Appendix A

LTS Bibliography

Appendix A

LTS Bibliography

The following references were used in determining transition criteria for long-term stewardship (LTS) at the Idaho National Engineering and Environmental Laboratory (INEEL).

ASTSWMO, 2001, Federal Facility Managers Symposium, Meeting Agenda and Notes: *Environmental Challenges at Federal Facilities: Past, Present, and Future*, June 18.

DOE, 2001, *EM HQ Programs, Planning and Execution*, and *Laws and Regulations*, http://www.em.doe.gov/index4.html, U.S Department of Energy Office of Environmental Management, Home page updated July 24, Web page visited August 14, 2001.

DOE, 2001, *Environmental Quality*, and *Stewardship*, http://www.inel.gov/x-web/other/framed.shtml?http://www.energy.gov, U.S Department of Energy Office of Environmental Management, Web page researched August 16.

DOE, 2001, *Long-Term Stewardship*, Issue 1, Volume 1, Long-Term Stewardship Program INEEL, U.S. Department of Energy, July.

DOE, 2001, *Long-Term Stewardship Case Study Report,* Office of Long-Term Stewardship Office of Environmental Management U.S. Department of Energy, Washington, D.C., Final Draft, June.

DOE, 2001, *Interim Policy for the Department of Energy's Use of Institutional Controls Draft*, U.S. Department of Energy, January.

DOD, 2001, *Using Environmental Insurance in DoD Property Transfers: A New Tool for Managing Cleanup Risk*, BRAC Environmental Program Fact Sheet, Office of the Deputy under Secretary of Defense (Environmental Security), April.

DOE, 1999, *Long-Term Surveillance and Maintenance Program Plan*, GJO-99-93-TAR, U.S. Department of Energy Grand Junction Office, Grand Junction, Colorado, June.

DOE, 1999, Office of EPA (EH-41), to Distribution, DOE, *EPA Guidance on Transfer of Federal Property Undergoing CERCLA Remedial Action*, DOE F 1325.8(8-89), October 18.

DOE-EA, 2000, *Final, Environmental Assessment for the Transfer of the Department of Energy Grand Junction Office to Non-DOE Ownership*, DOE/EA-1338, U.S. Department of Energy Grand Junction Office, Grand Junction, Colorado, April.

DOE-EM, 2000, "Status Report on Paths to Closure," *Accelerating Cleanup: Paths to Closure*, DOE/EM-0362, February 1998, U.S. Department of Energy Office of Environmental Management, March.

DOE-NV, 2000, *Environmental Restoration—Offsites: Salmon Site, Mississippi*, U.S. Department of Energy Nevada Operations Office, Office of Public Affairs and Information, DOE-NV-589, January.

Edge, Russel Pavelka-Zarkesh, *Document Systems for Site Stewardship at the U.S. Department of Energy Grand Junction Office*, MACTEC Environmental Restoration Services, U.S. Department of Energy Grand Junction Office, Grand Junction, Colorado.

English, C. Joseph, and Jeffery Short, Presentation: *Estimating the Cost of Long-Term Stewardship of Environmental Restoration Sites*, Project Performance Corporation.

Environmental Law Institute, 2001, *The Role of Local Government in Long-Term Stewardship at DOE Facilities*, Washington, D.C., Environmental Law Institute, 166 pages.

INEEL, 2001, *Environmental Management* and *Environmental Stewardship*, http://www.inel.gov/, Idaho National Engineering and Environmental Laboratory, Home page updated July 27, Web page visited August 13, 2001.

Office of the Under Secretary of Defense, DOD, to Assistant Secretaries of the Army, Navy, Air Force, and Deputy Under Secretaries of Defense–Environmental Security, Industrial Affairs and Installations, and Director, Defense Logistics Agency, July 25, 1997, "Responsibility for Additional Environmental Cleanup after Transfer of Real Property."

Phillippe, CA, Stan, ASTSWMO Federal Facilities Subcommittee, letter to Pat Rivers, ACOE HQ, Environmental Division CEMP-R, and David Geiser, Office of Long-Term Stewardship, Department of Energy, April 13, 2001.

Quale, Ted, 2001, Presentation: *Mound Long-Term Stewardship Initiative*, BWXT of Miamisburg, Ohio, August 1.

Smith, P. J., 2001, *Idaho National Engineering and Environmental Laboratory Long-Term Stewardship Program Strategic Overview,* Revision 0, July 11.

Starck, Robert A., DOE Idaho, to Ms. J. M. Crisler, Advisory Council on Historic Preservation, July 26, 2001, "Memorandum of Agreement for the Proposed Dismantlement of Historic Idaho National Engineering and Environmental Laboratory Properties (TS-ETSD-01-146)."

Appendix B

INEEL Facilities End-State Plan Maps

Appendix B
INEEL Facilities End-State Plan Maps

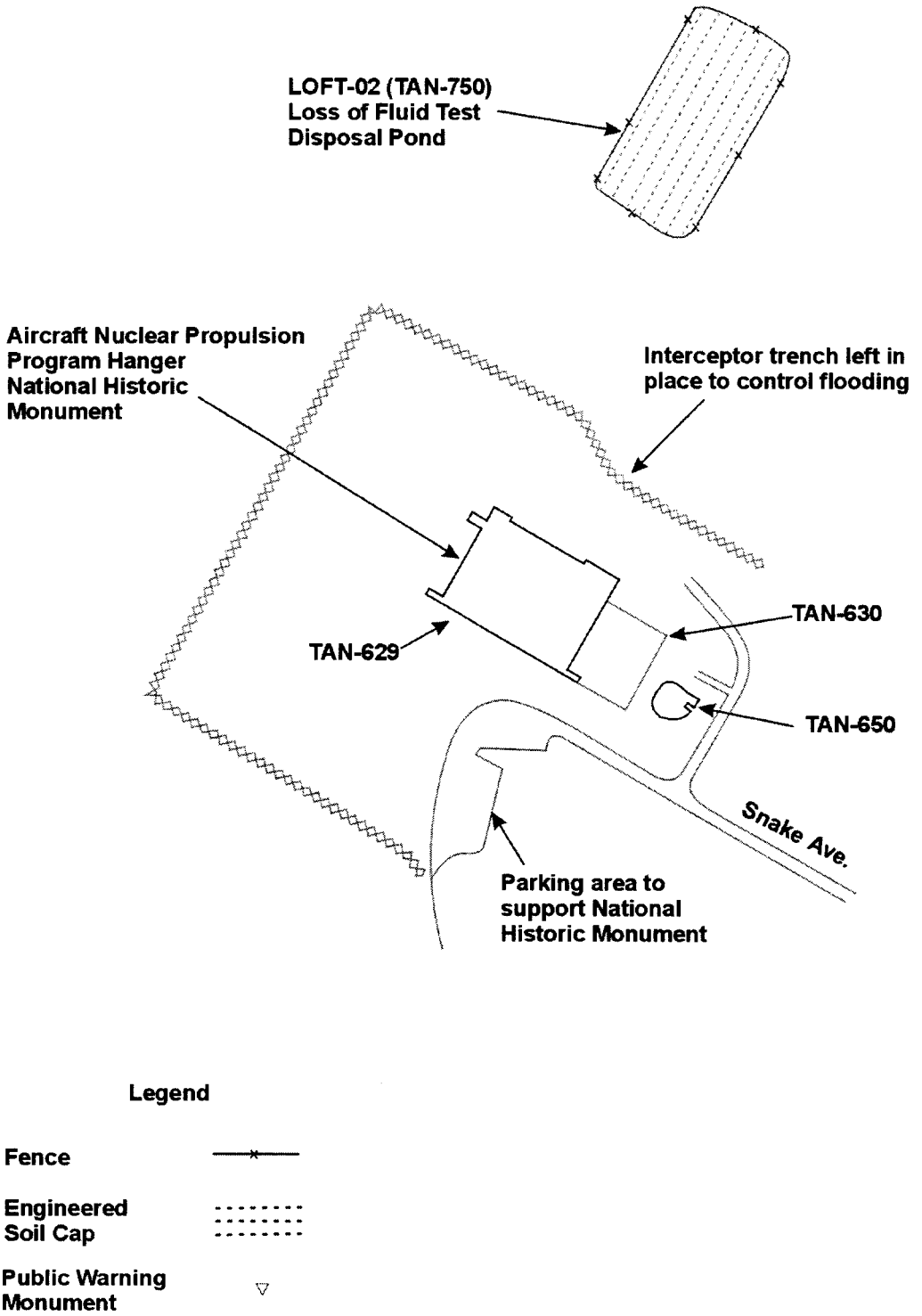

Figure B-1. INEEL Contained Test Facility end-state plan map.

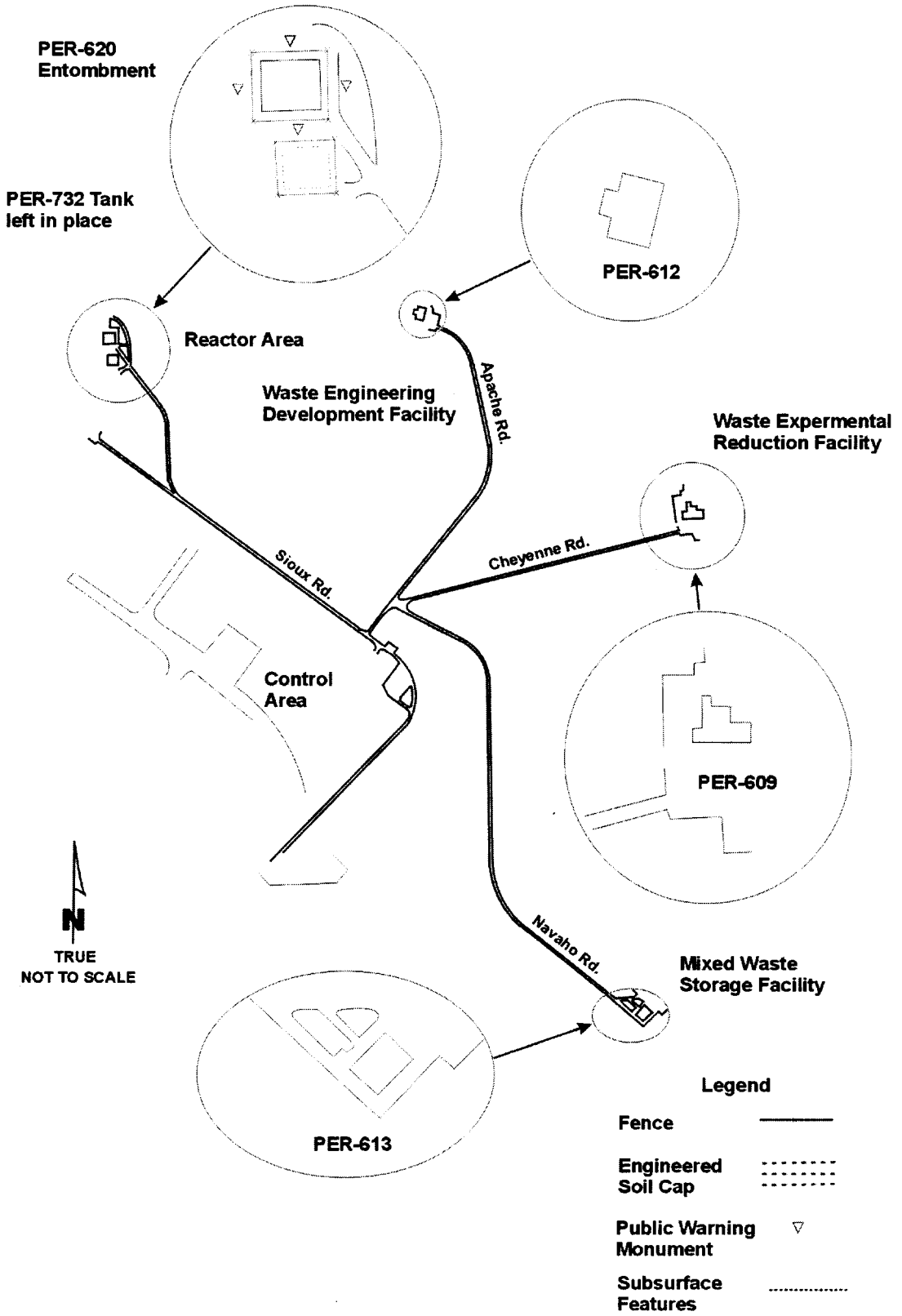

Figure B-2. INEEL Waste Reduction Operations Complex end-state plan map.

