

1 **1.4.3 Cleanup, Constraints, and Challenges Team (C3T)**

2
3 In 2001, the DOE Richland Operations Office (DOE-RL), its contractors, EPA, and Ecology began a
4 series of discussions to better identify, characterize, and resolve constraints and barriers to Hanford
5 cleanup. These discussions, referred to as the Cleanup, Constraints, and Challenges Team (C3T) process,
6 are designed to be an informal forum where ideas and concepts could be discussed openly. Ideas are
7 developed and evaluated to determine whether they could accelerate cleanup; reduce costs; or protect
8 workers, the public, and the environment. The C3T process is not intended to replace legal or regulatory
9 requirements, or to change formal commitments such as the TPA. Some concepts identified during the
10 C3T process might be suitable for immediate implementation. However, most would probably require
11 further planning, changes to existing permits and TPA Milestones, changes to existing contracts, and
12 preparation of additional NEPA or CERCLA reviews. Additional information can be found in Appendix
13 N and at <http://www.hanford.gov/docs/rl-2002-65. rl-2002-65.pdf>.

14 **1.4.4 Hanford Performance Management Plan (HPMP)**

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17 Drawing on recommendations contained in the Top-to-Bottom Review and from ideas emerging from
18 the C3T process (DOE-RL 2002a), a plan was prepared to accelerate cleanup at Hanford (DOE-RL
19 2002b). The plan describes higher-level strategic initiatives as well as specific goals for completing
20 Hanford cleanup by 2035, which is 35 years earlier than previously planned.

21
22 Some of the acceleration activities described in the HPMP could be implemented immediately.
23 Others could be implemented as a result of reviews performed under this HSW EIS. Some, however,
24 would require further planning, changes to existing permits and TPA milestones, and preparation of
25 additional NEPA or CERCLA reviews. Implementation of some of the accelerated cleanup proposals is
26 discussed in Section 3. However, the plans and schedules associated with many HPMP proposals were
27 not sufficiently well developed for detailed analysis at the time this EIS was prepared. Therefore, the
28 analyses of environmental impacts presented in Section 5 do not necessarily reflect all activities, or the
29 timing of some activities, as described in the HPMP.

30 **1.5 Relationship of the HSW EIS to Other Hanford and DOE**

31 **NEPA Documents**

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33
34 A number of other DOE programmatic and Hanford actions are related to this HSW EIS. The
35 relationships of these actions and associated NEPA documents to the HSW EIS are described in the
36 following sections and were illustrated previously in Figure 1.2.

37 **1.5.1 Interim Actions During Preparation of the Draft HSW EIS**

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39
40 During the preparation of the draft HSW EIS, DOE determined that several actions within or related
41 to the scope of the EIS met the criteria for permissible interim actions under 40 CFR 1506.1. These
42 actions are described in the following documents:

1 • **Offsite Thermal Treatment of Low-Level Mixed Waste (DOE/EA-1135 May 1999)**

2
3 This Environmental Assessment (EA) analyzed the use of Allied Technology Group, Inc. (ATG), a
4 commercial treatment facility in Richland, Washington, to thermally treat a portion of MLLW stored
5 at the Hanford Site (DOE 1999a). DOE considered the use of ATG for treatment of a limited quantity
6 of MLLW from Hanford as a demonstration project. This EA analyzed impacts of transporting the
7 MLLW from Hanford to ATG, treatment of the waste in the ATG facility, and transportation of the
8 treated waste back to Hanford for disposal. Construction and operation of the ATG treatment facility
9 was evaluated in a State Environmental Policy Act (SEPA) EIS (City of Richland 1998). Based on
10 analyses in the EA, DOE determined the proposed action was not a major federal action significantly
11 affecting the quality of the human environment and issued a finding of no significant impact (FONSI)
12 on May 6, 1999.
13

14 • **Non-Thermal Treatment of Hanford Site Low-Level Mixed Waste (DOE/EA-1189
15 September 1998)**

16
17 This EA considered the use of a commercial treatment facility to stabilize or encapsulate a portion of
18 Hanford MLLW to allow disposal of the waste (DOE 1998). Regulatory requirements for treatment
19 of MLLW to allow land disposal vary depending upon the nature of the waste. Wastes considered in
20 this EA consisted of those that did not require thermal treatment. The ATG facility was also
21 considered for thermal treatment of a portion of the Hanford MLLW (DOE 1999a). Construction
22 and operation of the ATG treatment facility was evaluated in a SEPA EIS (City of Richland 1998).
23 Based on analyses in the EA, DOE determined the proposed action was not a major federal action
24 significantly affecting the quality of the human environment and issued a FONSI on
25 September 29, 1998.
26

27 • **Widening Trench 36 of the 218-E-12B Low-Level Burial Ground (DOE/EA-1276
28 February 1999)**

29
30 This EA was prepared to assess potential environmental impacts associated with the proposed action
31 to widen and operate the existing and unused Trench 36 in the 218-E-12B LLBG for disposal of bulk
32 LLW (DOE 1999c). The existing V-type LLW trenches were designed before 1976 and were
33 analyzed in a previous Environmental Statement (ERDA 1975). DOE determined the trench design
34 was inefficient for disposal of bulk waste. The V-type trenches are narrow at the bottom and are
35 generally less than about 5 m (16 ft) deep. DOE determined that widening the trenches would more
36 efficiently use LLBG space. Given trenches of equivalent depth, the wider trenches allow more waste
37 to be placed per square foot of surface area. This pattern not only saves trench construction costs but
38 also decreases closure cover size and cost for disposal of a given volume of waste. Based on analyses
39 in the EA, DOE determined the proposed action was not a major federal action significantly affecting
40 the quality of the human environment and issued a FONSI on February 11, 1999.

