

## Part I - The Schedule

### Section C

#### Statement of Work

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## Section C

### Statement of Work

#### C.1 General Hanford Site River Corridor Overview

- (A) The River Corridor (RC) is approximately 210 square miles on the Hanford Site adjacent to the Columbia River (see Figure C.1). This area is divided into three major sub areas; the 100 Area (see Figure C.2) comprised of shut down plutonium production reactors and support facilities; the 300 Area comprised of reactor fuel fabrication, research and support facilities; and the 600 Area. The 600 Area is mostly vacant land but contains a number of waste sites requiring remediation and are included in the 300 Area operable units. The 100 and 300 Areas are on the Environmental Protection Agency National Priorities List (NPL) and are two of the three open NPL sites at the Hanford Site. The other is the 200 Area, which is not part of this contract.
- (B) Successful cleanup of the RC will allow the 210 square miles of Hanford land to be available for other uses, providing opportunities for public access to key recreational areas, protecting cultural resources, and shrinking the footprint for active Hanford cleanup operations to approximately 75 square miles. Key challenges include the need to remove and process buried high-activity wastes, deactivation, decontamination, decommissioning, and demolishing (D<sup>4</sup>) excess facilities, and isolating the reactor blocks.

##### C.1.1 100 Area General Overview

- (A) The 100 Area was listed on the NPL on October 4, 1989, as one of three open NPL sites at Hanford. The CERCLA decision documents that have been approved are listed in Section C.14. Remedial action work associated with these decision documents has begun and approximately half will be completed as of October 1, 2002.
- (B) The 100 Area is located in the northern portion of the Hanford Site. It encompasses approximately 26 square miles and is bisected by the Columbia River. The portion north and east of the river is the North (or Wahluke) Slope, which contained contaminants remaining from anti-aircraft missile bases, and is not part of the statement of work. The portion south and west of the river is the site of six reactor areas (100-B/C, 100-D, 100-F, 100-H, 100-K, and 100-N) along with numerous other waste sites primarily associated with the first decade of Hanford construction and production operations. (Figure C.2 is a map of the 100 Area.) The 100 Area includes 14 operable units that contain 474 waste sites, including 42 burial grounds (see Table C.1).
- (C) There are nine nuclear reactors spread among six reactor areas (two each at 100-B/C, 100-D, and 100-K, and F, H, and N). They are large graphite-moderated plutonium production reactors that used slightly enriched uranium metal as fuel. The first eight reactors, which were constructed between 1943 and 1955, used Columbia River water in a single-pass process for cooling the reactor core. Water was either discharged back to the river or diverted to onshore liquid waste disposal sites such as cribs. This discharged cooling water contained hazardous waste constituents and radioactive materials, which contaminated the soil and groundwater.

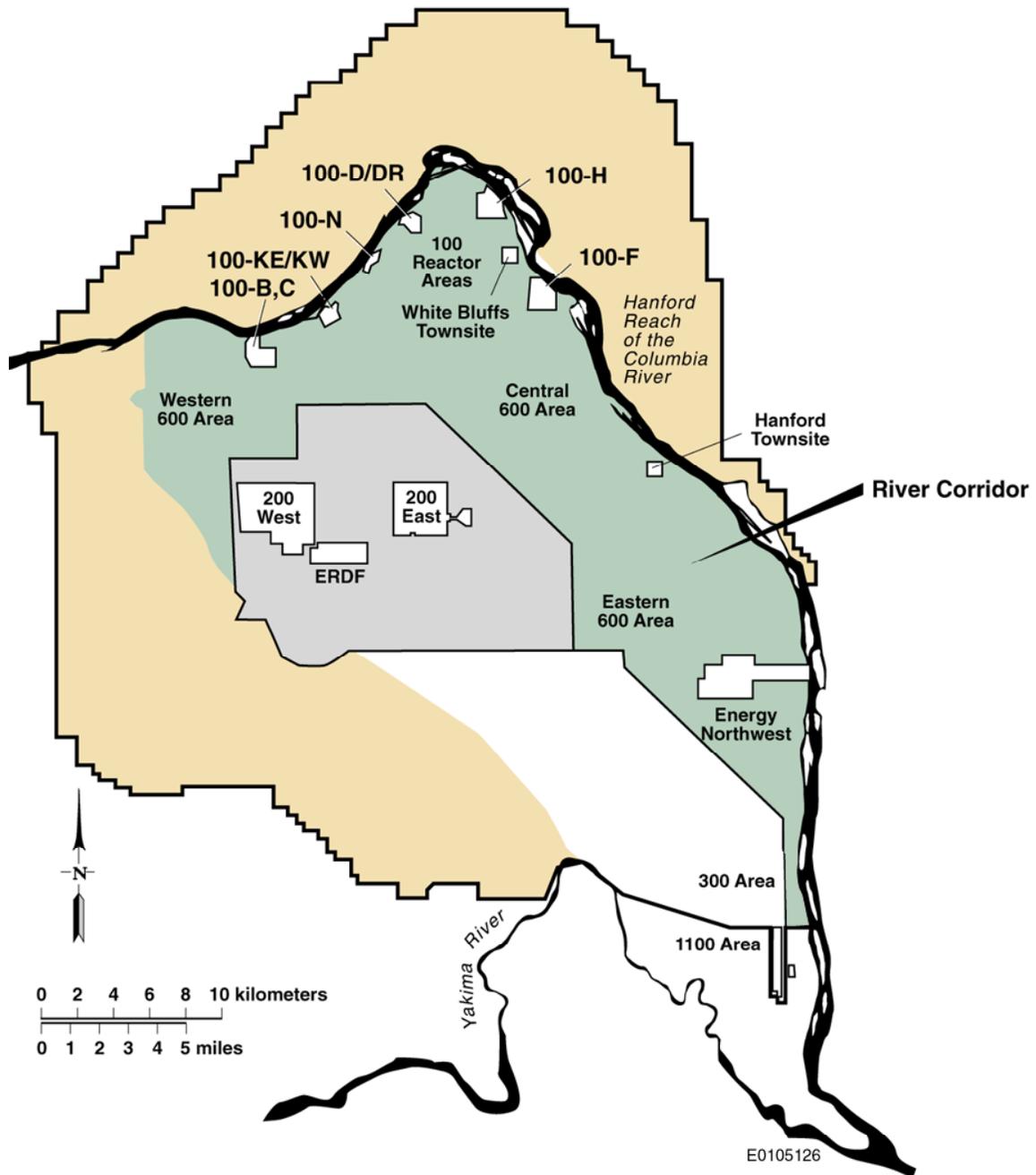


Figure C.1. Hanford Site River Corridor

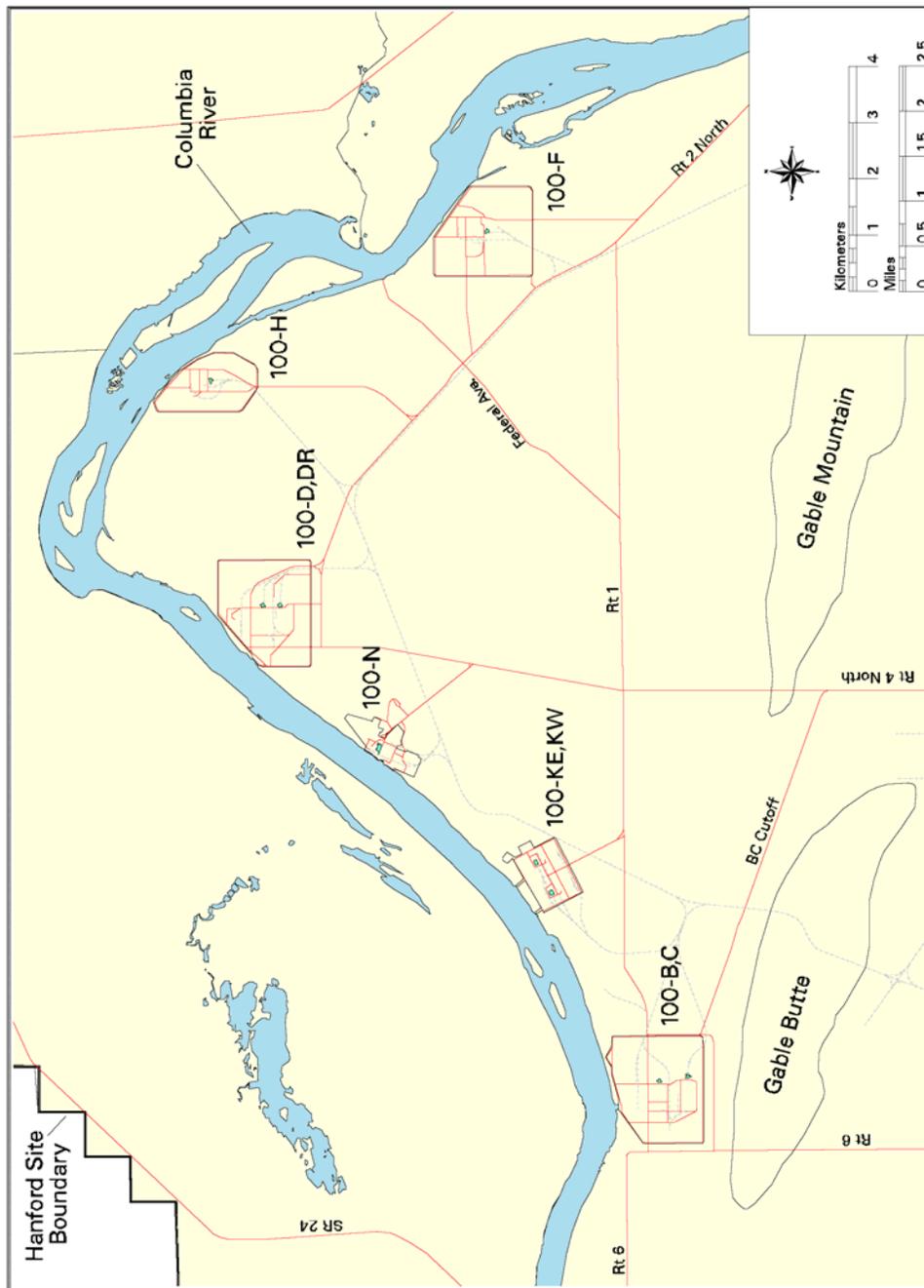


Figure C.2. Hanford 100 Areas

**Table C.1. River Corridor Cleanup Work (Phase I and II)**

	B/C Area	K Area	N Area	D Area	F Area	White Bluffs Town Site (IU-2)	H Area	Hanford Town Site (IU-6)	300 Area	Total
<b>Present Status</b>										
Waste Sites	50	102	95 <sup>(a)</sup>	50	67 <sup>(b)</sup>	22	30 <sup>(c)</sup>	16	119 <sup>(d)</sup>	551
Burial Grounds	11	2	0	16	8	0	5	0	8	50
D <sup>4</sup> Buildings/Structures	4	29	72	4	1	0	3 <sup>(e)</sup>	0	148 <sup>(f)</sup>	261
Reactor Interim Safe Storage (ISS)	1 <sup>(g)</sup>	2	1	1	1	0	1	0	0	7 <sup>(g)</sup>
<b>Contract Work (Phase I)</b>										
Waste Sites	50	8	11	50	55	22	29	16	28	269
Burial Grounds	11	0	0	15	8	0	5	0	7	46
D <sup>4</sup> Buildings/Structures	4	0	5	4	1	0	2	0	24	40
Reactor ISS	1 <sup>(g)</sup>	0	0	1	1	0	1	0	0	4 <sup>(g)</sup>
<b>Contract Work (Phase II Option)</b>										
Waste Sites	0	94	77	0	0	0	0	0	69	240
Burial Grounds	0	2	0	1	0	0	0	0	1	4
D <sup>4</sup> Buildings/Structures	0	29	67	0	0	0	0	0	122 <sup>(f)</sup>	218 <sup>(h)</sup>
Reactor ISS	0	2	1	0	0	0	0	0	0	3
<p>(a) It is anticipated that 7 waste sites will be completed pre-Phase I in the N Area.</p> <p>(b) There are currently 67 accepted waste sites in the F Area, however 12 waste sites are scheduled to be completed pre-Phase I. This leaves 55 waste sites to be remediated in Phase I.</p> <p>(c) There are currently 30 accepted waste sites in the H Area, however 1 waste site is scheduled to be completed pre-Phase I. This leaves 29 waste sites to be remediated in Phase I.</p> <p>(d) There are 22 sites that will be completed pre-Phase I.</p> <p>(e) 1713H houses the H Area pump-and-treat system, which will run beyond the completion of this contract.</p> <p>(f) There are currently 148 facilities listed in Phase I and II for the 300 Area, however, 2 buildings/structures may be D4 prior to the start of Phase I.</p> <p>(g) This includes B Reactor Hazard Mitigation as defined by the EE/CA for the 105-B Reactor Facility.</p> <p>(h) Additional buildings/structures may be added to Phase II from the Facilities Core Database.</p>										

- (D) The 100-N Reactor differed from the other eight reactors since it had the dual purpose of producing electricity and special nuclear material. The process of using the heat for electricity generation required the reactor coolant system to be re-circulating rather than single-pass, as was the case for the eight earlier reactors. This re-circulation process, however, caused much higher concentrations of radionuclides to accumulate in the reactor coolant system. Moreover, the N Reactor operated over a longer period of time than most of the other reactors. Therefore, the soil receiving any feed-and-bleed discharges from the reactor has a much higher concentration of contaminants.
- (E) The 100 Area also includes contaminated and uncontaminated structures such as buildings, buried pipelines, buried and exposed disposal cribs, and trenches.

### **C.1.2 300 Area General Overview**

The 300 Area was listed on the NPL on October 4, 1989, and is one of the three open NPL Sites at Hanford. The 300 Area (Figure C.3) is located in the southeastern portion of the Hanford Site along the west bank of the Columbia River and about 8 miles to the north of the town center of the City of Richland. The 300 Area was the location of the uranium fuel fabrication facilities and provided fuel for the Hanford Site's 9 plutonium production reactors located in the 100 Area. The 300 Area was also the center for much of the Hanford Site's research and development activities. In connection with these activities facilities were constructed including chemical process laboratories, test reactors, and numerous ancillary/support structures. Some of the 300 Area laboratories and support facilities are still in use and are not part of the scope of this contract. The 300 Area includes three operable units that contain 127 waste sites, including 8 burial grounds (see Table C.1). For more information on the 300 Area including detailed descriptions of facilities and waste sites see the Hanford Site 300 Area Accelerated Closure Project Plan, HNF-6465, Rev. 0.