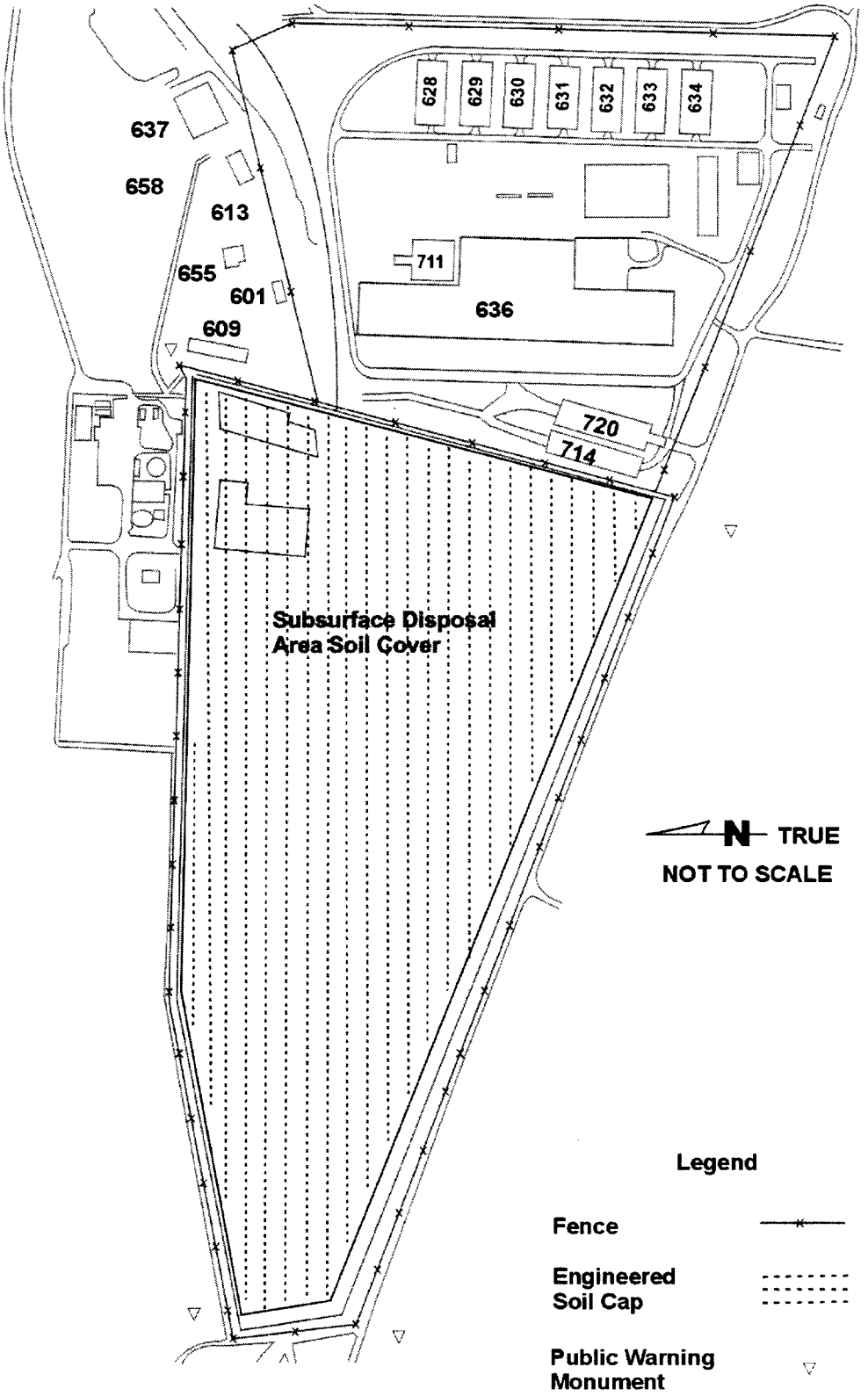

Figure B-3. INEEL Radioactive Waste Management Complex end-state plan map.

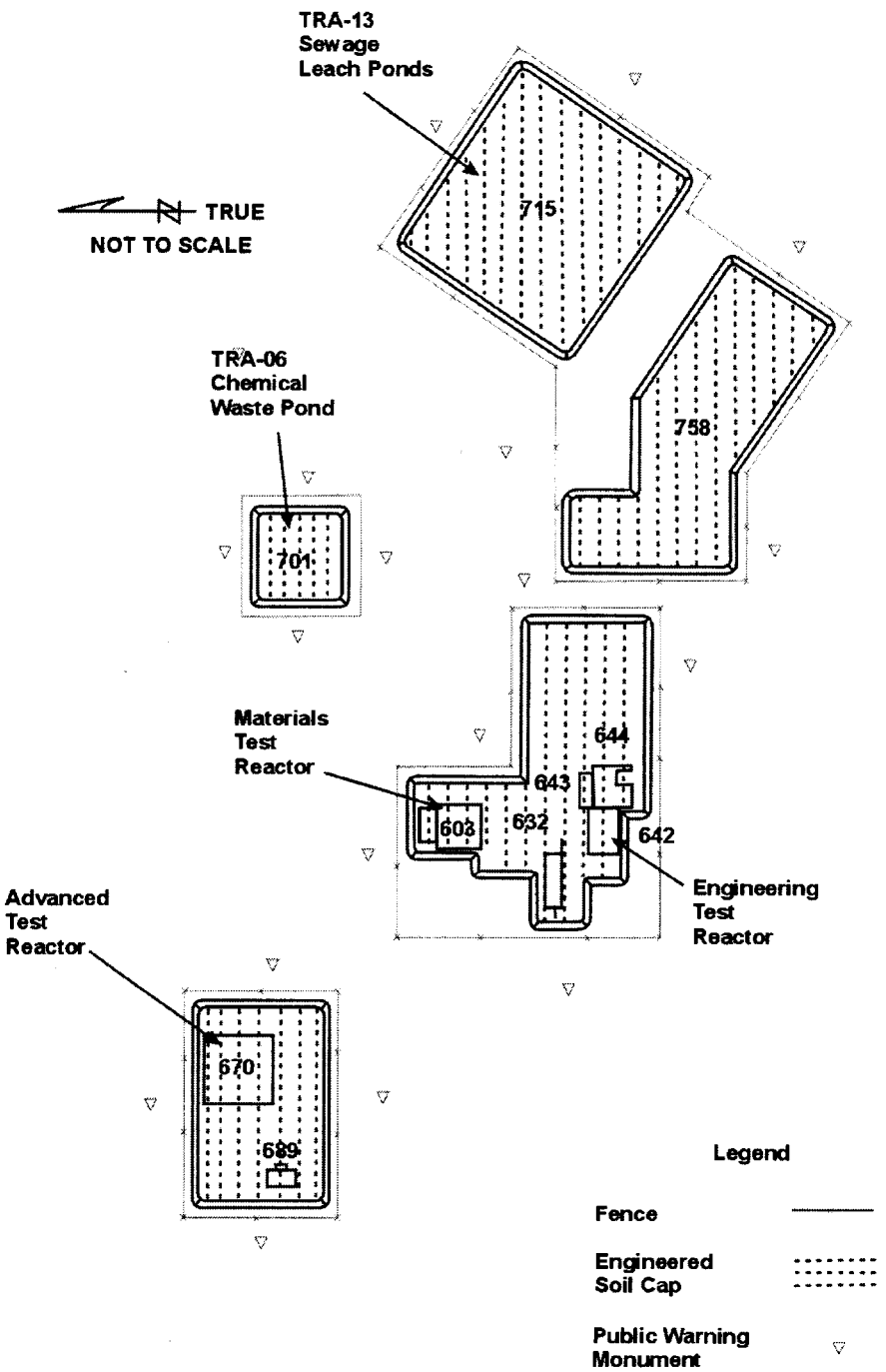

Figure B-4. INEEL Test Reactor Area end-state plan map.

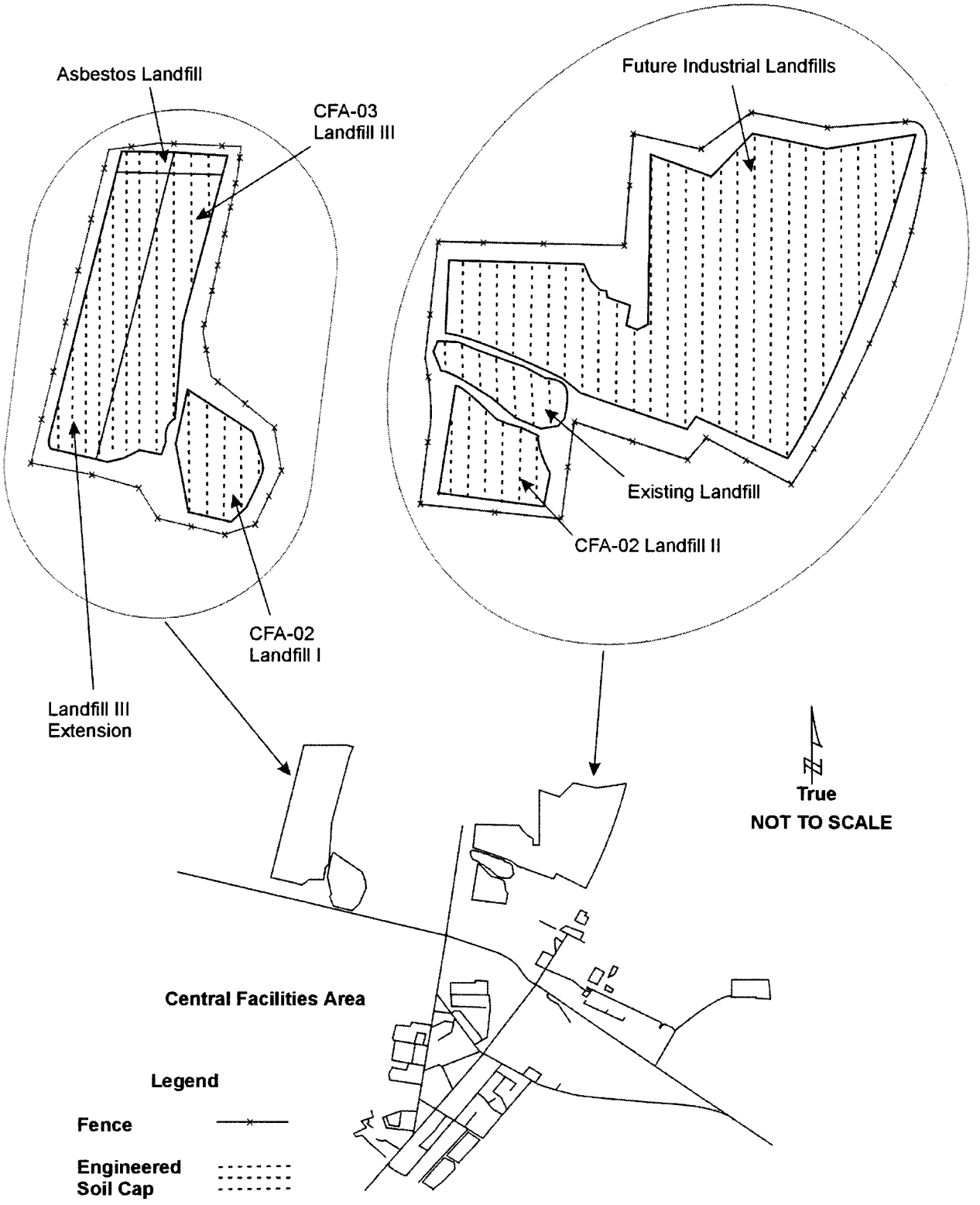

Figure B-5. INEEL Central Facilities Area end-state plan map.