1 • **K Basins Sludge Storage at 221-T Building, Hanford Site, Richland, Washington**
2 **(DOE/EA-1369 June 2001)**
3

4 This EA was prepared to assess potential environmental impacts associated with modification of the
5 221-T Building (part of the T Plant Complex) to receive and store sludge from the 100-K Area fuel
6 storage basins at the Hanford Site (DOE 2001b). The proposed action included modification of the
7 pool cell and other shielded cells within the facility to store the sludge. The sludge would ultimately
8 be designated as RH TRU waste and transferred to the Hanford Solid Waste Program for storage,
9 processing at an onsite facility, and shipment to WIPP for disposal. Based on analyses in the EA,
10 DOE determined the proposed action was not a major federal action significantly affecting the quality
11 of the human environment and issued a FONSI on June 20, 2001.
12

13 • **(Draft) Environmental Assessment for Trench Construction and Operation in the 218-E-12B**
14 **and 218-W-5 Low Level Burial Grounds, Hanford Site, Richland, Washington (DOE/EA-1373**
15 **February 2001)**
16

17 This draft EA was prepared to assess potential environmental impacts associated with the proposed
18 action to construct four new LLW disposal trenches in the Hanford Site 200 East and 200 West Areas
19 (DOE 2001a). Additional trench capacity was determined to be necessary over the short-term for
20 operational efficiency in disposing of different physical types of LLW at Hanford. The scope of the
21 document has been changed, and comments on the draft EA are being considered.
22

23 **1.5.2 Related NEPA Documents**
24

25 Solid waste management operations at Hanford have been previously assessed in a number of
26 documents. This section briefly describes a number of other NEPA documents related to the HSW EIS.
27 They offer background material for understanding the HSW EIS and its purpose.
28

29 • **Final Environmental Statement, Waste Management Operations, Hanford Reservation,**
30 **Richland, Washington (ERDA-1538 December 1975)**
31

32 The U.S. Energy Research and Development Administration (ERDA) prepared an Environmental
33 Statement for use in planning and decision making to ensure that future waste management practices
34 would minimize adverse environmental consequences (ERDA 1975). Treatment and disposal of
35 waste from onsite and offsite sources were addressed. This document was written for the Waste
36 Management Operations Program at the Hanford Site. Because this document predated the CEQ
37 NEPA regulations, a formal ROD was not issued. Hanford waste management programs still rely
38 upon the analyses conducted in ERDA-1538. The HSW EIS provides an updated analysis and
39 revisits potential alternatives for Hanford Solid Waste Program operations.

1 • **Disposal of Decommissioned Defueled Naval Submarine Reactor Plants EIS (U.S. Department**
2 **of the Navy 1984)**
3

4 This EIS considered the disposal of defueled naval submarine reactor compartments in the Hanford
5 LLBGs (Navy 1984). The EIS was prepared by the U.S. Department of the Navy and was adopted by
6 DOE. The EIS analyzed preparation of the reactor compartments at the Puget Sound Naval Shipyard,
7 transportation to Hanford, and disposal in the 200 Areas. The ROD was published in the Federal
8 Register on December 6, 1984 (49 FR 47649).
9

10 • **Disposal of Hanford Defense High-Level, Transuranic and Tank Wastes, Hanford Site,**
11 **Richland, Washington (DOE/EIS-0113 December 1987)**
12

13 In 1987, DOE prepared the Hanford Defense Waste (HDW) EIS to examine potential impacts storing
14 and preparing TRU waste, and tank waste, as well as future wastes, for disposal (DOE 1987). Most
15 LLW and wastes associated with decommissioning of existing surplus or retired Hanford Site
16 facilities were not considered in the HDW EIS. In the 1988 ROD (53 FR 12449), DOE decided to
17 dispose of or store double-shell tank waste and cesium and strontium capsules. Retrievably stored
18 TRU waste in the 200 Area LLBGs would be retrieved and disposed of with other newly generated
19 TRU waste. A decision was also made to retrieve buried suspect TRU-contaminated waste from the
20 618-11 Burial Ground. As part of that decision, DOE decided to construct and operate a facility for
21 vitrification of HLW, facilities for grout stabilization and disposal of the low-activity fraction from
22 processing tank waste, and the Waste Receiving and Processing (WRAP) facility for processing,
23 certification, and shipment of TRU waste. Subsequent to preparation of the HDW EIS, the TPA was
24 established to implement many of the actions discussed in the ROD. The agreement also ensures
25 compliance with RCRA and CERCLA requirements. This HSW EIS provides an updated analysis
26 for some Hanford Solid Waste Program operations previously evaluated in the HDW EIS.
27

28 • **Environmental Assessment for Battelle Columbus Laboratories Decommissioning Project**
29 **(DOE/EA-0433 June 1990)**
30