## **C.2 River Corridor Contract Overview**

- (A) The RC Project will be executed in two different phases. Phase I will be focused on meeting existing regulatory commitments, D<sup>4</sup> of nuclear facilities, remediation of waste sites and burial grounds in the 100 and 300 Areas, and reducing uncertainties for the remaining work. Upon completion of each reactor area in Phase I, DOE will petition EPA to partially delete these source operable units from the NPL. The Phase II Option will complete closure of the RC to such an extent that DOE can petition EPA to partially delete the remaining source operable units for the 100 and 300 Areas from the NPL.
- (B) This contract reflects the application of performance-based contracting approaches and techniques which emphasize results/outcomes and minimizes "how to" performance descriptions. The contractor has the responsibility for total performance under the contract, including determining the specific methods for accomplishing the work effort, performing quality control, and assuming accountability for accomplishing the work under the contract. Accordingly, this contract provides flexibility, within the terms and conditions of the contract, to the contractor in carrying out the work specified herein.
- (C) Under this contract, it is the contractor's responsibility to develop and implement innovative approaches and adopt practices fostering continuous improvement in accomplishing the work specified herein. DOE expects the contractor to produce effective and efficient management

structures, systems, and operations that maintain high levels of quality and safety in accomplishing the work required under this contract.

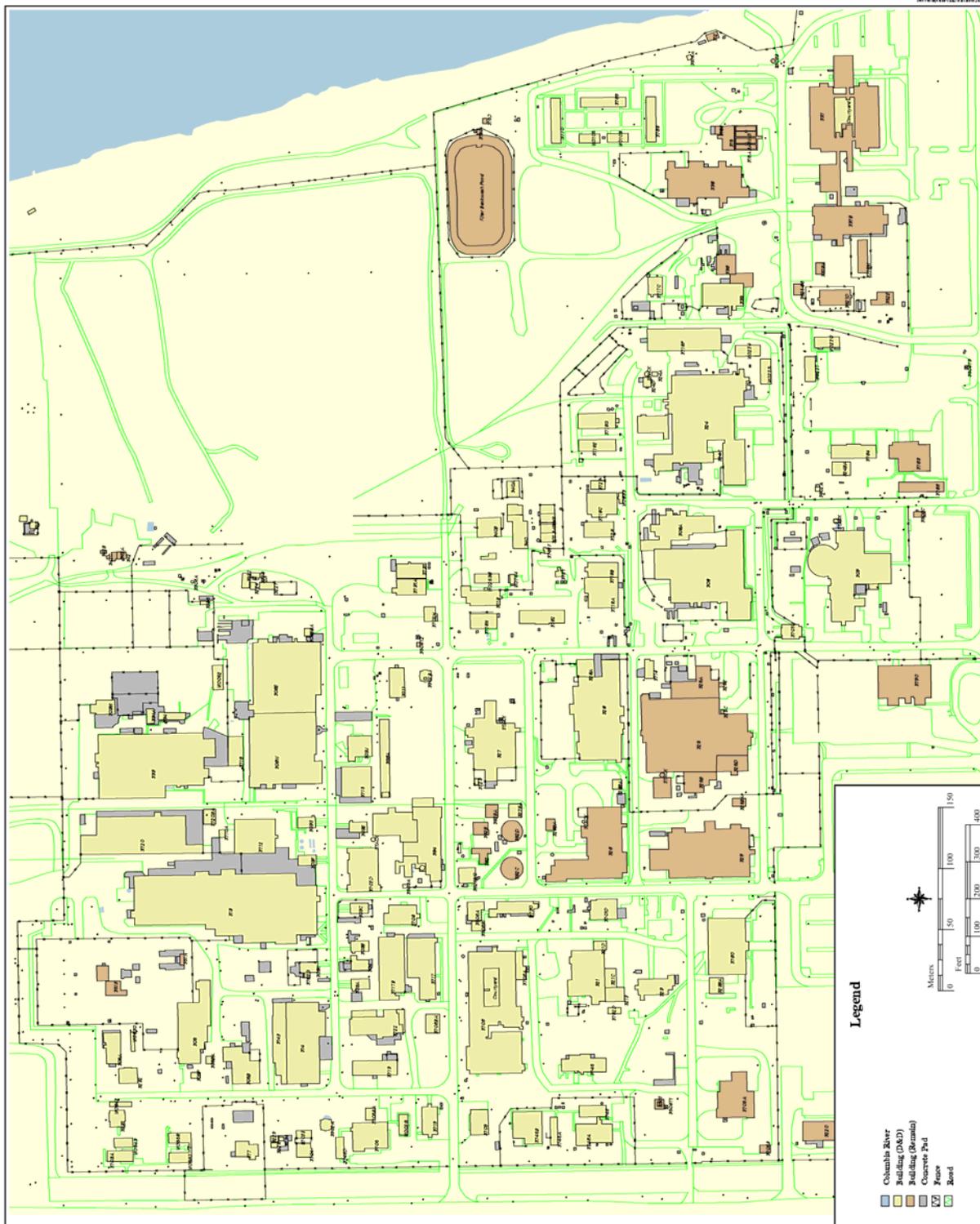


Figure C.3. 300 Area Map

- (D) Under this contract, the contractor shall furnish the necessary personnel, facilities, equipment, materials, supplies, and services (except those provided by the Government) to accomplish the scope of work. This scope of work is comprehensive in that the contractor is expected to perform all necessary technical, operational and management functions to perform the work specified herein.
- (E) The performance-based results/outcomes of this contract are set out in this statement of work and reflect DOE's minimum needs and expectations for contractor performance.
- (F) There are no Operational Readiness Reviews (ORR) required for the performance of the work as specified in C.3 and C.4 except for major changes to the authorization basis for Buildings 324 and 327 or after major upsets in these buildings in accordance with DOE Order 425.1B.
- (G) The contractor shall be knowledgeable of science and technology developments that benefit the Hanford Site by lowering the overall RC Project costs and improving safety.

### **C.3 River Corridor Phase I Work Summary (100 and 300 Areas)**

- (A) The River Corridor Project will be executed in two phases. Phase I will complete the work specified below and described in Table C.2. Phase II work is specified in Section C.4 and may be negotiated into this contract in accordance with Section H. Also, Section J, Appendix 3 provides a complete listing of waste sites, burial grounds, and buildings to be D<sup>4</sup> in Phase I. For Phase I the contractor shall:
  - (1) Remediate 315 soil sites including 46 burial grounds per the existing CERCLA Records of Decision (subsequently referred to as RODs) or other applicable regulatory documents, see Table C.1 for a breakout by area. Regulatory approved clean-up levels generally require the following:
    - (a) Removal of radioactivity to achieve a committed effective dose equivalent from all pathways of less than 15 mrem/year to the maximally exposed individual
    - (b) Protection of the groundwater and the Columbia River
    - (c) Removal of the engineered buildings/structures
    - (d) Removal of hazardous contaminants to residential (100Area) or industrial (300 Area) use cleanup levels.
  - (2) Obtain regulatory approval for the remediation of waste sites currently not included in existing CERCLA decision documents. The Remaining Sites ROD provides a pathway to add sites.
  - (3) Complete remediation of the River Effluent Pipelines in the B/C, D/DR, F, and H Reactor Areas. This includes obtaining regulatory approval for final disposition as well as performing any support activities (e.g. engineering studies, Remedial Design Report (RDR), and appropriate CERCLA decision documentation).
  - (4) Complete the interim long-term safe storage of 3 plutonium production reactors (D, F, and H Reactors). This involves deactivation, decontamination, decommissioning, and demolition (D<sup>4</sup>) of the reactor facilities up to the shield wall of the reactor core or block along with the removal of

associated underground and above ground piping, structures, and lines. D<sup>4</sup> is further defined in Section C.16 (D).

- (5) D<sup>4</sup> 16 small buildings and structures in the 100 Areas.
- (6) Mitigate hazards at B Reactor to support continued public access.
  - (7) D<sup>4</sup> buildings 324 and 327, which are large nuclear facilities (Hazard Category II).
- (8) D<sup>4</sup> 22 small buildings and structures in the 300 Area.
- (9) Remove hazardous and radioactive waste and other material generated from the above activities from the River Corridor to appropriate Hanford Site disposal or storage facilities.
- (10) Provide surveillance and maintenance of the 100 and 300 area facilities in accordance with the terms and conditions of this contract.
- (11) Complete EE/CA(s) for KE, KW, and N Reactor ISS and all 300 Area buildings/facilities for D<sup>4</sup>. This includes completing and obtaining regulator approval for the EE/CAs, action memorandum, removal action work plan, DQO/SAP, and design report.
- (12) Complete the ecological baseline risk assessment per CERCLA for the B/C, F, and H Areas and 100-IU-2, 100-IU-6 operable units and obtain DOE approval.
- (13) Complete the petition for the partial deletion for the B/C, F, and H Areas and 100-IU-2, 100-IU-6 Operable units, from the 100 Area NPL, and work with DOE to obtain regulator approval.
- (14) Complete a Final Record of Decision for the completed operable units in the 100 and 300 Areas and work with DOE to obtain regulator approval.
- (15) Submit an engineering evaluation of the final reactor disposition and work with DOE to obtain regulator approval.

**Table C.2.** Contract Work for the 100 K Area, 100 N Area, and 300 Area

Operable Unit	Site/Building Number	Site Description
<b>100-K Area</b>		
Remediate Waste Sites: excavate, backfill, revegetate, and close out		
100-KR-2	100-K-55	100-KW Reactor Cooling Water Effluent Underground Pipelines/100KE Reactor Cooling Water Underground Pipelines
100-KR-1	116-K-1	100-K Crib/Pond
100-KR-1	116-K-2	100-K Mile Long Trench
100-KR-1	116-KE-4	107-KE Retention Basin

**Table C.2.** Contract Work for the 100 K Area, 100 N Area, and 300 Area

<b>Operable Unit</b>	<b>Site/Building Number</b>	<b>Site Description</b>
100-KR-1	116-KW-3	107-KW Retention Basin
100-KR-2	100-K-56	(subsite of 100-K-55)
100-KR-2	116-KE-1	Condensate Crib
100-KR-2	116-KW-1	Condensate Crib
<b>100-N Area</b>		
D <sup>4</sup> includes all activities necessary to take an excess facility from its current state to total demolition and removal/disposal of the resulting waste, material, and debris		
100 N Area	107N	Recirculation Cooling Building
100 N Area	1300N	Emergency Dump Basin
100 N Area	1303N	Spacer Silos
100 N Area	1304N	Emergency Dump Tank
100 N Area	1722N	Decon Building
Remediate Waste Sites - excavate, backfill, revegetate, and close out		
100-NR-1	100-N-29	Unplanned Release on Blow down Pipeline #1
100-NR-1	100-N-30	Unplanned Release on Blow down Pipeline #2
100-NR-1	100-N-36	Oil Stained Pad
100-NR-1 (TSD Sites RA)	116-N-1	Crib and trench
100-NR-1	118-N-1	Radioactive Dummy Burial Facility
100-NR-1	124-N-3	Septic Tank System
100-NR-1	UPR-100-N-1	Emergency Dump Tank Inlet Valve Box Leak
100-NR-1	UPR-100-N-2	Valve Leak
100-NR-1	UPR-100-N-29	Emergency Dump Basin Bypass Line Leak
100-NR-1	UPR-100-N-32	Emergency Dump Basin Bypass Line Leak
100-NR-1	100-N-57	Emergency Dump Tank
<b>300 Area</b>		
D4 - includes all activities necessary to take an excess facility from its current state to total demolition and removal/disposal of the resulting waste, material, and debris		
300 Area	Small Facilities D&D	Includes: 3221, 3222, 3223, 3224, 3225, 332, 334, 334A, 3906A
300 Area	303M Building	Uranium Oxide Building
300 Area	327 Building (includes 327BA and waste site 300-264)	Post-Irradiation Test Laboratory
300 Area	3718E Building	Storage Building

**Table C.2.** Contract Work for the 100 K Area, 100 N Area, and 300 Area

<b>Operable Unit</b>	<b>Site/Building Number</b>	<b>Site Description</b>
300 Area	3718G Building	Storage Building
300 Area	324 Building (includes 324 BA, 324A, 324B, 324C, 324D, 324S, and waste site 300-25)	Chemical Engineering Laboratory
300 Area	3727 Building	Classified Vault
300 Area	333 Building (includes waste sites 333-WSTF, 333-TK-11, and 333-TK-7)	N Fuels Building
300 Area	MO-052	Mobil Office
Remediate Waste Sites - excavate, backfill, revegetate, and close out		
300-FF-2	300-109	333 Building Storm Water Runoff
300-FF-2	300-110	333 Building Storm Water Runoff
300-FF-2	300-259	Contamination Area Surrounding 618-1 Burial Ground
300-FF-2	303-M SA	303M Building Storage Area
300-FF-2	303-M UOF	303M Uranium Oxide Facility
300-FF-2	333 ESHWSA	333 Building East Side Hazardous Waste Storage Area
300-FF-2	300-263	324 Building Diversion Tank
300-FF-2	316-3	Process Water Trenches
300-FF-2	UPR-300-1	307-340 Waste Line Leak
300-FF-2	UPR-300-2	Releases at the 340 Facility
300-FF-2	300 VTS	In-Situ Vitrification Test Area
300-FF-2	300-18	Surface Contaminated Dumping Area #4
300-FF-2	300-2	Contaminated Light Water Disposal
300-FF-2	300-32	Fabrication Shop Leak
300-FF-2	300-25	324 Building
300-FF-2	300-264	327 Building
300-FF-2	300-7	Undocumented Solid Waste Burial Ground
300-FF-2	300-8	Aluminum Shavings Area
300-FF-2	300-9	Solid Waste Burial Ground
300-FF-2	316-4	300 Area North Cribs
300-FF-2	331 LSLDF	Life Sciences Lab Drain Field
300-FF-2	UPR-300-17	Unplanned Release
300-FF-2	600-47	Dumping Area
300-FF-2	600-259	Grout Waste Test Lysimeter

**Table C.2.** Contract Work for the 100 K Area, 100 N Area, and 300 Area

Operable Unit	Site/Building Number	Site Description
300-FF-2	UPR-300-46	Unplanned Release
Remediate Burial Grounds: excavate, backfill, revegetate, and close out		
300-FF-2	618-1	Solid Waste Burial Ground #1
300-FF-2	618-13	303 Building Contaminated Soil Burial Site
300-FF-2	618-2	Solid Waste Burial Ground #2
300-FF-2	618-3	Dry Waste Burial Ground
300-FF-2	618-4	Burial Ground #4
300-FF-2	618-5	Burial Ground #5
300-FF-2	618-7	Burial Ground #7

### C.3.1 100 Area Phase I Work

#### C.3.1.1 100 Area Operable Units

(A) An Operable Unit at the Hanford Site is a grouping of land disposal or waste sites. The Operable Unit designation forms the basis for the regulatory pathway. Table C.3 lists each operable unit in the 100 Area. These source operable units contain about 470 waste sites, which can be categorized as one of four basic types: contaminated soil, buried structures, debris, or burial grounds.