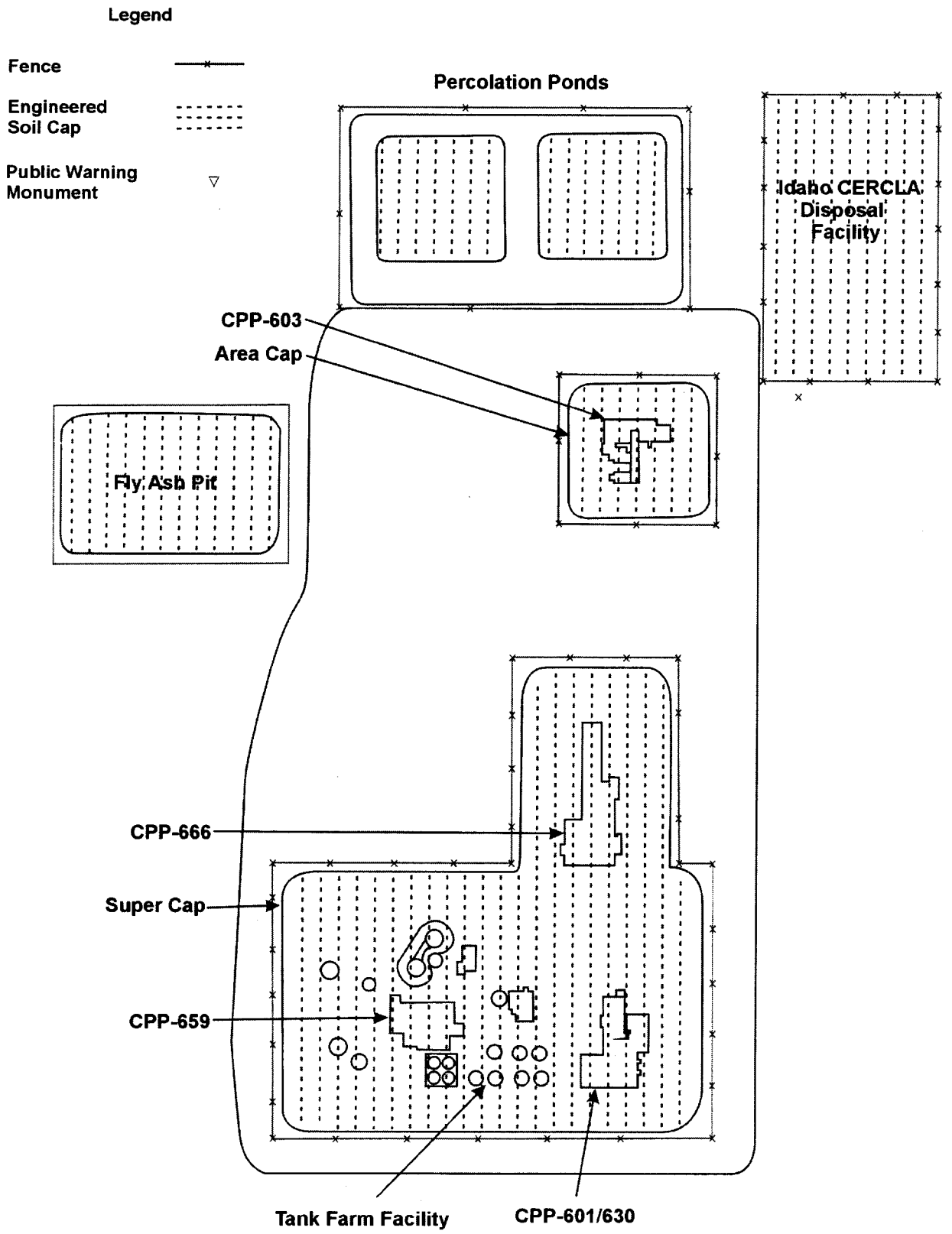

Figure B-6. INEEL Idaho Nuclear Technology and Engineering Center end-state plan map.

Appendix C

Idaho National Engineering and Environmental Laboratory Schedule for Sites to enter Long-Term Stewardship

Appendix C: Schedule for INEEL Long-term Stewardship Program Entry.

Section 1.0 Environmental Restoration

Facility/Unit Area	Regulatory Basis	Project	Remedial actions complete/RCRA Closure complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
WAG 1 Test Area North (TAN)	FFA/CO	Operable Unit (OU) 1-07B Technical Support Facility Injection Well		2001	2011	Institutional controls will prevent groundwater containing contaminant levels greater than 1E-04. Restrict occupational access until completion of remediation is verified by post-remediation is verified by post-remediation sampling.
WAG 1 Test Area North (TAN	FFA/CO	OU 1-07B Long-term Pump and Treat	2001–2025	2001	2011	OU 1-20 institutional controls and maintenance until 2068
WAG 1 Test Area North (TAN	FFA/CO	OU 1-10 TAN Comprehensive		2004	2011	
WAG 2 Test Reactor Area (TRA)	FFA/CO	OU 2-13 TRA Comprehensive		2002	2011	Consolidating monitoring 2003
WAG 3 Idaho Technology and Engineering Center (INTEC)	FFA/CO	OU 3-13 INTEC Comprehensive		2004	2011	Construction of ICDF
WAG 3 Idaho Technology and Engineering Center (INTEC)	FFA/CO	OU 3-14 Tank Farm Facility (TFF) Soils		2011	2011	Institutional Controls with surface water control or containment where appropriate
WAG 4 Central Facilities Area (CFA)	FFA/CO	OU 4-12 CFA Landfills I, II, III		2002	2011	Consolidated monitoring 2007

Table Appendix C. (continued).

Section 1.0 Environmental Restoration

Facility/Unit Area	Regulatory Basis	Project	Remedial actions complete/RCRA Closure complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
WAG 4 Central Facilities Area (CFA)	FFA/CO	OU 4-13A and B CFA Comprehensive		2005	2011	Consolidated monitoring 2007
WAG 5 Power Burst Facility (PBF)	FFA/CO	OU 5-05 SL1 & OU 6-06 Borax		2001	2011	
WAG 5 Power Burst Facility (PBF)	FFA/CO	OU 5-12 PBF/ARA Comprehensive		2005	2011	
WAG 7 Radioactive Waste Management Complex (RWMC)	FFA/CO	OU 7-08 Organic Contaminated Vadose Zone		2001	2011	
WAG 7 Radioactive Waste Management Complex (RWMC	FFA/CO	OU 7-12 Pad A Subsurface Disposal Area		2001	2011	
WAG 7 Radioactive Waste Management Complex (RWMC	FFA/CO	OU 7-13/14 RWMC Comprehensive		2008	2011	OU 7-13/-14 retrieval and treatment complete
WAG 8 Naval Reactors Facility (NRF)	CERCLA	OU 8-08 NRF Comprehensive		TBD		DOE-ID to Interface with IBO
WAG 9 Argonne National Laboratory West (ANL-W)	CERCLA	OU 9-04 Comprehensive		TBD		DOE-ID to Interface with Argonne Area Office
WAG 10 Site-wide	FFA/CO	OU 10-04 Site-wide Comprehensive		2007	2011	10-04 & 10-08 assessment complete, RODs in place, remediation underway

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
Idaho Nuclear Technology and Engineering Center (INTEC)					
INTEC Tank Farm – Phase I	RCRA Interim Status	HWMA/RCRA Closure (clean closure)	12/30/01		Integration with OU 3-14 activities Post-closure permitting with WCF and NWCF
INTEC Tank Farm – Phase II	RCRA Interim Status	HWMA/RCRA Closure (clean closure)	06/2003		Integration with OU3-14 activities Post-closure permitting with WCF and NWCF
INTEC Tank Farm – Phase III	RCRA Interim Status	HWMA/RCRA Closure (clean closure)	12/2012	2013	Integration with OU3-14 activities Post-closure permitting with WCF and NWCF
CPP-659 New Waste Calcining Facility (NWCF)	RCRA Interim Status	HWMA/RCRA Closure (Landfill closure)	2020 -2025	2024	Decon by 2002, System Isolation 2003. Long Term Monitoring requires integration with Ground water Monitoring Program
Radioactive Liquid and Solid Waste Storage Vessel (VES-SFE-106)	RCRA Interim Status	HWMA/RCRA Closure (clean closure), Closure Plan Submitted	2003	TBD, based on approval of Closure Plan	Integration with VCO Activities Integration with CPP-603 deactiviation
Liquid Waste Hold Tank (VES-SFE-126)	1999 Consent Order	90-Day Generator Closure,	2000	Integrate with CPP-603	Integration with CPP-603 deactiviation
VES-SFE-20 Hot Waste Tank	MOA (03/01) CERCLA	HWMA/RCRA Closure (clean closure)	2001	2002 if required	Integration with CPP-603 deactiviation

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
WG/WH Cells Storage and Treatment Tanks (CPP-601 Deep Tanks)	HWMA/RCRA Part B Permit Application	HWMA/RCRA Permitting HWMA/RCRA Closure (clean closure)	FY2003	2004 if required	None, anticipate clean closure
CPP-601 Container Storage (D-Cell)	RCRA Interim Status	HWMA/RCRA Closure (clean closure)	FY2003	2004 if required	
CPP-640 Headend Holdup Storage Tanks	RCRA Interim Status	HWMA/RCRA Closure (clean closure)	FY2003	2004 if required	
Waste Calcining Facility (WCF)	RCRA Interim Status	HWMA/RCRA Closure (Landfill Closure),	2001, Post Closure Permit submitted	TDB, NOD pending	The RCRA post closure permit application proposes RCRA specific post-closure monitoring of wells, no longer a CERCLA issue
WCF Post-Closure Permit	HWMA/RCRA Closure	Post-Closure Permit Application	08/14/01 Submitted NOD pending Long –term monitoring (30 years) ongoing	TBD, NOD Pending	Integration with OU3-13 activities for pulling well samples only.
CPP-627 Multicurie Cell (MCC)	Interim Status	Administrative Closure	07/20/99	2011	Pending D&D of CPP-627
Fluorinel Dissolution Process (FDP) Waste Tanks VES-FA-141 and VES-FA-142	Interim Status	HWMA/RCRA Closure (clean closure)	05/13/96	TBD	Will transition with CPP-666 Fuel Dissolution Process
Hazardous Chemical Waste Handling and Neutralization Facility (HCWHNF)	HWMA/RCRA Part B Permit	HWMA/RCRA Closure (clean closure)	09/18/00	2004, if required	

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
CPP-663 Hot Shop Storage Tank	Interim Status	HWMA/RCRA Closure (clean closure)	08/22/94	TBD	Will transition with CPP-663
ICPP Percolation Pond #1 and Pond #2	Interim Status	HWMA/RCRA Closure (clean closure)	11/29/95	2004 if required	
Test Area North (TAN)					
TSF-19, TAN-616 Tank System/	VCO Action Plan NEW-TAN-008 D&D	HWMA/RCRA Closure (clean closure)	12/31/02		
TSF-2, V-Tanks 1, 2, and 3 Intermediate-Level Radioactive Waste/	CERCLA, ER was directed to implement a RCRA Closure Plan	RCRA Closure via ER	TBD	TBD	Dependent on Funding
TSF-26, PM-2A Tanks	CERCLA	Closure via RCRA Closure Plan	FY2004	2005	
TAN-647 Waste Storage Building	CERCLA	HWMA/RCRA Closure (clean closure)	2006, Infrastructure Long range Plan	2007 if required	No D&D Planned
Loss-of-Fluid Test (LOFT) Containment Vessel	1997 Consent Order, NOV #54	HWMA/RCRA Closure (clean closure)	12/29/01	2004 if required	
TAN/WROC Portable Water Treatment Units (PWTU)	Interim Status	Administrative Closure of WROC PWTU HWMA/RCRA Closure of TAN PWTU (clean closure)	07/08/99	2004 if required	

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
Specific Manufacturing Capability (SMC) Waste Acid Calciner Units	Interim Status	HWMA/RCRA Closure (clean closure)	09/24/97	2004 if required	
TAN-647 Waste Storage Building	Interim Status	HWMA/RCRA Closure (clean closure)	FY2003	2004 if required	
TAN-647 Sodium Storage Unit	Interim Status	HWMA/RCRA Closure (clean closure)	06/13/97	2004 if required	
TAN-607A Evaporator Unit	Interim Status	HWMA/RCRA Closure (clean closure)	02/25/97	2004 if required	
Initial Engine Test Mercury Storage Pad (IET Hg Storage) and SMC TAN-681 Evaporator Units	Interim Status	HWMA/RCRA Closure (clean closure)	12/20/96	2004 if required	
TAN-726 Chromate Water Storage Unit and the TAN-726A Treatment Unit	Interim Status	HWMA/RCRA Closure (clean closure)	12/26/95	2004 if required	
TAN-666 Storage and Treatment Units	Interim Status	Administrative Closure	10/20/94	TBD	
TAN-681 Evaporator	Interim Status	HWMA/RCRA Closure (clean closure)	12/20/96	2004 if required	
TAN-628 Hazardous Waste Storage Facility	Permitted unit	HWMA/RCRA Closure (clean closure)	03/20/02	2004 if required	
TRA-630 Catch Tank System	VCO Action Plan VCO-5.8.d	HWMA/RCRA Closure (clean closure)	TBD	TBD	

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
TRA-610 Lead Storage Unit	Interim Status	HWMA/RCRA Closure (clean closure)	10/27/95	2004 if required	
TRA Fill, Store, and Remelt Facility (FS&R)	VCO Action Plan NEW-TRA-004	HWMA/RCRA Closure (clean closure)	07/21/2002	2004 if required	
TRA-731 Caustic and Acid Storage Tank System	1997 NOV/CO	HWMA/RCRA Closure (clean closure)	TBD	TBD	
Other Areas					
RWMC Intermediate-Level Transuranic Storage Facility (ILTSF – Pad 2) Design V Vaults	HWMA/RCRA Part B Permit Application	HWMA/RCRA Closure (clean closure)	TBD	TBD	
Heat Transfer Reactor Experiment No. 3 (HTRE-3)	Interim Status	HWMA/RCRA Closure (clean closure)	01/31/00	2004 if required	
Reactives Storage and Treatment Area	Interim Status	HWMA/RCRA Closure (clean closure)	TBD	TBD	
PER-622 Stabilization Unit	Interim Status	HWMA/RCRA Closure (clean closure)	12/22/97	2004 if required	
Waste Characterization Facility (WCF) at RWMC	Interim Status	Administrative Closure	09/25/00	2004 if required	
WERF Waste Storage/Feed Tanks	Interim Status	Administrative Closure	05/16/00	2004 if required	

Table Appendix C. (continued).