31 This EA evaluated decommissioning of radiological laboratories operated by Battelle Memorial
32 Institute (DOE 1990). Waste, including TRU waste generated during the cleanup of 15 buildings at
33 two sites, would be shipped to Hanford for processing or disposal. TRU waste was assumed to be
34 stored until it could be accepted at WIPP. DOE determined the proposed action was not a major
35 federal action significantly affecting the quality of the human environment and issued a FONSI on
36 June 14, 1990.
37

38 • **Environmental Assessment – Hanford Environmental Compliance Project, Hanford Site,**
39 **Richland Washington (DOE/EA-0383 March 1992)**
40

41 This EA included an evaluation for construction and operation of the ETF in the Hanford Site
42 200 East Area (DOE 1992). This facility would receive leachate collected from the MLLW trenches,
43 in addition to other liquid waste generated at Hanford. The EA also evaluated construction of
44 additional storage buildings at the Central Waste Complex (CWC). Based on analyses in the EA,

1 DOE determined the proposed action was not a major federal action significantly affecting the quality
2 of the human environment and issued a FONSI on March 11, 1992.

3
4 • **Solid Waste Retrieval Complex, Enhanced Radioactive and Mixed Waste Storage Facility,
5 Infrastructure Upgrades, and Central Waste Complex (DOE/EA-0981 September 1995)**

6
7 In this EA, DOE proposed to construct and operate the Solid Waste Retrieval Complex and the
8 Enhanced Radioactive Mixed Waste Storage Facility, to expand the CWC, and to upgrade the
9 associated Hanford infrastructure (DOE 1995b). These facilities were to be located in the 200 West
10 Area to support the Solid Waste Operations Complex (SWOC) operation. The proposed action was
11 to address retrieval of TRU waste, storage capacity for retrieved and newly generated TRU waste, and
12 upgrading the infrastructure network in the 200 West Area to enhance operational efficiencies and
13 reduce the cost of operating the existing SWOC. Actions evaluated in the EA included

- 14
15 - construction and operation of the Retrieval Complex and the Enhanced Radioactive Mixed
16 Waste Storage Facility
17
18 - expansion of the CWC
19
20 - upgrading associated infrastructure (that is, utilities and roads) in the 200 West Area to support
21 the SWOC
22
23 - retrieval of TRU waste in the solid waste LLBGs and the construction, operation, and
24 maintenance of a complex of facilities to be used for the retrieval
25
26 - construction of a regulatory-compliant storage facility for greater than Category 3 (GTC3)
27 waste, retrieved TRU waste and newly generated TRU waste awaiting processing in the WRAP,
28 and for processed waste awaiting shipment to WIPP
29
30 - construction of two pre-engineered metal solid waste management support buildings.

31
32 In addition, the proposed action included a mitigation strategy to address lost shrub-steppe habitat.
33 Based on analyses in the EA, DOE determined the proposed action was not a major federal action
34 significantly affecting the quality of the human environment and issued a FONSI on
35 September 8, 1995. This revised draft HSW EIS considers post-retrieval processing, certification,
36 and shipment to WIPP for retrievably stored TRU waste in the LLBGs.

37
38 • **Environmental Assessment. Shutdown of the Fast Flux Test Facility. Hanford Site, Richland,
39 Washington (DOE/EA-0993 May 1995)**

40
41 This EA was prepared to assess environmental impacts from shutdown of the Fast Flux Test Facility,
42 a liquid-metal cooled research reactor located in the Hanford Site 400 Area (DOE 1995a).
43 Deactivation would consist of removing fuel, draining and de-energizing the systems, removing the
44 stored radioactive and hazardous materials, and performing other actions to place the facility in a safe

1 shutdown state. Deactivation of this facility could generate LLW, MLLW, or TRU waste that would
2 be processed or disposed of in facilities considered under the HSW EIS. Based on analyses in the
3 EA, DOE determined the proposed action was not a major federal action significantly affecting the
4 quality of the human environment and issued a FONSI on May 1, 1995.

5
6 • **Management of Spent Nuclear Fuel from the K Basins at the Hanford Site, Richland,
7 Washington (DOE/EIS-0245 January 1996)**

8
9 This EIS evaluated alternatives for treatment and interim storage of irradiated fuels from the Hanford
10 production reactors (DOE-RL 1996a). After the reprocessing of production reactor fuels for weapons
11 material at Hanford was suspended, a substantial quantity of unprocessed irradiated fuel remained in
12 the fuel storage basins at the 100-K Area. As a result of the EIS analysis, DOE decided to stabilize
13 the stored fuel using a cold vacuum drying process, package the fuel into storage canisters, and place
14 the canisters into storage in the 200 East Area at Hanford. The EIS also addressed cleaning out the
15 100-K Area fuel storage basins following removal of the fuel. The EIS evaluated storage of the
16 retrieved sludge in underground tanks for eventual treatment with other Hanford tank wastes, or
17 alternatively, grouting the sludge fractions that could be disposed of at Hanford. A ROD was issued
18 in the Federal Register on March 15, 1996 (61 FR 10736). The draft HSW EIS evaluates storage and
19 treatment of the sludge by the Hanford Solid Waste Program, an alternative not considered in the K
20 Basin EIS. The treated sludge ultimately would be disposed of at WIPP with other Hanford TRU
21 waste.

