring Data (DOE/RL-2016-09, Rev. 0) described in Appendix D.1.

In general the 2015 groundwater plumes are evaluated in separate EUs (see Appendix D.1 through Appendix D.6); however, no portions of current groundwater plumes are associated with the CP-LS-7 EU based on source information in the Groundwater Monitoring Report (DOE/RL-2016-09, Rev. 0). Note that carbon tetrachloride (*Very High*) is the primary risk driver for the 200-ZP GWIA, Sr-90 (*High*) is the risk driver for 200-BP, and I-129 (*Very High*) is the primary risk driver for 200-PO; however, there are no CP-LS-7 EU sources associated with these plumes, and the remaining vadose zone sources from other EUs would drive future risks to groundwater.

Impact of Recharge Rate and Radioactive Decay on Groundwater Ratings

The CP-LS-7 EU waste sites intersect with parts of the 200-UP, 200-PO, and 200-BP GWIAs. The TC&WM EIS screening groundwater transport analysis (Appendix O, DOE/EIS-0391 2012) indicates that there may varied impacts resulting from emplacing an engineered surface barrier (and resulting reduction of infiltrating water) on the predicted peak groundwater concentrations in the Central Plateau region. However, ratings related to remaining vadose zone inventories (Group A and B) are already *Low* (Table G.13-6), and thus any changes from limiting infiltration will not impact ratings (to account for uncertainties in the evaluation). Radioactive decay may also impact Sr-90 (of the Group A and B primary contaminants); however, the remaining vadose zone inventory is already very small, and decay will not change the rating for Sr-90 (which is already *Low*).

Table G.13-3. Inventory of Primary Contaminants [a]

WIDS	Description	Decay Date	Ref[b,c]	Am-241 (Ci)	C-14 (Ci)	Cl-36 (Ci)	Co-60 (Ci)	Cs-137 (Ci)	Eu-152 (Ci)	Eu-154 (Ci)	H-3 (Ci)	I-129 (Ci)
All	Sum[d]			0.00017	3.90E-08	NR	2.00E-07	4.60E-05	1.80E-08	1.30E-06	0.3	3.80E-06
241-CX-72	MUST	1986	EIS-S	NR	NR	NR	NR	NR	NR	NR	NR	NR
241-WR VAULT	MUST	1976	EIS-S	NR	NR	NR	NR	NR	NR	NR	NR	NR
UPR-200-E-84	UPR	2001	SIM	0.00017	3.90E-08	NR	2.00E-07	4.60E-05	1.80E-08	1.30E-06	0.067	3.80E-06
UPR-200-W-138	UPR	2001	SIM	NR	NR	NR	NR	NR	NR	NR	0.23	NR

a. NR = Not reported for indicated EU
b. EIS-S = DOE/EIS-0391 2012
c. SIM = RPP-26744, Rev. 0 (Corbin, et al. 2005)
d. Radionuclides are summed without decay correction since the uncertainties in inventories are large.

Table G.13-4. Inventory of Primary Contaminants (cont)[a]

WIDS	Description	Decay Date	Ref[b,c]	Ni-59 (Ci)	Ni-63 (Ci)	Pu (total) (Ci)	Sr-90 (Ci)	Tc-99 (Ci)	U (total) (Ci)
All	Sum[d]			9.90E-09	9.20E-07	3	60	0.00044	0.0088
241-CX-72	MUST	1986	EIS-S	NR	NR	3	NR	NR	NR
241-WR VAULT	MUST	1976	EIS-S	NR	NR	NR	60	NR	NR
UPR-200-E-84	UPR	2001	SIM	9.90E-09	9.20E-07	0.00027	0.00012	1.20E-06	5.30E-07
UPR-200-W-138	UPR	2001	SIM	NR	NR	NR	NR	0.00044	0.0088

a. NR = Not reported for indicated EU
b. EIS-S = DOE/EIS-0391 2012
c. SIM = RPP-26744, Rev. 0 (Corbin, et al. 2005)
d. Radionuclides are summed without decay correction since the uncertainties in inventories are large.

Table G.13-5. Inventory of Primary Contaminants (cont)[a]

WIDS	Description	Ref[b,c]	CCl_4 (kg)	CN (kg)	Cr (kg)	Cr-VI (kg)	Hg (kg)	NO3 (kg)	Pb (kg)	TBP (kg)	TCE (kg)	U (total) (kg)
All	Sum		NR	NR	0.0016	NR	5.50E-05	2.30E+02	NR	NR	NR	13
241-CX-72	MUST	EIS-S	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
241-WR VAULT	MUST	EIS-S	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
UPR-200-E-84	UPR	SIM	NR	NR	NR	NR	NR	4.20E+00	NR	NR	NR	0.00078
UPR-200-W-138	UPR	SIM	NR	NR	0.0016	NR	5.50E-05	2.30E+02	NR	NR	NR	13

a. NR = Not reported for indicated EU
b. EIS-S = DOE/EIS-0391 2012
c. SIM = RPP-26744, Rev. 0 (Corbin, et al. 2005)

Table G.13-6. Summary of the Evaluation of Current Threats to Groundwater as a Protected Resource from Saturated Zone (SZ) and Remaining Vadose Zone (VZ) Contamination associated with the Evaluation Unit

PC	Group	WQS	Porosity[a]	K_d (mL/g)[a]	ρ (kg/L)[a]	VZ Source M^{Source}	SZ Total M^{SZ}	Treated[c] M^{Treat}	VZ Remaining M^{Tot}	VZ GTM (Mm^3)	VZ Rating[d]
C-14	A	2000 pCi/L	0.23	0	1.84	3.94E-08 Ci	---	---	3.94E-08 Ci	1.97E-08	*Low*
I-129	A	1 pCi/L	0.23	0.2	1.84	3.80E-06 Ci	---	---	3.80E-06 Ci	1.46E-03	*Low*
Sr-90	B	8 pCi/L	0.23	22	1.84	1.20E-04 Ci	---	---	1.20E-04 Ci	8.46E-05	*ND*[e]
Tc-99	A	900 pCi/L	0.23	0	1.84	4.44E-04 Ci	---	---	4.44E-04 Ci	4.93E-04	*Low*
CCl_4	A	5 µg/L	0.23	0	1.84	---	---	---	---	---	*ND*
Cr	B	100 µg/L	0.23	0	1.84	1.61E-03 kg	---	---	1.61E-03 kg	1.61E-05	*Low*
Cr-VI	A	48 µg/L[b]	0.23	0	1.84	1.61E-03 kg	---	---	1.61E-03 kg	3.36E-05	*Low*
TCE	B	5 µg/L	0.23	2	1.84	---	---	---	---	---	*ND*
U(tot)	B	30 µg/L	0.23	0.8	1.84	1.29E+01 kg	---	---	1.29E+01 kg	5.83E-02	*ND*[e]

a. Parameters obtained from the analysis provided in Attachment 6-1 to Methodology Report (CRESP 2015a).
b. "Model Toxics Control Act—Cleanup" (WAC 173‑340) Method B groundwater cleanup level for hexavalent chromium.
c. Treatment amounts from the 2015 Hanford Annual Groundwater Report (DOE/RL-2016-09, Rev. 0).
d. Groundwater Threat Metric rating based on Table 6-3, Methodology Report (CRESP 2015a).
e. As discussed in **Part V**, no appreciable Sr-90 or total uranium plume would be expected in the next 150 years. The *Low* rating would apply after the Active Cleanup to account for uncertainties.

PART VI. POTENTIAL RISK/IMPACT PATHWAYS AND EVENTS

CURRENT CONCEPTUAL MODEL

Pathways and Barriers

Briefly describe the current institutional, engineered and natural barriers that prevent release or dispersion of contamination, risk to human health and impacts to resources:

1. What nuclear and non-nuclear safety accident scenarios dominate risk at the facility? What are the response times associated with each postulated scenario?

Many CP-LS-7 EU waste sites were covered in soil, which is maintained as needed to prevent release to the air or intrusion by biological receptors or humans. Other sites have been partially remedied. The primary accident scenarios are direct human and ecological contact to any aboveground contamination, which is considered limited with signs posted. Thus major risks to workers would tend to be related to standard industrial risks ("slips, trips, and falls") and those related to monitoring activities including sampling and well drilling.

2. What are the active safety class and safety significant systems and controls?

Remedial actions include monitoring and treatment of groundwater is being conducted (using the WMA S-SX groundwater extraction system, U Plant area P&T system, and I-129 plume hydraulic control system in 200-UP) and a treatability study is being conducted to remove uranium from the perched water zone beneath B Complex in 200-BP. However, there are no active safety class or safety significant systems and controls.

3. What are the passive safety class and safety significant systems and controls?

Not applicable

4. What are the current barriers to release or dispersion of contamination from the primary facility? What is the integrity of each of these barriers? Are there completed pathways to receptors or are such pathways likely to be completed during the evaluation period?

The primary barriers to release and transport from the waste sites, include sorption to vadose zone and saturated zone media and soil cover (EPA 2011). The soil is still in place although waste sites within the CP-LS-7 EU may be contaminating the surrounding vadose zone media although they will unlikely lead to additional saturated zone contamination during the period that this Review is evaluating. There is a deep vadose zone beneath the 200 East and 200 West Areas through which contaminants must travel to reach groundwater and then to off-site areas (e.g., Columbia River) where receptors could be exposed. Restrictions on use of site groundwater (albeit not currently contaminated from CP-LS-7 waste sites) would represent a barrier to exposure. Because of relatively long travel times, natural attenuation of the radionuclides with relatively short half-lives (when compared to travel times) can also be considered a barrier. Furthermore, the large flow in the Columbia River tends to dilute the concentration of any contaminants to which receptors might be exposed via the surface water pathway. Thus there are currently no complete pathways to human or ecological receptors.

5. What forms of initiating events may lead to degradation or failure of each of the barriers?

Those events (e.g., significant water line break or increased infiltration including temporary cover degradation) that could provide sufficient water to the CP-LS-7 waste sites to cause additional release and migration of the relatively more mobile species (e.g., Cr, Tc-99, and I-129) in the Hanford subsurface

environment. However, as indicated in Table G.13-3 through Table G.13-5, the amounts of these more mobile contaminants are small.

6. What are the primary pathways and populations or resources at risk from this source?

The primary pathway from the CP-LS-7 EU waste sites is release to the vadose zone (primarily from contact with infiltrating water) and then migration to the saturated zone (groundwater), which is considered a protected resource (and thus receptor) and ultimately the Columbia River (which is also considered a protected resource and thus a receptor for the purpose of this study). Either contaminated groundwater (after use restrictions are lifted) or surface water (Columbia River) may be used by human or ecological receptors. There are currently complete pathways for the exposure of ecological receptors to vadose zone contaminants in legacy source areas. There will also be other possible pathways (ingestion, external radiation and dermal, inhalation) from residual wastes to human and ecological receptors after institutional controls are lifted.

7. What is the time frame from each of the initiating events to human exposure or impacts to resources?

As described in the CP-GW-2 (Appendix D.6), the relatively long residence times in Hanford groundwater are consistent with recharge conditions for a semi-arid site; however, there is variation in expected residence times (PNNL-6415 Rev. 18, p. 4-72). Groundwater travel time from 200-West to 200-East (50+ years) and then from 200 East to the Columbia River is (~10-30 years) limits impacts to the Columbia River to very mobile contaminants over very long time frames. Travel times from the 200 Areas to the Columbia River are expected to decrease because of the reduced hydraulic gradient from the discontinued wastewater recharge in the 200 Areas.

8. Are there current on-going releases to the environment or receptors?

Waste sites in the CP-LS-7 EU pose a current risk to the vadose zone and continuing risk to protected natural resources in the area including groundwater and perhaps the Columbia River in the long-term. However, since there is prohibition on the use of groundwater through the Active and Near-term, Post-Cleanup periods, there is no risk to humans. Contaminated groundwater in the 200-UP GWIA using the WMA S-SX groundwater extraction system, U Plant area P&T system (uranium plume), and I-129 plume hydraulic control system and perched water in the 200-BP GWIA is undergoing a treatability study for uranium (DOE/RL-2016-09, Rev. 0); these actions decrease risks and potential impacts to both the groundwater and the Columbia River. Groundwater in the Central Plateau is being monitored. Furthermore, the risks to benthic, riparian zone, and free-flowing ecology are minimal as described for 200 West in **Part V** of Appendix D.5 (CP-GW-1 EU) and for 200 East **Part V** of Appendix D.6 (CP-GW-2 EU).