Section 2.0 RCRA Closures

Facility/Unit Area	Regulatory Basis	Project/Activities Performed	Completion Date	Transfer to INEEL LTS PROGRAM	Long-Term Actions Requiring Integration
WERF Incinerator, Drum/Feed Blending Unit, and Repackaging Room (WROC/PBF)	Interim Status	HWMA/RCRA Closure (clean closure)	04/12/01 PE certification 09/28/03	2004 if required	
Certified and Segregated Building (C&S) and Air Support Building-II (ASB-II)	Interim Status	HWMA/RCRA Closure (clean closure)	1999	2004 if required	
Naval Ordinance Disposal Area	Interim Status	Removal of all hazardous wastes and hazardous waste residues	02/25/97	2004 if required	
Hazardous Waste Storage Facility (HWSF) at CFA	Interim Status	HWMA/RCRA Closure (clean closure)	02/04/97	2004 if required	
Process Experimental Pilot Plant Incinerator and Waste Stabilization Units (PREPP)	Interim Status	HWMA/RCRA Closure (clean closure)	04/16/99	2004 if required	
Waste Experimental Development Facility Treatment and Storage Units	Interim Status	HWMA/RCRA Closure (clean closure)	02/02/97	2004 if required	
ARVFS Chemical Treatment Unit	Interim Status	HWMA/RCRA Closure (clean closure)	09/09/04	2005 if required	
Army Reentry Vehicle Facility Site (ARVFS) NaK Storage Unit	Interim Status	HWMA/RCRA Closure (clean closure)	09/12/96	2004 if required	

Table Appendix C. (continued).

Section 3.0 Deactivation, Decontamination and Decommissioning

Facility/Unit Area	Regulatory Basis	Project	D&D&D actions complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
CFA	DOE Order 430.1.A	CFA-617 Hot Laundry Facility	Inactive/2037		2004	
CFA	DOE Order 430.1.A	CFA-633 and support facilities (CFA-643, -650, -652)	2003		2005	D&D after HPIL is constructed
INTEC	DOE Order 430.1.A	INTEC 630 Safety and Spectrometry Building	Active/2010		2011	Continued Monitoring
INTEC	DOE Order 430.1.A	INTEC 672 Contaminated Tool Storage	Active/2008		2010	
PBF	DOE Order 430.1.A	PBF 602 Facilities Characterization	2009		2010	
PBF	DOE Order 430.1.A	PBF 604 Terminal Building	Inactive/2009		2010	
PBF	DOE Order 430.1.A	PBF 606 Instrument Bunker/Cell	Inactive/2009		2010	
PBF	DOE Order 430.1.A	PBF 616 Storage Building	Active/2009		2010	
PBF	DOE Order 430.1.A	PBF 617 Storage Building	Active/2009		2010	
PBF	DOE Order 430.1.A	PBF 619 Control Communications Building	2009		2012	
PBF	DOE Order 430.1.A	PBF 620 Reactor Building	2010		2011	
PBF	DOE Order 430.1.A	PBF 621 Emergency Generator Building	2009		2010	
PBF	DOE Order 430.1.A	PBF 623 WERF Waste Storage Building	2009		2010	

Table Appendix C. (continued).

Section 3.0 Deactivation, Decontamination and Decommissioning

Facility/Unit Area	Regulatory Basis	Project	D&D&D actions complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
PBF	DOE Order 430.1.A	PBF 624 Auxiliary Building	2010		20110	
PBF	DOE Order 430.1.A	PBF 625 Maintenance Storage Building	2010		2011	
PBF	DOE Order 430.1.A	PBF 627 Gas Cylinder Storage	2010		2011	
PBF	DOE Order 430.1.A	PBF 629 PBF Stack Gas Monitoring Building	2008		2011	
PBF	DOE Order 430.1.A	PBF 705 Fuel Oil Tank (#2)	2010		2011	
PBF	DOE Order 430.1.A	PBF 719 Substation	2010		2011	
PBF	DOE Order 430.1.A	PBF 720 Cooling Tower	2010		2011	
PBF	DOE Order 430.1.A	PBF 722 Fuel Oil Storage Tank (No. 2/UST)	2010		2011	
PBF	DOE Order 430.1.A	PBF 731 Corrosive Waste Disposal Sump	2010		2011	
PBF	DOE Order 430.1.A	PBF 732 Hot Waste Storage Tank	2008		2010	
PBF	DOE Order 430.1.A	PBF 761 Spray Dryer Absorber Structural Support	2004		2005	
TAN	DOE Order 430.1.A	TAN 602 Administration Building Characterization	2005		2006	
TAN	DOE Order 430.1.A	TAN 607 Hot Shop (734) Exhaust	2010		2011	
TAN	DOE Order 430.1.A	TAN 608 Water Filtration Building	2008		2009	

Table Appendix C. (continued).

Section 3.0 Deactivation, Decontamination and Decommissioning

Facility/Unit Area	Regulatory Basis	Project	D&D&D actions complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
TAN	DOE Order 430.1.A	TAN 609 equipment Maintenance	2005		2006	
TAN	DOE Order 430.1.A	TAN 615 Assay and Maintenance Building Characterization	2003		2004	
TAN	DOE Order 430.1.A	TAN 624 LOFT Containment Building	2010		2011	
TAN	DOE Order 430.1.A	TAN 633 Hot Cell Annex	2008		2009	
TAN	DOE Order 430.1.A	TAN 649 Water Filtration Building	2008		2009	
TAN	DOE Order 430.1.A	TAN 650 LOFT Containment Service Building	2007		2008	
TAN	DOE Order 430.1.A	TAN 726 Liquid Waste Storage Tank Building	2009		2010	
TRA	DOE Order 430.1.A	TRA 603 MTR Canal	2005		2006	
TRA	DOE Order 430.1.A	TRA 642 Engineering Test reactor (ETR) Building	2012		2015	
TRA	DOE Order 430.1.A	TRA 643 Compressor Building	2010		2015	
TRA	DOE Order 430.1.A	TRA 644 ETR Heat Exchanger Building	2010		2015	
TRA	DOE Order 430.1.A	TRA 648 ETR Electrical Building	2006		2007	
TRA	DOE Order 430.1.A	TRA 660 ARMF Canal	2003		2004	

Table Appendix C. (continued).

Section 3.0 Deactivation, Decontamination and Decommissioning

Facility/Unit Area	Regulatory Basis	Project	D&D&D actions complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
TRA	DOE Order 430.1.A	TRA 663 Superior Diesel Building	2006		2007	
TRA	DOE Order 430.1.A	TRA 704 ETR Primary Filter Pit	2008		2009	
TRA	DOE Order 430.1.A	TRA 752 ETR Transformer Yard	2009		2010	
TRA	DOE Order 430.1.A	TRA 753 ETR Exhaust Stack	2009		2010	
TRA	DOE Order 430.1.A	TRA Pits-Filter Pits Characterization	2008		2009	
TRA	DOE Order 430.1.A	WMF 711	2012		2015	
INTEC	DOE Order 430.1.A	INTEC 601 Process Building	2012		2015	
INTEC	DOE Order 430.1.A	INTEC 603 Fuel Storage Basins	2010		2015	
INTEC	DOE Order 430.1.A	INTEC 627 Remote Analytical Facility	2012		2015	
INTEC	DOE Order 430.1.A	INTEC 637 Process improvement Facility	TBD		TBD	
INTEC	DOE Order 430.1.A	INTEC 648 603 Basin Sludge Tank Control	2006		2008	
PBF	DOE Order 430.1.A	PBF 609 WERF	2005		2007	
PBF	DOE Order 430.1.A	PBF 620 PBF Reactor Building Canal Water Removal	2008		2010	

Table Appendix C. (continued).

Section 3.0 Deactivation, Decontamination and Decommissioning

Facility/Unit Area	Regulatory Basis	Project	D&D&D actions complete	Transfer to ERLTS	Transfer to INEEL LTS PROGRAM	Long-Term Actions
TAN	DOE Order 430.1.A	TAN 607 Hot Shop/Pool	2008		2010	
TAN	DOE Order 430.1.A	TAN 633 Hot Cell Annex	2008		2010	
TRA	DOE Order 430.1.A	TRA 603 MTR Canal Water Removal	2007		2010	
TRA	DOE Order 430.1.A	TRA 730 A, B, C, D Catch Tanks	2010		2012	

Section 4.0 Voluntary Consent Order

Facility/Unit/Area	Regulatory Basis	Activities to be Performed	Current Status	Transfer to INEEL LTS PROGRAM	Long-term Actions
WRRTF Potable Water System	NEW-TAN-003A VCO Action Plan	No-Longer Contained in Determination	IDEQ approved No-Longer Contained In documentation Awaiting final concurrence from IDEQ on moving the Action Plan to Appendix C of the VCO – Covered Matters That are Closed		Integration with FFA/CO activities
TRA Legacy Waste	NEW-TRA-001 VCO Action Plan	Complete hazardous waste determination; items will be moved to an interim status or permitted hazardous storage or disposal facility	Complete 25% of HWDs 06/30/01 Complete 50% of HWDs 06/30/02 Complete 75% of HWDs 06/30/03 Complete 100% of HWDs 06/30/04 Current Status – 50% Complete		All items determined hazardous will be disposed of All non hazardous material will be dealt with under D&D

Table Appendix C. (continued).

Section 4.0 Voluntary Consent Order

Facility/Unit/Area	Regulatory Basis	Activities to be Performed	Current Status	Transfer to INEEL LTS PROGRAM	Long-term Actions
Inactive Piping And Ancillary Equipment Adjacent to the TRA-631 Pump House (North/South Trench)	NEW-TRA-006 VCO Action Plan	Complete hazardous waste determination for items in trench	All piping in the north/south trench and ancillary equipment in TRA-631 has been characterized, removed, and disposed Activities complete as of May 2000	2004 if required	Pumphouse and N/S Trench remain in place; all inactive piping and ancillary equipment removed Coordination with FFA/CO (soils – Site TRA-60)
CPP-603 Water Basin Treatment System	NEW-CPP-016 VCO Action Plan	System identification, complete hazardous waste determination, submit schedule of further milestones and interim actions	System ID and HWD approved by IDEQ Date for submittal of HWMA/RCRA closure plan and interim action to be submitted to IDEQ - 09/13/01	2004 if required	Integration with VES-SFE-106 closure and CPP-603 deactivation project
Power Burst Facility Equipment	NEW-PBF-001 VCO Action Plan	Complete hazardous waste determinations (HWDs) and submit further milestones	Complete HWDs 03/31/04 Submit schedule of further milestones and interim actions 90 days following approval of HWDs	2006 if required	
TAN-616 Liquid Waste Treatment Building	NEW-TAN-008 VCO Action Plan	System ID, HWDs, submit schedule of milestones and interim actions HWMA/RCRA closure plans for FY-04 (VCO/D&D) Soils	Awaiting second round of IDEQ review System ID 3/30/01 Complete HWDs by 12/31/02 Submit schedule of further milestones and interim actions 90 days following approval Closure complete ≈ FY-07	2009 if required	Integration with V-Tank (TSF-09/18) closure Integration with PM-2A (TSF-26) closure D&D of TAN-607, -633, and -615

Table Appendix C. (continued).

Section 4.0 Voluntary Consent Order

Facility/Unit/Area	Regulatory Basis	Activities to be Performed	Current Status	Transfer to INEEL LTS PROGRAM	Long-term Actions
Hazardous Waste Tanks and/or Ancillary Equipment	SITE-TANK-004 VCO Action Plan	Identify each tank or component and assign to a tank system or determine that is not part of a tank system Determine if tanks/components are in compliance, if not, bring tank/components into compliance	All units to be permitted except those that are not tank systems, which are to be managed by operations Awaiting final approval by IDEQ	TDB	HWMA/RCRA Permitting
Sitewide Tanks Requiring Hazardous Waste Determination or Verification of Empty	SITE-TANK-005 VCO Action Plan	Characterize units and determine whether they are hazardous or empty and propose further milestones to bring tanks into RCRA compliance	Submittal of System Identification Document 03/31/01 IDEQ review and approval of system identification tiered schedule ending 09/30/06 Complete HWDs according to Action Plan Schedule 90 days following approval of characterization Based on characterization submit to IDEQ interim actions and further milestones	2009 if required	HWMA/RCRA closure and/or permitting for units found to be hazardous
Items Located in the MTR Canal at TRA	VCO-5.1.ii(a) VCO Action Plan	Complete hazardous waste determination and submit schedule of milestones and interim actions	Complete HWDs 09/30/02 Submit schedule of further milestones and interim actions 90 days following approval of characterization	2004 if required	All items determined hazardous will be disposed of All non hazardous material will be handled under D&D
Visual Inspection through Window at INTEC FDP Cell	CPP-666-F-3 VCO Action Plan	Conduct visual inspections through FDP Cell Window	Issue is considered closed 06/04/00 Item closed during Aug 4 and 5, 1998 meetings with the DEQ	N/A	HWMA/RCRA Permitting

Table Appendix C. (continued).