22
23 • **Plutonium Finishing Plant Stabilization Final Environmental Impact Statement
24 (DOE/EIS-0244-F May 1996)**

25
26 The Plutonium Finishing Plant (PFP) in the Hanford Site 200 West Area was constructed to process
27 plutonium nitrate into the metallic form used in nuclear weapons. The PFP includes production and
28 recovery areas, laboratories for routine analysis and research, and secure vaults for storage of
29 plutonium. PFP operations ceased in 1989. DOE prepared the PFP EIS (DOE-RL 1996b) to evaluate
30 consequences from

- 31
32 - stabilization of plutonium-bearing materials at the PFP to a form suitable for interim storage
33
34 - removal of readily retrievable, plutonium-bearing materials left behind in process equipment,
35 process areas, and air and liquid waste management systems as a result of historic uses
36
37 - placement of stabilized fissile material in existing vaults at the PFP for interim storage.

38
39 The alternatives for stabilization included processing the plutonium-bearing materials into a form
40 suitable for interim storage in existing PFP vaults. The EIS also evaluated options for removing and
41 stabilizing plutonium-bearing wastes and material in holdup at the PFP. A ROD was issued in the
42 *Federal Register* on June 25, 1996 (61 FR 36352). Stabilization of the PFP materials and
43 deactivation of the facility have been, and will continue to be, major sources of TRU waste managed
44 by the Hanford Solid Waste Program.

1 • **Disposal of Decommissioned, Defueled Cruiser, Ohio Class, and Los Angeles Class Naval**
2 **Reactor Plants (DOE/EIS-0259 April 1996)**
3

4 This EIS considered the disposal of certain defueled Naval Reactor plants in a Hanford LLBG. The
5 EIS was prepared by the U.S. Department of the Navy (1996). The EIS analyzed preparation of the
6 reactor compartments at the Puget Sound Naval Shipyard, transportation to Hanford, and disposal in
7 the 218-E-12B Burial Ground in the Hanford 200 East Area. DOE participated as a cooperating
8 agency in the development of the EIS on this federal action and has adopted the EIS. The ROD was
9 issued in the *Federal Register* on August 9, 1996 (61 FR 41596).

10
11 • **Tank Waste Remediation System EIS (DOE/EIS-0189 August 1996)**
12

13 In the TWRS EIS, DOE examined the management and disposal of the contents of 177 HLW tanks,
14 as well as cesium and strontium capsules (DOE and Ecology 1996). In the ROD, DOE decided to
15 retrieve, separate, vitrify, and dispose of the tank waste (62 FR 8693). The low-activity waste
16 fraction from the separation process would be placed in concrete vaults onsite. The HLW would be
17 disposed of at a repository. A decision on the disposition of cesium and strontium capsules was
18 deferred. Programs for retrieval and treatment of the tank waste are expected to be major generators
19 of LLW and MLLW sent to the Hanford Solid Waste Program for disposal in Hanford LLBGs.
20 Disposal of ILAW, melters, and operational waste from the treatment facility are considered in the
21 waste streams evaluated for this HSW EIS.

22
23 • **Supplemental Environmental Impact Statement for Disposal of Immobilized Low-Activity**
24 **Wastes from Hanford Tank Waste Processing (DOE/EIS-0189-S1)**
25

26 As part of the TWRS EIS decision, DOE planned to place ILAW into concrete vaults in the 200 East
27 Area. DOE began examining alternatives for disposing of ILAW onsite in near-surface facilities.
28 Following a supplement analysis of disposal options for ILAW (DOE 2001i), DOE decided additional
29 NEPA review was required, and a Notice of Intent to prepare a Supplemental Environmental Impact
30 Statement (SEIS) was issued on July 8, 2002 (67 FR 45104). Subsequently, based on public
31 comments received, DOE decided to combine the ILAW disposal SEIS with this revised draft HSW
32 EIS. The HSW EIS now provides the NEPA review for ILAW disposal in addition to waste
33 management operations conducted by the Hanford Solid Waste Program (68 FR 7110).

34
35 • **Environmental Impact Statement for Retrieval, Treatment, and Disposal of Tank Waste and**
36 **Closure of Single-Shell Tanks at the Hanford Site, Richland, Washington (DOE/EIS-0356)**
37

38 DOE recently announced its intent to prepare a follow-on EIS to the TWRS EIS for retrieval,
39 treatment, and disposal of Hanford tank waste, and for closure of 149 single-shell tanks (68 FR 1052).
40 That EIS would evaluate alternative treatment processes for some tank waste and disposal of low-
41 activity waste forms other than those considered in this HSW EIS.
42