POPULATIONS AND RESOURCES CURRENTLY AT RISK OR POTENTIALLY IMPACTED

As mentioned in **Part I**, there is no Documented Safety Analysis (DSA) or hazard analysis (HA) for the CP-LS-7 waste sites because they do not currently satisfy the requirements for performing these types of analyses. Thus evaluations of risk for this type of site (i.e., a legacy site) are often more qualitative in nature than those with a formal safety analysis.

The Department of Energy and contractor site-specific safety and health planning that includes work control, fire protection, training, occupational safety and industrial hygiene, emergency preparedness and response, and management and organization—which are fully integrated with nuclear safety and radiological protection—have proven to be effective in reducing industrial accidents at the Hanford Site to well below that in private industry. Because of similarities among waste sites within CP-LS-7 and CP-

LS-9 in 200 East (**Part VI** in Appendix G.5.7) and CP-LS-3 in 200 West (**Part VI** in Appendix G.5.3), the evaluations in these other Appendices will be used to support the evaluation of the CP-LS-7 EU.

Facility Worker

Facility workers are at risk when working in or around areas with contaminated soils, where exposure is limited because waste sites and contaminated soils are located below grade. However, during maintenance and monitoring operations near the CP-LS-7 waste sites (e.g., drilling and sampling), there may be the potential for limited exposure to hazardous and radioactive contaminants; however, risks would be minimal and short-term. Thus current risks to workers are considered not an issue due to protective soil covers over most waste sites and the safety measures taken for work activities in the area.

Facility Worker: Risks are thus rated as *Not Discernible* (*ND*) to *Low* because of the soil cover over most sites with mitigated risk of *ND* to *Low* due to both soil cover and employed safety measures.

Co-Located Person (CP)

Co-located persons would be expected to have similar reduced exposures as for facility workers.

Co-Located Person: Risks are rated as *ND* to *Low*, with mitigated risk of *ND*.

Public

The public would be expected to have significantly reduced exposure, even lower than that for facility workers and co-located persons, due to the remote distance to the site, depth from ground surface to soil contamination, and depth to groundwater contamination (and required lack of use).

Public: Risks are rated as *ND*; mitigated risk is rated as *ND*.

Groundwater

Table G.13-6 represents the risks and associated ratings for the saturated zone (groundwater) from remaining vadose zone contamination associated with the CP-LS-7 waste sites. Sites within the CP-LS-7 EU are not suspected of contributing significant amounts of even mobile contaminants to the saturated zone (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Monitoring and treatment of groundwater is being conducted within the 200-UP GWIA (200 West), which is described as part of the CP-GW-2 EU (Appendix D.6). Monitoring of groundwater is being conducted within the 200-PO and 200-BP GWIAs (200 East), which are described as part of the CP-GW-1 EU (Appendix D.5).

Columbia River

As described in Appendix D.5 (CP-GW-1 EU, **Part V**), although tritium (Group C) from the 200-PO GWIA currently intersects the Columbia River, current ratings for all contaminants for the benthic, riparian, and free-flowing ecology are *ND*. As indicated in Table G.13-3, an insignificant amount of tritium would associated with the CP-LS-7 EU waste sites with reported inventories, and these waste sites are not suspected of contributing to groundwater contamination (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0).

Ecological Resources

Summary of Ecological Review:

- Approximately 72.5% (78.8 acres) of the EU consists of level 2 or lower biological resources, while 27.4% (29.8 acres) consists of level 3 or higher resources.

- Remediation actions could result in a 4.8% change (loss) of level 3 or higher resources at the landscape level.
- Loss of the level 3 and level 4 resources within the EU during cleanup activities represents a relatively small (~10%) loss of habitat at the landscape level considered, and part of this acreage is recovering from fires; however, it does decrease the mature shrub-steppe habitat resources in the area.
- Evidence of black-tailed jackrabbits was observed in several places along the segment of the EU lying between 200 East and ERDF. This species is a Washington state candidate species.

Cultural Resources

The CP-LS-7, 200 Area Transfer Pipeline EU is located in the 200 West, 200 East and 600 Area of the Hanford Site, and runs between the former two areas (200 East and 200 West). Much of the 200 Areas were addressed in a cultural resources report entitled *Archaeological Survey of the 200 East and 200 West Areas, Hanford Site* (Chatters and Cadoret 1990). The focus of this archaeological survey was on inventorying all undisturbed portions of the 200 East and 200 West Areas. This report concluded that much of the 200 East and 200 West Areas can be considered areas of low archaeological potential with the exception of intact portions of an historic/ethnohistoric trail/road corridor which runs through the 200 West Area.

Portions of the CP-LS-7, 200 Area Transfer Pipeline EU have been inventoried for cultural resources under various survey efforts including HCRC# 87-200-004 (Chatters 1987), HCRC# 87-200-032 (Cadoret and Chatters 1988), HCRC# 87-200-036 (Hoover 1988), HCRC# 89-600-010 (Minthorn 1990), HCRC# 92-600-030 (Longenecker 1993), HCRC# 93-600-001 (Crist and Longenecker 1994), HCRC# 93-600-038 (Crist and Wright 1994), HCRC# 94-600-040 (Crist 1994), HCRC# 94-600-054 (Dauble and Wright 1994), HCRC# 94-600-065 (Crist and Cadoret 1995), HCRC# 96-200-058 (Cadoret 1996), HCRC# 2011-200-052 (Clark and Mendez 2011), HCRC# 2012-200-021 (Hay et al. 2012), HCRC# 2014-600-007 (Mendez and Hay 2014), and HCRC# 2015-600-006 (Mendez 2015). It is unknown if an NHPA Section 106 review has been completed specifically for remediation of the CP-LS-7, 200 Area Transfer Pipeline EU. Most of the EU is heavily disturbed from the installation and maintenance of the transfer pipeline, however small pockets of undisturbed deposits do appear to exist adjacent to these areas, suggesting a moderate potential for intact surface and subsurface archaeological resources.

Archaeological sites, buildings and Traditional Cultural Properties (TCPs) located within the EU[18]

- One archaeological site associated with the Manhattan Project and Cold War Era Landscape lies within the boundary of the EU. This site has been determined a National Register-eligible property, and is considered a contributing property within the Manhattan Project and Cold War Era Historic District. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998), all documentation requirements have been completed for this property. Direct impacts to contributing components of the archaeological site however have not been addressed and are dealt with on a project-by-project basis.
- A segment of the National Register-eligible Hanford Site Plant Railroad, a contributing property

[18] Traditional cultural property has been defined by the National Park Service as "a property, a place, that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices and beliefs that are (a) rooted in the history of a community, and (b) are important to maintaining the continuity of that community's traditional beliefs and practices" (Parker & King 1998).

within the Manhattan Project and Cold War Era Historic District, with documentation required, is located within the EU boundary. In accordance with the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998), all documentation requirements have been completed for this property.

- No other archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within the EU.

Archaeological sites, buildings and TCPs located within 500 meters of the EU

- Three archaeological sites have been recorded within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU. One of these resources is associated with the Native American Precontact and Ethnographic Landscape, one is associated with the Pre-Hanford Early Settlers/Farming Landscape and one is a multi-component site with elements associated with both of these landscapes. The archaeological site associated with the Pre-Hanford Early Settlers/Farming Landscape is the only one that has been evaluated for listing in the National Register of Historic Places, and it has been determined not eligible. The other two sites remain unevaluated.
- There are 33 National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the EU (all 33 are contributing within the Manhattan Project and Cold War Era Historic District, 9 with documentation required and 24 with no additional documentation required). Mitigation for contributing buildings/structures has been completed as per the *Hanford Site Manhattan Project and Cold War Era Historic District Treatment Plan* (DOE-RL 1998) and building demolition is ongoing.

  Table K.8 (Appendix K) has more information about the 33 buildings that are National Register-eligible Manhattan Project and Cold War Era buildings located within 500 meters of the CP-LS-7, 200 Area Transfer Pipeline EU.
- No additional archaeological sites/isolates, buildings and/or Traditional Cultural Properties (TCPs) are currently known to exist within 500 meters of the EU.

Closest Recorded TCP

There are 2 recorded TCPs associated with the Native American Precontact and Ethnographic Landscape that are visible from the CP-LS-7, 200 Area Transfer Pipeline EU.

CLEANUP APPROACHES AND END-STATE CONCEPTUAL MODEL

Selected or Potential Cleanup Approaches

There is no Documented Safety Analysis, hazards analysis, or feasibility study that includes the CP-LS-7 EU waste sites. Some interim actions have been planned and taken for the 241-WR Vault (WHC-SD-DD-TI-074, Rev. 0; WHC-SD-DD-TI-080, Rev. 0) and 241-CX Tank System (WA7890008967 Part V, Closure Unit Group 15; 241-CX Tank System). Future cleanup decisions for remaining CP-LS-7 waste sites will be included in decision documents (e.g., RODs or RCRA Closure Plan(s)). A set of five *plausible* remedial alternatives is provided in the Evaluation Unit Disposition Table (Appendix B) for CP-LS-7 EU, including[19]

[19] Appendix B indicated that several pipelines are being addressed per 200-MG-1 removal actions (DOE/RL-2009-48, Rev. 0; DOE/RL-2009-86, Rev. 0); however, none of the CP-LS-7 waste sites were included in the 11 200-MG-1

i) retrieve, treat, and dispose (RTD) all contaminated equipment, materials, debris and soil to a depth that is determined by the Tri-Party agencies to be protective of human health and ecological resources (depth TBD); backfill and revegetate; ii) RTD all contaminated equipment, materials, debris and soil; backfill and revegetate; iii) stabilize select equipment in place using technologies yet to be determined; iv) leave everything in place; maintain under LTS with appropriate institutional controls. If residual contamination remains after cleanup actions are completed, cleanup work will transition to long-term storage (LTS), including institutional controls (ICs) and 5-year reviews of remedy effectiveness.

However, a draft RFI/CMS/RI/FS Work Plan was written for the 200-IS-1 OU waste sites (DOE/RL-2010-114, Draft A). The draft work plan listed a set of six preliminary remedial alternatives: i) No Action; ii) Monitored Natural Attenuation (MNA); iii) Removal, Treatment, and Disposal (RTD); iv) *In Situ* Treatment; v) Containment under a Planned Barrier, and vi) Removal of Pipeline System Waste Sites Versus Pre-ROD Characterization. Since these alternatives are for the CP-LS-7 pipeline and associated equipment (also in the 200-IS-1 OU), these alternatives are used instead of those provided in the Evaluation Unit Disposition Table (Appendix B). The focused feasibility study for the 200-UW-1 OU (200 West) waste sites (DOE/RL-2003-23, Rev. 0) and the draft *Focused Feasibility Study for the BC Cribs and Trenches Area Waste Sites* (200 East) (DOE/RL-2004-66, Draft A) that were evaluated for the other legacy sites will be leveraged here when appropriate.

The following descriptions of the six alternatives are abridged versions of those provided in the 200-IS-1 draft Work Plan (DOE/RL-2010-114, Draft A, pp. 3-86 through 3-89).

Alternative 1: No Action. The National Contingency Plan (40 CFR 300) requires that a No Action alternative be evaluated as a baseline for comparison with other alternatives and represents a situation where no legal restrictions, access controls, or active remedial measures are applied. This alternative implies that waste sites will remain in place where they will be affected only by natural processes. Selection of this alternative would require that the wastes pose no unacceptable threat to human health or the environment.

Alternative 2: Monitored Natural Attenuation. Under this alternative, existing surface conditions over the pipeline system waste sites are maintained and/or managed as needed to be protective for ecological receptors, groundwater, and the direct-contact pathway for humans. ICs will also be required that mitigate contaminant exposure. Radioactive contaminants remaining below grade are allowed to decay in place until remediation goals are met. For sites having a clean soil cover with a depth less than the human health and ecological point of compliance, more stringent ICs (e.g., physical and legal barriers, biological monitoring, removal of deeply rooted plants, and control of deep burrowing animals) would be needed. MNA includes sampling and/or environmental monitoring to verify contaminants are attenuating as expected and remain isolated. Monitoring activities could include monitoring the vadose zone using geophysical logging methods or groundwater monitoring to verify that natural attenuation processes are effective.