Section 4.0 Voluntary Consent Order

Facility/Unit/Area	Regulatory Basis	Activities to be Performed	Current Status	Transfer to INEEL LTS PROGRAM	Long-term Actions
Disposal of Cadmium Plated Filters in the RWMC SDA	NEW-RWMC-002 VCO Action Plan	Submit risk assessment, returned 11 boxes to WERF in 1998 and HEPA filters to NRF for appropriate disposition	Issue is considered closed 06/02/97 Effective date of Consent Order 06/04/00	N/A	Hand-off to SDA
Potential Treatment without a Permit at TAN (TSF) Water System	NEW-TAN-003 VCO Action Plan	Submitted a "no longer contained in" request.	Issue is considered closed 03/06/98 Effective date of Consent Order 06/04/00	N/A	Integration with FFA/CO activities
Abandoned Buried Piping at TRA	NEW-TRA-007 VCO Action Plan	Site ID forms were submitted for this piping and designated as control areas TRA-57, -58, -59, and -60	Sites met requirements for inactive waste sites requiring further investigation 11/99 Effective date of Consent Order 06/04/00	2004 if required	FFA/CO
INTEC Tank Farm Tanks Ancillary Equipment	SITE-TANK-006 VCO Action Plan	INTEC tanks associated with the INEEL TFF should be removed from the VCO and will be covered under the NON Consent Order, Sections III and IV	Issue is considered closed—units to be closed as part of the TFF under NON/CO 06/04/00	2014 if required	HWMA/RCRA closure under NON/CO
INTEC Tank Farm Soil Stored in North Portion of INTEC	VCO-5.1.r VCO Action Plan	Until removed, soils will be covered and have a liner, the soils will be inspected weekly, and barriers and signs will be maintained	Requiring further investigation under the INEEL FFA/CO 06/04/00 Final INTEC ROD addressed soils will be disposed of in the INEEL CERCLA Disposal Facility (ICDF)	2004 if required	

Appendix D

Historic INEEL Architectural Properties List, Assessment of Eligibility and Mitigation

Appendix D

Historic INEEL Architectural Properties List, Assessment of Eligibility and Mitigation

A thorough inventory of buildings at the Idaho National Engineering and Environmental Laboratory (INEEL) that are anticipated to be included in the National Register of Historic Places has not been completed. However, the buildings have been initially screened to identify those that may qualify for inclusion on the list. Table D-1 lists the potentially eligible facilities as identified through INEEL Management Control Procedure-3480. Generally, cultural and historic resource management is not explicitly recognized in life-cycle planning for facilities with will eventually enter the LTS program.

Table D-1. Initial screening results of INEEL buildings that may qualify for inclusion on the National Register of Historic Places.

Building	Number	Contact CRM* Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office
B8	601	No	B8	602	No	B16	602	Yes	B16	603	Yes
B16	604	Yes	B16	605	Yes	B16	606	Yes	B16	607	No
B16	610	Yes	B21	606	No	B21	607	No	B21	608	No
B21	609	No	B21	610	No	B21	611	No	B21	612	No
B21	620	No	B25	601	No	B27	601	No	B27	602	No
B27	603	No	B27	604	No	B27	605	No			
CFA	601	Yes	CFA	602	Yes	CFA	603	No	Alt	1980	?
CFA	604	No	CFA	606	Yes	CFA	607	Yes	CFA	608	No
CFA	609	No	CFA	611	No	CFA	612	Re	CFA	613	Yes
CFA	614	Re	CFA	615	Re	CFA	616	No	CFA	617	Re
CFA	619	No	CFA	621	No	CFA	622	No	CFA	623	No
CFA	624	No	CFA	625	No	CFA	629	No	CFA	632	Yes
CFA	633	Yes	CFA	635	Yes	CFA	637	Yes	CFA	638	Yes
CFA	642	Yes	CFA	643	No	CFA	646	Yes	CFA	650	Yes
CFA	651	Yes	CFA	652	No	CFA	655	No	CFA	657	Yes
CFA	660	Yes	CFA	661	Yes	CFA	662	Yes	CFA	663	No
CFA	664	Yes	CFA	666	Yes	CFA	667	Yes	CFA	668	Yes
CFA	671	Yes	CFA	674	Yes	CFA	675	Yes	CFA	676	Yes
CFA	677	Yes	CFA	678	Yes	CFA	679	Yes	CFA	680	Yes

Table D-1. (continued).

Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office
CFA	681	Yes	CFA	684	Yes	CFA	685	Yes	CFA	686	No
CFA	687	Yes	CFA	688	Yes	CFA	689	Yes	CFA	690	Yes
CFA	691	Yes	CFA	692	Yes	CFA	693	Yes	CFA	695	Yes
CFA	696	No	CFA	697	Yes	CFA	698	Yes	CFA	699	Yes
CFA	1601	No	CFA	1602	No	CFA	1603	No	CFA	1605	No
CFA	1606	No	CFA	1607	No	CFA	1608	No	CFA	1609	No
CFA	1610	No	CFA	1611	No	CFA	1612	No	CFA	1613	No
CFA	1614	No	CFA	1616	No						
CPP	601	Yes	CPP	602	Yes	CPP	603	Yes	CPP	604	Yes
CPP	605	Yes	CPP	606	Yes	CPP	608	Yes	CPP	609	No
CPP	611	Yes	CPP	612	Yes	CPP	613	No	CPP	614	No
CPP	615	No	CPP	616	Yes	CPP	617	Yes	CPP	618	No
CPP	619	Yes	CPP	620	Yes	CPP	620-A	No	CPP	621	Yes
CPP	622	No	CPP	623	No	CPP	625	No	CPP	626	No
CPP	627	Yes	CPP	628	Yes	CPP	629	No	CPP	630	Yes
CPP	631	Yes	CPP	632	No	CPP	633	Yes	CPP	634	Yes
CPP	635	Yes	CPP	636	Yes	CPP	637	Yes	CPP	638	Yes
CPP	639	Yes	CPP	640	Yes	CPP	641	Yes	CPP	642	Yes
CPP	644	No	CPP	645	No	CPP	646	Yes	CPP	647	Yes
CPP	648	No	CPP	649	No	CPP	650	No	CPP	651	Re
CPP	652	No	CPP	653	No	CPP	654	No	CPP	655	No
CPP	656	No	CPP	657	No	CPP	658	No	CPP	659	Reassess
CPP	660	No	CPP	661	No	CPP	662	No	CPP	663	No
CPP	664	No	CPP	665	No	CPP	666	No	CPP	667	Yes
CPP	668	No	CPP	669	No	CPP	670	No	CPP	671	No
CPP	672	No	CPP	673	No	CPP	674	No	CPP	675	No
CPP	676	No	CPP	677	No	CPP	678	No	CPP	679	No
CPP	680	No	CPP	681	No	CPP	682	No	CPP	683	No
CPP	684	Re	CPP	685	No	CPP	686	No	CPP	687	No
CPP	689	No	CPP	690	No	CPP	691	No	CPP	692	No
CPP	693	No	CPP	694	No	CPP	695	No	CPP	696	No

Table D-1. (continued).

Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office
CPP	697	No	CPP	698	No	CPP	699	No	CPP	1604	No
CPP	1606	No	CPP	1607	No	CPP	1608	No	CPP	1609	No
CPP	1610	No	CPP	1611	No	CPP	1612	No	CPP	1615	Reassess
CPP	1616	No	CPP	1617	No	CPP	1618	No	CPP	1619	No
CPP	1630	No	CPP	1631	No	CPP	1634	No	CPP	1635	No
CPP	1636	No	CPP	1637	No	CPP	1638	No	CPP	1642	No
CPP	1643	No	CPP	1644	No	CPP	1646	No	CPP	1647	No
CPP	1649	No	CPP	1650	No	CPP	1651	No	CPP	1653	No
CPP	1656	No	CPP	1657	No	CPP	1659	No	CPP	1662	No
CPP	1663	No	CPP	1666	No	CPP	1671	No	CPP	1672	No
CPP	1673	No	CPP	1674	No	CPP	1677	No	CPP	1678	No
CPP	1681	No	CPP	1682	No	CPP	1683	No	CPP	T-1, 5	NoT
CPP	TB-1	No	CPP	TB-3	No	CPP	TB-4	No	CPP	TB-5	No
CPP	TB-6	No	CPP	TB-8	No	CPP	TB-21	No	CPP	TR-22, 24, 39,42,43	NoT
PER	601	Yes	PER	602	Yes	PER	604	Yes	PER	606	Yes
PER	608	Yes	PER	609	Yes	PER	612	Yes	PER	613	Yes
PER	614	Yes	PER	616	Yes	PER	617	Yes	PER	619	Yes
PER	620	Yes	PER	621	Yes	PER	622	No	PER	623	No
PER	624	No	PER	625	Yes	PER	626	No	PER	627	Yes
PER	629	No	PER	632	No	PER	634	No	PER	635	No
PER	638	No	PER	641	No	PER	642	No			
TAN	601	Yes	TAN	602	Yes	TAN	603	Yes	TAN	604	Yes
TAN	605	Yes	TAN	606	Yes	TAN	607	Yes	TAN	608	Yes
TAN	609	Yes	TAN	610	Yes	TAN	611	Yes	TAN	612	Yes
TAN	613	Yes	TAN	614	No	TAN	615	No	TAN	616	Yes
TAN	618	No	TAN	623	Yes	TAN	624	Yes	TAN	628	Yes
TAN	629	Yes	TAN	630	Yes	TAN	631	Yes	TAN	632	Yes
TAN	633	Yes	TAN	635	Yes	TAN	636	Yes	TAN	637	Yes
TAN	638	Yes	TAN	639	Yes	TAN	640	Yes	TAN	640	Yes

Table D-1. (continued).

Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office
TAN	642	Yes	TAN	643	Yes	TAN	644	Yes	TAN	645	Yes
TAN	646	Yes	TAN	647	Yes	TAN	648	Yes	TAN	649	Yes
TAN	650	Yes	TAN	651	Yes	TAN	652	Yes	TAN	653	Yes
TAN	654	No	TAN	655	No	TAN	656	Yes	TAN	657	No
TAN	658	Yes	TAN	659	No	TAN	660	No	TAN	661	Yes
TAN	662	No	TAN	663	Yes	TAN	664	Yes	TAN	665	No
TAN	666	No	TAN	667	No	TAN	668	No	TAN	671	No
TAN	672	No	TAN	673	No	TAN	674	No	TAN	675	No
TAN	676	No	TAN	677	No	TAN	678	No	TAN	679	No
TAN	680	No	TAN	681	Re	TAN	682	No	TAN	686	No
TAN	687	No	TAN	688	No	TAN	689	No	TAN	690	No
TAN	692	No	TAN	693	No	TAN	694	No	TAN	695	No
TAN	1612	No									
TRA	636	Yes	TRA	637	No	TRA	638	No	TRA	639	No
TRA	640	No	TRA	641	Yes	TRA	642	Yes	TRA	643	Yes
TRA	644	Yes	TRA	647	Yes	TRA	648	Yes	TRA	649	Yes
TRA	650	Yes	TRA	651	Yes	TRA	652	Yes	TRA	653	Yes
TRA	654	Yes	TRA	655	Yes	TRA	656	Yes	TRA	657	Yes
TRA	658	No	TRA	660	Yes	TRA	661	Yes	TRA	662	Yes
TRA	663	Yes	TRA	664	Yes	TRA	665	Yes	TRA	666	Yes
TRA	667	Yes	TRA	668	Yes	TRA	669	Yes	TRA	670	Yes
TRA	671	Yes	TRA	672	Yes	TRA	673	Yes	TRA	674	No
TRA	675	No	TRA	676	No	TRA	677	No	TRA	678	No
TRA	679	No	TRA	680	No	TRA	681-686	No	TRA	687	No
TRA	689	No	TRA	690	No	TRA	693	No			
WMF	601	No	WMF	602	No	WMF	603	No	WMF	604	No
WMF	605	No	WMF	606	No	WMF	607	No	WMF	608	No
WMF	609	No	WMF	610	No	WMF	611	No	WMF	612	No
WMF	613	No	WMF	614	No	WMF	615	No	WMF	617	No
WMF	618	No	WMF	619	No	WMF	620	No	WMF	621	No

Table D-1. (continued).

Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office	Building	Number	Contact CRM Office
WMF	622	No	WMF	624	No	WMF	627	No	WMF	628-634	No
WMF	635	No	WMF	636	No	WMF	637	No	WMF	639	No
WMF	640	No	WMF	641	No	WMF	642	No	WMF	643	No
WMF	645	No	WMF	646	No	WMF	648	No	WMF	649	No
WMF	650	No	WMF	651	No	WMF	652	No	WMF	653	No
WMF	655	No	WMF	656	No	WMF	657	No	WMF	658	No
WMF	660	No	WMF	Units A, B1, B2, C							

Notes:
CRM = Cultural Resource Management

Appendix E

End-State Plan Critical Path Events, Assumptions, and Issues

Table E-1. ESP Critical Assumptions and Issues for Long-Term Stewardship – Test Area North.

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. The comprehensive record of decision for CERCLA Waste Area Group 1 Operable Unit 1-10 will be finalized in 1999.	1. WAG 1 ROD (DOE 1999) 2. 8 sites to be remediated (TSF-09/18, TSF-26, TSF-06 Area B, TSF-07, WRRTF-01, TSF-03, TSF-08, WRRTF-13.) 3. ROD includes institutional controls 4. Transfer of TSF-05 and TSF-23 monitoring to WAG 10 is planned for 2001. 5. Transfer of WAG 1 monitoring to WAG 10 is planned for 2004.	INEEL is expected to remain under government control for 100 years (DOE 1997).
2. The Contained Test Facility Disposal Pond (LOFT-02) and the Water Reactor Research Test Facility Evaporation Pond (WRRTF-03) have been identified as posing potentially unacceptable ecological risks. The sites will be evaluated during the facility closure, and it is assumed that they will be covered with rock armor and soil cover to prevent intrusion and exposure by ecological receptors. The final decision will be reached during the comprehensive RI/FS for OU 10-04, which is investigating ecological risk Sitewide.	LOFT-02 is in the draft-final OU 10-04 RI/FS as a "no further action" site.	Assuming the OU 10-04 ROD maintains the "no further action" status, no LTS monitoring will be required.
3. The pool section of the TAN-607 Hot Shop will be drained of water as soon as possible after the spent nuclear fuel is removed in 2002 to reduce the risk to the aquifer.	No Change The planned end date for TAN-607 Hot Shop is 2006 (INEEL 2001).	If clean closure of the facility is achieved, no impact to LTS.
4. The spent nuclear fuel mission of the TAN-607 Hot Shop (a one-of-a-kind facility) will end in 2018, and TAN-607 will be dismantled.	The planned end date for TAN-607 Hot Shop is 2006 (INEEL 2001).	If clean closure of the facility is achieved, no impact to LTS.

Table E-1. (continued)

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
5. Sites recommended as "no further action" sites in the Operable Unit 1-10 comprehensive remedial investigation/feasibility study and the Operable Unit 1-07B record of decision will require no further remedial actions or institutional controls; however, this would not inherently preclude any future decontamination and dismantlement activity.	1. No Change 2. Treatment of groundwater is being performed as part of the OU 1-07B ROD. Remediation is planned for completion within the 100-year institutional control timeframe.	Transfer of site to LTS impacts possible long-term monitoring.
6. All major environmental restoration sites have been identified. Minor sites identified in the future, including underground storage tanks, will be evaluated for risk using field surveys and laboratory samples.	1. No Change	This assumption does not directly affect LTS. There is an approved ER procedure for identification of new sites in addition to approved processes for characterization and remediation of the sites.
Procedures that apply to these future sites will be addressed in the Operable Unit 1-10 remedial design/remedial action scope of work, the remedial action work plan, or another pertinent document that will be developed after the Operable Unit 1-10 record of decision is finalized.	2. The WAG 1 ROD (DOE 1999a) incorporates the ER procedure for identifying new sites.	
7. The TSF-05 (Operable Unit 1-07B) treatability studies that are outlined in the November 1997 explanation of significant differences will not be effective, and a pump-and-treat facility will be designed and constructed to treat the hot spot area of the plume. The active pump-and-treat activity will be completed by the year 2030.	The remedy was changed to in situ bioremediation per the OU 1-07B Field Evaluation Report (INEEL/EXT-2000-00258, Rev 0, July 2000).	Possible monitoring depending on the effectiveness of the remedy.

Table E-1. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
8. At the completion of decontamination and dismantlement, appropriate areas of TAN will be cleaned to the remedial action objective, as outlined in the Operable Unit 1-10 record of decision or similar requirements. This will be determined by a risk evaluation as outlined in the Operable Unit 1-10 remedial design/remedial action scope of work, the remedial action work plan, or another pertinent document that will be developed after the Operable Unit 1-10 ROD is finalized. CERCLA may be required to conduct surveillance, maintenance, and monitoring until hand-off to a landlord organization for long-term surveillance, maintenance, and monitoring.	The OU 1-10 ROD only refers to cleanup at newly identified CERCLA sites. D&D work does not necessarily need to meet the RAOs from the ROD. However, if a release is discovered during D&D work at a building or site, the area can be designated as a new CERCLA site and remediated accordingly.	LTS impacted by possible surveillance, maintenance, and monitoring.
9. The missions at the Water Reactor Research Test Facility, the Contained Test Facility/Specific Manufacturing Capability, and the Technical Support Facility will be Completed by the year 2018. Demolition of the facilities will be completed by the year 2024.	1. The SMC project is expected to continue through the year 2015 (INEEL 2001). 2. TSF is expected to continue though the year 2018 (INEEL 2001).	Possible monitoring depending on effectiveness of closure.
10. It is highly unlikely that the TAN-629 Hanger will be dismantled but will instead be retained as a National Historical Monument. Utility support, currently being supplied from other structures that are scheduled for dismantlement, will be reestablished either in the hanger or in new ancillary structures.	TAN-629 end date is 2015 and is eligible for inclusion on the National Register of Historic Places (INEEL 2001).	Management of historic resource.

Table E-1. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
11. The remedial action for the CERCLA site at TSF-06, Area B, calls for site consolidation and the removal of soils contaminated with radioactive material. TSF-07 has been identified as a "limited action" site. The soil in the ponds will be left in place and fenced to control access.	Institutional controls will be determined after remediation is complete at sites TSF-06 Area B and TSF-07.	Residual contamination, monitoring
12. The remedial action for the four V-Tanks (TSF-09 and TSF-18) as well as radiologically and chemically contaminated soils surrounding the V-Tanks will be in situ vitrification. The contaminated, vitrified soils and tanks will be covered by the engineered soil cap constructed over TSF-607 and TAN-616. Permanent markers will be maintained beyond a 100-year scenario to indicate the location of the V-Tanks and contaminated soils.	The selected remedy has changed to Soil and tank removal, ex situ treatment of tank contents.	Residual contamination, monitoring
13. The remedial action for the PM-2A Tanks (TSF-26) will be in situ treatment of the tanks' contents. Contaminated soils will be removed and disposed of at a consolidated soil repository. The tanks, along with their treated contents, will remain in situ and will be buried at least 10 feet below the ground surface. Institutional controls, including warning markers and deed restrictions, will be maintained beyond the 100-year scenario.	The selected remedy is to excavate the soil, remove the contents of the tank with a vacuum, treat the soil and tank contents, and dispose of them.	Residual contamination, monitoring

Table E-1. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
14. The remedial action for the Technical Support Facility Disposal Pond (TSF-07) will be a "limited action," including restricted access, monitoring, and the possible placement and maintenance of flood control levees and earth embankments.	The selected remedy is limited action, which involves keeping existing waste management practices in place and monitoring the area.	Residual contamination, monitoring
15. An engineered soil cap will be constructed over the area that encompasses the Spent Nuclear Fuel Pools (north end of TSF-607), the TAN-633 Hot Cell Annex, the TAN-616 Liquid Waste Treatment Facility, the four V-Tanks (V-1, V-2, V-3, and V-9), and the associated contaminated soil.	Possible changes based on remedy changes above.	Residual waste, monitoring
16. The environmental releases associated with the TAN-616 Liquid Waste Treatment Facility will be assessed and remediated via a Track 2 investigation and an interim action record of decision upon approval as a new site. This work will be evaluated during a CERCLA five-year review.	TAN-616 is now designated as Track 1/Track 2 Investigation.	Possible management of institutional controls depending on effectiveness of closure.
17. CERCLA sites identified as presenting an unacceptable ecological risk will be covered to preclude bio-intrusion, and institutional controls will be maintained. Currently, ecological risk remediation requirements and options are being evaluated for WAG 10. If an option is chosen and a more appropriate option is subsequently identified based on a Waste Area Group 10 evaluation, the actions taken on sites posing an unacceptable ecological risk only may be modified.	No Change All sites requiring remediation for ecological risks will be identified in the OU 10-04 ROD.	Ecological monitoring

Table E-1. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. The siting of several new missions/businesses, such as tritium generation and thermal isotope generation, is being considered at TAN. Allowances for these potential projects must be maintained at TAN and within this document.	New missions as outlined in the Institutional Plan indicate an emphasis on EM activities, waste treatment, and the Generation IV Initiative.	Impacts to LTS program depend on the effectiveness of facility closure.
2. The Water Reactor Research Test Facility is a stand-alone complex that can operate independently of the rest of TAN. This is a critical issue for closure sequence planning.	WRRTF, according to the Infrastructure Long-Range Plan (INEEL 2001), is currently being shut down.	Impacts to LTS program depend on the effectiveness of facility closure.
3. The Ground Water Treatment Facility and/or the new pump-and-treat facility will continue to operate through 2030. These facilities will be self-contained and capable of operating independently of the rest of TAN (except for power, potable water, and fire water).	Remediation of OU 1-07B will be performed by WAG 1 with changes in the remedy.	Possible monitoring depending on the effectiveness of remediation.
4. The responsibility for deactivation of the dry storage casks has not been assigned to a specific program.	The Spent Nuclear Fuel Program is assigned this responsibility (Dry Cask Characterization Project LST-89, 9-17-2000).	Impacts to LTS program depend on the effectiveness of facility closure.

Critical Path Events

- Complete moving spent nuclear fuel from dry storage canisters at TAN in 2006.
- Complete moving spent nuclear fuel from wet storage in 2003
- Complete moving spent nuclear fuel from dry storage canisters at TAN in 2006
- Decontamination and dismantlement of Technical Support Facility is currently scheduled to be complete and institutional controls in place in 2010.

Table E-2. ESP Critical Assumptions and Issues for LTS – Test Reactor Area.

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. Spent nuclear fuel will be transferred from the canals at the Materials Test Reactor to the Irradiated Fuels Storage Facility located at the Idaho Nuclear Technologies and Engineering Center.	The fuel in the MTR canal is scheduled to be moved next year.	Impacts to LTS program depend on the effectiveness of facility closure.
2. TRA Sewage Lagoons, Evaporation Ponds, and Cold Waste Ponds will be closed in compliance with appropriate regulations. They will then be leveled and revegetated.	1. Remediation of TRA lagoons and ponds is complete. 2. Transfer of WAG 2 monitoring to WAG 10 will be initiated in 2002 (draft ERLTS Plan, February 2001).	Monitoring of pond and lagoons.

Critical Issues

Issue	Status	Impacts and Issues to LTS Program
1. A mechanism must be developed to close facilities currently owned by the Nuclear Energy and Navy Reactors secretarial offices consistent with the Office of Nuclear Materials and Facility Stabilization (EM-60) closure activities.	Discussed this with George Swaney (TRA). All facilities at TRA are owned by DOE, none are owned by Naval Reactors. All closure issues would be handled by DOE.	Facility closure, monitoring after closure of facilities.
2. Negotiations are under way with the Idaho Department of Health and Welfare to develop a Voluntary Consent Order. These negotiations will have significant influence on the TRA end-state planning process. A mechanism must be implemented to track the corrective actions included in the Voluntary Consent Order and modify end-state planning as required.	VCO signed May 2000	Impacts to LTS program depend on the effectiveness of facility closure.

Table E-2. (continued).

Issue	Status	Impacts and Issues to LTS Program
3. An interface to track contractual agreements must be established to ensure the required features, either new or existing, are available to support contractual commitments.	Contractual agreements exist for privatized production of radioactive isotopes for industrial, medical, and research applications. The closure of TRA facilities is contingent on cessation of ATR operations (Infrastructure Plan).	No impact to LTS.
4. All process and waste transfer lines identified as potential sources of soil contamination during closure activities must be identified as potential new sites under the Federal Facility Agreement and Consent Order, as appropriate.	Five new CERCLA sites were identified (TRA-56, -57, -58, -59, and -60). Track 2 Investigation is ongoing.	Possible subsurface residual contamination.

Critical Path Events

- Deactivation, decontamination, and dismantlement of Engineering Test Reactor (2002-2031)
- Deactivation, decontamination, and dismantlement of Materials Test Reactor (2023 – 2031)

Table E-3. ESP Critical Assumptions and Issues for LTS – Idaho Nuclear Technology and Engineering Center.