**Table C.3.** 100 Area Operable Units

Reactor Area	Operable Unit
None	100-IU-6
B/C	100-BC-1
B/C	100-BC-2
F	100-FR-1
F	100-FR-2
None	100-IU-2
H	100-HR-1
H	100-HR-2
D	100-DR-1
D	100-DR-2
K	100-KR-1
K	100-KR-2
N	100-NR-1
N	100-NR-2

### **C.3.1.2 Reactor Interim Safe Storage (ISS)**

- (A) ISS consists of the modifications to the reactor structure to ensure the Reactor block is safely stored for a minimum of 75 years. ISS removes the spent fuel storage basin, fuel examination facility, and all portions of the reactor building structure, including all concrete block, lying outside of the shield walls that surround the reactor core and the D<sup>4</sup> of excess ancillary reactor area buildings. All existing penetrations in the shield walls, and any new penetrations resulting from removal operations, are sealed to prevent animal intrusion and water in-leakage into the interim safe storage structure. A new roof system is placed over the remaining structure using the existing shield walls as the “new” outside walls. A single access door is provided to allow periodic inspection of the facility.
- (B) C Reactor ISS was completed in 1998 and operations for putting D, DR (scheduled to be complete prior to the start of Phase I), H, and F Reactors into ISS are in progress.
- (C) The CERCLA decision documents (i.e. EE/CA) to place reactors D, H, and F into ISS have been completed and approved by the regulator. CERCLA decision documents for KE, KW, and N reactors have not been completed. The completion and approval of these CERCLA decision documents are included in this SOW.

### **C.3.1.3 Contaminated Linear Piping**

- (A) Generic to all zones with reactors are lengths of contaminated and non-contaminated linear piping. This linear piping consists of effluent, process sewer, sanitary sewer, and miscellaneous pipelines.
- (B) The total estimated length of potentially contaminated liner piping within the 100-B/C and 100-D/DR Areas is about 120,000 ft. Area drawings, showing the location and type of piping, exist and are available in the DOE Reading Room, however, a detailed review of the other reactor sites has not been completed at this time. Information regarding the size, type, and historical background of these pipelines may be found in the 100 B/C Reactor Underground Pipelines Historical Information Survey (BHI 01453) and the 100 D/DR Reactor Area Pipeline Evaluation.

### **C.3.1.4 100 Area Detailed Phase I Work Descriptions**

#### **C.3.1.4.1 B/C Reactor Area**

- (A) The B/C Reactor Area is approximately 8 square miles and includes 2 miles of Columbia River shoreline. There are two reactors and 61 waste sites, including 11 burial grounds, in this area. C Reactor was placed into ISS in 1998. B Reactor is listed in the National Register of Historic Places. A listing and description of the waste sites are specified in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 “River Corridor Restoration Baseline”, pages A1-4 through A1-6. A description of the burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Also, additional waste site information can be found on the Waste Information Data System (WIDS).
- (B) Waste Sites: The contractor shall complete the remediation of the 61 waste sites including 11 burial grounds, in accordance with the approved applicable records of decision (ROD). This includes

removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

(C) B/C Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 111-B, 118-C4, 1904-B1, and 116-B in the 100 B/C Area. The contractor shall perform all work consistent with approved regulatory documents.

(D) B Reactor: The contractor shall mitigate the hazards of B Reactor as specified in the preferred alternative of the EE/CA for the 105-B Reactor Facility. The contractor shall provide surveillance and maintenance of B Reactor in accordance with the terms and conditions of this contract and support periodic public tours of B Reactor (up to 30 per fiscal year). DOE may decide to place B Reactor into ISS during the duration of this contract.

(1) The major work scope for B Reactor hazard mitigation includes:

- (a) Preparing regulatory documents to support hazard mitigation, including RAWP, SAP and a DQO Report.
- (b) Preparing and implementing a Surveillance and Maintenance plan.
- (c) Completing hazard mitigation per EE/CA requirements (e.g. upgrade electrical system, upgrade fire suppression system, complete a structural and stack analysis, encapsulate asbestos and lead paint, correct tripping hazards).

(E) C Reactor: The contractor shall provide surveillance and maintenance of C Reactor in accordance with the terms and conditions of this contract and repair the reactor block building as needed to maintain ISS.

#### **C.3.1.4.2 F Reactor Area**

(A) The F Reactor area is approximately 7 square miles and includes 5 miles of Columbia River shoreline. A description of the F Reactor can be found in the EE/CA for the 105-DR and 105-F Reactor Facilities and Ancillary Facilities, DOE/RL-98-23 Rev. 0 and RAWP for 105-DR and 105-F Building Interim Safe Storage Projects and Ancillary Buildings DOE/RL-98-37 Rev. 3. There are 63 waste sites including 8 burial grounds. A listing and description of these waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 "River Corridor Restoration Baseline," pages A1-7 through A1-10. A description of the burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS).

- (B) Waste Sites: The contractor shall complete the remediation of the 63 waste sites, including 8 burial grounds, in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) F Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 183-F in the 100 F Area. The contractor shall perform all work consistent with approved regulatory documents.
- (D) F Reactor: The contractor shall complete the placement of F Reactor into ISS in accordance with the above EE/CA. The contractor shall provide surveillance and maintenance of F Reactor in accordance with the terms and conditions of this contract and repair the reactor block building as needed to maintain ISS.

#### **C.3.1.4.3 H Reactor Area**

- (A) The H Reactor Area is approximately 15 square miles and includes 5 miles of Columbia River shoreline. A description of H Reactor can be found in the EE/CA for the 105-H Reactor Facility and Ancillary Facilities DOE/RL-2000-46 Rev. 0 and in the RAWP for the 105-D and 105-H Building Interim Safe Storage Projects and Ancillary Buildings, DOE/RL-2000-57 Rev. 0. There are 34 waste sites located in this area including 5 burial grounds. A listing and description of these waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 "River Corridor Restoration Baseline," Pages A1-11 through A1-12. A description of these burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS).
- (B) Waste Sites: The contractor shall complete the remediation of the 34 waste sites, including 5 burial grounds, in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

- (C) H Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 1720-HA and 183-H in the 100 H Area. The contractor shall perform all work consistent with approved regulatory documents. Warehouse 1713H currently houses a groundwater pump-and-treat system. Remediation work shall not interfere with pump-and-treat operations.
- (D) H Reactor: The contractor shall complete the placement of H Reactor into ISS in accordance with the above EE/CA. The contractor shall provide surveillance and maintenance of H Reactor in accordance with the terms and conditions of this contract and repair the reactor block building as needed to maintain ISS.

#### **C.3.1.4.4 D Reactor Area**

- (A) The D Reactor Area is approximately 2 square miles and includes 2 miles of Columbia River shoreline. There are two reactors within this area and 66 waste sites, including 16 burial grounds. The DR Reactor will be placed in ISS in FY02. The ISS of D Reactor and D&D of the ancillary facilities are currently scheduled for completion in FY03. A description of 105-DR and 105-D Reactors can be found in the Remedial Action Work Plan (RAWP) for 105-DR and 105-F Building Interim Safe Storage Projects and Ancillary Buildings DOE/RL-98-37 Rev. 3 and in the RAWP for 105-D and 105-H Building Interim Safe Storage Projects and Ancillary Buildings, DOE/RL-2000-57 Rev. 0. Additional information can be found in the EE/CA for the 105-DR and 105-F Reactor Facilities and Ancillary Facilities, DOE/RL-98-23 Rev. 0. A listing and description of the waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 "River Corridor Restoration Baseline," pages A1-13 through A1-15. A description of the burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS).
- (B) Waste Sites: The contractor shall complete the remediation of 65 waste sites including 15 burial grounds in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) D Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 105-DR, 117-DR, 1904-D, and 190-DR in the 100 D Area. The contractor shall perform all work consistent with approved regulatory documents.
- (D) D and DR Reactors: The contractor shall complete the placement of D Reactor into ISS in accordance with the above EE/CAs. The contractor shall provide surveillance and maintenance of D and DR Reactors in accordance with the terms and conditions of this contract and repair the reactor block buildings as needed to maintain ISS.

#### **C.3.1.4.5 KE and KW Reactor Area**

- (A) The 100-KE/KW Reactor Area is approximately 4 square miles and includes 2 miles of Columbia River shoreline. The area consists of two reactors and 104 waste sites including 2 burial grounds. A listing and description of the waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 "River Corridor Restoration Baseline." Pages A1-16 through A1-19. A description of these burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS) site. Cleanup of this area follows the removal of spent nuclear fuel from the KW and KE fuel storage basins, and subsequent facility deactivation work. The removal of spent nuclear fuel, deactivation of fuel removal equipment, and the removal of hardware, debris, sludge, and water from the basins are the responsibility of the Spent Nuclear Fuel Project contractor.
- (B) Waste Sites: The contractor shall complete the remediation of 8 waste sites, as specified in Table C.2, in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The Remaining Sites ROD provides a mechanism to include similar waste sites. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) KE/KW Reactor Basins: DOE will turn over KE/KW Reactor Basins to the contractor on October 1, 2007. At this time the fuel will have been removed from the basins, the fuel basins will have been cleaned including the removal of sludge, water, basin water treatment equipment and fuel handling and cleaning equipment. The condition of KE/KW Reactor Basins at transition will be in accordance with HNF-4974, Rev. 0, "Technical Approach and Plan for Transitioning Spent Nuclear Fuel Project Facilities to the Environmental Restoration Program," dated September, 1999.
- (D) KE/KW Reactors: The contractor shall complete the design and work with DOE to obtain regulatory approval for placing the Reactors into ISS. This includes submitting and obtaining approval of the EE/CA, action memorandum, removal action work plan, DQO/SAP, and design report for this work. The contractor shall provide surveillance and maintenance of KE/KW Reactors and associated ancillary facilities (with the exception of the CVD facility and the fuel basins) in accordance with the terms and conditions of this contract. Starting October 1, 2007 the contractor shall provide surveillance and maintenance of the KE/KW Reactor Basins in accordance with the terms and conditions of this contract.

#### **C.3.1.4.6 N Reactor Area**

- (A) The 100-N Area is approximately 4 square miles and includes 2 miles of Columbia River shoreline. The site consists of one reactor, 72 contaminated or potentially contaminated facilities, Exhaust Air Stack, and the Radioactive Liquid and Waste Treatment Facility and 95 waste sites. There are no

burial grounds within the N Reactor Area. The authorization basis document which applies to the 100-N Area is the Surplus Reactor Auditable Safety Analysis, BHI-01172, Rev. 1. The primary document for the N Reactor ancillary facilities is the EE/CA for the 100-N Area Ancillary Facilities and Integration Plan, DOE/RL-97-22 Rev. 1. A listing and description of the 100 N Area waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 “River Corridor Remediation Baseline”, Pages A1-20 through A1-23. Additional waste site information can also be found on the Waste Information Data System (WIDS).

- (B) Waste Sites: The contractor shall complete the remediation of 11 waste sites, as specified in Table C.2, in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The Remaining Sites ROD provides a mechanism to include similar waste sites. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) N Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 5 buildings specified in Table C.2 in the 100N Area as described in EE/CA DOE/RL-97-22. The contractor shall work with DOE to obtain regulatory approval for this action consistent with the EE/CA.
- (D) N Reactor: The contractor shall complete the design and work with DOE to obtain regulatory approval for placing the reactor into ISS as described in C.4.1.3 (D). This includes submitting and obtaining approval of the EE/CA, action memorandum, removal action plan, DQO/SAP, and design report for this work. The contractor shall provide surveillance and maintenance of N Reactor and associated ancillary facilities in accordance with the terms and conditions of this contract.

#### **C.3.1.4.7 White Bluffs and Hanford Town Site Area**

- (A) The 100-IU-2 Operable Unit includes the site of the former town of White Bluffs. White Bluffs was an agriculture-based community of about 500 people that existed before the Manhattan Engineering District Project began in 1943. Many of the sites in the 100-IU-2 Operable Unit are remnants of the town and surrounding farms.
- (B) The 100-IU-6 Operable Unit is located at the site of another former agriculture-based town, called Hanford, that also existed before government operations began. By 1942, the town had grown to a few hundred farming families. Starting in 1943, the area was used for several years as a housing camp for more than 45,000 construction workers. In general, the waste sites include surface debris, oil spills, trash dumps, building foundations, surface depressions, and ash piles.
- (C) The contractor shall remediate the 38 waste sites located in the Hanford and White Bluffs Town Sites in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, the back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD

and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The Remaining Sites ROD provides a mechanism to include similar waste sites. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

#### **C.3.1.4.8 100 Area Surveillance and Maintenance**

The contractor shall provide surveillance and maintenance of assigned 100 Area facilities, in accordance with the terms and conditions of this contract. The assigned facilities are listed in Section J, Appendices 3 and 4.

### **C.3.2 300 Area Phase I Work**

#### **C.3.2.1 300 Area Operable Units**

The 300 Area is a National Priority List site under the *Comprehensive Environmental Response Compensation and Liability Act of 1980* (CERCLA) and comprises three operable units. The 300-FF-1 Operable Unit and 300-FF-2 Operable Unit are contaminated waste source sites. The 300-FF-5 Operable Unit represents areas of contaminated groundwater, and are not part of the SOW.

#### **C.3.2.2 RCRA Permitted Storage/Treatment Area**

Building 324 Radiochemical Engineering Cells, High-Level Vault, and Low-Level Vault were determined by Ecology to be operated as non-permitted treatment and storage units. The contractor shall close these units to meet the Tri-Party Agreement Milestone M-89-00 in accordance with the *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan* (DOE/RL-96-73, Rev. 1). The closure plan recognizes that some piping and related soil contamination associated with the dangerous waste activities may not be readily accessible. In those cases, the closure plan allows cleanup actions to be coordinated with future CERCLA remedial actions. Once the 300-FF-2 remedial actions are completed, verification sampling will be performed, if necessary, to demonstrate cleanup in accordance with the approved closure plan.

#### **C.3.2.3 300 Area Detailed Phase I Work Descriptions**

##### **C.3.2.3.1 Building 324**

(A) The 324 Building is a Hazard Category II nonreactor nuclear facility designed to be highly adaptable and able to accommodate spent nuclear fuel and materials characterization and radioactive waste treatment process development and demonstration, from laboratory to pilot scale, at varying levels of radiation, from background to mega-curies. The 324 Building was used for the examination and mechanical testing of irradiated test specimens. The facility has a gross square footage of 101,709 and includes laboratories, support buildings, and offices.