Alternative 3: Removal, Treatment, and Disposal. Remedial alternatives are being evaluated that involve combinations of RTD actions where factors such as radionuclide composition and activity, worker exposure hazards, and available disposal pathways will have a significant impact on remedy selection. Excavation of pipeline system waste sites is typically accomplished using conventional earthmoving equipment; however, the physical constraints and highly radioactive environment associated with the Hanford Site pipeline systems may make these standard technologies not safe and

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waste sites indicated for early action (DOE/RL-2009-48, Rev. 0) or in the 37 200-MG-1 wastes sites slated for non-time-critical actions (DOE/RL-2009-86, Rev. 0).

effective. Selected removal activities will involve excavation of waste sites to a specified depth where treatment may include *ex-situ* operations. Any pipeline systems and soil with contaminant concentrations above preliminary remediation goals (PRGs) removed will be disposed of at ERDF or at an offsite facility if elevated levels of transuranic material are involved. During remedial action implementation, the extent of removal of contaminated soil will be guided by the observational approach, where planning and implementing the remedial action relies on the information collected during the action. Radioactive waste generated or retrieved would require special handling protocols. Remote-controlled equipment and/or containment structures may also be necessary if removal involves high-activity waste.

Alternative 4: In Situ Treatment. This alternative would be applicable to pipeline system waste sites that have sorbed significant amounts of contaminants or have accumulated a significant buildup of scale or other material that would be difficult to remove. Leaking pipelines may have localized accumulations of contaminated soil near the leak sites. An available *in situ* treatment technology involving grout injection into a pipeline, pipeline component, and/or surrounding soil could be used to stabilize the contamination.

Alternative 5: Containment under a Planned Barrier. Evaluation of alternatives for pipeline system waste sites will consider their geographic association with other structures/facilities (SST Farm Systems, Canyon facilities, and/or other waste sites) that are anticipated to have engineered surface barriers included as a remedy. These alternatives for other structures/sites may also serve to adequately remediate co-located pipeline system waste sites. The final disposition of co-located pipeline system waste sites will be made in association with remedial decisions for the WMA or Canyon OU.

Alternative 6: Removal of Pipeline System Waste Sites Versus Pre-ROD Characterization. DOE and Ecology have agreed to utilize a conservative approach to remedy pipeline system waste sites, including a preference to remove potentially contaminated pipeline and pipeline component waste sites (and contaminated soil) to a pre-agreed upon depth. This approach is based on protecting direct contact human and ecological receptors for anticipated future land use (i.e., industrial-exclusive with ICs). For vadose zone contamination deeper than the aforementioned removal depth, the RFI/CMS/RI/FS will evaluate if there is a potential threat to groundwater and evaluate additional alternative remedies, if such a threat is found. This approach is anticipated to streamline the remedy selection process by avoiding costly and time consuming investigation in an attempt to justify leaving near-surface pipeline system waste sites in place.

Contaminant Inventory Remaining at the Conclusion of Planned Active Cleanup Period

The remedial actions that are being evaluated (i.e., those in the draft RFI/CMS/RI/FS Work Plan for the 200-IS-1 OU waste sites (DOE/RL-2010-114, Draft A)) would leave existing contamination in CP-LS-7 waste sites as well as any contamination that has been released from the waste sites. Waste sites within the CP-LS-7 EU are not suspected of contributing to groundwater contamination in the area (DOE/RL-92-16, Rev. 0; DOE/RL-92-16, Rev. 0). However, monitoring of both vadose and saturated zone contamination will continue to assess contamination in the vadose and saturated zones. Residual concentrations cannot be determined at this time.

Risks and Potential Impacts Associated with Cleanup

There is no Documented Safety Analysis, hazards analysis, or feasibility study that includes the CP-LS-7 EU waste sites. The Tank Farms DSA (RPP-13033, Rev. 5-D) and TC&WM EIS (DOE/EIS-0391, Appendix K) do consider pipeline transfers during tank waste retrieval operations but not remediation of the inactive pipelines in the CP-LS-7 waste sites. Remedial alternatives are being considered (DOE/RL-2010-114,

Draft A) that range from No Action to RTD; corresponding risks would vary based on the selected alternative. Because there are no dose or risk estimates available from the TF DSA or TC&WM EIS, estimates of risk must be obtained elsewhere. To wit, the focused feasibility study for the 200-UW-1 OU (200 West) waste sites (DOE/RL-2003-23, Rev. 0) and the draft *Focused Feasibility Study for the BC Cribs and Trenches Area Waste Sites* (200 East) (DOE/RL-2004-66, Draft A) were leveraged when appropriate. Without other information, the risks and potential impacts associated with cleanup actions are assumed to be similar enough to those described for the 200-UW-1 OU (200 West) waste sites and the BC Cribs and Trenches Area Waste Sites (200 East) for this Risk Review. However, because the FFS evaluation is not done according to the same standard as for a DSA (DOE-STD-3009-2014), results should not be considered of the same quality of those for a DSA and should not be represented as such (i.e., FFS dose estimates should only be tabulated with appropriate caveats and should not be plotted on the same graphs as DSA results to avoid confusion).

POPULATIONS AND RESOURCES AT RISK OR POTENTIALLY IMPACTED DURING OR AS A CONSEQUENCE OF CLEANUP ACTIONS

Facility Worker

In term of potential impacts to workers, the FFS and cleanup alternatives that are being evaluated for the BC Cribs and Trenches will be the focus here because 1) the dose calculations for 200-UW-1 OU do not differ significantly and 2) exposure and thus dose for excavation is assumed roughly proportional to the Cs-137 inventory in the waste site (DOE/RL-2004-66, Draft A, p. F-6), an assumption that will be used in this section. The remedial alternatives for the BC Cribs and Trenches range from *No Action* (monitoring and natural attenuation) to installation of an engineered barrier to significant actions, including removal, treatment, and disposal (RTD) (DOE/RL-2004-66, Draft A); these actions also bound the six being considered for CP-LS-7 (DOE/RL-2010-114, Draft A, pp. 3-86 through 3-89). Impacts to facility workers (i.e., those performing cleanup actions) from potential cleanup activities would vary significantly based on the selected remedial alternative.

For example, the estimated unmitigated dose for an *unprotected construction worker* (exposed to contaminated soil that relates to a facility worker for the purpose of this evaluation) for all the BC Cribs and Trenches would be approximately 127 person-rem (DOE/RL-2004-66, Draft A, p. F-iv). The measured borehole soil concentrations for the representative BC Cribs and Trenches waste sites are:

- 216-B-26 Trench -- Cs-137 and Sr-90 with inventories of 585 and 488 Ci, respectively, (Corbin 2005) and maximum soil concentrations of 529,000 and 974,000 pCi/g, respectively at 4.0 m (13 ft) bgs (DOE/RL-2004-66, Draft A, p. 2-21). The estimated unprotected worker collective dose for this waste site is 13.4 person-rem (DOE/RL-2004-66, Draft A, p. F-16) with an estimated protected worker dose of 8 person-rem (DOE/RL-2004-66, Draft A, p. F-17). This waste site has the highest Cs-137 inventory and corresponding risk.
- 216-B-58 Trench -- Cs-137 and Sr-90 with inventories of 4.9 and 4.2 Ci, respectively, (Corbin 2005) and maximum soil concentrations of 14,600 and 18,400 pCi/g, respectively at 4.6 m (15 ft) bgs (DOE/RL-2004-66, Draft A, p. 2-21). The estimated unprotected worker collective dose for this waste site is 0.12 person-rem (DOE/RL-2004-66, Draft A, p. F-16) with an estimated protected worker dose of 0.07 person-rem (DOE/RL-2004-66, Draft A, p. F-17).

Cs-137 and Sr-90 were the dominant radionuclides in the BC Cribs and Trenches.

As mentioned above, it is assumed that the worker risk is strongly related (i.e., proportional) to inventory and would be dominated by the external dose from Cs-137. The Cs-137 inventories for the CP-

LS-7 (with reported values from the SIM, Rev. 1 (Corbin 2005) and TC&WM EIS (DOE/EIS-0391) are found in Table G.13-3 and range from *not reported* to 4.60E-05 Ci for UPR-200-E-84. Thus the Cs-137 inventories for CP-LS-7 waste sites (with reported values) are several orders of magnitude less than that for the 216-B-26 Trench that was the basis for assessing excavation risks in the BC Cribs and Trenches FFS (DOE/RL-2004-66, Draft A, p. F-6). Using the proportionality assumption from the BC Cribs and Trenches FFS (DOE/RL-2004-66, Draft A, p. F-16) and assuming the excavation risks are strongly related to the Cs-137 inventory, the estimated unprotected worker collective dose for the UPR-200-E-84 waste site would be negligible as would the total for all CP-LS-7 waste sites with reported inventories. Based on uncertainties in the inventories and the proportionality assumption used, these values are rated ND-Low considering the "worker" limit from Table 2-4 (CRESP 2015b) (although this limit is for a single, unmitigated event). *As described above, these dose estimates are not computed to the same standard as for a DSA and should be treated accordingly.* For the No Action alternative, the monitoring and maintenance actions are also assumed to be conducted (as described above for *Current* conditions) with an *ND-Low* risk rating. The unmitigated risk ratings for facility workers are also *ND-Low* regardless of the action that would be taken. These ratings could vary based on assessment of the risks associated with other radionuclides present in the CP-LS-7 waste sites (e.g., transuranic); such assessments were not available at the time of this Review.

Unmitigated Consequences: Facility Worker – *ND-Low*

Mitigation: The *collective* dose to excavate, transport, and dispose (RTD alternative) of contaminated soil with representative radiological controls is 76 person-rem for all the BC Cribs and Trenches, albeit the calculated risks would be several orders of magnitude lower for the CP-LS-7 waste sites. Additional radiological controls would also be implemented to maintain ALARA exposure goals, if necessary. These conditions and potential actions result in an *ND-Low* rating for excavation. Risk ratings for other scenarios would also be *ND-Low*.

Mitigated Consequences: Facility Worker – *ND-Low*

Co-located Person

The only workers with potentially increased risks (over those for *Current* conditions as described above) are facility workers; however, based on the above analysis the risks would still be seen as low. Thus the ratings for co-located persons are the same as those for *Current* conditions.

Unmitigated Consequences: Co-located Person – *ND-Low*

Mitigation: No *additional* mitigation actions (to those described above for *Current* conditions) are required.

Mitigated Consequences: Co-located Person – *ND-Low*

Public

Only workers would be at risk due to distance and soil cover.

Unmitigated Consequences: Public – *ND*

Mitigation: No *additional* mitigation actions (to those described above for *Current* conditions) are required.

Mitigated Consequences: Public – *ND*

Groundwater

As described in **Part V**, there is an insignificant potential impact during this period to groundwater (as a protected resource) from mobile primary contaminants from the CP-LS-7 waste sites. Overall impacts to area groundwater are described in more detail in Appendix G.5 and Appendix G.6. There are small contaminant sources (legacy source sites) in the vadose zone that pose only a minor risk to groundwater (via the vadose zone). The vadose zone (VZ) GTM values for the Group A and B primary contaminants for the CP-LS-7 EU translate to ratings of *Not Discernible* to *Low*. As indicated in **Part V**, total uranium and Sr-90 are unlikely to impact the groundwater in sufficient quantities to exceed the drinking water standard and thus are not considered significant future threats; however, ratings of *Low* are ascribed to these primary contaminants after the Active Cleanup period to address uncertainties. These ratings correspond to an overall rating of *Low* for both the Active and Near-term, Post-Cleanup periods to account for uncertainties in the evaluation.

The WMA S-SX groundwater extraction system, the U Plant area P&T system, and the I-129 plume hydraulic control system in the 200-UP GWIA are assumed to be operational during this evaluation period (as well as the 200-BP treatability study for perched water under the B Complex), which will be treating groundwater contamination in the Central Plateau.

It is considered unlikely that additional groundwater resources would be impacted as a result of either interim remedial actions (e.g., pump and treat) or final closure activities (that are not covered in the Ecological or Cultural Resources results).

Columbia River

As described in **Part V**, impacts to the Columbia River benthic, riparian, and free-flowing ecology for the Active Cleanup and Near-term, Post Cleanup periods are rated as *Not Discernible* (*ND*). Additional information on groundwater plumes and potential threats associated with sources apart from those associated with the CP-LS-7 waste sites are described in Appendix G.5 and Appendix G.6.