1 • **Waste Management Programmatic EIS (DOE/EIS-0200 May 1997)**

2
3 The WM PEIS is a DOE nationwide study examining the environmental impacts of managing more
4 than 2,000,000 m³ (2,700,000 yd³) of radioactive wastes from past, present, and future DOE activities
5 (DOE 1997c). The DOE goal in preparing the WM PEIS was to develop a national strategy to treat,
6 store, and dispose of the wastes in a safe, responsible, and efficient manner that minimizes the
7 impacts to workers, the public and the environment. DOE used the analyses in the WM PEIS to
8 decide on a programmatic approach to managing its waste, and to select a configuration of DOE sites
9 for waste management activities based on those analyses and other factors. The level of analysis in
10 the WM PEIS was judged appropriate for making broad programmatic decisions on which DOE sites
11 should be selected for waste management missions. However, at the programmatic level, it was not
12 possible to take into account special requirements for particular waste streams, different technologies
13 that are, or may be, available to manage specific wastes, or site-specific environmental considerations
14 such as the presence of culturally important resources or endangered species at a given location on a
15 site. DOE is relying on other NEPA reviews for those analyses, primarily ones that evaluate
16 particular locations or projects. Decisions regarding specific locations for waste management
17 facilities at DOE sites, or the waste management technologies to be used, will be made on the basis of
18 sitewide or project-level NEPA reviews.
19

20 Wastes analyzed in the WM PEIS result primarily from nuclear weapons production and related
21 activities. They include MLLW, LLW, TRU waste, HLW, and hazardous waste. The WM PEIS
22 provides information on the impacts of various alternatives that DOE evaluated to decide at which
23 sites to consolidate or decentralize treatment, storage, and disposal activities for each waste type. The
24 WM PEIS evaluated a total of 36 alternatives for the 5 waste types. The alternatives represented
25 different configurations for managing each waste type at varying numbers of DOE facilities. The
26 alternatives were described as decentralized, regionalized, or centralized, depending on the degree to
27 which waste management activities were consolidated or distributed across the DOE waste generator
28 sites. A no action alternative was also evaluated, in which only existing waste management
29 capabilities would be used. In the decentralized alternatives, each site that generates waste would
30 manage the waste onsite. Unlike the no action alternative, the decentralized alternatives would
31 involve construction of new waste management facilities at a larger number of sites than in the other
32 alternatives (5-37 sites, depending on the waste type and activity). At least two regionalized
33 alternatives were evaluated for each waste type, where waste management activities would be
34 consolidated at a smaller number of sites than in the decentralized alternatives, but at a greater
35 number of sites than in the centralized alternatives (1-12 sites, depending on the waste type and
36 activity). The sites identified as regionalized waste management sites for a given waste type were
37 expected to generate relatively large quantities of that waste, and they generally had existing waste
38 management facilities and capabilities. The centralized alternatives evaluated consolidated
39 management of each waste type at the smallest number of sites (1-7 sites, depending on the waste
40 type and activity), again representing sites that were expected to generate the largest quantities of a
41 particular waste.
42

43 The WM PEIS evaluated Hanford as a receiving site for both regionalized and centralized alternatives
44 within each waste type. Therefore, the analyses for waste coming to Hanford encompassed a range of

1 waste volumes that represented Hanford-generated waste in the decentralized alternatives to
2 quantities that represented a substantial fraction of a particular waste type to be generated at DOE
3 sites across the nation in the centralized alternatives. For LLW, the waste volumes ranged from
4 89,000 m³ generated at Hanford to 1,500,000 m³ generated at all DOE sites. The corresponding
5 MLLW volumes were 36,000 m³ for Hanford to 219,000 m³ for all DOE sites. The range for TRU
6 waste was 52,000 m³ from Hanford to 132,000 m³ from all DOE sites. The range of waste volumes
7 evaluated in the WM PEIS therefore encompasses the range of waste volumes considered in this
8 HSW EIS for LLW, MLLW, and TRU waste (see Section 3.3 and Appendixes B and C).

9
10 Management of CERCLA waste generated by DOE environmental restoration activities was
11 reviewed, but not analyzed, in the WM PEIS. The Natural Resources Defense Council and other non-
12 governmental groups filed a lawsuit in 1997 to require DOE to prepare a programmatic EIS for its
13 environmental restoration program. The lawsuit was settled in 1998 when DOE and the other parties
14 agreed to develop tools that would enhance public understanding of DOE site cleanup. Under the
15 terms of the settlement, no changes were made to the PEIS. DOE agreed to complete the following
16 items:

- 17
18 1. Develop and deploy a Central Internet Database with information on waste, materials, facilities,
19 and contaminated media. (see: <http://cid.em.gov/>)
20
- 21 2. Conduct a study on long-term stewardship (DOE 2001f).
22
- 23 3. Establish a \$6.25 million fund for technical and scientific reviews by citizen and tribal
24 organizations.

25 The draft WM PEIS was issued in September 1995, followed by a 150-day public comment period.
26 The Final WM PEIS was issued in May 1997, and decisions for each waste type analyzed in the
27 WM PEIS were issued between 1998 and 2002. Major decisions resulting from the WM PEIS are
28 summarized by waste type as follows:

- 29
30 - **TRU Waste.** DOE decided that, with one exception, TRU waste at DOE sites would be treated
31 and stored at the generator sites prior to disposal at WIPP (63 FR 3629). The decision was later
32 revised to transfer small quantities of TRU waste to other sites that have existing storage and
33 treatment capabilities (65 FR 82985, 66 FR 38646, 67 FR 56989). In one of those revisions
34 (67 FR 56989), DOE decided that about 36 m³ of TRU waste from facilities in Ohio and
35 California would be transferred to Hanford for storage and processing before being shipped to
36 WIPP.
37
- 38 - **Low-Level Waste and Mixed Low-Level Waste.** Under this decision, DOE will continue to
39 rely on sites that have existing capacity to treat or dispose of LLW and MLLW (65 FR 10061).
40 Hanford and the Nevada Test Site (NTS) were identified in the ROD to receive LLW and
41 MLLW from other DOE sites that do not have capabilities to dispose of their wastes. The Idaho
42 National Engineering and Environmental Laboratory (INEEL), Los Alamos National Laboratory,
43 the Oak Ridge Reservation (ORR), and the Savannah River Site (SRS) would continue to dispose