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. The ROD OU 3-13 will be completed in 1999, and the ROD for the Tank Farm soils group will be completed in 2003. The resulting actions may require modification to the INTEC conceptual end-state depicted in Subsection 5.2.	1. OU 3-13 ROD, DOE/ID-10660 Rev 0., October 1999. 2. WAG 3 monitoring is planned for transfer to WAG 10 in 2004 for OU 3-13 sites and 2011 for OU 3-14 sites.	Maintenance of caps, monitoring, site security
2. INTEC will not resume fuel reprocessing. Therefore, no additional liquid HLW will be generated from reprocessing of spent nuclear fuel.	No Change	No impact to LTS.
3. Decontamination and dismantlement will reduce the height of all features to an elevation compatible with placement of the soil caps. Reduction of facility height versus costs for accommodating facilities under the cap or protruding through the cap will be determined by cost/benefit analysis.	No Change	Maintenance and monitoring of cap
4. Asbestos-containing materials such as the transite on buildings CPP-601, -602, -603, etc., will remain on-site and will be covered by the cap.	No Change	Monitoring of buried waste
5. The Sewage Treatment Pond sludge and liners will be removed, the area will be leveled, and natural vegetation will be restored.	No Change	Impacts to LTS program depend on the effectiveness of facility closure.
6. The Fly Ash Pit will be closed in place, and a simple soil mound will be placed over the pit to promote restoration of native vegetation.	The Fly Ash Pit is included in the draft-final OU 10-04 RI/FS and planned as a "no further action" site.	Impacts to LTS program depend on the effectiveness of facility closure.

Table E-3. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
7. Low-level radioactive soils and rubble from CERCLA, decontamination, and dismantlement activities not contained within the super cap footprint or the 603 area cap footprint will be consolidated in the Low-Level Waste Consolidation Area. Contaminated soils and rubble within these footprints may remain there and will be covered with a soil cap.	Construction of the ICDF is planned to start in July 2001.	Maintenance and monitoring of cap
8. The footprint for new facilities and facilities dispositioned at INTEC, analyzed by the high-level waste environmental impact statement and included in the high-level waste environmental impact statement record of decision, will be included in end-state planning after the record of decision is issued.	The EIS is not yet finalized.	Buried residual waste, monitoring
1. No destination for shipments of spent nuclear fuel and waste has been identified.	A geologic repository is assumed for ultimate disposition. According to the Infrastructure Plan, "The proposed Spent Nuclear Fuel Dry Storage and Transfer Cell Expansion is to provide facilities and enhanced capabilities to continue preparing the INEEL SNF inventory for disposition at the DOE final repository."	SNF and HLW remaining at the INEEL would change LTS significantly.
2. A repository for contaminated soils is planned at INTEC. But to date, no approval to proceed with development of this repository has been obtained.	Construction of the ICDF is planned to start in July 2001.	Maintenance and monitoring of ICDF.

Table E-3. (continued).

Issue	Status	Impacts and Issues to LTS Program
3. Waste will be generated by activities such as decontamination associated with operations, waste management, deactivation, dismantlement, and environmental restoration. Currently, no facility to treat this type of waste and replace the Process Equipment Waste Evaporator has been identified.	PEWE is being HWMA/RCRA permitted.	Impacts to LTS depend on effectiveness of facility closure.
4. Closure of the Western and Eastern Percolation Ponds is planned for 2002. This causes a disconnect with program plans in place at INTEC.	The new percolation ponds are constructed, no longer a disconnect.	Residual contamination, monitoring
5. The National Environmental Policy Act environmental impact statement entitled *High-Level Waste and Facility Disposition Environmental Impact Statement* will evaluate alternatives for managing the high-level waste and associated radioactive wastes and facilities at the INEEL. The ROD will not be issued until October 1999 and will have a large impact on how waste currently stored at INTEC is treated.	The EIS ROD is delayed.	Impacts to LTS depend on effectiveness of facility closure.
6. The New Waste Calcining Facility will be put into standby condition after April 1999 because of a lack of an HWMA/RCRA Part B permit for operation. The decision as to whether to permit and operate or to close the New Waste Calcining Facility will be made by June 2000. The final outcome of this decision will impact end-state planning for INTEC.	The NWCF is being closed per HWMA/RCA. Closure plans have been submitted to the state.	Maintenance, monitoring

Table E-3. (continued).

Issue	Status	Impacts and Issues to LTS Program
7. The ROD for OU 3-13 will not be issued until March 1999 and will have an impact on end-state planning for INTEC.	The OU 3-13 ROD was issued 1999, (DOE 1999b).	Transfer of institutional controls, monitoring and maintenance.
8. The final outcome of the Voluntary Consent Order will impact end-state planning for INTEC, since it could severely limit the amount of decontamination liquids going to the Tank Farm from end-state closure activities.	The VCO does not limit the volume of decontamination fluids used decontamination at the Tank Farm. This is no longer an issue.	Impacts to LTS depend on effectiveness of facility closure.
9. The dimensions and design of the end-state caps will have a significant impact on the final facility end states.	No change	Maintenance, monitoring, security of caps.
10. Currently, no final treatment and disposal method has been identified for about 3 million gallons of water contained in basins at INTEC.	No change	Impacts to LTS depend on effectiveness of facility closure.

Table E-3. (continued).

Critical Path Events
Cease use of TFF by 2012
• Permitting, construction and operations of Remote handling and immobilization Facility (2009-2035)
• HLW made ready for shipment
• Identification of off-site facility for HLW, SNF mixed and transuranic waste (before shipment off-site)
• Shipment of SNF off INTEC by 2035
• Shipment of HLW vitrified products off-site (2070)
• TFF soils RI/FS issued 2003
• Permitting, construction and operation of grout facility
• Permitting and construction of HLW surge tanks and Bin Set 8.
• Cease all HLW operations with RCRA closure, D&D&D by 2046
• CERCLA remedial action complete
• Fuels moved from INTEC dry storage area independent spent fuel storage (2023)
• CERCLA ROD for INTEC-603 areas sites implemented
• Deactivation, RCRA closure, and decommissioning, and dismantlement of INTEC-603.
• Operations at INTEC requiring steam and power from the coal fired steam generation facility have ceased
• Permitting and construction of cap
• New percolation ponds
• Permitting and construction of cap
• All operations except storage at INTEC complete
• New facilities operations complete with RCRA closure
• D&D&D of structures to ground level

Table E-4. End-State Plan Critical Assumptions for LTS – Central Facilities Area.

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. Sites identified as needing "no further action" in the CFA ROD may require institutional controls and/or monitoring. Such a determination will be made in the ROD. This would not inherently eliminate decontamination and dismantlement activities.	1. CFA ROD, OU 4-13 2. Transfer of WAG 4 monitoring to WAG 10 planned for 2001 (Landfills) 2005 (WAG 4).	Monitoring, maintenance of caps and groundwater monitoring.
2. Non-contaminated fuel oil tanks with a capacity of less than 5,000 gallons will be remediated per INEEL policy.	No change	Tank closure
3. The CFA Sewage Lagoons, Evaporation Ponds, and Cold Waste ponds will be decontaminated by removing contaminated soil and disposing of it at an appropriate disposal facility. The area may be leveled and vegetated based on future management decisions.	This assumption probably refers to the Sewage Treatment Plant Drainfield (CFA-08) since there are no lagoons, evaporation ponds or waste ponds at CFA. The remedy has changed for CFA-08 from contaminated soil excavation and removal (originally planned for ICDF) to capping waste in place.	Residual contamination, monitoring
4. The capacity of the current Landfill Complex will be sufficient to dispose of INEEL industrial waste for at least 30 years, based on the current usage rate. Additional capacity will be made available in the future, as needed	No change (Infrastructure Plan).	Closure of landfills, monitoring, maintenance of caps.
5. U. S. Geological Survey monitoring wells are not included in the features table because of their remote location from CFA. These wells will be included in the Sitewide section of this document (see Section 9).	No Change	Maintenance and monitoring of aquifer monitoring wells.

Table E-4. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
6. CERCLA sites showing ecological risk will require treatment and/or institutional controls.	No Change. These sites are being evaluated in the draft-final OU 10-04 RI/FS.	Need update on WAG 10 decision on this.
7. Engineered caps and barriers will be designed in compliance with storm water management.	No change	Monitoring, maintenance of cap
8. Confirmation is needed that the current landfill at CFA will require no postclosure maintenance and/or monitoring.	Confirmation of this type can only be given at closure. A better assumption would be to assume that postclosure care would be required.	Possible monitoring and maintenance

Critical Issues

Issue	Status	Impacts and Issues to LTS Program
1. Eighteen to 25 old Navy dumps have been identified Sitewide. They are considered valuable due to their archaeological significance and will not be disturbed.	No change	Tracking of archeological sites
2. Underground sewage lines running throughout CFA have been tagged as containing radioactive contamination.	No change	Possible subsurface contamination
3. Signs/monuments will be required for waste left in place, but it is unclear what kind of markers, if any, are required for removed tanks.	No change	Markers, signs, fencing

Table E-4. (continued).

Issue	Status	Impacts and Issues to LTS Program
4. It is unclear whether a National Environmental Policy Act document is required for implementation of the end-state planning process. This has not been resolved yet and is going to DOE-ID for resolution.	In *Interim Policy for the Department of Energy's Use of Institutional Controls*, reference is made to the documentation of institutional controls. ERPMs are to ensure institutional controls are incorporated into a decision document with environmental regulators. At minimum, supporting and decision documentation (e.g., CERCLA or NEPA Record of Decision or RCRA Statement of Basis) shall include: the reason the applicable or selected controls are needed; the human health and ecological exposure assumptions used to select the institutional controls; the specific restricted uses of the property beyond the basic land use categories, and an agency point of contact.	Maintenance of records and documentation.
5. Roads to U.S. Geological Survey wells and National Oceanic and Atmospheric Administration monitoring stations need to be maintained for access. Monitoring is expected to be required beyond 100 years.	No change	Maintenance and monitoring of wells and NOAA stations.

Table E-4. (continued).

Issue	Status	Impacts and Issues to LTS Program
6. It is unclear how long CERCLA sites have to be marked and tracked.	CERCLA signs have been removed at WAG 2 (TRA) at sites designated "no further action." The WAG RODs indicate sites that will have institutional controls and the types of controls. It is assumed in the RODs that these controls will last for a period of 100-years or until a decision is made during a 5-year review that the control can be removed. The 5-year review process would keep the tracking and marking of sites current.	Locations and tracking of sites.
7. It is unclear if CFA-08 and other sites containing radioactive contamination will require a fence and/or institutional controls after they are cleaned to a depth of 10 feet due to potential subsurface radiation contamination.	The assumption is based on removal of contaminated soil from CFA-08. The remedy has changed to capping.	Residual waste, maintenance of cap.
8. The Health Physics Instrumentation Laboratory may affect project breakdown structures if it is determined that the laboratory must remain for historical value. Refurbishment is currently not in a project breakdown structure.	No change	Possible historic site.
9. The manganese pile located in the middle of CFA belongs to the Department of Defense, and moving the pile requires approval from that department.	No change	DoD strategic stockpile
10. Closure dates of the other primary facility areas must be examined to ensure that CFA infrastructure support is in place for the other areas through closure.	According to the *Infrastructure Plan* (DOE INEEL 2000) the active landfill has the capacity to accept INEEL wastes through the year 2030.	No impact to LTS.

Table E-4. (continued).