It is considered unlikely that additional benthic or riparian resources would be impacted as a result of either interim remedial actions (e.g., pump and treat) or final closure activities (that are not covered in the Ecological or Cultural Resources results).

Ecological Resources

Personnel, car and pickup truck traffic through the non-target and target (remediation) area, truck and heavy equipment traffic on roads through the non-target and target area, soil removal and contamination in the soil, dust suppression, vegetation control, and Irrigation (for revegetation) will cause the following disturbance from remediation activities: Carry seeds or propagules (pieces of vegetation or other biological parts that can grow and/or reproduce) on person (boots, clothes, equipment), from tires of vehicles or blowing from heavy equipment; injure or kill vegetation or small invertebrates or small animals; vehicle traffic can make paths, compact soil, scare or displace animals, can impact animal behavior or reproductive success; affect animal dispersion and habitat use (e.g., some birds avoid nesting near roads because of song masking); displacement of animals from near roads due to increased noise or other disturbances; and heavy equipment may permanently destroy areas of the site with intense activity. Soil removal causes complete destruction of existing ecosystem, but these effects are potentially more severe because of blowing soil (and seeds); and potential for exposure of dormant seeds. In the revegetation stage, there is the potential for invasion of exotic species, changing the species diversity of native communities. During remediation, radionuclides or other contaminants could be released or spilled on the surface, and depending upon the type and quantity, could have adverse effects on the plants and animals on-site. Additional water from dust suppression could lead to

more diverse and abundant vegetation in areas that receive water, which could encourage invasion of exotic species; the latter could displace native plant communities; excessive dust suppression activities could lead to compaction, which can decrease plant growth in those areas, decrease abundance and diversity of soil invertebrates, and prevent fossorial snakes or mammals from using the area. Use of non-specific herbicides for vegetation control results in some mortality of native vegetation (especially native forbes), and allows exotic species to move in; it may change species composition of native communities, but it also could make it easier for native species to move in; improved methods could yield positive results. Irrigation requires a system of pumps and water, resulting in physical disturbance; repeated irrigation from the same locations could result in some soil compaction, which can decrease plant growth in those areas, decrease abundance and diversity of soil invertebrates, and prevent fossorial snakes or mammals from using the area. These effects will be higher in the EU itself.

Cultural Resources

Potential direct effects are possible from personnel, car, pick-up, truck and heavy equipment traffic/use through both target (remediation) and non-target areas during active cleanup. These activities may inadvertently expose resources close to the surface. Additionally, traffic through these areas may lead to the introduction of invasive species and/or a decrease in the presence of native plants used for medicinal or tribal religious purposes. Heavy equipment use for remedial activities (such as RTD of contaminated soils, structures, etc.) may lead to an alteration of the landscape, and the act of soil removal may destroy resources; if resources are not destroyed, then, soil removal may disturb or adversely affect resources. Lastly, during remediation, radionuclides or other contamination released or spilled on the surface could have long-term effects if the contamination remains and resources become contaminated and/or plants having cultural importance to Tribes do no recolonize or thrive.

Potential indirect effects are possible from personnel traffic through target (remediation) areas as well as car, pick-up, truck and heavy equipment traffic/use through both target (remediation) and non-target areas. It is possible that these activities may decrease viewshed values and/or impact viewshed through the introduction of increased dust, the creation of trails, etc. Heavy equipment use for remedial actions could potentially cause alterations to the landscape and impacts to viewsheds. Lastly, during remediation, radionuclides or other contamination released or spilled on the surface could have long-term effects if the contamination remains and resources become contaminated and/or plants having cultural importance to Tribes do no recolonize or thrive.

ADDITIONAL RISKS AND POTENTIAL IMPACTS IF CLEANUP IS DELAYED

Sites within the CP-LS-7 EU may have locally contaminated the vadose zone but are not suspected of contributing significant quantities of even mobile contaminants to the saturated zone (DOE/RL-92-16, Rev. 0; DOE/RL-92-19, Rev. 0). Vadose zone contamination may continue. Vadose zone and groundwater monitoring should continue to evaluate contaminant release and migration.

NEAR-TERM, POST-CLEANUP STATUS, RISKS AND POTENTIAL IMPACTS

POPULATIONS AND RESOURCES AT RISK OR POTENTIALLY IMPACTED AFTER CLEANUP ACTIONS (FROM RESIDUAL CONTAMINANT INVENTORY OR LONG-TERM ACTIVITIES)

Table G.13-7. Summary of Populations and Resources at Risk or Potentially Impacted after Cleanup.

Population or Resource		Risk/Impact Rating	Comments
Human	Facility Worker	*Not Discernible* (*ND*)-*Low*	Only risks during monitoring and maintenance activities (assumed similar to current risks)
	Co-located Person	*ND*	*De minimus* risks related to residual contamination (after capping or retrieval), which will be remedied to acceptable levels.
	Public	*ND*	*De minimus* risks related to residual contamination (after capping or retrieval), which will be remedied to acceptable levels. Access restrictions and ICs in place, when required.
Environmental	Groundwater (A&B) from vadose zone[(a)]	*Low* (Group A&B PCs with reported inventories) **Overall**: *Low*	*Current* GTM values for Group A&B primary contaminants (Table G.13-6): *ND* (Sr-90 and U(tot)) and *Low* (other PCs with reported inventories). Sr-90 and U(tot) not likely to impact groundwater and given *Low* ratings here to address uncertainties (**Part V**). Treatment and impact from changes in recharge rates not taken into account to address uncertainties (where ratings were already *Low*).
	Columbia River from vadose zone[(a)]	Benthic: *ND* Riparian: *ND* Free-flowing: *ND* **Overall**: *ND*	TC&WM EIS screening results indicate that exposure to radioactive and chemical contaminants from peak groundwater discharge below benchmarks for both benthic and riparian receptors (**Part V**). Dilution factor of greater than 100 million between Columbia River and upwellings.

	Ecological Resources[(b)]	Low to Medium	Impact level depends on the remediation activities and the ability to keep activities from destroying existing high quality resources.
Social	Cultural Resources[(b)]	**Native American** Direct: Unknown Indirect: Known **Historic Pre-Hanford** Direct: Unknown Indirect: Known **Manhattan/Cold War** Direct: Known Indirect: None	Permanent direct effects are possible if residual contamination remains after remediation. Permanent indirect effects to viewshed are possible if everything is left in place. National Register eligible Manhattan Project/Cold War Era buildings will be demolished. Permanent direct impacts to contributing components of the Manhattan Project/Cold War Era archaeological resource are possible if remediation activities have resulted in the removal of the contributing components of the archaeological resource.

a. Threat to groundwater or Columbia River for Group A and B contaminants remaining in the vadose zone. No existing plumes are associated with the CP-LS-7 EU as described in Part V. More detailed information on all threats to groundwater as a protected resource are described in Appendix G.5 and Appendix G.6.

b. For both Ecological and Cultural Resources see Appendices J and K, respectively, for a complete description of Ecological Field Assessments and literature review for Cultural Resources. Ecological ratings are described in Table 4-11 of the Final Report.

LONG-TERM, POST-CLEANUP STATUS – INVENTORIES AND RISKS AND POTENTIAL IMPACT PATHWAYS

The long-term, post-cleanup status is dependent on the selected remedial alternative. Regardless of that alternative selected, long-term site use restriction, vadose zone and groundwater monitoring, and maintenance must remain due to the presence of persistent contaminants in the vadose zone that are not amendable to excavation and the likely continued release and migration of contaminants through the vadose zone and potentially to the groundwater. DOE is expected to continue industrial exclusive activities for at least 50 years (DOE/EIS-0222-F).

PART VII. SUPPLEMENTAL INFORMATION AND CONSIDERATIONS

The 200 Area Transfer Pipeline area needs to remain under DOE control to maintain a safety buffer for all remedial alternatives, including RTD, because of deep vadose zone contamination in the area (albeit likely from other EUs).

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ATTACHMENT A

Hanford Site-Wide Risk Review

Evaluation Unit:	200 Area Transfer Pipeline
ID:	CP-LS-7
Group:	Legacy Source
Operable Unit Cross-Walk:	200-IS-1
Related EU:	CP-TF-1 through CP-TF-9
Sites & Facilities:	Cross-site transfer pipelines outside of Tank Farms evaluation units. Includes 200 East-West transfer lines, IMUSTS, catch tanks, diversion boxes, etc.
Key Data Sources Docs:	200-IS-1 Operable Unit Pipeline System Waste Sites RFI/CMS/RI/FS Work Plan (DOE-RL-2010-114_DraftA)