1 of LLW generated at those sites. DOE also identified Hanford, the INEEL, ORR, and SRS as
2 regional MLLW treatment facilities that could accept waste from other sites for treatment. Those
3 decisions generally represent a continuation of ongoing treatment and disposal activities at the
4 identified sites and do not affect DOE's ability to send waste to commercial disposal facilities.

- 5
- 6 - **Non-Wastewater Hazardous Waste.** The hazardous waste treatment ROD (63 FR 41810)
7 announced a DOE decision to continue to use commercial facilities for the treatment of
8 non-wastewater hazardous waste generated at DOE sites.
- 9
- 10 - **High-Level Waste.** The HLW storage ROD determined that HLW should be stored at the
11 generator sites pending disposal in a geologic repository (64 FR 46661).
- 12

- 13 • **Relocation and Storage of Isotopic Heat Sources (DOE/EA-1211 June 1997)**
- 14

15 In this EA, DOE proposed construction and operation of a storage site at the CWC in the 200 West
16 Area of the Hanford Site for storage, pending future disposal decisions, of isotopic heat sources that
17 were previously stored in the 324 Building (DOE 1997a). The material includes 34 isotopic sources:
18 30 sealed isotopic heat sources manufactured in the 324 Building as part of a bilateral agreement
19 between the Federal Republic of Germany and DOE; 2 production demonstration canisters; and two
20 instrumented canisters. The agreement was for developing processes for the treatment and
21 immobilization of HLW. Subsequently, the need for the sources was eliminated and Germany and
22 DOE entered into another agreement for the storage and disposition of the materials. Based on
23 analyses in the EA, DOE determined the proposed action was not a major federal action significantly
24 affecting the quality of the human environment and issued a FONSI on June 6, 1997.

- 25
- 26 • **Trench 33 Widening in 218-W-5 Low Level Burial Ground (DOE/EA-1203 July 1997)**
- 27

28 In this EA, DOE proposed to widen and operate the existing and unused disposal Trench 33 within
29 the 218-W-5 LLBG in the 200 West Area for disposal of LLW (DOE 1997b). The existing V-type
30 LLW trenches were designed before 1976 and were analyzed in a previous Environmental Statement
31 (ERDA 1975). The widening of Trench 33 increased the disposal capacity and allowed for disposal
32 of both boxed and large packages of Category (Cat) 1 LLW that would not efficiently fit in the
33 existing V-type trench configuration. The proposed action provided for more cost-effective land use
34 and increased the capacity of the LLBG without increasing the footprint. Based on analyses in the
35 EA, DOE determined the proposed action was not a major federal action significantly affecting the
36 quality of the human environment and issued a FONSI on July 28, 1997.

- 37
- 38 • **Waste Isolation Pilot Plant Disposal Phase Final Supplemental EIS (DOE/EIS-0026-S-2
39 September 1997)**
- 40

41 DOE prepared the *Waste Isolation Pilot Plant Disposal Phase Final Supplemental EIS* (WIPP SEIS2)
42 to consider disposal of TRU waste at the WIPP (DOE 1997d). The supplement evaluated transpor-
43 tation methods, the disposal inventory, and the level of treatment required for disposal or storage
44 (repackaging to meet planning basis WIPP waste acceptance criteria, thermal treatment, or treatment

1 by shred and grout). The Hanford Site was considered for treatment of TRU waste by any of the
2 three methods, and for storage of TRU waste (either without disposal at WIPP or pending disposal).
3 The ROD was issued on January 23, 1998, to dispose of Hanford and other sites' TRU waste at WIPP
4 (63 FR 3623), after treatment to meet WIPP waste acceptance criteria. The HSW EIS evaluates the
5 impact of processing Hanford's TRU waste prior to its ultimate disposal at WIPP.
6

7 • **Final Hanford Comprehensive Land-Use Plan EIS (DOE/EIS-0222F September 1999)**
8

9 DOE prepared a *Final Hanford Comprehensive Land-Use Plan EIS* (HCP EIS, formerly named
10 *Hanford Remedial Action Environmental Impact Statement and Comprehensive Land-Use Plan*) to
11 evaluate the potential environmental impacts associated with implementing a comprehensive land-use
12 plan for the Hanford Site for at least the next 50 years (DOE 1999b). Working with federal, State,
13 and local agencies and tribal governments, DOE evaluated six land-use alternatives. In the ROD for
14 the HCP EIS, DOE decided to designate the 200 Areas for Industrial-Exclusive use and Area C for
15 Conservation-Mining (64 FR 61615). Radioactive and hazardous waste treatment, storage, and
16 disposal activities, as described in this draft HSW EIS, are consistent with the Industrial-Exclusive
17 land use selected for the 200 Areas and use of Area C as a borrow pit consistent with the
18 Conservation-Mining land use selected for that area in the HCP EIS decision. (See Figure 4.2 in the
19 HSW EIS for a land-use map.)
20