- (B) The building was constructed in 1964-65. Since then, additional laboratories and administrative areas have been added. The facility contains a partial basement, and first, second, and partial third floors. The radiological laboratories include two hot cell facilities (REC and SMF) and various low-level radiological labs and non-radiological labs. B-Cell alone contains a radioactive inventory in excess of 500,000 curies, including spent nuclear fuel rods. This curie content causes the radiation levels inside the cell to be in the thousands of R/h, which dictates remote handling of material. Support facilities include the storage vault (empty), used for storing special nuclear material (SNM) (located in the basement), and the machine shop. Two vault areas, High Level and Low Level, are equipped with tanks for the temporary storage of radioactive liquid wastes and other building generated solutions. Administrative areas include office spaces and lunchrooms. The building is equipped with a telephone system, local area network computer lines, evacuation alarms, crash phone system, PA system, fire alarms, criticality alarms, and radioactive airborne emissions stack monitoring (on the main stack). The building has a total floor area of about 67,000 square feet, however, only 31,005 square feet is accessible. The foundation structure is poured-in-place reinforced concrete and the superstructure is constructed from insulated fluted steel industrial panels supported on a structural steel frame. The parapet roof has a slightly sloped steel deck covered with concrete with a class II, 20-year, built-up gravel-finish. The radiation shielding of the hot cell walls is provided by thick concrete (4.5 feet normal, 4.0 feet dense).
- (C) The contractor shall complete removal, packaging (to meet the Hanford Site Solid Waste Acceptance Criteria), and shipment of all 324 Building held 300 Area Special-Case-Waste and material to the Hanford Site 200 Area to support meeting TPA milestone M-92-16. The inventory shall consist of all 300 Area Special-Case wastes as documented in the Special-Case-Waste Project Management Report, HNF-5068, Rev. 1A, except those located in buildings 325, 326, 329, and 340.
- (D) The contractor shall complete TPA Milestone M-89-00 and complete closure of non-permitted Mixed Waste Units in Building 324, as described in DOE/RL-96-73, Rev. 1. The contractor shall develop a strategy to renegotiate with the regulators the RCRA Closure Plan to integrate the RCRA and CERCLA closure process, in order to reduce waste, personnel exposure, and cost of D<sup>4</sup>.
- (E) The contractor shall D<sup>4</sup> the 324 Building and associated buildings and structures. This includes all activities necessary to take the facility to the point at which total demolition and removal of the facility and the resulting waste, material, and debris is complete. These activities include radiological surveys, decontamination, asbestos removal, facility demolition, waste removal, waste disposal, and site restoration. All waste and spent fuel shall be removed, packaged, and properly disposed of or stored in accordance with the terms and conditions of this contract.

#### **C.3.2.3.2 Building 327**

- (A) The 327 Building has a gross square footage of 32,000 and is a Hazard Category II nonreactor nuclear facility, which houses the Post-Irradiation Testing Laboratory. The facility consists of specially equipped, shielded, and ventilated hot cells and laboratories designed for physical and metallurgical examination and testing of irradiated fuels, concentrated fission products, and irradiated structural materials. The hot cells currently contain irradiated materials, including fuel characterization samples, and are highly contaminated. Radiation levels inside the cells are up to 300 R/h. Due to past

facility loss of confinement incidents, the canyon portion of the facility has fixed contamination areas that will be exposed during D<sup>4</sup>.

- (B) Construction of the 327 Building began in 1951 and operations commenced in 1953. The building is a single-story structure with a partial basement. The maximum dimensions of the building are 215' x 140' x 32'. There are four major areas inside the building: the canyon, the storage and transfer area, the NW storage area, and the basement. The building is equipped with standard evacuation alarms, crash phones, PA system, commercial phone system, and internal LAN equipment. The building has a welded steel framework with exterior walls made of insulated fluted steel panels. The first-floor laboratory is reinforced concrete (steel decking with concrete) and finished with paint. Interior partitions are overlapping metal panels with sealed joints. Suspended ceilings in the lower ceiling areas (none present in the canyon) are perforated metal sections backed with fiberglass pads. The change room and offices have fiberglass pads.
- (C) The contractor shall D<sup>4</sup> the 327 Building and associated buildings and structures. This includes all activities necessary to take the facility to the point at which total demolition and removal of the facility and the resulting waste, material, and debris is complete. These activities include radiological surveys, decontamination, asbestos removal, facility demolition, waste removal, waste disposal, and site restoration. All waste shall be removed, packaged, and properly disposed of in accordance with the terms and conditions of this contract. All 327 Building held 300 Area Special-Case-Waste and material shall be shipped to the Hanford Site 200 Area to support meeting TPA milestone M-92-16.

#### **C.3.2.3.3 Small Facility D<sup>4</sup>**

The contractor shall D<sup>4</sup> 22 small facilities in the 300 Area, as specified in Table C.2. This includes all activities necessary to take the facilities to the point at which total demolition and removal of the facilities and the resulting waste, material, and debris is complete.

#### **C.3.2.3.4 Uranium Disposition**

The contractor shall dispose of the unirradiated uranium (approximately 825 metric tons) located within the shutdown 300 Area Fuel Supply facilities in the 200 Area Low Level Burial Grounds by September 30, 2006.

#### **C.3.2.3.5 Remediate Waste Sites**

- (A) The contractor shall complete the remediation of 35 waste sites including 7 burial grounds within the 300 Area, as specified in Table C.2, in accordance with the approved applicable RODs. This includes removal of contaminants to clean-up levels specified in the ROD, the backfill with clean materials, revegetation, and surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The contractor shall submit a CVP for each waste site (or group of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered complete until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

- (B) The 300 Area waste sites include trenches, storage areas, process plants, process sewers, french drains, unplanned releases, landfills, and burial grounds. Characteristics of the 300 Area Complex waste sites are summarized below.
- (1) Most 300 Area Complex sites lie beneath existing facilities and/or paved areas and are directly impacted by current operations and/or future D<sup>4</sup>. Within the 300 Area, boundaries of contamination are not well defined, and sites often overlap each other. Implementation of 300-FF-2 remedial actions will require integration with ongoing use of the 300 Area and D<sup>4</sup>.
  - (2) The general content burial grounds operated from the mid-1940s to mid-1970s to support 300 Area fuel fabrication and laboratory activities. They received a broad spectrum of chemical and radiological waste. The 300 Area burial grounds are difficult to characterize due to their heterogeneous nature, and quantitative characterization data are generally not available. Records documenting the inventory of many of the 300 Area burial ground sites are poor, especially for sites operated in the 1940s and 1950s. The 618-1 burial ground is located in the north end of the 300 Area complex under 3 small storage buildings (303M, 334A, and 334), a concrete pad, and gravel area.
- (C) The contractor shall treat the 618-4 burial ground drums staged at ERDF to meet the ERDF disposal criteria and dispose of this waste in ERDF (see Section C.3.2.4.1).
- (D) The contractor shall submit a CVP for each waste site (or group of waste sites) to the lead regulator and obtain regulator approval for the waste sites in the 300-FF-1 operable unit. Remediation of a waste site is not considered complete until the regulator has approved the CVP. The contractor shall backfill and revegetate these waste sites as specified in the ROD and the terms and conditions of this contract.

#### **C.3.2.3.6 Regulatory Approvals**

The contractor shall complete EE/CA(s) for all 300 Area buildings/facilities for D<sup>4</sup>. This includes completing and obtaining regulator approval for the EE/CA, action memorandum, removal action work plan, DQO/SAP, and design report.

#### **C.3.2.3.7 300 Area Surveillance and Maintenance**

The contractor shall provide surveillance and maintenance of assigned 300 Area facilities in accordance with the terms and conditions of this contract. The assigned facilities are listed in Section J, Appendices 3 and 4. For Phase I only, the surveillance, maintenance, and operations of the Building 340 complex (including the 307 basins) shall be the responsibility of the Site Management Contractor.

#### **C.3.2.4 River Corridor Waste Management Operations**

The contractor shall remove waste resulting from the work specified in this contract from the River Corridor and transport it to approved Hanford Site disposal and/or storage sites, as specified in Sections C.3.2.4.1 and C.3.2.4.2.

#### **C.3.2.4.1 ERDF Waste Disposal Operations**

- (A) The Environmental Restoration Disposal Facility (ERDF) is located near the 200-West Area. The facility began operations in July of 1996 and was designed to serve as the central disposal site for contaminated waste removed during cleanup operations conducted under CERCLA on the Hanford Site. In order to provide a protective barrier, the earthen facility was constructed with RCRA subtitle C compliant double liners and a leachate collection system. As of early calendar year 2001, the facility had received 2,654,000 tons of contaminated soil and other waste.
- (B) The contractor shall operate, and maintain ERDF in accordance with the approved regulatory documents specified in Section C.14.3 and expand ERDF as needed. The contractor shall accept CERCLA waste at ERDF from other Hanford Site contractors on a cost reimbursable basis and in a not-to-interfere manner with disposal of River Corridor waste. The cost to accept other Hanford Site contractors waste will not be part of the contractors target cost or fee determination. The contractor shall ensure all waste disposed of in ERDF is CERCLA waste, approved by EPA, and meets the Waste Acceptance Criteria for ERDF as specified in the *Environmental Restoration Disposal Facility Waste Acceptance Criteria, BHI-00139, Rev. 3*.
- (C) The contractor shall dispose of waste generated during Phase I and Phase II cleanup operations conducted under CERCLA at ERDF as applicable. The contractor shall treat the waste as needed, to meet the ERDF acceptance criteria specified in (B) above.
- (D) The contractor shall ensure leachate transferred to the 200 Area Effluent Treatment Facility (ETF) is in compliance with the Leachate and Waste Water Management Plan, RFS-ERDF-002.6, dated August 25, 1999. ETF will accept compliant leachate at no cost to the contractor.

#### **C.3.2.4.2 Other Waste Disposal and Storage Sites**

- (A) The contractor shall package waste not suitable for ERDF to the applicable packaging requirements for transuranic, low level, low level mixed, hazardous, and sanitary waste (as defined in the Hanford Site Solid Waste Acceptance Criteria, HNF-EP-0063, Rev. 6) and transport the waste to approved disposal or storage sites. This document can be viewed at <http://www.hanford.gov/wastemgt/wac/>. Hanford Site waste facilities include:
- (1) The Central Waste Complex (CWC) is a storage unit for low-level mixed, TRU, TRU mixed, TSCA PCB waste, and other waste types requiring treatment before disposal (e.g., non-regulated low-level organic liquids, unstabilized chelating compounds, and contact-handled low-level waste exceeding radiological disposal criteria). Waste stored at CWC will be treated and repackaged as required for disposal as treatment capabilities become available. TRU waste is sent to the 200 Area, where Nondestructive Examination/Nondestructive Analysis, visual examination, and repackaging into a TRUPACT II for transport to WIPP is performed.
  - (2) The Low-Level Burial Grounds at Hanford provide for disposal of low-level radioactive wastes and the storage and disposal of mixed low-level wastes.

- (B) The CWC manages waste having characteristic waste numbers D001 through D043, all listed discarded chemical product waste numbers (U- and P- listed waste), certain F-listed waste (F001 through F005, F020 through F023, F026 through F028, and F039), and all Washington state-only waste numbers. In addition, the CWC manages TSCA PCB waste from Hanford Site generators in accordance with 40 CFR 761. The CWC also can store waste from CERCLA cleanup activities.

## **C.4 River Corridor Work Summary Phase II Option (100 and 300 Areas)**

- (A) The River Corridor Project will be executed in two Phases. Phase I (Section C.3) is the core work of this contract. The work described in this subsection is in addition to the Phase I work. Phase II is an option which will be exercised in accordance with Section H of this contract. Section J, Appendix 4 provides a complete listing of waste sites, burial grounds, and buildings to be D<sup>4</sup> in Phase II. For Phase II, the Contractor shall:

- (1) Remediate 244 soil sites, including four burial grounds, see Table C.1 for a breakout of waste sites by area. Regulatory approved clean-up levels generally require the following:
  - (a) Removal of radioactivity to achieve a committed effective dose equivalent from all pathways of less than 15 mrem/year to the maximally exposed individual
  - (b) Protection of the groundwater and the Columbia River
  - (c) Removal of the engineered buildings/structures
  - (d) Removal of hazardous contaminants to residential (100Area) or industrial (300 Area) use cleanup levels.
- (2) Obtain regulatory approval for the remediation of waste sites currently are not included in existing CERCLA decision documents. The Remaining Sites ROD provides a pathway to add sites.
- (3) Complete remediation of the River Effluent Pipelines in the K Area. This includes obtaining regulatory approval for final disposition as well as performing any support activities (e.g. Engineering studies, RDR, and appropriate CERCLA decision documentation).
- (4) Complete the interim long-term safe storage of 3 plutonium production reactors (KE, KW, and N Reactors). This involves D<sup>4</sup> of the reactor facilities up to the shield wall of the reactor core or block along with the removal of associated underground and above ground piping, structures, and lines.
- (5) D<sup>4</sup> excess buildings and structures in the 100 and 300 Areas.
- (6) Remove hazardous and radioactive waste and other material generated from the above activities from the River Corridor to Hanford Site appropriate disposal or storage facilities.
- (7) Provide surveillance and maintenance of the 100 and 300 area facilities in accordance with the terms and conditions of this contract.

- (8) Develop a Long Term Stewardship Plan for the 100 and 300 Areas and obtain approval of DOE and the regulators. The term “Long Term Stewardship” refers to the physical controls, institutions, information, and strategies needed to limit human exposure to, and environmental contamination from, remaining site hazards after the cleanup is completed. Attributes of the plan include the following:
  - (a) Ability to demonstrate the long-term effectiveness of institutional controls
  - (b) Ability to monitor, maintain, and replace engineered controls
  - (c) Ability to identify uncertainties and develop contingency plans
  - (d) Full life-cycle cost accounting.
- (9) Draft the petition to the EPA for removing the 100 and 300 Areas from the NPL, and obtain DOE approval.
- (10) Complete the ecological baseline risk assessment per CERCLA for the 100 K, 100 N, 100 D, and 300 Area operable units and obtain DOE approval.
- (11) Complete a Final Record of Decision for the completed operable units in the 100 and 300 Areas, and obtain DOE approval. The DOE will then forward the final ROD for approval by the EPA.

#### **C.4.1 100 Area Detailed Phase II Work**

##### **C.4.1.1 D Reactor Area**

- (A) The D Reactor Area is approximately 2 square miles and includes 2 miles of Columbia River shoreline. There are two reactors within this area and 66 waste sites, including 16 burial grounds. The DR Reactor will be placed in ISS in FY02. The ISS of D Reactor and D&D of the ancillary facilities are currently scheduled for completion in FY03. A description of 105-DR and 105-D Reactors can be found in the RAWP for 105-DR and 105-F Building Interim Safe Storage Projects and Ancillary Buildings DOE/RL-98-37 Rev. 3 and in the RAWP for 105-D and 105-H Building Interim Safe Storage Projects and Ancillary Buildings, DOE/RL-2000-57 Rev. 0. Additional information can be found in the EE/CA for the 105-DR and 105-F Reactor Facilities and Ancillary Facilities, DOE/RL-98-23 Rev. 0. A listing and description of the waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 “River Corridor Restoration Baseline,” pages A1-13 through A1-15. A description of the burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS).
- (B) Waste Sites: The contractor shall complete the remediation of 1 burial ground in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the

contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

#### **C.4.1.2 KE and KW Reactor Area**

- (A) The 100-KE/KW Reactor Area is approximately 4 square miles and includes 2 miles of Columbia River shoreline. The area consists of two reactors and 104 waste sites including two burial grounds. A listing and description of the waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 "River Corridor Restoration Baseline." Pages A1-16 through A1-19. A description of these burial grounds can be found in Table A-1 of the Declaration of the Record of Decision for the 100 Area Burial Grounds. Additional waste site information can also be found on the Waste Information Data System (WIDS). Cleanup of this two-reactor complex follows the removal of spent nuclear fuel from the KW and KE fuel storage basins, and subsequent facility deactivation work. The removal of spent nuclear fuel, deactivation of fuel removal equipment, and the removal of hardware, debris, sludge, and water from the basins are the responsibility of the Spent Nuclear Fuel Project contractor, currently Fluor Hanford, Inc. Waste site remediation work is scheduled to begin in FY03 because the type of soil in the 100-KE/KW is needed to effectively balance the mixture of wastes being generated in other areas of the Hanford Site and disposed of in ERDF.
- (B) Waste Sites: The contractor shall complete the remediation of the 96 waste sites including 2 burial grounds in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document (e.g. river effluent pipelines). The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) KE and KW Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 29 buildings in the 100 K Area as specified in Section J, Appendix 4. The contractor shall perform all work consistent with approved regulatory documents.
- (D) KE/KW Reactors: The contractor shall place KE and KW Reactors into ISS in accordance with the approved EE/CA. The contractor shall provide surveillance and maintenance of KE and KW Reactors in accordance with the terms and conditions of this contract and repair the reactor block building as needed to maintain ISS.