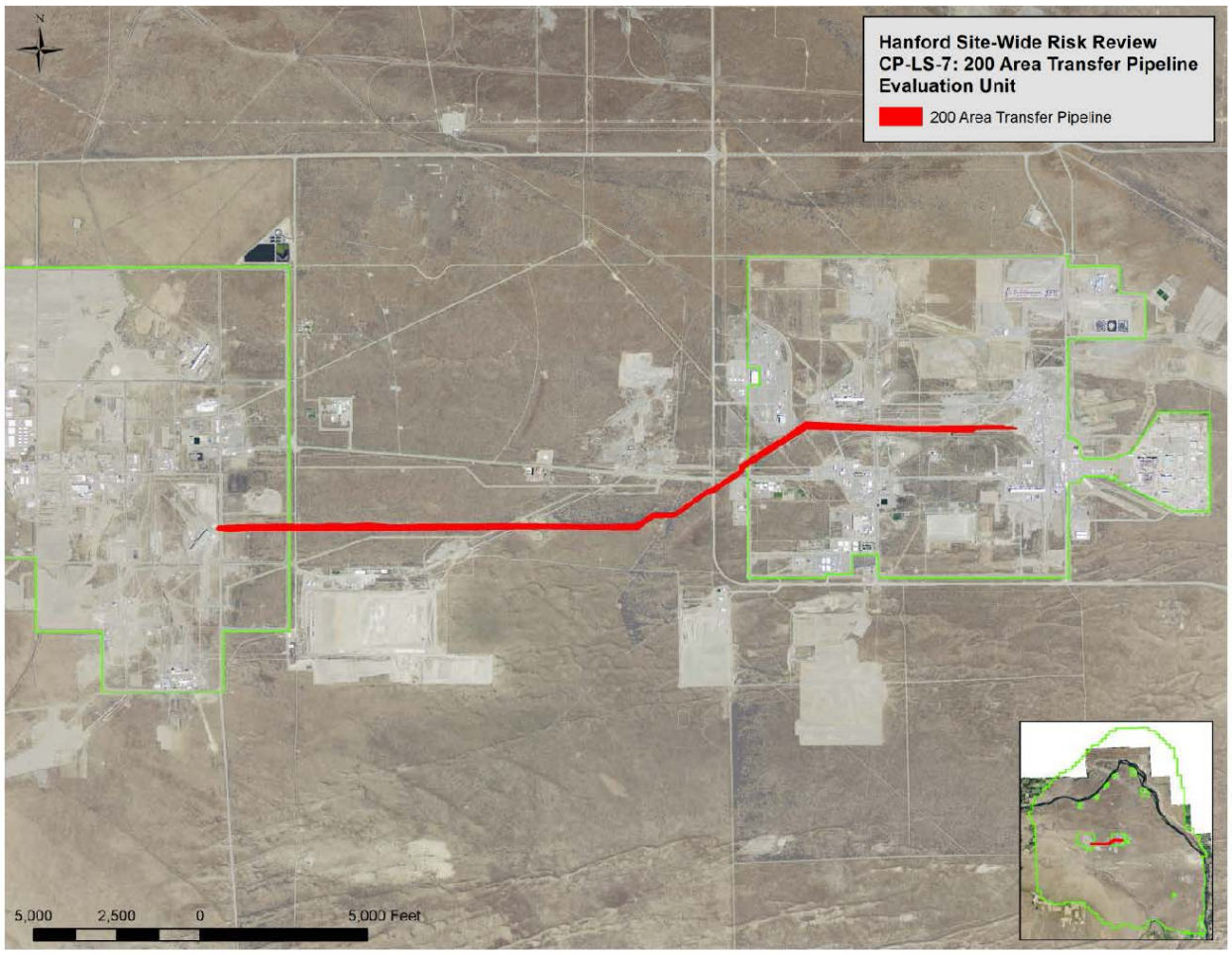

Figure 1. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map

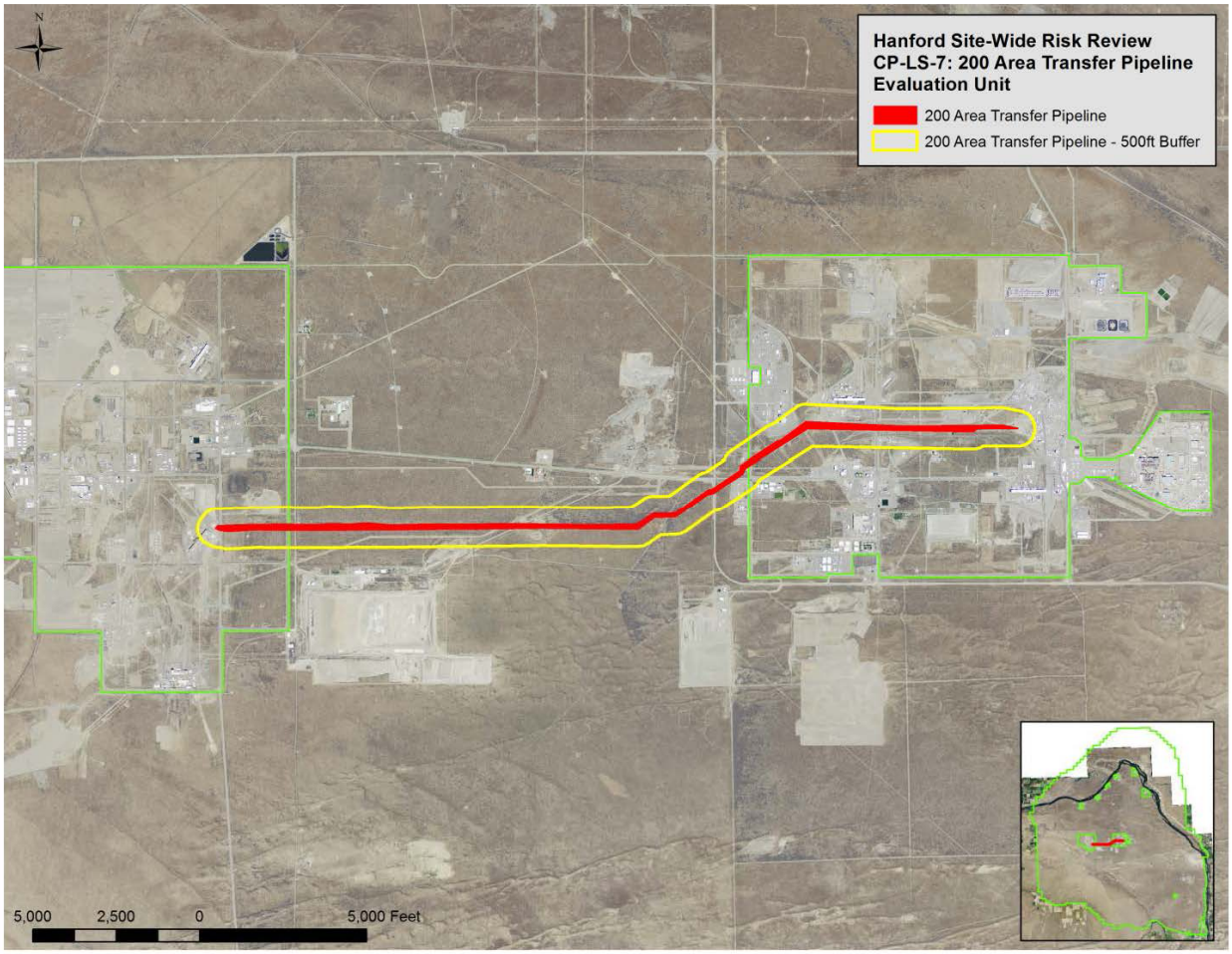

Figure 2. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map with 500ft Buffer

Note – A 500ft buffer was drawn around the boundary of the evaluation unit to ensure that all transfer lines, IMUSTS, catch tanks, diversion boxes, etc. are captured within the evaluation.

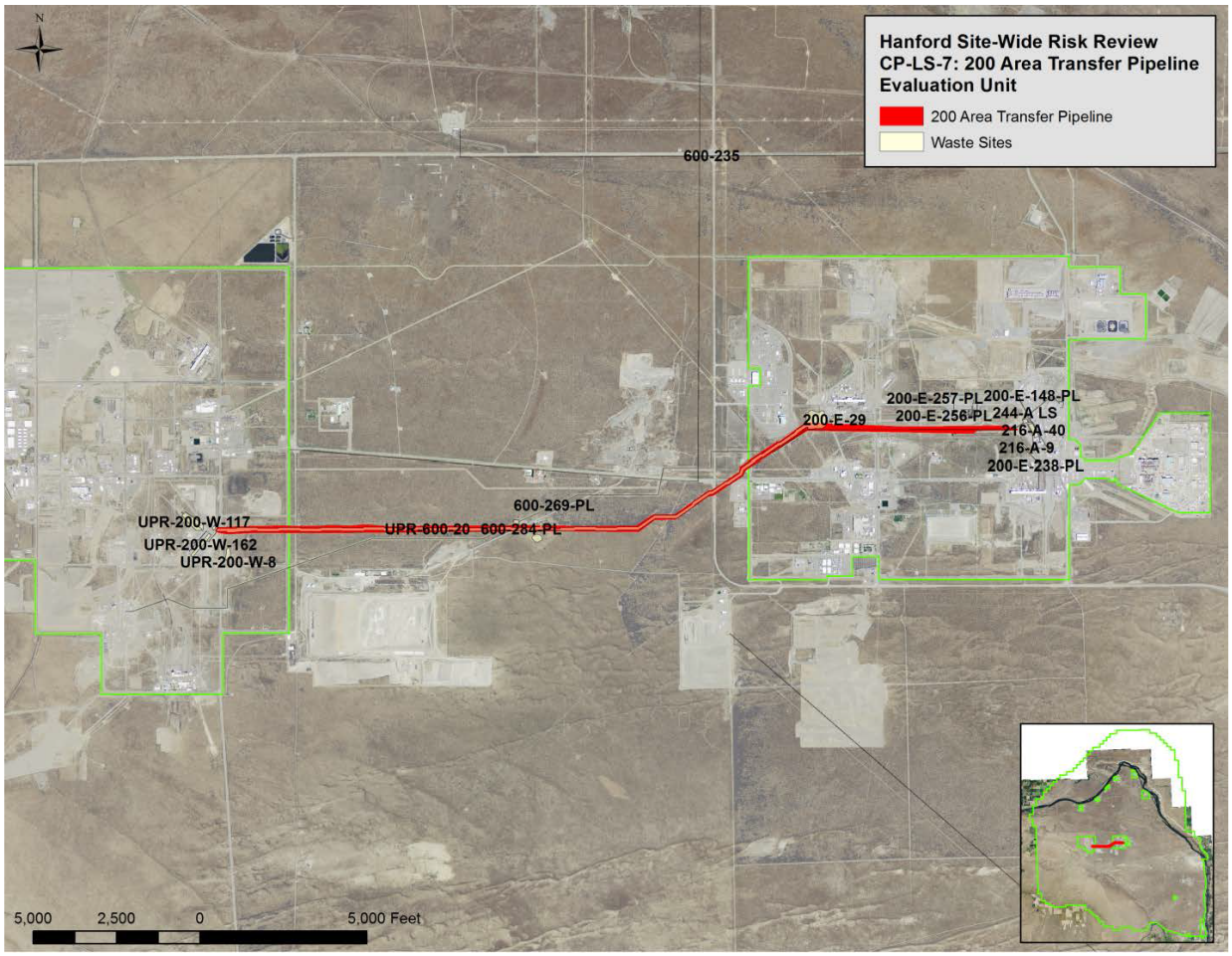

Figure 3. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map and WIDS Locations

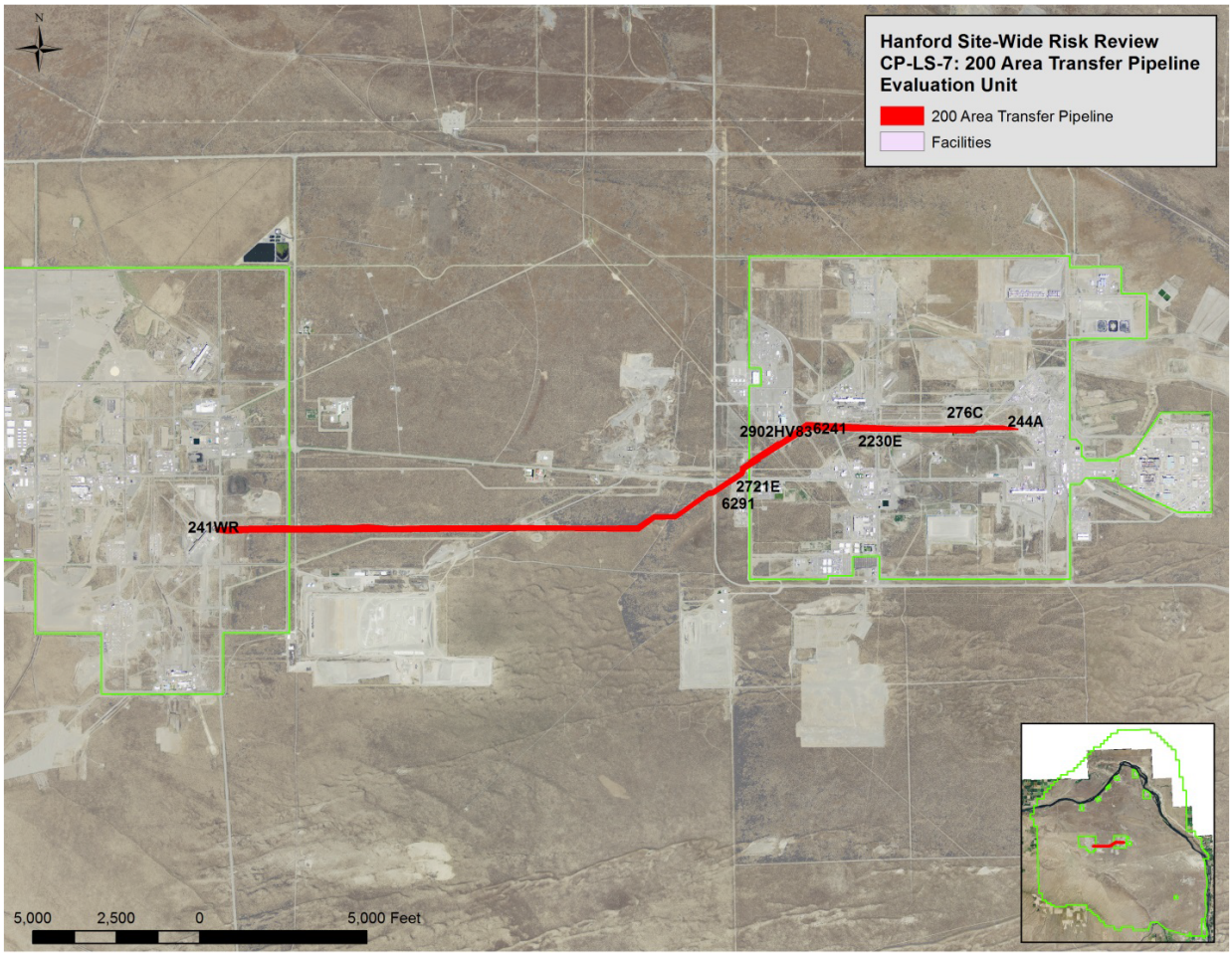

Figure 4. CP-LS-7 (200 Area Transfer Pipeline) Site Location Map and Facility Locations

Hanford Site-Wide Risk Review
CP-LS-7 (200 Area Transfer Pipeline)
Waste Site and Facility List