21 • **Environmental Assessment for the Offsite Transportation of Certain Low-level and Mixed
22 Radioactive Waste from the Savannah River Site for Treatment and Disposal at Commercial
23 and Government Facilities (DOE/EA-1308 February 2001)**
24

25 This EA was prepared to evaluate near-term offsite treatment and disposal options for LLW and
26 MLLW because onsite treatment and disposal capabilities for these waste forms were not available at
27 the Savannah River Site and/or it was more beneficial to dispose of the waste at another location
28 (DOE 2001d). These waste forms would comprise an estimated volume of approximately 136,057 m³
29 (4,804,282 ft³). Transport by either truck or rail to seven potential treatment or disposal facilities was
30 considered, including the Hanford Site. Based on analyses in the EA, DOE determined the proposed
31 action was not a major federal action significantly affecting the quality of the human environment and
32 issued a FONSI.
33

34 • **Environmental Assessment for Transportation Low-level Radioactive Waste from the
35 Oak Ridge Reservation to Off-Site Treatment or Disposal Facilities. (DOE/EA-1315)**
36

37 The EA evaluates the potential environmental impacts associated with transportation of legacy and
38 operational LLW from the Oak Ridge Reservation in Tennessee for treatment or disposal at various
39 locations in the United States (DOE 2001e). The proposed action was to package as needed, load,
40 and ship existing (about 40,000 m³ [1,410,000 ft³]) and forecasted (about 7700 m³/yr [271,000 ft³/yr])
41 ORR LLW to existing or future facilities at other DOE sites, including Hanford, or to licensed
42 commercial nuclear waste treatment or disposal facilities. Transport by truck, by rail, or by
43 intermodal carrier (i.e., truck and rail combination) was considered. Based on analyses in the EA,

1 DOE determined the proposed action was not a major federal action significantly affecting the quality
2 of the human environment and issued a FONSI on October 29, 2001.

3
4 • **Environmental Assessment – Disposition of Surplus Hanford Site Uranium, Hanford Site,
5 Richland, Washington (DOE/EA-1319 June 2000)**

6
7 An EA was prepared to assess environmental impacts associated with the disposition of surplus
8 Hanford Site uranium. DOE identified about 1865 metric tons of uranium (MTU) on the Hanford
9 Site as surplus (DOE 2000a). DOE decided to relocate approximately 900 MTU of potentially sale-
10 able uranium materials to DOE's Portsmouth site near Portsmouth, Ohio, for future beneficial use.
11 The remaining materials consisted of approximately 140 MTU that were subsequently disposed of
12 onsite, and approximately 825 MTU, which would be consolidated and stored in the 200 Areas
13 pending final HSW EIS decisions on its disposition. The materials designated for onsite management
14 may ultimately be transferred to the Hanford Solid Waste Program for disposal in the Hanford Site
15 LLBGs, and are included in the forecasts used to determine waste volumes in this EIS. Based on
16 analyses in the EA, DOE determined the proposed action was not a major federal action significantly
17 affecting the quality of the human environment and issued a FONSI on June 15, 2000.

18
19 • **Environmental Assessment – Use of Existing Borrow Areas, Hanford Site, Richland,
20 Washington (DOE/EA-1403 October 2001)**

21
22 This EA evaluated potential environmental consequences of operating existing borrow areas at the
23 Hanford Site to provide soil, sand, gravel, and rock for construction projects, site maintenance
24 activities, and closure of solid waste burial sites (DOE 2001c). Although the total quantities of
25 material necessary for final closure of the 200 Area LLBGs were not included in this EA, the
26 locations evaluated included likely sources for these materials in the foreseeable future. Based on
27 analyses in the EA, DOE determined the proposed action was not a major federal action significantly
28 affecting the quality of the human environment and issued a FONSI on October 10, 2001.

29
30 • **Environmental Assessment – Transuranic Waste Retrieval from the 218-W-4B and 218-W-4C
31 Low-Level Burial Grounds, Hanford Site, Richland, Washington (DOE/EA-1405 March 2002)**

32
33 This EA was prepared to evaluate alternatives for retrieval of some suspect TRU waste retrievably
34 stored in the LLBG trenches (DOE 2002c). The activity would involve recovery of up to
35 15,200 208-L (55-gal) drums and a small number of miscellaneous other containers of suspect TRU
36 waste buried in the 200 West Area LLBGs. The contents of each container would be evaluated and
37 containers determined not to be TRU waste would remain in the LLBGs. Drums that contain TRU
38 waste would ultimately be processed and certified at WRAP and shipped to WIPP for disposal.
39 Based on analyses in the EA, DOE determined the proposed action was not a major federal action
40 significantly affecting the quality of the human environment and issued a FONSI on March 22, 2002.

1 • **Draft Environmental Assessment for the Accelerated Tank Closure Demonstration Project**
2 **(DOE/EA-1462 December 2002)**

3
4 This EA was prepared for a project that would collect engineering and technical information to
5 support preparation of the proposed Tank Closure EIS (DOE-ORP 2002). One source of such
6 information would be the interim closure of Single-Shell Tank 241-C-106 located in the 241-C Tank
7 Farm under RCRA and the TPA. Activities associated with this Accelerated Tank Closure
8 Demonstration project include stabilization of residual tank waste, following retrieval, and interim
9 tank closure.