### C.4.1.3 N Reactor Area

- (A) The 100-N Area is approximately 4 square miles and includes 2 miles of Columbia River shoreline. The site consists of one reactor, 72 contaminated or potentially contaminated facilities and equipment including the Exhaust Air Stack, and the Radioactive Liquid and Waste Treatment Facility and 95 waste sites. There are no burial grounds within the N Reactor Area. The authorization basis document which applies to the 100-N Area is the Surplus Reactor Auditable Safety Analysis, BHI-01172, Rev. 1. The primary document for the N Reactor ancillary facilities is the EE/CA for the 100-N Area Ancillary Facilities and Integration Plan, DOE/RL-97-22 Rev. 1. A listing and description of the 100 N Area waste sites is available in Appendix A1, DOE/RL-2000-78, Rev 0, Site Outcome Baseline, Vol. 1 “River Corridor Remediation Baseline”, Pages A1-20 through A1-23. Additional waste site information can also be found on the Waste Information Data System (WIDS).
- (B) Waste Sites: The contractor shall complete the remediation of the 77 waste sites in accordance with the approved applicable ROD. This includes removal of contaminants to the clean-up levels specified in the ROD, back fill with clean materials, revegetation, and the surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The Remaining Sites ROD provides a mechanism to include similar waste sites. In addition, the contractor shall remediate contaminated linear piping in accordance with an approved CERCLA-decision document. The contractor shall submit a cleanup verification package (CVP) for each waste site (or groups of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered completed until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.
- (C) N Reactor Ancillary Facilities: The contractor shall D<sup>4</sup> 67 buildings in the 100N Area as described in EE/CA DOE/RL-97-22. The contractor shall perform all work consistent with approved regulatory documents.
- (D) N Reactor ISS: The contractor shall place Buildings 109-N and 105-N into an interim safe storage condition. Specifically the contractor shall:
- (1) D<sup>4</sup> 109-N. This includes removing the primary and secondary reactor plant piping and components.
  - (2) D<sup>4</sup> the 105-N fuel storage basin. The fuel storage basin includes the basin pool, the transfer area, discharge chute operating deck, and the superstructure volume around the pools and lift station. This work includes the strip-out of internal structures and equipment up to the shield wall of the N Reactor block.
  - (3) D<sup>4</sup> all portions of the 105-N building structure not covered by the above work scope that lie outside of the shield walls that surround the reactor block.
  - (4) Place the remaining reactor block into a safe storage condition as follows:

- (a) Containment of the core such that release of radioactive or other hazardous materials to the environment is not credible under normal design basis conditions for facility safe storage lifetime of 75 years. This may require a new roof over the reactor block.
  - (b) Sealing shield wall penetrations such that they have at least the same structural integrity of the existing walls.
  - (c) Limit interim inspections of the interior of the shield walls to a minimum of a five-year frequency.
- (5) Demolish the remaining 100-N area facilities and above ground structures not covered in above. This includes offices, maintenance shops, storage buildings, utility lines, and above ground piping.
- (6) The contractor shall provide surveillance and maintenance of N Reactor in accordance with the terms and conditions of this contract and repair the reactor block building as needed to maintain ISS.

#### **C.4.1.4 100 Area Surveillance and Maintenance**

The contractor shall provide surveillance and maintenance of the 100 Area facilities, in accordance with the terms and conditions of this contract.

#### **C.4.2 300 Area Detailed Phase II Work**

##### **C.4.2.1 D<sup>4</sup> 300 Area Facilities**

The contractor shall D<sup>4</sup> 122 facilities in the 300 Area, as specified in Section J, Appendix 4. This includes all activities necessary to take the facility to the point at which total demolition and removal of the facility and the resulting waste, material, and debris is complete. These activities include radiological surveys, decontamination, asbestos removal, facility demolition, waste removal, waste disposal, and site restoration. All waste and material shall be removed, packaged, and properly disposed or stored of in accordance with the terms and conditions of this contract.

##### **C.4.2.2 Remediate Waste Sites**

The contractor shall complete the remediation of 70 waste sites including 1 burial ground within the 300 Area, in accordance with the approved applicable RODs. This includes removal of contaminants to clean-up levels specified in the ROD, the backfill with clean materials, revegetation, and surveillance and maintenance (i.e. institutional controls) of the waste sites as specified by the ROD and the terms and conditions of this contract. The contractor shall work with DOE to obtain regulatory approval to remediate any waste site not included in a previous CERCLA decision document. The contractor shall submit a CVP for each waste site (or group of waste sites) to the lead regulator and obtain regulator approval. Remediation of a waste site is not considered complete until the regulator has approved the CVP, and the contractor has backfilled and revegetated the site.

#### **C.4.2.3 300 Area Surveillance and Maintenance**

The contractor shall provide surveillance and maintenance of assigned 300 Area facilities, in accordance with the terms and conditions of this contract.

#### **C.4.2.4 River Corridor Waste Management Operations**

See Section C.3.2.4.

### **C.5 Environment, Safety, Health and Quality Assurance (ESH&Q)**

- (A) The River Corridor remediation project and this contract has a mission of accelerated closure. The nature of this contract along with the financial incentives for accelerated completion or for cost effectiveness should never compromise or impede full and effective implementation of the Integrated Safety Management (ISM) System and full ESH&Q compliance. The Contractor shall establish a single project wide ISM system, in compliance with the Section I Clause, *Integration of Environment, Safety and Health into Work Planning and Execution*, and Section B Clause *Conditional Payment of Fee*. This system shall clearly communicate the roles, responsibilities, and authorities of line managers; hold line managers accountable for the performance of work in a manner ensuring protection of workers, the public, and the environment; ensure quality work and define minimum performance requirements of the system. The Contractor shall submit to the CO for approval the integrated safety management system description per the above clauses nine months after contract award. Until DOE approves this system, the Contractor must use the existing Integrated Safety Management system descriptions.
- (B) The Contractor shall:
- (1) Establish a structured approach to planning and control of work including identification, management and implementation of ESH&Q standards and requirements appropriate for the work to be performed and for controlling related hazards, while facilitating the effective and efficient delivery of work. The contractor shall implement the requirements identified in the Section I Clause entitled, *Laws, Regulations and DOE Directives*. The contractor is encouraged to follow DEAR clause 970.5204-2(c) to tailor the requirements to the work. Full utilization of the flexibilities afforded by this clause will require a phase-in period for implementation.
  - (2) Implement a program to track and address environmental compliance issues and implement requirements (including but not limited to permitting, environmental reporting, Consent Decrees, Tri-Party Agreement reporting/management, pollution prevention, waste minimization).
  - (3) Establish annual integrated environment, safety and health performance objectives, measures, and commitments.
  - (4) Submit a Quality Assurance Program plan in accordance with CRD 414.1A and 10 CFR 830.120 to DOE for approval prior to beginning work. The contractor may accept and implement existing QAPs.

## C.6 Management Products and Controls

- (A) This section describes the management products and controls required during the Contract period. DOE intends to manage the River Corridor project as a single project by DOE/RL, while still allowing the Contractor autonomy to accomplish the work scope defined in the Contract.
- (B) Project Management Plan: The Contractor shall prepare a Project Management Plan describing the approach for managing and controlling the project. The Project Management Plan shall be submitted for DOE approval (Table C.4, Deliverable 1.1), and shall include two distinct sections: the description of the Project Control System and the description of the Project Baseline. Content and information requirements for the Project Control System and the Project Baseline are described below.
- (C) River Corridor Project Control System:
- (1) Project Control System Requirements: The Contractor shall establish, maintain, and use a Project Control System, which supports successful completion of the contract work during all activities (e.g., remediation, decontamination, demolition). The System must produce disciplined and accurate planning, budgeting, reporting, and change control data. The Contractor shall provide all necessary information and support related to the River Corridor Project to enable DOE to proceed with the Critical Decision process (DOE Order 413.3) and to enable DOE to meet the data requirements of the Integrated Planning, Accountability, and Budgeting System, except the module on technology-related data.
  - (2) Project Control System Description: As part of the Project Management Plan, the Contractor shall provide for DOE approval a description of the Project Control System. Upon approval by the Contracting Officer, the Contractor shall fully implement the Project Control System. The description of the Project Control System shall articulate the management processes and controls utilized to manage and control work, complete Contract requirements, and meet the requirements of ANSI EIA-748, Earned Value Management Systems. The description of the Project Control System shall, at a minimum, include:
    - (a) Definition of the management processes that assure disciplined and accurate planning, budgeting, reporting and change control.
    - (b) A clear definition of what information makes up the baseline and where that information resides.
    - (c) A clear articulation of the methodology to be utilized for determining earned value.
    - (d) The organizational breakdown structure, including roles and responsibilities of each major organization and identification of key management personnel.
    - (e) The organizational and management interfaces between the Contractor and RL, and other Hanford Site contractors (e.g. 200 Area Waste Operations/SMC and 300 Area Buildings/Battelle Memorial Institute), and the process to manage the interfaces.
    - (f) The approach the Contractor will use to implement project control processes including:
      - (i) Configuration management;

- (ii) Baseline change control;
  - (iii) Contract management;
  - (iv) Performance measurement;
  - (v) Information and reporting;
  - (vi) Interface management;
  - (vii) Work authorization;
  - (viii) Work management;
  - (ix) Risk management;
  - (x) Construction project management; and
  - (xi) Communications and stakeholder involvement.
- (f) The configuration management process that controls changes to the physical configuration of project facilities, structures, systems and components in compliance with ANSI/EIA-649, *National Consensus Standard for Configuration Management*.
- (g) The value engineering process that uses systems engineering tradeoffs and functional analyses to identify alternate means of achieving the same function at a lower life-cycle cost.
- (h) The scope, cost, and schedule baseline development process and the hierarchy of documents/data systems to be used to describe and maintain that baseline.
- (i) A brief summary of any supporting procedures and plans to be used to implement the project including applicable engineering standards, practices, or guides.
- (3) Project Control System Changes: A revised description of the Project Control System shall be submitted for DOE approval when significant changes are required in management processes. The Contracting Officer may direct additional compliance reviews to determine whether the Contractor is operating the system efficiently and producing accurate planning, budgeting, reporting, and change control data. The Contractor shall provide the DOE Contracting Officer or designated representatives with access to all pertinent records, data, and plans for purposes of initial approval, approval of proposed changes, and the ongoing operation of the project control system.

(D) River Corridor Project Baseline:

- (1) Project Baseline Requirements: The Contractor shall develop and maintain an integrated and traceable scope, schedule, and cost baseline for the River Corridor Project to be delivered to DOE for approval (Table C.4, Deliverable 1.2) “Traceable” entails both vertical traceability from the lowest to the highest levels of detail within the WBS and lateral traceability from the technical scope definition to the scheduled estimate to the cost estimate. The lifecycle of the baseline covers the entire River Corridor Project as described in Sections C.1, C.2, C.3, and C.4. The baseline shall include: River Corridor Project work scope descriptions, an estimate of the schedule to implement the project work scope, and an estimate of the cost to implement project work scope on the projected schedule. The assessment of the risks to achieving the baseline is to be addressed as part of the schedule and cost estimate description. River Corridor Project Baseline summary information at the PBS level related to the technical work scope, schedule and cost shall be included in the Project Management Plan.
- (2) River Corridor Project Baseline Description: The description of the River Corridor Project Baseline shall contain sufficient scope, schedule, and cost information (including contingency) to

support development and maintenance of an integrated RL Baseline and support the annual budget process. The River Corridor Project Baseline shall, at a minimum, contain:

- (a) Scope:
  - (i) A key assumptions list including assumptions made by the Contractor, especially those indicating performance or milestones to be accomplished by the DOE or Hanford Site Contractors. The assumptions define the basis for the River Corridor Project schedule and cost baseline;
  - (ii) DOE actions and decision points describing all DOE activities (e.g. all DOE-required action items) including Critical Decisions (DOE Order 413.3), other decision points, and regulatory actions to be accomplished for the Contractor's plan to be successful. The activities, decision points, and regulatory actions shall be specifically included in both the top-level or lower-level logics;
  - (iii) The work breakdown structure (WBS) including "dictionary" descriptions of elements of work for the entire WBS; and
  - (iv) The clear identification of specific facilities, waste sites, and materials and the cleanup functions to which they are related.
  
- (b) Schedule: Each activity box in the top-level logic shall be a traceable rollup from the contractor's more detailed schedules utilized to manage and control the execution of the work. There shall be a one-to-many relationship between the top-level and the lower-level logics. The schedule updates shall be provided to DOE as an electronic file on CD-ROM. Additionally, the Contractor shall provide DOE monthly schedule updates and shall work with RL to resolve schedule discrepancies. The schedule shall:
  - (i) Be logic driven and show the duration of tasks, milestones, and critical path;
  - (ii) Show the relationships among River Corridor project activities and other RL activities, and depict the relationships by facility and interdependencies among the top-level River Corridor activities;
  - (iii) Contain sufficient levels of detail to promote understanding of the logical sequence of activities and identify all interfaces between performing organizations;
  - (iv) Be resource loaded with cost, labor hours, and quantities, resulting in a well defined cost profile at all levels of the WBS;
  - (v) Be consistently aligned between the information provided in the lower level logic of the project and that in the top level logic; and
  - (vi) Be clearly tied to the technical scope baseline at all levels (i.e. "hammocked")
  
- (c) Cost: The River Corridor Project Baseline shall include a summary of the project cost baseline at the PBS level by fiscal year, a life-cycle cost estimate by fiscal year at one level below the PBS level, and a monthly spending plan for the current Fiscal Year (FY) at one level below the PBS. The River Corridor Project Baseline and supporting documentation package shall be submitted both as a written report and electronically containing the following information:
  - (i) Description of the type and purpose of the estimate being performed;

- (ii) Description of the methodology of how the estimate was developed;
- (iii) Description of the entire WBS and a description of the methodology for its development. The WBS shall be developed below the existing DOE WBS (level three, which are the DOE Headquarters Project Baseline Summaries);
- (iv) Detailed technical description of the scope to be performed for each of the WBS elements. This shall include, as a minimum, performance specification(s) and the work activities required, but it shall also identify any work specifically excluded, any constraints or special conditions, ground rules, assumptions, and drivers;
- (v) Estimating backup materials, including equipment lists, detailed specifications, plans and drawings, calculations, databases used, historical data, cost estimating relationships, and actual quotes;
- (vi) Details of indirect cost and a description of the work covered by indirect costs and how the indirect costs were estimated and developed;
- (vii) Explanation and description of overhead and general and administrative rates, as well as the elements included;
- (viii) Description and breakdown of how a standard base hourly labor rate is burdened to arrive at the estimated hourly rate;
- (ix) Definitions and delineation for and categorization of costs into labor, material, equipment, travel, overheads/indirects, fee, taxes, contingency, and other;
- (x) Full delineation of any use of productivity or related factors clearly identifying when and where used and the basis for the utilization;
- (xi) Written analysis of how contingency/risk was determined. This includes all pertinent information necessary to understand and perform the calculations. Contingency shall be clearly discernable from all other costs. The probability distribution curve and the cumulative probability distribution curve reflecting the costs used to establish the River Corridor Project Target Costs shall be described;
- (xii) Estimate history, if the current estimate is a revision to an earlier estimate and a cross walk between submitted revisions;
- (xiii) Basis of escalation, if applicable;
- (xiv) Sub-tier contractor estimates detailing the same information as required by the Contractor and be traceable to the cost estimate and WBS;
- (xv) Names of the key preparers of the estimate;
- (xvi) Basis of estimate information shall be provided at the level at which it was derived;
- (xvii) The activities of the detailed cost estimate must be clearly linked to the schedule activities through the WBS. The cost estimate summary information must also be directly traceable to supporting detailed cost estimates through use of the same structure. This WBS must be summarized to the Level 3 element of the DOE-RL WBS. Supporting estimates must be structured and formatted to clearly display the typical elemental costs (e.g. direct costs for labor, materials, subcontracts; departmental overheads; General and Administrative, contingencies; and escalation) within the estimate. The estimate package will be assembled in a manner that displays the information in a traceable and logical progression from estimated resource requirements of an individual activity to the total estimated cost of a Project Baseline Summary.