Site Code	Name, Aliases, Description	Feature Type	Site Status	ERS Classification	ERS Reclassification	Site Type	Site Type Category	Operable Unit	Exclude from Evaluation	Comments
241-ER-311	241-ER-311; 241-ER-311 Catch Tank; 241-ER-311A Replacement Tank; MUST	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	200-IS-1		
241-ER-311A	241-ER-311A; 241-ER-311A Catch Tank; MUST; Inactive Miscellaneous Underground Storage Tank; Old 241-ER-311; Original 241-ER-311 Catch Tank	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	200-IS-1		
241-EW-151	241-EW-151; 241-EW-151 Vent Station; 241-EW-151 Vent Station Catch Tank; Vent Station; 200 Area East-West Vent Station	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	TBD_200-IS-1		
244-A CT	244-A CT; 244-A DCRT; 244-A Receiver Tank; 244-A RT; 244-A-TK(SM)*; 244-A Catch Tank	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	TBD_200-IS-1		
UPR-600-70	UPR-600-70; Old Cross Site Transfer Line Surface Contamination; LN 216-T-41	Waste Site	Inactive	Accepted	None	Contamination Migration	Unplanned Release - Surface/Near Surface	200-OA-1		
244-A IS	244-A IS; 244-AR IF Station; 244-AR IS; AN-707, SN-704 and SN-744; 244-A IF Station	Waste Site	Inactive	Accepted	None	Control Structure	Pipeline and associated valves, ex.	TBD_200-IS-1		
A-241-V	A-241-V; A241-V Vent Station	Waste Site	Active	Accepted	None	Control Structure	Pipeline and associated valves, ex.	Not Applicable		
216-A-9	216-A-9; 216-A-9 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1		
200-E-148-P	200-E-148-PL; Direct Buried Transfer Line from 241-C-151 to 241-A-01A; Tank Farm Transfer Line V109	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-C-153-P 200-E-228-P	200-C-153-PL; Direct Buried Transfer Line from 241-C-151 to 244-AR TK 002; Tank Farm Pipeline; Tank Farm Transfer Line V108/812 200-E-228-PL; Drain Lines from 241-ER-151 Diversion Box to 241-ER-311 and 241-ER-311A Catch Tanks; Lines V224, V226 and V230-1	Waste Site Waste Site	Inactive Inactive	Accepted Accepted	None None	Direct Buried Tank Farm Pipeline Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex. Pipeline and associated valves, ex.	TBD_200-IS-1 TBD_200-IS-1		
600-265-PL	600-264 P ; Cross Site Transfer Line Replacement; Lines SN-1030 and 3160; New Cross Site Transfer Line	Waste Site	Active	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	Not Applicable		
241-C-154 241-ER-151	241-C-154; 241-C-154 Diversion Box 241-ER-151; 241-ER-151 Diversion Box	Waste Site Waste Site	Inactive Inactive	Accepted Accepted	None None	Diversion Box Diversion Box	Pipeline and associated valves, ex. Pipeline and associated valves, ex.	200-IS-1 200-IS-1		
241-ER-152	241-ER-152; 241-ER-152 Diversion Box; Line DR311	Waste Site	Inactive	Accepted	None	Diversion Box	Pipeline and associated valves, ex.	200-IS-1		
241-ER-153	241-ER-153; 241-ER-153 Diversion Box	Waste Site	Inactive	Accepted	None	Diversion Box	Pipeline and associated valves, ex.	TBD_200-IS-1		
600-295	600-295; Buried Lead Sheathed Telephone Cables	Waste Site	Inactive	Accepted	Transfer, No Action	Dumping Area	Burial Ground	TBD		
200-E-167-P	200-E-167-PL; Lines SN-215 and SN-216; Underground Pipelines from 244-A Lift Station to 241-A-A and 241-A-B Valve Pits	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1		
600-294 PI	600-284 P ; Cross Site Transfer Pipeline; Lines V360, V361, V362, V363, V364 and V365; Old Cross Site Transfer Line; Original Cross Site Transfer Pipeline; Piping Associated with UPR-600-70; Cross Site Transfer Line	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-264-P	200-E-264-PL; Pipeline from 241-C Valve Pit to 241-CX-70	Waste Site	Inactive	Accepted	None	Encased Transfer Piping	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-W-116	200-W-116; Miscellaneous Stream #139; Steam Condensate MSS-TRP-004	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable		
241-CX-71	241-CX-71; 241-CX-TK-71; MUST; Inactive Miscellaneous Underground Storage Tank; Strontium Hot Semi-Works; 241-CX Neutralizer Tank	Waste Site	Inactive	Accepted	None	Neutralization Tank	Underground Storage Tank	200-IS-1		
200-E-245-P	200-E-245-PL; Pipelines from 209-E to 200-E-4 French Drain	Waste Site	Inactive	Accepted	None	Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-156-P	200-E-156-PL; 216-C-1 Pipelines; Pipelines from 201-C to 216-C-1	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-157-P	200-E-157-PL; 216-C-10 Pipeline; Pipeline from 201-C to 216-C-10 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-169-P	200-E-169-PL; Pipeline from 201-C and 216-C to the 216-C-9 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-170-P	200-E-170-PL; Pipeline from 276-C to 216-C-4 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-171-P	200-E-171-PL; Pipeline from 201-C and 241-CX Vault to the 216-C-6 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-172-P	200-E-172-PL; Pipeline from 209-E to the 216-C-7 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-173-P	200-E-173-PL; Pipeline from 241-CX-71 to 216-C-5 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-248-P	200-E-248-PL; Pipeline from 216-A to 216-A-9 Crib	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-265-P	200-E-265-PL; Pipeline from 201-C Hot Shop to 241-CX-71	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-266-P	200-E-266-PL; Pipeline from 201-C Valve Pit to 241-CX-72	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-267-P	200-E-267-PL; Pipelines from 209-E to the 209-E WS-7 French Drain	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-254-P	200-E-254-PL; Pipeline from 209-E to 216-C-9 Pond	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-256-P	200-E-256-PL; Pipelines from 201-C (South Side) to 216-C-9 Pond	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD		
200-E-257-P	200-E-257-PL; Pipeline from 201-C (East Side) to 216-C-9 Pond	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-274-P	200-E-274-PL; Line 323; Pipeline from 216-A-40 Basin to 244-A Lift Station	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
200-E-275-P	200-E-275-PL; 244-AR Cooling Water Pipeline to 216-A-40 Basin; Line 815	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, ex.	TBD_200-IS-1		
241-WR VAULT	241-WR VAULT; 241-WR Vault (Tanks 101 Through 109); 241-WR 01 Thru 09; 244-WR Vault; 216-A-6 Stack; MUST; Inactive Miscellaneous Underground Storage Tank; 241WR; 241-WR Diversion Station Vault	Waste Site	Inactive	Accepted	None	Receiving Vault	Underground Storage Tank	200-WA-1		
216-A-40	216-A-40; 216-A-40 Retention Basin; 216-A-39 Crib; 216-A-38 Trench	Waste Site	Inactive	Accepted	None	Retention Basin	Crib - Subsurface Liquid Disposal Site	200-EA-1		
241-CX-70	241-CX-70; 241-CX-TK-70 Tank; HWIS; Inactive Miscellaneous Underground Storage Tank; Strontium Hot Semi-Works	Waste Site	Inactive	Accepted	None	Storage Tank	Underground Storage Tank	200-IS-1		
241-CX-72	241-CX-72; 241-CX-72 Waste Still Concentrator; 241-CX-TK-72 Vault and Tank; MUST; Inactive Miscellaneous Underground Storage Tank; Strontium; Iso Semi-Works	Waste Site	Inactive	Accepted	None	Storage Tank	Underground Storage Tank	200-IS-1		
200-E-29	200-E-29; Unplanned Release from 241-ER-152 Diversion Box	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-EA-1		
UPR-200-E-100	UPR-200-E-100; Radioactive Contamination Near 244-A Lift Station; UN-200-E-100; LN-216-E-100; LN-216-C-29	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	TBD_200-IS-1		
UPR-200-E-145	UPR-200-E-145; Contamination Adjacent to 244-A Lift Station; LN-216-E-45	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-EA-1		
UPR-200-C-33	UPR-200-C-33; Contaminated Porex Tailboat Tracks; UN-200-C-33	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-CA-1		
UPR-200-E-70	UPR-200-E-70; JPR-216-E-70; Radioactive Contamination from Jumper Removal; LN-200-E-70	Waste Site	Inactive	Not Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	Not Applicable		
UPR-200-E-84	UPR-200-E-84; 241-ER-151 Catch Tank Leak (241-ER-311A); UN-200-E-84; UN-216-E-12	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-IS-1		
UPR-200-W-117	UPR-200-W-117; 271-U Railroad Car Contamination; Railroad Track Contamination; JR-200-W-117; LN-216-W-27	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-WA-1		
UPR-200-W-138	UPR-200-W-138; UPR-200-W-22; 221-U Vessel Vent Blower Pit French Drain; UN-200-W-138; UN-200-W-22; JR-212-W-11	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-WA-1		
UPR-200-W-162	UPR-200-W-162; Contaminated Area on East Side of 221-U; JR-215-W-37	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-WA-1		

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Hanford Site-Wide Risk Review
CP-LS-7 (200 Area Transfer Pipeline)
Waste Site and Facility List