10
11 **1.5.3 Related State Environmental Policy Act (SEPA) Documents**

12
13 This section describes non-DOE documents for facilities that may be used as part of the overall Solid
14 Waste Program for management of Hanford Site LLW and MLLW.

15
16 • **Draft Environmental Impact Statement. Commercial Low-Level Radioactive Waste Disposal**
17 **Site, Richland, Washington, Washington State Department of Health (WDOH) and Washington**
18 **State Department of Ecology (August 2000)**

19
20 WDOH and Ecology (2000) evaluated potential environmental consequences of operating a
21 commercial LLW disposal facility located near the Hanford Site 200 East Area. The EIS evaluated
22 renewal of the facility's operating license, establishing an upper limit on disposal rate for some types
23 of LLW, and approval of the site stabilization and closure plan. The Hanford Site could dispose of
24 some LLW at commercial facilities if there were cost or environmental benefits to using non-DOE
25 disposal capacity. The final SEPA EIS had not been issued at the time of publication of this revised
26 draft HSW EIS.

27
28 • **Environmental Impact Statement for Treatment of Low-Level Mixed Waste, City of Richland**
29 **(February 1998)**

30
31 The City of Richland, Washington, published a final SEPA EIS (City of Richland 1998) for operation
32 of a MLLW treatment facility by ATG. The EIS analyzed impacts of construction and operation of
33 the facility in Richland for treatment of MLLW from federal and private customers, including
34 Hanford and potentially other DOE sites. The consequences of treating limited quantities of Hanford
35 MLLW at this facility were also evaluated separately (DOE 1998, 1999a).

36
37 **1.5.4 Related CERCLA Documents**

38
39 • **Record of Decision. U.S. DOE Hanford Environmental Restoration Disposal Facility, Hanford**
40 **Site, Benton County, Washington (January 1995)**

41
42 DOE and EPA decided to construct the Environmental Restoration Disposal Facility to dispose of
43 radioactive and mixed waste from cleanup of the Hanford Site (DOE, EPA, and Ecology 1995). The

1 ROD was subsequently amended to expand the facility (DOE, EPA, and Ecology 1997) and to delist
2 the leachate collected at the facility (DOE and EPA 1999).

3
4 • **Record of Decision, U.S. Department of Energy, Hanford 300 Area, Hanford Site, Benton**
5 **County, Washington (April 2001)**

6
7 DOE, EPA, and Ecology decided that interim remedial actions for portions of the 300 Area would
8 include removal of contaminated soil, structures, and associated debris; treatment, if needed, to
9 meet waste acceptance criteria at an acceptable disposal facility; disposal of contaminated materials
10 at ERDF, WIPP, and other EPA-approved disposal facilities; recontouring and backfilling
11 excavated areas followed by infiltration control measures; institutional controls to ensure that
12 unanticipated changes in land use that could result in unacceptable exposures to residual
13 concentration do not occur; ongoing groundwater and ecological monitoring to ensure effectiveness
14 of remedial actions; and the regulatory framework for accelerating future remediation decisions
15 (EPA 2001). The cleanup plan and schedules would include specific commitments regarding the
16 decontamination and decommissioning of facilities and aboveground structures needed to complete
17 cleanup of underlying waste sites in the 300 Area Complex and the remediation plans for the 618-
18 10 and 618-11 Burial Grounds.

19
20 **1.6 NEPA Process for the HSW EIS**

21
22 The formal NEPA process for preparing the HSW EIS is described in the following sections. The
23 typical process begins with DOE issuing a Notice of Intent (NOI) to prepare an EIS, followed by the
24 scoping period, during which public input is sought on the scope of the EIS. The draft EIS is prepared
25 following the scoping period, and the draft is issued for public comment. EPA publishes a Federal
26 Register Notice of Availability (NOA) for the draft EIS at the beginning of the public comment period,
27 which lasts a minimum of 45 days. Following public comment on the draft, the final EIS is prepared,
28 ultimately leading to a Record of Decision on the proposed action. The ROD is published no sooner than
29 30 days after the EPA Notice of Availability for the final EIS, after which DOE may proceed with the
30 activity under consideration.

31
32 **1.6.1 Scoping for the Draft HSW EIS**

33
34 The scope of an EIS consists of the range of actions, alternatives, and impacts to be considered
35 (40 CFR 1508.25). Scoping is a public process used by DOE to help identify significant issues related to
36 a proposed action. As part of that process, DOE invited comments and recommendations from interested
37 parties on the scope of this HSW EIS.

38
39 DOE decided to prepare the HSW EIS in early 1997, following publication of the draft WM PEIS, but
40 before DOE issued the final WM PEIS in May of 1997. The formal Notice of Intent to prepare the
41 HSW EIS was published in the October 27, 1997 *Federal Register* (62 FR 55615), in accordance with
42 applicable NEPA regulations. The NOI announced the schedule for the public scoping process and
43 summarized the proposed alternatives and environmental consequences to be considered in the EIS.