- (d) Contingency Utilization Profile: A cumulative project contingency utilization profile defining total cumulative contingency utilization against time for the lifecycle project duration.
- (i) The cumulative estimated project contingency utilization profile establishes projected contingency requirements, allocated to each major project activity and shall be directly traceable and linked to the schedule baseline and cost baseline. The Contractor may utilize all contingency defined in the cumulative estimated project contingency utilization profile up to the limits established for that point of time on the profile.
  - (ii) DOE and the Contractor shall review the Contractor's utilization of contingency relative to the cumulative estimated project contingency utilization profile on a quarterly basis. The Contractor shall notify DOE, as soon as practicable but at least 30-days in advance, when contingency utilization is projected to exceed the cumulative estimated project contingency utilization profile at any given period in performance. DOE approval shall be required to utilize contingency in excess of the cumulative estimated project contingency utilization profile.

(E) Change Control

- (1) Change Control Process: The Contractor shall implement disciplined change control according to the methods approved in the Project Control System section of the Project Management Plan (Table C.4, Deliverable 1.1). Change control and trend monitoring shall be implemented concurrent with DOE approval of the River Corridor Project Baseline (Table C.4, Deliverable 1.2).
- (2) Baseline Thresholds: As part of the Project Control System section of the Project Management Plan (Table C.4, Deliverable 1.1), the Contractor shall propose thresholds to define DOE and Contractor change authority. Thresholds do not apply to proposed changes in Target Cost (for fee calculations as specified in Section B), fees, and regulatory milestones (Section C.11) since DOE approval is required for all changes related to these elements.
- (3) Target Cost and Fee Change: Any changes to target cost or fee shall be executed only by a Contract modification pursuant to the Contract terms and conditions.

(F) River Corridor Project Reporting

- (1) Baseline Reporting System: The Contractor shall develop a reporting system that reports project performance on the technical work scope, schedule, and cost profile defined in the River Corridor baseline at a level agreed to by DOE. The requirements and procedures for this system shall be defined in the Project Management Plan.
- (2) Monthly Status Reports: The Contractor shall prepare monthly written status reports, and transmit them to DOE by the 15<sup>th</sup> calendar day of the following month for information (Table C.4, Deliverable 1.3), commencing the first month after Contract execution. Status reports shall include narrative and performance curves (earned value based on the schedule) for the cost and job hour status (e.g., planned, actual, and forecast percents complete). The percent variances shall be identified and addressed. Status reports shall include data for the total project cost and

performance for the major WBS elements. Each quarter, on the same schedule as (h) below, a briefing will accompany the report. The monthly status report and briefings shall include the following:

- (a) A comparison of the amount of work completed against the project baseline (e.g. actual versus planned for number of waste sites remediated, number of buildings demolished, amount of contaminated soil disposed of), including an earned value analysis, major project milestones, critical path analysis, and corrective actions;
- (b) Potential problems, impacts, and alternative courses of action, including staffing issues;
- (c) Status of decisions, including DOE decisions, information requirements for those decisions, and ninety-day forecasts for major milestones;
- (d) A baseline schedule (a statused, resource loaded cost performance measurement schedule) reflecting progress against the baseline. The schedule shall reflect all approved changes to date. The schedule shall include actual information, including but not limited to, start and finish dates; hours expended; actual costs incurred; percent complete; and forecast dates;
- (e) Environment, Safety and Health performance;
- (f) Current period, cumulative and completion information in terms of budgeted cost of work scheduled, budgeted cost of work performed, actual cost of work performed including a summary of cost trends, and contingency utilization;
- (g) A change control section summarizing the scope, technical, cost, and/or schedule impacts resulting from any implemented actions. A section shall be included discussing any known or pending change control submittals; and
- (h) Each quarter, in conjunction with the provisional fee payment request as described in Clause B.9:
  - (i) Performance metrics and deliverables for the quarter for budgeted cost of work performed, budgeted cost of work scheduled, and actual cost of work performed.
  - (ii) An analysis of cost trends, schedule trends, project float, manpower skills and other resources, and contingency utilization.

**Table C.4. Deliverables**

<b>Item No.</b>	<b>Deliverable</b>	<b>Reference</b>	<b>Action Required</b>	<b>Action Party</b>	<b>Point of Delivery</b>	<b>Contract Due Date</b>
1.1	Project Management Plan	C.6 (B)	A	D	CO	Nine months after contract award with updates as required
1.2	River Corridor Project Baseline	C.6 (D)	A	D	CO	Nine months after contract award
1.3	Monthly Status Report	C.6 (F)(2)	I	D	CO	15 <sup>th</sup> day of each subsequent month
1.4	Occurrence Reporting	C.6 (F)(4)	A	D	FR	as required
1.5	ES&H Reporting	C.6 (F)(5)	I	D	CO	as required

Item No.	Deliverable	Reference	Action Required	Action Party	Point of Delivery	Contract Due Date
<p>A = Approval—The deliverable shall be provided to the CO for review and approval. DOE will review the deliverable and provide comments in writing. Comments will be discussed and the Contractor is required to provide written responses if they wish to take exception. Documents shall be re-written to incorporate all DOE mandatory comments. Once a deliverable or document has been approved by the CO, it shall be placed under configuration control and no changes to that document shall be made, without CO approval.</p> <p>CO = Contracting Officer.</p> <p>FR = Facility Representative, approval is in accordance with DOE Order 231.1</p> <p>D = U.S. Department of Energy, Richland Operations Office.</p> <p>I = Information—The deliverable shall be provided for information purposes only. DOE will have the option of reviewing the information and providing comments. Such comments do not require resolution under the Contract.</p>						

- (3) Cost Reporting: The Contractor shall report the actual cost of remediation work conducted as part of this contract using the Environmental Cost Analysis System (ECAS). The cost of a completed remediation activity (e.g., waste site, burial ground, D<sup>4</sup> of a building) shall be reported within 12 months of completion. The ECAS may be accessed at <http://ecas.netl.doe.gov>.
- (4) Occurrence Reporting: The Contractor shall adhere to CRD 232.1A, *Occurrence Reporting and Processing of Operations Information*, DOE/RL Supplement Rev. 0 (Table C.4, Deliverable 1.4).
- (5) Environment, Safety, and Health Reporting: The Contractor shall report all events and information specified in CRD 231.1, *Environment, Safety and Health Reporting*. The Contractor process will specify this requirement in Contracts down to the lowest tier subcontractor. The Contractor process will accumulate and provide a single report responding to required information for both the Contractor and all subcontractors (Table C.4, Deliverable 1.5).
- (6) Accident Investigation: The Contractor and, as necessary, all subcontractors shall support Type A and Type B accident investigations for accidents occurring during the Contractor's activities. The Contractor and all its subcontractors shall establish and maintain readiness to respond to accidents, respond to accidents when necessary, mitigate potential consequences, assist in collecting and processing evidence, and assist with the accident investigation. This shall include preserving the accident scene and providing support to the accident investigation board.

## C.7 Safeguards & Security

- (A) The scope of this contract does not require the handling, preparation, or storage of classified information. Therefore, classified information and access authorization requirements are not applicable. The contractor will be custodian for accountable quantities of category IV nuclear material. The contractor shall:
  - (1) Ensure appropriate levels of protection against unauthorized access; theft, diversion, loss of custody of accountable Nuclear Material (NM) or Special Nuclear Material (SNM); theft of Government property; and other hostile acts that may cause unacceptable adverse impacts on national security or the health and safety of DOE or contractor employees, the public, or the environment.
  - (2) Develop and implement a graded material control and accountability (MC&A) program for any accountable SNM or NM in accordance with DOE Orders and Manuals. The Contractor may subcontract aspects of the MC&A program (e.g., nuclear material accounting and reporting, custodian training, etc.). The Contractor's MC&A Program is subject to DOE-RL approval.
    - (a) Once accountable nuclear material and special nuclear material is removed from facilities under the responsibility of the contractor, the following directives are no longer applicable, CRD 474.1A, CRD M 474.1-1A, and (Supplemental) CRD M 474.1-2.
  - (3) Provide for the protection of any classified and unclassified sensitive information generated, processed, and stored within its facilities or administrative control, at any subcontracting tier.

Information Security (IS) and Operation Security (OPSEC) procedures shall be developed to ensure compliance with DOE directives through company-wide policies and procedures for specific programs with IS.

- (4) Interface with the Site Management Contractor and its subcontractors who provide physical security services (e.g., site access control, security police officers, vulnerability analysis, etc.) and develop documented mutually agreed to roles and responsibilities.
- (5) Accept or renew/modify, the Memorandum of Understanding (MOU) signed by Fluor Hanford, Inc. and Bechtel Hanford, Inc., regarding “MOU for the Safeguards and Security of Nuclear Material on Environmental Restoration Projects, Rev. 1,” dated November 16, 2000.
- (6) Promptly prepare and submit for security clearances as required for work under this contract.

## **C.8 Public Relations, Media Support and Stakeholder Interaction**

- (A) The contractor shall participate in the DOE-RL external/internal communications program to ensure that the full range of stakeholders receives information in a timely, accurate, complete, and professional manner. Contractor external communications actions shall comply with the DOE Openness Initiatives and Public Involvement Policy and the American Indian and Alaska Native Tribal Government Policy.
- (B) The contractor shall work with DOE to ensure external/internal communications activities represent a singular and consistent DOE source of information about the RCC and its relationship to the Hanford Site.
- (C) The contractor shall keep the Hanford Site workforce related directly to the work performed by the contractor and subcontractors under this contract informed in a timely manner of all significant issues that may affect those workers.
- (D) As requested, the contractor shall:
  - (1) Provide timely and consistent support for inter-Governmental liaison activities, including activities with Federal, State, local and Native American Governments.
  - (2) Provide logistical support for the Hanford Advisory Board and other public meetings.
  - (3) Respond in a timely fashion with information as requested by DOE in support of *Freedom of Information Act* and/or *Privacy Act* requests.
- (E) The contractor’s external/internal communications activities include, but are not limited to:
  - (1) Public Information
  - (2) Public Involvement

- (3) Emergency Communications Activities
- (4) Media Relations
- (5) RC Tours as requested by DOE
- (6) Preparation/Maintenance of public information Audio/Video Products and Printed Materials

## **C.9 Hanford Site Infrastructure, Utilities, and Stewardship**

### **(A) Hanford Site Services**

Site services such as utilities, security, sample analysis, and fire response are provided to Hanford Site contractors in accordance with the Site Services Manual (SSM), Revision 3 dated January 2002. Contractor actions shall include such activities as paying for Variable Services used, participating on the Site Services Board, and forecasting Base and Variable service needs in order to facilitate planning and budgeting. Listings of the Base Services and the Variable Services that comprise the Hanford Site Services are provided below.

- (1) Base Services are mandatory services and considered to be Government Supplied Services and are provided at no cost to the contractor. Definitions may be found in the SSM, Rev. 3 dated January 2002. The current listing of Base Services follows:
  - 300 Area Backup Power
  - Access Control Entry System (ACES)
  - Aviation Oversight
  - Badging
  - Centralized Consolidated Recycling Center (CCRC)
  - City of Richland Water, Sewer and Sanitation
  - Compressed air distribution 300 Area
  - Compressed air generation 300 Area
  - Computerized Accident/Incident Reporting System (CAIRS)
  - Counter Intelligence
  - Courier Services
  - Electrical Utilities
  - Emergency Preparedness
  - Environmental Compliance Traceability
  - Fire Department
  - Grounds Maintenance
  - Guaranteed Ride Home
  - Hanford Employee Welfare Trust Benefits/Human Resources
  - Hanford Patrol
  - Hanford Reach Publication

- Hanford Environmental Information System, Hanford Geographical Information System and the Waste Information Data System (HEIS/HGIS/WIDS)
- Industrial Hygiene Lab
- Investment Recovery Operations
- Integrated Site, Vegetation and Animal Control Project (ISVAC)
- Job Control System
- Land Management
- Laundry Services
- Law Enforcement of Site Roads
- Locksmithing Services
- Mail
- Occupational Medical Services (except physicals)
- Reading Room
- Records Storage
- Respiratory Protection
- Road Services
- Safeguards & Security
- Sanitary Waste Disposal
- Sewer Maintenance Operations and Permits
- Steam
- Sunflower Asset Management System (SAMS) Database Management
- Technical Library
- Terrorism Response
- Traffic Engineering
- Water Compliance
- Water Utilities
- Weather Forecasting
- Workers' Compensation

(2) Variable services are mandatory services that are paid for by the contractor. Variable Services are either unit charged or allocated on the basis of a distribution methodology that may include a percentage of budget or percentage of staff or some other equitably defined method. Currently these services are billed to customers through a unit cost basis, actual time and materials, or an assessment. Their definitions may be found in the SSM, Rev. 3 dated January 2002 and their allocation bases or unit costs and 2001 usage costs may be found on the River Corridor Closure Project website, <http://www.hanford.gov/procure/solicit/rcc/>. A current listing of these services follows.