Site Code	Name, Aliases, Description	Feature Type	Site Status	ERS Classification	ERS Reclassification	Site Type	Site Type Category	Operable Unit	Exclude from Evaluation	Comments
UPR-200-W-30	UPR-200-W-60; Railroad Contamination; UN-200-W-60	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-WA-1		
UPR-200-W-8	UPR-200-W-8; 200 W S; Old Burial/Burning Pit; UN-200-W-8; U Plant Burning Pit/Burial Ground	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-OA-1		
200-S-WS-3	209-S-WS-3; Critical Mass Laboratory Valve Pit and Hold Up Tank (209-S-TK-111); INVEST; Inactive Miscellaneous Underground Storage Tank	Waste Site	Inactive	Accepted	None	Valve Pit	Underground Storage Tank	200-EA-1		
UPR-200-E-97	UPR-200-E-97; Contamination East of Hot Semi Works; UN-200-E-97; UN-216-E-47; UN-216-E-39	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-EA-1	X	Included in 200 E Burial Grounds Eval.
218-E-6	218-E-6; B Stack Shack Burning Pit; Buried Contamination	Waste Site	Inactive	Accepted	Rejected	Burial Ground	Burial Ground	Not Applicable	X	Rejected
261-C-1	261-C-1; 291-C-1 Stack; 291-C Stack Burial Trench	Waste Site	Inactive	Accepted	None	Burial Ground	Burial Ground	200-EA-1	X	Included in 200 E Burial Grounds Eval.
218-E-7	218-E-7; 200 East 223-B Vaults	Waste Site	Inactive	Accepted	None	Burial Vault	Burial Ground	200-EA-1	X	Included in 3 Plan: Cribs and Trenches Eval.
200-W-BF	200-W-BF; 200-W Burning Pit; Gravel Pit 34; Pit 34	Waste Site	Active	Accepted	None	Burn Pit	Burial Ground	200-OA-1	X	Included in 200 W Maintenance Waste Site Eval.
200-E-174	200-E-174; Catch Tank in 216-B-10 &-8 Pipeline (See Sitecode 200-E-174 P.); B-10 Catch Tank	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	TBD_200-IS-1	X	Included in 3 Plan: Cribs and Trenches Eval.
241-JX-302A	241-JX-302A; Lines V380 and V381; 241-J-302 Catch Tank; 241-LX-302; 241-LX-302 Catch Tank	Waste Site	Inactive	Accepted	None	Catch Tank	Underground Storage Tank	200-IS-1	X	Included in J Plan Eval.
216-B-10A	216-B-10A; 222-B-1 Crib; 200-S Drainage; 216-B-10 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 3 Plan: Cribs and Trenches Eval.
216-S-10D	216-S-10D; 222-S-2 Crib; 216-S-10 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 4 Plan: Cribs and Trenches Eval.
216-C-1	216-C-1; 216-C-1 Crib; 216-C Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-10	216-C-10; 216-C-10 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-3	216-C-3; 216-C-3 Crib; 201-C Leaching Pi.	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-4	216-C-4; 216-C-4 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-5	216-C-5; 216-C-5 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-6	216-C-6; 241-CX Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
216-C-7	216-C-7; 216-C-7 Crib	Waste Site	Inactive	Accepted	None	Crib	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
200-E-147	200-E-147; Paint Brush Cleaning Station	Waste Site	Inactive	Accepted	None	Depression/Pit (unspecific)	Burial Ground	TBD	X	Included in 3 Plan: Cribs and Trenches Eval.
200-S-140-PL	200-S-140-P.; Direct Buried Transfer Line from 241-C-252 to 201-C Hot Semi Works; Tank Farm Pipeline; Tank Farm Transfer Line V375	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-E-150-PL	200-E-150-P.; Direct Buried Transfer Line from 244-CR-TK-003 to 201-C Hot Semi Works Valve Box; Tank Farm Pipeline; Tank Farm Transfer Line 8900	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-S-215-PL	200-S-215-P.; Line V299; Transfer line Between 241-EX-151 Diversion Box and 241-EX-152 Diversion Box	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in 4 Plan: Cribs and Trenches Eval.
200-E-276-PL	200-E-276-P.; Powerhouse Transfer Line; Transfer Line from 271-E to 241-C-154; V744	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in 3 Plan: Cribs and Trenches Eval.
200-W-248-PL	200-W-248-PL; Direct Buried lines from 241-JX-154 to 200-W-244-PL and 241-WR Vault; Line Numbers 4886, 4975 and 4977	Waste Site	Inactive	Accepted	None	Direct Buried Tank Farm Pipeline	Pipeline and associated valves, ex.	200-WA-1	X	Included in J Plan Eval.
200-E-90	200-E-90; 200-E Powerhouse Ditch; 200 East Powerhouse Pond	Waste Site	Active	Accepted	None	Ditch	Pond/Ditch - Surface Liquid Disposal Site	200-EA-1	X	Included in 200 E Maintenance Waste Site Eval.
241-JX-154	241-JX-154; 241-JX 154 Diversion Box	Waste Site	Inactive	Accepted	None	Diversion Box	Pipeline and associated valves, ex.	200-IS-1	X	Included in J Plan Eval.
200-W-58	200-W-58; Debris North of 221-U	Waste Site	Inactive	Rejected	None	Dumping Area	Burial Ground	Not Applicable	X	Rejected
200-S-111-PL	200-S-111-P.; S-SX Enclosement; Encased Pipeline from 241-CR-151 Diversion Box and 221-B to 241-C Tank Farm and 244-AR Vault; Lines V108/V837/8018/8353/8901*AS, 809, 818, V836 and V844	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-S-144-PL	200-S-144-P.; Encased Transfer line from 241-CR-152 and 241-CR-153 to 241-AX-152; Lines 4003, and 4007 from 244-AR Vault, o 241-AX-151; Tank Farm Transfer Line 8012; Transfer Line 4003 (A-4013)	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-S-145-PL	200-S-145-P.; Interplant Transfer Line; Tank Farm Transfer Line V238; Transfer Pipeline from 241-ER-311 to 241-CR-153	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-S-147-PL	200-S-147-P.; Interplant Transfer Line; Tank Farm Transfer Line PAS 244; Transfer Line from 244 CR TK 004 to 241-ER-311	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in C Tank Farm Eval.
200-E-188-PL	200-S-208-P.; Encased Tank Farm Pipeline from 241-EX-154 Diversion to 241-EX-155 Diversion Box; Lines V282, V283, V286 and V285	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in 3 Plan: Cribs and Trenches Eval.
200-S-217-PL	200-S-217-P.; Encased Transfer Line from 241-ER-151 Diversion Box to 241-BX Tank Farm; Lines 4949, 4950, 4274 and 4275	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in 3 Plan: Cribs and Trenches Eval.
200-W-109-PL	200-W-109-PL; Encased Pipeline from 241-BX 154 to 241-BX 152 and 241-S 151 Diversion Boxes; Lines V702/4853, V503/4700 and V505/4701	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in J Plan Eval.
200-W-105-PL	200-W-105-PL; Encased Lines V375, V376, V382, 4877, 4851 and 4859/4703, 4878, 4832, 4875, 4897, 4707, 4701, 4700, 4855, 4854 and 4853; Encased Transfer Line between 241-LX-154 Diversion Box and 241-TX-154 Diversion Box and between 241-BX-154 Diversion Bo	Waste Site	Inactive	Accepted	None	Encased Tank Farm Pipeline	Pipeline and associated valves, ex.	TBD_200-IS-1	X	Included in J Plan Eval.
200-W-244-PL	200-W-244-PL; Encased Pipelines from 222-S, Compn Building to 241-WR Vault; Lines 4705, 4707, 4709, 4711, 4851, 4877	Waste Site	Inactive	Accepted	None	Encased Transfer Piping	Pipeline and associated valves, ex.	200-WA-1	X	Included in J Plan. Eval.
200-E-293	200-E-293; 2718-E Contaminated Concrete Slab; 2718-E Foundation	Waste Site	Inactive	Accepted	None	Foundation	Burial Ground	TBD	X	Included in 200 E Burial Grounds Eval.
200-E-294	200-E-294; 209-E Slab; Demolished 209-E Critical Mass Laboratory Building Foundation; Potential Asbestos in Soil	Waste Site	Inactive	Accepted	None	Foundation	Burial Ground	TBD	X	Included in 200 E Burial Grounds Eval.
200-E-100	200-E-100; Miscellaneous Stream #271; Steam Trap 2? Yard MSS-TRP-019	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in 3 Plan: Cribs and Trenches Eval.
200-E-4	200-E-4; 209-E North Dry Well; Critical Mass Laboratory Dry Well North; Miscellaneous Stream #230	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.
200-E-55	200-E-55; Effluent Drain Pail of 291-B Sand Filter; Miscellaneous Stream #227	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	200-CR-1	X	Included in 3 Plan: Cribs and Trenches Eval.
200-S-05	200-S-05; 2223 Steam Condensate; Miscellaneous Stream #308	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in 3 Plan: Cribs and Trenches Eval.
200-E-99	200-E-99; Miscellaneous Stream #570; Steam Trap 2? Yard MSS-TRP-017	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in 3 Plan: Cribs and Trenches Eval.
200-W-244	200-W-244; 291-B Sand Filter French Drain	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	TBD	X	Included in J Plan Eval.
209-E-WS-1	209-E-WS-1; 209-E French Drain	Waste Site	Inactive	Accepted	Rejected	French Drain	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Rejected
209-E-WS-7	209-E-WS-7; Critical Mass Lab French Drain	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	200-EA-1	X	Included in 200 E Burial Grounds Eval.

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Hanford Site-Wide Risk Review
CP-LS-7 (200 Area Transfer Pipeline)
Waste Site and Facility List

Site Code	Name, Aliases, Description	Feature Type	Site Status	FRS Classification	FRS Reclassification	Site Type	Site Type Category	Operable Unit	Exclude from Evaluation	Comments
216-B-13	216-B-13; 216-B-13 Crib; 216-B-13 French Drain; 216-B-8; 291-B Crib	Waste Site	Inactive	Accepted	None	French Drain	Crib - Subsurface Liquid Disposal Site	200-CP-1	X	Included in B Plant Cribs and Trenches Eval.
216-L-7 2716-E-WS-1	216-L-7; 221-L Counting Box French Drain; 271-L Vessel Vent Sewer Pit French Drain 2716-E-WS-1; 2716 French Drains	Waste Site Waste Site	Inactive Active	Accepted Accepted	None Rejected	French Drain French Drain	Crib - Subsurface Liquid Disposal Site Crib - Subsurface Liquid Disposal Site	200-WA-1 Not Applicable	X X	Included in L Plant Eval. Rejected
200-E-88	200-E-88; B Plant Yard Steam Condensate; Miscellaneous Stream #6	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-89	200-E-89; B Plant Yard Steam Condensate; Miscellaneous Stream #4	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-90	200-E-90; B Plant Yard Steam Condensate; Miscellaneous Stream #5	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-91	200-E-91; B Plant Yard Steam Condensate; Miscellaneous Stream #6	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-92	200-E-92; B Plant Yard Steam Condensate; Miscellaneous Stream #7	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-93	200-E-93; B Plant Yard Steam Condensate; Miscellaneous Stream #8	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-94	200-E-94; B Plant Yard Steam Condensate; Miscellaneous Stream #9	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-W-115	200-W-115; Miscellaneous Stream #136; Steam Condensate MAX TRP 003, 004	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	Not Applicable	X	Included in L Plant Cribs and Ditches Eval.
216-B-4	216-B-4; 216-B-4 Dry Well; 216-B-4 French Drain; 216-B-4 Reverse Well	Waste Site	Inactive	Accepted	None	Injection/Reverse Well	Crib - Subsurface Liquid Disposal Site	200-CB-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-286	200-E-286; A-S Swamp; A-S swamp and Ditch; Original 200 East Area Powerhouse Effluent Pond; Powerhouse Swamp	Waste Site	Inactive	Accepted	Rejected	Pond	Pond/Ditch - Surface Liquid Disposal Site	Not Applicable	X	Rejected
200-E-237-PL	200-E-237-PL; 200E-F-74; Line 2904-F-1; Pipeline to 200 East Powerhouse Ditch and Pipeline from Powerhouse Ditch to 216-B-3 Ditches	Waste Site	Active	Accepted (Proposed)	None	Process Sewer	Pipeline and associated valves, etc.	TBD	X	Included in 200-E Maintenance Waste Site Eval.
600-291-PL	600-291-PL; LERF Line; ETF Line; 200 Area Treated Effluent Disposal Facility Pipeline	Waste Site	Active	Accepted	None	Process Sewer	Pipeline and associated valves, etc.	Not Applicable	X	Included in TEDF Eval.
201-C	201-C; 201-C Process Building	Waste Site	Inactive	Accepted	None	Process Unit/Plant	Process Building	TBD	X	Included in 200-E Burial Grounds Eval.
221-U	221-U; 221-U Building; 221-U Canyon Building; 276-U; U Plant	Waste Site	Inactive	Accepted	None	Process Unit/Plant	Process Building	200-CU-1	X	Included in L Plant Eval.
224-B	224-B; 224-B Concentrator Facility	Waste Site	Inactive	Accepted	None	Process Unit/Plant	Process Building	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
291-L	291-L; 291-L Fan Control House	Waste Site	Inactive	Accepted	None	Process Unit/Plant	Process Building	200-CU-1	X	Included in L Plant Eval.
292-L	292-L; 292-L Stack Monitoring Station; 291-U Stack Exhaust Monitoring Building	Waste Site	Inactive	Accepted	None	Process Unit/Plant	Process Building	200-CU-1	X	Included in L Plant Eval.
200-E-117-PL	200-E-117-PL; 24-Inch VP Line; 2904-E-1, 3 Plant Process Sewer; Pipeline from B Plant to 207-B Retention Basin	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-114-PL	200-E-114-PL; 216-BC-2805; 2805-C1, 2805-C2, 2805-C3 and 2805-C4; Pipeline from 216-BY-201 to 216-BC-201; Pipeline from 241-BY Tank Farm to 241-C Tank Farm and BC Cribs Trenches	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	200-IS-1	X	Included in BC Cribs and Trenches Eval.
200-E-180-PL	200-E-180-PL; Pipeline from 270-E-1 to 216-B-12 Crib; V231	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-174-PL	200-E-174-PL; 216-B-10 (A&B) Pipeline; Pipeline from 223-BC and 222-B to 216-B-10 A&B Cribs	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-175-PL	200-E-175-PL; Pipeline from 292-B to 216-B-10 A&B	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-214-PL	200-E-214-PL; Pipeline from 291-B Sand Filter to the 200-E-55 Trench Drain	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-240-PL	200-E-240-PL; Pipeline from 242-B to 216-B-4 Reverse Well	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-243-PL	200-E-243-PL; Pipeline from 291-B-1 Stack to the 216-B-63 French Drain	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-248-PL	200-E-248-PL; Pipelines from 709-F to the 709-F WS-3 Valve Pit	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in 200-E Burial Grounds Eval.
200-W-192-PL	200-W-192-PL; Pipeline from 221-L, 222-U and 224-U to the 207-L Retention Basin; U Plant Process Sewer	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD_200-IS-1	X	Included in L Plant Eval.
200-W-217-PL	200-W-217-PL; Pipeline from the Counting Box to 216-U-14 French Drain	Waste Site	Inactive	Accepted (Proposed)	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	TBD	X	Included in L Plant Eval.
200-W-84-PL	200-W-84-PL; U Plant Chemical Process Sewer to 216-U-14 Ditch; VCP Process Sewer; 200-W-84	Waste Site	Inactive	Accepted	None	Radioactive Process Sewer	Pipeline and associated valves, etc.	200-IS-1	X	Included in L Plant Eval.
200-E-30	200-E-30; 221-B Sand; Sand Filter; 241-B Sand Filter	Waste Site	Inactive	Accepted	None	Sand Filter	Process Building	TBD	X	Included in B Plant Cribs and Trenches Eval.
200-W-44	200-W-44; 291-U Stack; Sand Filter	Waste Site	Inactive	Accepted	None	Sand Filter	Process Building	TBD	X	Included in L Plant Eval.
2607-F1	2607-F1; Septic Tank and Tile Field	Waste Site	Inactive	Accepted	Closed Out	Septic Tank	Septic System	200-DA-1	X	Closed Out
2607-E1A	2607-E1A; 2607-E1-A; 2607-C1A Septic System; L-272 Septoinki System	Waste Site	Active	Accepted	None	Septic Tank	Septic System	Not Applicable	X	Septic System
2607-C6	2607-D6; 2607-E6 Septic Tank and Tile Field	Waste Site	Inactive	Accepted	None	Septic Tank	Septic System	200-EA-1	X	Septic System
2607-EA	2607-EA; 2607-EA Septic Tank and Drywell	Waste Site	Inactive	Accepted	None	Septic Tank	Septic System	200-EA-1	X	Septic System
2607-W7	2607-W7; Septic Tank	Waste Site	Inactive	Accepted	None	Septic Tank	Septic System	200-WA-1	X	Septic System
200-E-137	200-E-137; 291-B Exhaust Stack; 291-B-1	Waste Site	Inactive	Accepted	None	Stack	Process Building	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
291-L-1	291-L-1; 291-L-1 Stack; 221-U Stack; 291-U Stack	Waste Site	Inactive	Accepted	None	Stack	Process Building	200-CU-1	X	Included in L Plant Eval.
200-E-122	200-E-122; CF Bullpen; Construction Forces Bullpen Equipment Storage Yard; Laydown Yard	Waste Site	Inactive	Accepted	Rejected	Storage	Storage Pad	Not Applicable	X	Rejected
200-E-43	200-E-43; Regulated Equipment Storage Area; Tank Car Storage Area; TC-4 Spur Tank Car Storage Area	Waste Site	Inactive	Accepted	None	Storage	Storage Pad	200-EA-1	X	Included in 200-E Maintenance Waste Site Eval.
200-E-119	200-E-119; 225-B Was. Side 90 Day Pad	Waste Site	Inactive	Not Accepted	None	Storage Pad (<90 day)	Storage Pad	Not Applicable	X	Included in B Plant Cribs and Trenches Eval.
200-E-99	200-E-99; 209-E 90 Day Waste Accumulation Area; 209-EA	Waste Site	Inactive	Accepted	Rejected	Storage Pad (<90 day)	Storage Pad	Not Applicable	X	Rejected
216-L-5	216-L-5; 221-L Cold U Trench #2; 216-L-4	Waste Site	Inactive	Accepted	None	Trench	Crib - Subsurface Liquid Disposal Site	200-WA-1	X	Included in 200-W Maintenance Waste Site Eval.
216-L-6	216-L-6; 221-L Cold U Grave #1; 221-U Cold U Trench; L Facility Unirradiated Uranium Waste Trench; 216-J Cold U Trench #1; 216-J-5	Waste Site	Inactive	Accepted	None	Trench	Crib - Subsurface Liquid Disposal Site	200-WA-1	X	Included in 200-W Maintenance Waste Site Eval.
200-E-117	200-E-117; Contamination Zone South of B Plant	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-EA-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-28	200-E-28; Diesel Fuel Contaminated Soil; Heavy Equipment Storage Area	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-EA-1	X	Included in B Plant Cribs and Trenches Eval.
200-E-48	200-E-48; Stabilized 4in Semiworks Area; Strontium Semi Works Stabilized Area; UN 216-E-48	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	TBD	X	Included in 200-E Burial Grounds Eval.
200-E-56	200-E-56; 241-C Waste line Leak Adjacent to 203-C Waste Line Leak #1	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Subsurface	200-EA-1	X	Included in 200-E Burial Grounds Eval.
200-E-57	200-E-57; 241-C Waste line Leak East of 203-C; Waste line Leak #2	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Subsurface	200-EA-1	X	Included in 200-E Burial Grounds Eval.
200-W-139	200-W-139; Demolished 224-U, 224-UA, 203-J, 203-JK, 222-U; Passed Underground Radioactive Material Area; Potential Asbestos in Soil	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Subsurface	TBD	X	Included in L Plant Eval.