- Acceptance Inspection
- Analytical Sample Analysis
- Biohazard Cleanup
- Calibration Laboratory
- Calibration of Radiological Instruments
- Crane and Rigging

- Custodial Services
- Desktop Services
- Dosimetry
- Electric Power for the 100/200/300 Areas
- Electric Power for the 700/1100/3000 Areas
- Fabrication Services
- Fire Systems Maintenance and Testing
- Fleet Maintenance
- General Services Administration (GSA) Vehicle Lease
- Hanford Local Area Network Operation, Maintenance, and Integration
- Heavy Equipment Operations
- Occupancy Pool - Government Owned/Leased Facilities
- Occupational Medical Services (physicals only)
- Paging Services
- Radio Services
- Solid Waste Storage & Disposal
- Telecommunication Services
- Tours
- Ventilation and Balance
- Waste Generator Services

(B) Monitoring

- (1) Battelle Memorial Institute (BMI) monitors the Hanford environment to protect the public safety and the Hanford Site ecological and cultural resources. This includes providing real time localized weather information for routine safety operations and emergency response, performing Hanford Site and off-site environmental monitoring, as well as determining radiological exposure to the public and the environment. The contractor shall provide the required environmental data for the facilities and operable units for which it is responsible in order to support Hanford Site assessments and preparation of the Hanford Site Environmental Report.
- (2) BMI is also responsible for the Hanford Site groundwater monitoring. The contractor will be knowledgeable of the actions BMI completes in order to develop monitoring plans for the facilities and operable units the contractor has responsibility for. The contractor shall maintain regulatory oversight capability to ensure compliance is maintained for those facilities and operable units for which it is responsible consistent with the groundwater-monitoring program executed by BMI.

(C) Property Disposition

- (1) Facilities under the responsibility of the Contractor (see Sections C.3 and C.4) are determined to be excess and devalued to zero. The contractor may disposition any related property as determined by the contractor (e.g. use of the Site Management Contractor's Property disposition process) or dispose of as waste per Sections C.3.2.4 or C.4.2.4.

(D) Stewardship

- (1) The Contractor shall follow the Hanford Cultural Resources Management Plan, DOE/RL-98-10, Rev. 2, in protecting subsurface cultural deposits uncovered during the course of the work specified in this contract.
- (2) The contractor shall support RL in fulfilling its responsibilities under Executive Order 12580 and Subpart G of the National Contingency Plan (40 CFR Part 300) as a trustee for natural resources. This support shall include coordinating with the Hanford Natural Resource Trustee Council (NRTC).

## C.10 Transition Plan

Provide a Transition Plan detailing the Contractor's approach to accomplishing transition and assumption of responsibility for the Scope of Work of this contract from the prior incumbent contractors. The transition period shall be 90-days, the first day of which will be the date of contract award. The proposed Plan will include a schedule for transition period activities. The Transition Plan shall be furnished to DOE eleven days after award, and its implementation will be subject to DOE approval.

## C.11 Regulatory Framework

- (A) The restoration of the River Corridor is being conducted under a Tri-Party Agreement (TPA) in accordance with the Federal Facilities Compliance Act of 1992, P.L. 102-386. The primary regulatory framework for the remedial action is administered under CERCLA authority with a significant portion regulated by the State Department of Ecology (Ecology) under a RCRA past-practice process. The U.S. Environmental Protection Agency (EPA) is the lead regulatory agency for remedial actions in the 100B/C, 100F, 100K, and 300 Areas as well as the ERDF. Ecology is the lead regulatory agency for the 100N, 100D and 100H Areas. The State Department of Health (DOH) administers the on-site near field environmental air monitoring in cooperation with EPA and Ecology. The contractor shall complete TPA milestones and targets specified in Table C.5. The contractor shall prepare the lifecycle baseline described in Section C.6 that meets the milestones in Table C.5, including identifying budget requirements, allocating resources, and scheduling the work necessary to complete these milestones. The contractor shall make progress in Phase I in order to meet Phase II TPA milestones. The contractor shall support DOE in any negotiations to modify existing or to create new TPA Milestones.
- (B) The contractor shall assist DOE's interface with the regulatory agencies. Attendance and technical support is required at all monthly Tri-Party Unit Manager Meetings.
- (C) The contractor shall be required to become a permittee under the Hanford Site-wide RCRA Permit.

**Table C.5.** River Corridor Tri-Party Agreement Milestones (Phase I and Phase II)

<b>Phase I Milestones</b>		
<b>100 Area</b>		
<b>Number</b>	<b>Description</b>	<b>Completion Date</b>
M-93-11	Complete 105-F reactor interim safe storage	September 30, 2004
M-93-17	Complete 105-D reactor interim safe storage	September 30, 2004
M-93-18	Complete 105-H reactor interim safe storage	December 31, 2005
M-93-19	Submit to the regulators 105/109-N reactor interim safe storage design report	September 30, 2009
M-93-PM	Submit an engineering evaluation of the final reactor disposition to the regulators	September 30, 2005
M-93-PM	Submit EE/CA's for KE/KW Reactor ISS	July 31, 2006
M-93-PM	Submit EE/CA's for N Reactor ISS	September 30, 2006
M-16-10A	Initiate remedial actions in the 100KR-1 operable unit	August 1, 2003
M-16-13B	Complete remediation and backfill of 16 liquid waste sites and process effluent pipelines in the 100-FR-1 and 100-FR-2 operable units	October 29, 2004
M-16-26E	Complete excavation and removal of 100 BC process effluent pipelines	September 30, 2004
M-16-26F	Complete backfill of 100 BC process effluent pipelines excavations	February 28, 2005
M-16-PM	Complete the remedial action for the 100 B/C Area	December 31, 2006
M-16-PM	Initiate remedial actions for the remaining wastes sites for the 100 D Area	July 31, 2006
M-16-PM	Initiate remedial actions for the remaining wastes sites for the 100 F Area	July 31, 2005
M-16-PM	Complete the remedial actions for the 100 F Area	December 31, 2008
M-16-PM	Initiate remedial actions for the remaining wastes sites for the 100 H Area	July 31, 2007
M-16-PM	Complete the remedial actions for the 100 H Area	December 31, 2010
M-16-PM	Complete the remedial actions for 100-IU-2 and 100-IU-6	December 31, 2008
<b>300 Area</b>		
M-89-00	Complete Closure of Non-Permitted Waste Units in the 324 Building	October 31, 2005
M-92-16	Complete Removal and Transfer, and Initiate Storage of Phase III 300 Area SCW Waste and Materials	September 30, 2006
M-16-03H	Complete remediation of the waste sites in the 300-FF-1 Operable Unit to include excavation, verification, and regarding, including the 618-4 Burial Ground in accordance with an approved Remedial Design Report/Remedial Action Work Plan	December 31, 2003
M-16-x1	Complete remedial actions for at least 3 high environmental priority 300-FF-2 waste sites and complete confirmatory sampling of 300-FF-2 candidate sites 300-7 and 300-9. ( <b>High Environmental Priority 300-FF-2 Waste Sites:</b> 316-4, 618-2, 618-3, 618-5 and 618-7 based on the nature of the waste site.)	December 31, 2006
M-16-x2	Complete remedial actions for the remaining high environmental priority 300-FF-2 waste sites.	December 31, 2008
M-016-63-PM	Submit a schedule and milestones to complete remedial actions for the 300-FF-2 waste sites and confirmatory sampling of 300-FF-2 candidate sites listed in Section C.11 Table C.7.	November 30, 2003
M-16-x5	Complete remedial actions for the 300-FF-2 waste sites listed in Section C.11 Table C.7.	September 30, 2010

**Table C.5. River Corridor Tri-Party Agreement Milestones (Phase I and Phase II)**

M-016-65-PM	Submit a schedule and milestones to complete remedial actions for the 300-FF-2 waste sites and confirmatory sampling of 300-FF-2 candidate sites Inside the Fence (300 Area Boundary).	August 30, 2005
M-94-01-PM	Submit a schedule and milestones to complete disposition <sup>1</sup> of surplus facilities contained in Section C.11 Table C.8.	November 30, 2003
M-94-x3	Complete D <sup>4</sup> of the surplus facilities listed in Section C.11 Table C.8.	September 30, 2010
M-94-04-PM	Submit a schedule and milestones to complete disposition <sup>1</sup> of surplus facilities in the 300 Area and identify the 300 Area facilities and associated waste sites that will remain past the M-94-x5 date	August 30, 2005
<b>Phase II Milestones</b>		
<b>100 Area</b>		
<b>Number</b>	<b>Description</b>	<b>Completion Date</b>
M-93-20	Complete 105-N reactor interim safe storage	September 30, 2012
M-93-22	Complete 105-KE and 105-KW ISS reactor interim safe storage	September 30, 2011
M-16-00A	Complete remedial actions for the 100 Areas	December 31, 2012
M-16-PM	Complete the remedial actions for the 100 D Area	December 31, 2011
M-16-PM	Initiate remedial actions for the remaining wastes sites for the 100 K Area	July 31, 2009
M-16-PM	Complete the remedial actions for the 100 K Area	December 31, 2012
M-16-PM	Initiate remedial actions for the remaining wastes sites for the 100 N Area	July 31, 2008
M-16-PM	Complete the remedial actions for the 100 N Area	December 31, 2012
<b>300 Area</b>		
M-16-x3	Complete remedial actions for the 300-FF-2 waste sites listed in Section C.11 Table C.6.	December 31, 2012
M-16-x4	Submit a schedule and milestones to complete remedial actions for the 300-FF-2 waste sites and confirmatory sampling of 300-FF-2 candidate sites listed in Section C.11 Table C.7	June 30, 2003
M-16-00B	Complete all 300 Area Remedial Actions	December 31, 2018
M-94-00	Complete disposition <sup>1</sup> of 300 Area surplus facilities	September 30, 2018
Note: The River Corridor Contractor is responsible for all Special-Case-Waste to meet Milestone M-92-16 with the exception of Special-Case-Waste located within the 325, 326, 329, and 340 Buildings. Footnotes: <sup>1</sup> In the context of the contract, disposition is equivalent to D <sup>4</sup> as defined by Section C.16 (D)		

(D) The contractor shall maintain the administrative records of cleanup and closure activities in accordance with applicable laws and regulations.

(E) The Defense Nuclear Facilities Safety Board (DNFSB) is responsible for nuclear safety oversight of DOE and its activities related to the River Corridor Project. The contractor shall conduct activities in

accordance with DOE commitments to the DNFSB, which are contained in implementation plans and other DOE correspondence to the DNFSB. The contractor shall support development of DOE responses to DNFSB issues and recommendations that involve Contract scope. The contractor shall fully cooperate with DNFSB and provide access to work areas, personnel, and information as necessary.

**Table C.6. M-16-xx**

Waste Site Number	Site Description
Waste Site 300-8	Aluminum Shavings Area
Waste Site 300 VTS	In-Situ Vitrification Test Area
Waste Site 300-18	Surface Contaminated Dumping Area #4
Waste Site 316-4	300 Area North Cribs
Waste Site 600-47	Dumping Area
Waste Site 600-259	Grout Waste Test Lysimeter
Burial Ground 618-2	Solid Waste Burial Ground #2
Burial Ground 618-7	Drums of Pyrophoric Zircaloy Chips in Water, with Uranium and Beryllium
Burial Ground 618-5	Burial Ground #5
Burial Ground 618-3	Dry Waste Burial Ground
Burial Ground 618-8	Uranium-contaminated Soil Under a Parking Lot
Burial Ground 618-13	303 Building Contaminated Soil Burial Site

**Table C.7. M-16-xx**

Waste Site Number	Site Description
Candidate Waste Site 300-109	333 Building Storm Water Runoff
Candidate Waste Site 300-110	333 Building Storm Water Runoff
Candidate Waste Site 333 ESHWSA	333 Building East Side Hazardous Waste Storage Area
Waste Site 300-259	Contamination Area Surrounding 618-1 Burial Ground
Waste Site 303-M SA	303M Building Storage Area
Waste Site 303-M UOF	303M Uranium Oxide Facility
Waste Site UPR 300-46	Contaminated Soil (North of 333 Building)
Waste Site UPR 300-17	Contaminated asphalt area (at southeast corner of 333 Building)
Burial Ground 618-1	Solid Waste Burial Ground #1

**Table C.8. M-94-xx**

Surplus Facilities	Facility Description	Surplus Facilities	Facility Description
Building 3221	Sandblasting Support Building	Building 324	Chemical Engineering Laboratory
Building 332	Packaging Test Facility	Building 324B	Chemical Engineering Laboratory Exhaust Stack
Building 334	Process Sewer Monitor Facility	Building 327	Post-Irradiation Test Laboratory
Building 333	N Fuels Building	Building 3718E	Storage Building
Building 334A	Waste Acid Storage Building	Building 3718G	Storage Building
Building 303M	Uranium Oxide Building	Building 3727	Classified Vault
Building 3222	Storage Building		

Building 3223	Storage Building
Building 3224	Storage Building
Building 3225	Bottle Dock

## C.12 Government and Contractor Furnished Services/Items

- (A) All equipment, supplies and other materials needed to perform this work and not included in the Government furnished equipment as listed below shall be supplied by the contractor.
- (B) DOE shall make its best effort to complete the DOE services as specified in this contract and to review and approve documents as specified below. If DOE does not complete specific services as specified in the contract, the contractor may submit for negotiation a request for equitable adjustment. DOE internal technical and business processes are contained in the Richland Integrated Management System (RIMS). This system includes DOE organization roles, responsibilities, accountabilities and authorities, contract administration procedures and contract oversight procedures. DOE will eliminate non-safety related surveillances and assessments when the contractor demonstrates an effective self-assessment program that includes self-identification, setting of corrective actions and effective corrective actions to prevent recurrence.
- (C) Management Products and Controls Deliverables: DOE shall approve or disapprove the contractor's deliverables specified in Table C.4 within 60 calendar days of contractor submittal.
- (D) Authorization Basis (AB) Documents: DOE shall review and approve AB documents submitted by the contractor as required by the terms and conditions of the contract. DOE and the contractor shall use a collaborative process in ensuring AB documents are developed in a quality manner meeting applicable laws and DOE directives and are reviewed and approved in a timely and efficient process. This includes the use of in-process reviews of AB documents including AB documentation planning, hazard analysis review, accident analysis review, and final review. This process is further described in DOE/RL crosscutting process procedure "Authorization Basis document Review Planning, Guidance, and Suggested Review Times." DOE will review and either approve (with or without comments) or disapprove (with comments and basis) AB documents as follows:
- (1) Document Safety analysis (DSA)/Technical Safety /Requirement (TSR) - 16 weeks.
  - (2) Preliminary DSA - 16 weeks
  - (3) TSR - 8 weeks
  - (4) Minor Safety Basis change - 6 weeks
  - (5) Major Safety Basis change - 12 weeks
  - (6) Annual update to DSA - 8 weeks
  - (7) Unreviewed Safety question/Justification for Continued Operations - 6 weeks

- (8) Health and Safety Plan - 10 weeks
- (9) Safety Analysis reports for Packaging (onsite) - 12 weeks
- (E) Integrated Safety Management System: DOE will approve or disapprove the contractor's ISMS description as required by Section C.5. DOE shall complete the review of the submittal by the contractor within 60 calendar days of receipt from the contractor. The approval and verification of the acceptability of the ISMS description shall be performed by DOE in accordance with DOE-HDBK-3027-99, Integrated Safety Management Systems (ISMS) Verification, Team Leader's Handbook.
- (F) Draft Regulatory Decision Documents and Reports: DOE will review regulatory decision documents and reports and provide comments or concurrence within 30 calendar days. Concurrence means the document is ready for submittal to the EPA/Ecology for review and approval in accordance with the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement). The DOE will reduce review times based on the use of a collaborative process in developing the document between the contractor, DOE and the regulator.
- (G) Turn over and vacating of River Corridor Buildings for D<sup>4</sup>: DOE will turn over the KE/KW reactor basins to the Contractor by October 1, 2007. For 300 Area Buildings occupied by non-River Corridor contractor personnel, DOE will ensure that these personnel have vacated the affected buildings as required by the River Corridor contractor baseline.
- (H) Acceptance of River Corridor Non-ERDF Waste: DOE will accept compliant waste generated as a result of activities in Section C.3 and C.4 that cannot be disposed at ERDF. The contractor shall submit with the River Corridor Baseline projected amounts of non-ERDF waste to be generated by fiscal year. The contractor shall forecast this waste in accordance with the Hanford Site Solid Waste Acceptance program and notify DOE of any changes to the forecast. DOE will accept these wastes in accordance with the contractor's projection and shipment schedule.
- (I) DOE will accept ERDF leachate at the 200 Area Effluent Treatment Facility.
- (J) Acceptance of River Corridor Spent Nuclear Fuel: DOE will accept spent nuclear fuel from the Contractor for interim storage in the 200 Area. The contractor shall package and transport the spent nuclear fuel in accordance with an approved SARP and the storage area requirements. The contractor shall submit with the River Corridor Baseline the planning shipping schedule for spent nuclear fuel and notify DOE of any changes to the schedule. DOE will apply best efforts in accepting spent nuclear fuel in accordance with the contractor's shipping schedule.
- (K) DOE will develop a Quality Assurance/Surveillance Plan (QA/SP) for this contract which will establish the process DOE will use to ensure the Contractor has performed in accordance with the performance standards and expectations specified in this contract. The QA/SP will summarize the performance standards, expectations and acceptable quality levels for each task; describe how performance will be monitored and measured; and describe how the results will be evaluated.