Note that only those waste sites with a WIDS (Waste Information Data System) Classification of "Accepted" are included in the evaluation, along with one duplicate facilities, identified via the Hanford Geographic Information System (HEIS).

Hanford Site-Wide Risk Review
CP-LS-7 (200 Area Transfer Pipeline)
Waste Site and Facility List

Site Code	Name, Aliases, Description	Feature Type	Site Status	ERS Classification	ERS Reclassification	Site Type	Site Type Category	Operable Unit	Exclude from Evaluation	Comments
200-W-239	200-W-239; 211-U and 211-UA Potential Asbestos in Soil; Pos: Remediation: JRMA	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	TBD	X	included in U Plant Eval.
UPR-200-E-11	UPR-200-E-11; Railroad Track Contamination Spread; UN-200-E-11	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-OA-1	X	included in 200 E Maintenance Waste Site Eval.
UPR-200-E-141	UPR-200-E-141; 271B-E Building Diesel Nitrate Spill to Ground; UN-200-E-141	Waste Site	Inactive	Not Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	Not Applicable	X	included in 200 E Burial Grounds Eval.
UPR-200-E-2	UPR-200-E-2, Spotty Contamination Around the 3 and T Plan 1 Sacks; UN-200-E-2	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-CB-1	X	included in B Plant Cribs and Trenches Eval.
UPR-200-E-37	UPR-200-E-37; Contamination East of Hot Semi-Works; UN-200-E-37; UN-216-E-37; UN-216-S-39	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-TA-1	X	included in 200 E Burial Grounds Eval.
UPR-200-E-87	UPR-200-E-87; 216-E-15; 224-3 South Side Plutonium Ground Contamination; UN-200-E-87; UN-216-E-15	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-CB-1	X	included in B Plant Cribs and Trenches Eval.
UPR-200-E-88	UPR-200-E-88; TC-4 Spur Contaminated Railroad Track; UN-200-E-88, Ground Contamination Around the Western Pumo Railroad Spur; UN-216-E-16; UN-216-E-88	Waste Site	Inactive	Accepted	None	Unplanned Release	Unplanned Release - Surface/Near Surface	200-TA-1	X	included in 200 E Maintenance Waste Site Eval.
UPR-200-E-90	UPR-200-E-90; Ground Contamination Around B Plant Sand Filter; Radioactive Spill Near 221-B Building; UN-200-E-90; UN-216-E-16; UN-216-E-90	Waste Site	Inactive	Accepted	Rejected	Unplanned Release	Unplanned Release - Surface/Near Surface	Not Applicable	X	Rejected
85VP	85VP; Semiworks Valve Pit; 201 C Diversion Box; 201 C Valve Box; 4or Semiworks Valve Pit	Waste Site	Inactive	Accepted	None	Valve Pit	Pipeline and associated valves, etc.	200-TA-1	X	included in 200 E Burial Grounds Eval.
6PIT	200-E PITTING FACILITY	Facility	ACTIVE			BUILDING	Infrastructure Building			
2413040	GROUT REMOVAL TANK BUILDING	Facility	INACTIVE			BUILDING	Infrastructure Building			
244A	WASTE VAULT AND INSTRUMENT HOUSE	Facility	ACTIVE			BUILDING	Infrastructure Building			
2721C	OFFICE BUILDING	Facility	ACTIVE			BUILDING	Infrastructure Building			
272C	SOLVENT HANDLING BUILDING	Facility	INACTIVE			BUILDING	Infrastructure Building			
2902-N2B	RAILWAY MAINFOLD SHELTER	Facility	ACTIVE			BUILDING	Infrastructure Building			
6241	22/2W CROSS SITE TRANSFER LINE	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.			
2736Z	RADIOACTIVE CONTAIN STORAGE FACILITY	Facility	ACTIVE			STRUCTURE	Infrastructure Building			
241CXV	SELF CONCENTRATOR VAULT	Facility	INACTIVE			STRUCTURE	Process Building			
241WA	THORIUM STORAGE VAULT (AREA D VERTEX STATION	Facility	INACTIVE			STRUCTURE	Process Building			
2508S4	SIREN EAST OF ATLANTA WIDTH OF 4TH	Facility	ACTIVE			STRUCTURE	Infrastructure Building			
212H	CANISTER STORAGE BUILDING	Facility	ACTIVE			BUILDING	Process Building		X	included in CSB Eval.
218N	EMERGENCY EQUIPMENT STORAGE (MED	Facility	ACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
221BF	CONDENSATE EFFLUENT DISCHARGE FACILITY	Facility	INACTIVE			BUILDING	Process Building		X	included in B Plant Cribs and Trenches Eval.
221L	U PLANT CANYON AND SERVICE BUILDING	Facility	INACTIVE			BUILDING	Process Building		X	included in U Plant Eval.
222B	OFFICE BUILDING	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
224B	CONCENTRATION FACILITY	Facility	INACTIVE			BUILDING	Process Building		X	included in B Plant Eval.
2736B	WASTE CLOSED LOOP COOLING EQUIPMENT BUILDING	Facility	ACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
2336G-GEN1	BACKUP GENERATOR BLDG WITH 2 DIESEL FUEL TANKS	Facility	ACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
2712S	ELECTRICAL/INSTRUMENTATION BUILDING	Facility	ACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
291B	EXHAUST AIR CONTROL HOUSE AND SAND FILTER / STACK	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
291BA	EXHAUST AIR SAMPLE HOUSE	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
291L	EXHAUST FAN CONTROL HOUSE PLENUM AND SAND FILTER BLDG	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in U Plant Eval.
292B	STACK MONITOR STATION	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
296T	STACK MONITORING STATION	Facility	INACTIVE			BUILDING	Infrastructure Building		X	included in U Plant Eval.
284B	BACKFLOW PREVENTOR BUILDING	Facility	ACTIVE			BUILDING	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
MO48E	SURVEY TRAILER AT 284E	Facility	INACTIVE			BUILDING	Infrastructure Building		X	Mobile Office
MO50I	RESTROOM FACILITY STAGED EAST OF 272SE	Facility	INACTIVE			BUILDING	Infrastructure Building		X	Mobile Office
MO50S	MOBILE OFFICE AT A TANK FARM	Facility	ACTIVE			BUILDING	Infrastructure Building		X	Mobile Office
MO81E	CHANGE TRAILER AT 244A TANK FARM	Facility	ACTIVE			BUILDING	Infrastructure Building		X	Mobile Office
216N104	CRIB AND TILE FIELD	Facility	INACTIVE			STRUCTURE	Crib - Subsurface - liquid Disposal Site		X	Duplicative
241C154	D VERSION BOX NEAR HOT SEMI WORKS	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	Duplicative
241E124	D VERSION BOX	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	Duplicative
241F117	D VERSION BOX	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	Duplicative
241F118	D VERSION BOX	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	Duplicative
241EW151	WASTE EXPORT LINES VENT STATION	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	Duplicative
241LV154	D VERSION BOX AT J PLANT	Facility	INACTIVE			STRUCTURE	Pipeline and associated valves, etc.		X	included in U Plant Eval.
291L001	291-J MAIN STACK	Facility	INACTIVE			STRUCTURE	Process Building		X	included in U Plant Eval.
624LV	VENT STATION IN SUPPORT OF CROSS SITE TRANSFER	Facility	INACTIVE			STRUCTURE	Infrastructure Building		X	Duplicative
HSD23	HAZARDOUS STORAGE CONTAINER	Facility	ACTIVE			STRUCTURE	Infrastructure Building		X	included in B Plant Cribs and Trenches Eval.
241CX70	MIXED WASTE STORAGE TANK	Facility	INACTIVE			TANK	Underground Storage Tank		X	Duplicative
241CX71	ACIDIC WASTE NEUTRALIZATION TANK	Facility	INACTIVE			TANK	Underground Storage Tank		X	Duplicative
241CX72	WASTE SELF CONCENTRATOR UNDERGROUND TANK	Facility	INACTIVE			TANK	Underground Storage Tank		X	Duplicative
241LX002A	CATCH TANK WITH PUMP PIT	Facility	INACTIVE			TANK	Underground Storage Tank		X	included in U Plant Eval.

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