## **C.13 Litigation Management**

- (A) The contractor shall maintain a legal function and demonstrate sound litigation management practices to include litigation, arbitration, legal advice on environmental matters, procurement, employment, labor, and the Price-Anderson Act (PAA); review and interpretation of legislation and laws; and research and drafting of memorandum. Within 60 days of execution, the contractor shall provide a legal management plan compliant with 10 CFR 719.
- (B) The contractor shall provide support to the Government when judged necessary by the Contracting Officer in cases of actual or threatened litigation, regulatory matters, or third-party claims and subject to applicable rules and regulations. Litigation support includes, but is not limited to: case preparation assistance, document retrieval, review and reproduction; witness preparation and testimony; expert witness testimony; and assisting Government counsel as necessary in response to discovery or other information related activities responsive to any legal proceeding.

## **C.14 Applicable Documents**

The Hanford Site Environmental Management Specification (DOE-RL-97-55 Revision 2 dated July 2001) documents the top-level mission technical requirements for the work involved in the RL Site Cleanup. The following documents, which are extractions from the Site Specification, provide regulatory approval of clean-up levels and methodologies. Any change to these documents may warrant a request for an equitable adjustment.

### **C.14.1 100 Area Regulatory Documents**

Declaration of the Record of Decision for the selected interim remedial actions for the 100-BC-1, 100-DR-1 and 100-HR-1 Operable Units dated September 1995.

Amended Record of Decision, Decision Summary and Responsiveness Summary for the selected interim remedial actions for the 100-BC-1, 100-DR-1 and 100-HR-1 Operable Units dated May 14, 1997.

Declaration of the Record of Decision for the selected action for the 100-IU-1, 10-IU-3, 100-IU-4 and 100-IU-5 Operable Units, No Action ROD, dated February 12, 1996.

Declaration of the Record of Decision for the selected Interim Remedial Action for the 100 Area Remaining Sites: 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6 and 200-CE-3 Operable Units, July 15, 1999.

Declaration of the Record of Decision for the selected Interim Remedial Action for the 100-NR-1 and 100-NR-2 Operable Units, (81 Sites in NR-1, Groundwater and Shoreline Site in NR-2) October 22, 1999.

Declaration of the Record of Decision for the selected Interim Remedial Action for the 100 Area (100 Area Burial Grounds): 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-2, 100-HR-2, 100-KR-2 Operable Units, dated and signed September 2000.

Declaration of Decision for a portion of the Interim Remedial Action for the (100 Area) 100-NR-1 Operable Unit January 25, 2000.

Declaration of the Record of Decision, Decommissioning of Eight Production Reactors at the Hanford Site, Richland, Washington, September 14, 1993.

Explanation of Significant Differences for the 100 Area Remaining Sites Record of Decision and for the 300-FF-5 Record of Decision, June 15, 2000.

DOE/RL-97-17, Remedial Design Report for Remedial Action Work Plan for the 100 Area, September 2000.

DOE/RL-99-59, Proposed Plan for the 100 Area Burial Grounds Interim Remedial Action, May 2000.

### **C.14.2 Action Memoranda**

Approved Action Memorandum for the 100 B/C Area Ancillary Facilities and the 108-F Building Removal Action, January 29, 1997.

Action Memorandum: Expedited Response Action Proposal; 100-BC-1 Demonstration Project, June 27, 1995.

Action Memorandum: 183-H Solar Evaporation Basin Waste Expedited Response Action Cleanup Plan, November 26, 1996.

Notice of Change to the Waste Volume Estimates in the N Area Waste Expedited Response Action Memorandum, March 6, 1997.

Action Memorandum: N Area Waste Expedited Response Action Cleanup Plan, November 7, 1996.

Action Memorandum: N Springs Expedited Response Action Cleanup Plan, September 23, 1994.

Action Memorandum: Expedited Response Action Proposal River Land Site 100-IU-1, dated June 23, 1993.

Action Memorandum Approval: Sodium Dichromate Barrel Landfill 100-IU-4, dated March 8, 1993.

Action Memorandum: Time-Critical Removal Action for clean-up of 2,4-D Burial Site, 100-IU-3 (Wahluke Slope), undated (approx. August 1997).

Action Memorandum: 105-F and 105-DR Reactor Buildings and Ancillary Facilities, July 1998, AR Doc. No. 004944.

Action Memorandum: 105-D and 105-H Reactor Buildings and Ancillary Facilities, December 8, 2000.

Action Memorandum: 100N Ancillary Facilities, December 1998.

### **C.14.3 ERDF Regulatory Documents**

Declaration of the Record of Decision for the selected remedial action for the Environmental Restoration Disposal Facility (ERDF) dated January 20, 1995.

Environmental Restoration Disposal Facility (ERDF) Explanation of Significant Differences (ESD), July 26, 1996.

Amended Record of Decision for the Environmental Restoration Disposal Facility, dated September 25, 1997.

Amended Record of Decision, Decision Summary, and Responsiveness Summary for the Environmental Restoration Disposal Facility (Delisting Rod Amendment), dated March 25, 1999.

Amended Record of Decision, Decision Summary, and Responsiveness Summary for the Environmental Restoration Disposal Facility (Staging Area and Expansion), dated February 2002.

### **C.14.4 300 Area Regulatory Documents**

Declaration of the Record of Decision for the final and interim remedial actions for the 300-FF-1 and 300-FF-5 Operable Units CCN No. 0048470, Doc. No. 11081, dated July 17, 1996.

Declaration of the Record of Decision 300-FF-2 Operable Unit (the 300-FF-2 Operable Unit is comprised of 118 accepted waste sites, which are listed in Appendix A of this ROD), April 5, 2001. These sites fall into four general categories: wastes sites in the 300 Area industrial complex; outlying waste sites north and west of the 300 Area industrial complex; general content burial grounds; and transuranic-contaminated burial grounds (designated 618-10 and 11 Burial Grounds and associated waste sites, and are not part of the River Corridor contract).

DOE/RL-96-73, Rev. 1, 324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan, September 1998.

### **C.14.5 Other Applicable Documents**

FDH, 1998, Hanford Site Solid Waste Acceptance Criteria, HNF-EP-0063, Rev. 5, Fluor Daniel Hanford, Inc., Richland, Washington.

### **C.14.6 RCRA Permit**

There is only one RCRA permitted TSD unit associated with the reactors: the 105-DR Large Sodium Fire Facility (LSFF). It is part of the "RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste at the Hanford Facility," Rev.6, Permit #WA7890008967. The 105-DR LSFF is discussed in Part

V, Chapter 10 of the permit, which can be viewed at  
<http://www.hanford.gov/docs/wa7890008967/index.htm>.

### **C.14.7 Engineering Evaluation/Cost Analysis (EE/CA) and Removal Actions Work Plans**

Reactor 105-D EE/CA - DOE/RL-2000-45 Rev.0 RAWP DOE/RL-2000-57 Rev.0

Reactor 105-DR EE/CA - DOE/RL-98-23 Rev.0 RAWP DOE/RL-98-37 Rev.3

Reactor 105-H EE/CA - DOE/RL-2000-46 Rev.0 RAWP DOE/RL-2000-57 Rev.0

DOE-RL, 1998c, EE/CA for the 100-N Area Ancillary Facilities and Integration Plan, DOE/RL-97-22, Rev. 1

### **C.15 Acronyms**

300 ACP	300 Area Accelerated Closure Project
300 ACT	300 Area Accelerated Closure Team
AB	Authorization Basis
ACM	Asbestos Containing Material
AHERA	Asbestos Hazard Emergency Response Act of 1986
ALARA	As Low As Reasonably Achievable
ARAR	Applicable or Relevant and Appropriate Requirement
ASA	Auditable Safety Analysis
BCR	Baseline Change Request
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CWC	Central Waste Complex
CVP	Cleanup Verification Package
D&D	Decontamination and Decommissioning
DCF	Dose Conversion Factor
DOE	Department of Energy
DOT	U.S. Department of Transportation
D <sup>4</sup> /D4	Deactivation, Decontamination, Decommissioning, and Demolition
DQO	Data Quality Objective
Ecology	Washington State Department of Ecology
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
ERC	Environmental Restoration Contractor
ERDF	Environmental Restoration Disposal Facility
ES&H	Environmental, Safety and Health
ETF	Effluent Treatment Facility
FEIS	Final Environmental Impact Statement

FSB	Fuel Storage Basin
ISMS	Integrated Environment, Safety, and Health Management System
ISS	Interim Safe Storage
LLBG	Low-Level Burial Grounds
MOU	Memorandum Of Understanding
MTCA	Model Toxics Control Act
MYWP	Multi-Year Work Plan
NEPA	National Environmental Policy Act of 1969
NRC	U.S. Nuclear Regulatory Commission
PBS	Project Baseline Summary
PCB	Polychlorinated Biphenyl
PPE	Personal Protective Equipment
PUREX	Plutonium-Uranium Extraction
QAPP	Quality Assurance Project Plan
QA/SP	Quality Assurance/Surveillance Plan
RAWP	Remedial Action Work Plan
RCC	River Corridor Contractor
RCRA	Resource Conservation and Recovery Act of 1976
RDR	Remedial Design Report
REDOX	Reduction Oxidation
RIMS	Richland Integrated Management System
RL	U.S. Department of Energy Richland Operations Office
RLWS	Radioactive Liquid Waste System
ROD	CERCLA Record of Decision
RWP	Radiological Work Permit
S&M	Surveillance and Maintenance
SAP	Sampling and Analysis Plan
SAR	Safety Analysis Report
SCW	Special-Case Waste
SS HASP	Site Specific Health And Safety Plan
SSE	Safe Storage Enclosure
TEDF	Treated Effluent Disposal Facility
TPA	Tri-Party Agreement
TRU	Transuranic
TSCA	Toxic Substances Control Act of 1976
URMA	Underground Radioactive Material Area
USQ	Unreviewed Safety Question
WAC	Washington Administrative Code
WATS	Waste Acid Treatment System
WBS	Work Breakdown Structure
WDOE	Washington State Department of Ecology
WIDS	Waste Information Data System
WIPP	Waste Isolation Pilot Plant

## C.16 Glossary of Terms

- (A) Engineering Evaluation/Cost Analysis (EE/CA). An EE/CA shall be prepared in accordance with CERCLA and Title 40, Code of Federal Regulations (CFR), Section 300.415. An EE/CA shall be performed to satisfy environmental review requirements for removal actions, to provide documentation leading up to removal action selection, and to provide a framework to evaluate and select alternative technologies or approaches to address actions to be taken. An EE/CA is usually followed by an Action Memorandum and a Removal Action Work Plan.
- (B) Special-Case Waste. Special-Case Waste (SCW) is defined in the Tri-Party Agreement Change Control Form M-92-96-01 as “radioactive waste generated by DOE-funded activities for which there is no economic disposal or storage pathway provided via the most recent version of HNF-EP-0063, *Hanford Site Solid Waste Acceptance Criteria* (FDH 1998)”. Typical types of SCW in the 300 Area include the following:
- (1) Greater-than-Category-3 low-level waste
  - (2) High-activity, high-dose rate streams of mixed low-level waste, TRU, or TRU-mixed waste.
  - (3) Residual material from testing irradiated fuel. These residues are comprised of fuel pin fragments, dispersed particulate, and/or chemically altered fuel that cannot be readily retrieved and packaged with the fuel assemblies and intact pins.
- A project management plan (HNF-5068, Rev. 1A) describing the planned disposition and schedules for removal of SCW from the 300 Area was transmitted to RL in March 2000 (FH letter number FH-0102078 [Boyter 2XXX]). The plan was concurred in by WDOE in its October 2, 2001 Letter to DOE.
- (C) Deactivation, Decontamination, Decommissioning, and Demolition (D<sup>4</sup>). The D<sup>4</sup> includes all activities necessary to take an excess facility from its current state to total demolition (3 feet below grade) and removal of the facility and the resulting waste, material, and debris. Activities include the identification and removal of radioactive and hazardous wastes, chemicals, oils, asbestos, and contaminated and uncontaminated equipment, as well as conducting radiological surveys, decontamination, facility demolition to 3 feet below grade, material removal, waste removal, waste disposal, site restoration, and the completion and regulator approval of a D<sup>4</sup> Project Closeout Report.
- (D) Remedial Action. Remedial action consists of all activities necessary to complete the remediation per the requirements of the applicable CERCLA ROD or EE/CA for the waste sites described in Section C.3 and C.4. Final verification and completion is documented with a Cleanup Verification Package.
- (E) Accepted Waste Sites. Per TPA-MP-14, an accepted waste site is a conclusion that the “site is a waste management unit as defined in TPA Section 3.0.” The TPA says that a “waste management unit represents any location within the boundary of the Hanford Site that may require action to mitigate a potential environmental impact.” Waste Management units include the following:

- (1) Waste disposal units (including RCRA disposal units)

- (2) Unplanned release units (including those resulting from spills)
- (3) Inactive contaminated structures
- (4) RCRA treatment and storage units
- (5) Other storage areas.