Issue	Status	Impacts and Issues to LTS Program
11. Maintaining Land Farm capabilities will be necessary to achieve this end state.	According to the *Infrastructure Plan* (DOE INEEL 2000) if the land farm is not expanded, other disposal options will have to be identified for petroleum-contaminated soils that are in excess of land farm capacity. The land farm is expanded based on modifications of a permit from the state. As capacity is required application for expansion is granted on a case-by-case basis.	Impacts to LTS impacted by closure of land farm (petroleum contaminated soils treatment area)
12. Disposal capacity for contaminated soil must be identified and confirmed.	This assumption is based on disposal of CFA-08 contaminates soils. The remedy for CFA-08 was change from excavation and disposal to capping in place.	Maintenance of cap, monitoring

Table E-5. ESP Critical Assumptions and Issues for LTS - Waste Reduction Operations Complex

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. "No further action" identified in the comprehensive RI/FS and ROD for WROC/PBF and ARA will require no further actions or institutional controls. This would not inherently eliminate decontamination, dismantlement, and Facility Disposal Initiative activities.	1. ROD, DOE/ID-10700, January 2000 2. Institutional control sites include landfills (ARA-06, ARA-24, PBF-13). 3. Land-use restrictions for 100 years unless 5-year review concludes that unrestricted land use is allowable. 4. IC includes restricted land use.	Impacts to LTS include long-term management, and monitoring of residual waste and landfills.
2. CERCLA OU 5-05/6-01 (the Stationary Low-Power Reactor No. 1 and the Boiling Water Reactor Experiment I Burial Grounds) will require that the current fence and markers be maintained.	No change	Maintenance of markers & caps
3. All WAG 5 CERCLA sites are being reassessed in the comprehensive RI/FS of WAG 5, which has a required completion date of October 1998.	RI/FS & ROD complete	Impacts to LTS include long-term management, and monitoring of residual waste and landfills.
4. The WROC/PBF and ARA Sewage Lagoons, Evaporation Ponds, and Cold Waste Ponds may be remediated based on risk.	ROD complete	Impacts to LTS include long-term management, and monitoring of residual waste and landfills.
5. Geological Survey monitoring wells are not included in the features table because of their distant location from WROC/PBF and ARA. These wells are addressed in the Sitewide section of this document (i.e., Section 9).	No change	Maintenance and monitoring of wells

Table E-5. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
6. The PBF-301 Warm Waste Disposal Well and the PBF-302 Corrosive Waste Injection Well may be remediated per the applicable or relevant and appropriate requirements established through the CERCLA process. These wells are located at the Reactor Area in the PBF-05 and PBF-15 CERCLA sites, respectively.	According to the WAG 5 ROD (DOE/ID-10700), the PBF-05 Reactor Area Warm Waste Injection Well and the PBF-15 Reactor Area Corrosive Waste Injection Well are "no action" sites that may contain residual contamination in the vadose zone. The wells were abandoned in place.	The institutional controls for subsurface residual contamination include deed restrictions and notice to affected stakeholders.
7. Mixed low-level waste treatment at WROC/PBF will continue through 2003, and mixed low-level waste storage at WROC/PBF will continue through 2010.	No change	No impacts to LTS.

Critical Issues

Issue	Status	Impacts and Issues to LTS Program
1. Requirements for posting radiation control sites differ from risk-based posting requirements in CERCLA. The radiation control posting requirements are based on levels of beta and gamma. CERCLA posting requirements are based on risks to the environment and public in the future. Due to the different sets of requirements, it is unclear which type of posting is required and for how long.	No change. However, this aspect of LTS is included in the draft LTS Plan (INEEL 2000).	Making and posting of sites.
2. Evaporation ponds, sewage ponds, etc., will be remediated in compliance w INEEL policy.	No change	Impacts to LTS include long-term management, and monitoring of residual waste.

Table E-5. (continued).

Issue	Status	Impacts and Issues to LTS Program
3. Underground storage tanks will be closed in compliance with INEEL policy. Currently, an effort is under way to define an INEEL policy on closure of underground tanks.	No change	Closure of tanks, monitoring of sites.

Critical Path Events

- Decontamination, decommissioning, and dismantlement of Reactor Area (2006)
- Decontamination, decommissioning, and dismantlement Waste Engineering Development Facility (2009)
- Decontamination, decommissioning, and dismantlement of Waste Experiment Reduction Facility (2009)
- Entombment of PBF-620 (2010)
- Decontamination, decommissioning, and dismantlement of Control Area (2015)
- Decontamination, decommissioning, and dismantlement of Mixed Waste Storage Facility (2022)
- CERCLA post-ROD monitoring (2000 w/5-year reviews)

Table E-6. ESP Critical Assumptions and Issues for LTS – Radioactive Waste Management Complex.

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. The Waste Isolation Pilot Plant, located in New Mexico, will open in fiscal year 1998 and will accept mixed transuranic waste.	WIPP is currently accepting waste.	No impacts to LTS.
2. Demolition of buildings and structures will be complete by 2024.	According to the *Infrastructure Long-Range Plan* (INEEL/EXT-2000-010152), "the disposition of RWMC facilities is planned to continue through 2026."	No impacts to LTS.
3. Disposal of contact-handled low-level waste will end by 2006.	No change	No impacts to LTS.
4. Disposal of remote-handled low-level waste will end by 2008.	No change	No impacts to LTS.
5. Closure, decontamination, and dismantlement of the Advanced Mixed Waste Treatment Facility will be the responsibility of the operating contractor (currently British Nuclear Fuels) and will be consistent with this end-state plan.	No change	Impacts to LTS depend on the effectiveness of future closure of the facility.
6. Operation of the Advanced Mixed Waste Treatment Facility to treat non-INEEL mixed waste streams will not interfere with closure of the RWMC.	No change	Impacts to LTS depend on the effectiveness of future closure of the facility.
7. HWMA/RCRA Part B permits assume clean closure of the units.	No change	Impacts to LTS depend on the effectiveness of future closure of the facility.
8. The programmatic environmental impact statement will allow shipment of low-level waste to other DOE facilities. All remote-handled low-level waste will go to another DOE site after 2008, and contact-handled low-level waste will go off-site after 2006. This agreement is pending resolution of transportation, political, and final repository issues.	No change	Impacts to LTS depend on the effectiveness of future closure of the facility.

Table E-6. (continued).

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
9. The Central Facilities Area Landfill will remain open through 2030.	No change	Closure of landfill, residual waste, monitoring
10. Industrial landfill capacity will be available for the lifetime of the INEEL.	No change	Closure of landfill, residual waste, monitoring

Critical Issues

Issue	Status	Impacts and Issues to LTS Program
1. The volume and source of soil for the cap over the Subsurface Disposal Area must be identified.	No change	LTS impacted by long-term maintenance and monitoring of cap.
2. The soil cap for the Subsurface Disposal Area will need to be engineered to control water run-on and run-off. Any drainage from the cap must minimize erosion and comply with Stormwater Pollution Prevention requirements and the Clean Air Act. Dikes and diversions will have to be maintained as part of the end state.	No change	LTS impacted by long-term maintenance and monitoring of cap.

Critical Path Events

- Advanced Mixed Waste Treatment Facility operation complete (2018)
- Capping of the Subsurface Disposal Area (2026)
- Operable Unit 7-06 groundwater monitoring
- Pad A maintenance and monitoring
- CERCLA post-ROD monitoring complete (2024+30 years = 2054)

Table E-7. ESP Critical Assumptions and Issues for LTS - INEEL Sitewide

Critical Assumptions for End-State Planning	Status	Impacts and Issues to LTS Program
1. CERCLA site areas will require different types of long-term institutional controls.	See individual RODs for the types of IC at each unit.	Monitoring of sites, institutional controls
2. Operable Unit 10-01 sites, Liquid Corrosive Chemical Disposal Area No. 1 and Liquid Corrosive Chemical Disposal Area No. 2, may require long-term institutional controls due to a listed waste issue.	These sites are designated "no further action" in the draft-final OU 10-04 RI/FS.	LTS impacted by effectiveness of remediation.
3. CERCLA Site OMRE 1-01, the Organic-Moderated Reactor Experiment Leach Pond, was backfilled, but it contains soils contaminated with radionuclides down to the basalt. This waste might be left in place.	This site is designated "no further action" in the draft-final OU 10-04 RI/FS.	LTS possibly impacted by maintenance of markers, fences.
4. Based on the current usage rate, the capacity of the current Landfill Complex will be sufficient to dispose of INEEL industrial waste for at least 30 years. Additional capacity will be made available in the future, as needed.	According to the *Infrastructure Plan* (INEEL 2000) the active landfill has the capacity to accept INEEL wastes through the year 2030.	Closure of landfill, residual waste, monitoring
5. CERCLA sites showing significant ecological risk may require treatment and/or institutional controls.	The final OU 10-04 RI/FS includes institutional controls and covers long term ecological monitoring.	LTS impacted by effectiveness of remediation.
6. There will be secured access to the INEEL site.	No change	LTS impacted by maintenance of site security functions.
7. Completion of remedial RD/RA work and monitoring of wells will be performed by ERLTS Project. Monitoring of engineered barriers (caps) and fences will also be performed by ERLTS Project.	No change	Maintenance of monitoring wells, maintenance of caps and covers

Table E-7. (continued).

Critical Issues

Issue	Status	Impacts and Issues to LTS Program
1. Plans call for the Idaho National Environmental Research Park to remain an ecological research area beyond the 100-year scenario. The ecological community would like this park to remain and be managed.	No change	Environmental Research Park management
2. Wetlands on the INEEL are controlled by the U.S. Army Corps of Engineers. These wetlands are independent from the DOE National Environmental Research Park, and the DOE has limited data on them. Still, the INEEL must comply with Federal acts for wetlands, migratory birds, birds of prey, clean water, etc.	No change	Wetlands management
3. Natural grazing paths must be preserved. Items such as fences and ground-disturbing activities affect grazing paths and animal habitat. Users must be identified, and steps must be taken to ensure that cultural and archeological resources are protected.	No change	Ecological monitoring and maintenance, grazing paths, fences, habitat, cultural, archeological resources.
4. The DOE recognizes that it may have to provide controls for the Big Southern Butte now that it is part of Operable Unit 10-04.	The Big Southern Butte ordnance areas are designated as "no further action" in the draft-final OU 10-04 RI/FS.	LTS no impacted by "no further action" sites.
5. Except for the Big Southern Butte, the DOE has not included off-site ordnance areas in Operable Unit 10-04.	The off-site ordnance areas are designated as "no further action" in the draft-final OU 10-04 RI/FS.	LTS no impacted by "no further action" sites.
6. New missions, some involving privatization, will require changes to end-state planning.	No change	

Table E-7. (continued).

Issue	Status	Impacts and Issues to LTS Program
7. The cumulative risk assessment for Waste Area Group 10 will cover groundwater and ecological issues. It is assumed that no cumulative risk exists between the waste area groups for air and surface interfaces.	No Change. All comprehensive WAG RODs used this approach.	LTS not impacted.
8. Features at the Howe Peak and East Butte areas are identified in the INEEL Home Page. Activities related to these areas need to be included in the end-state planning.	No change	Minimal impact to LTS from these areas. These are not ER sites and do not require remediation or closure.
9. Budgeting and funding for environmental restoration should reflect a 100-year period for necessary monitoring and surveillance of the Sitewide Area.	No change	Monitoring of the Sitewide area will be managed by the ER LTS Program.
10. In 1950, long-term vegetation transects were established on what is now the INEEL. These run the length and breadth of the INEEL and are read in their entirety every decade. Subsets are read every three to five years. Because these transects cross the grazed and ungrazed portions of the INEEL, they are unique in that they provide baseline data to track the natural variation in shrub-steppe vegetation, as well as identify the impacts of livestock grazing, wild land fires, etc. To the extent possible, new development will be encouraged in already developed facility areas, thus reducing environmental degradation associated with construction activities in previously undeveloped areas.	No change	Ecological monitoring

Table E-7. (continued).

Critical Path Events

- Draft Remedial Action Report (2008)
- D&D&D Site Wide Areas (1998-2056)
- CERCLA post-Record of Decision monitoring (2001 with CERCLA review every 5 years)

References:

1. DOE 1997, *INEEL Comprehensive Facility and Land Use Plan;* DOE/ID-10514.
2. DOE 1999a, *Final Record of Decision for Test Area North, Operable Unit 1-10, DOE*/ID-10682 Rev 0, October 1999.
3. DOE 1999b, *Final Record of Decision for Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13,* DOE/ID-10660, Rev 0, October 1999.
4. INEEL 2000, *Field Evaluation Report*, INEEL/EXT-2000-00258, Rev 0, July.
5. INEEL 2001, *INEEL Infrastructure Long-Range Plan,* INEEL/EXT-2000-01052.

Appendix F

Example Documentation to Identify LTS Transition Criteria

Appendix F

INEEL Long-Term Stewardship Records Required for Transition

11/28/01

Records to be provided before transfer to LTS:

1. Transfer of data related to historic operations and processes				
Criterion	CERCLA	RCRA	DD&D	Other
Process history	RI, Track 1, Track 2[c]	RCRA Closure Plan, RCRA inspection records, UST release detection records and repair records, RCRA TSD permits for management of haz waste, Air emission permits		Historic facility reports, PCB records under TSCA, TSCA Annual Document Logs, Notification of PCB Waste Activity, manifests, etc Asbestos Inspection reports, Asbestos removal reports Environmental permits, including: • Storm water discharge permits (NPDES) • CWA Section 404 and 405 permits • SDWA Underground Injection Control (UIC) permits for discharges to surface and groundwater • Waste water land application permits (WLAP)

[c]INEEL CERCLA records are located in the INEEL Information Repository and the INEEL Administrative Record, the latter for pre-ROD and ROD-related documents.

1. Transfer of data related to historic operations and processes				
Criterion	CERCLA	RCRA	DD&D	Other
Past waste disposal records (off- and on-site), including on-site landfills (Subtitle D, Construction & Demolition Landfills, ICDF, RWMC- SDA)	RI, Track 1, Track 2	RCRA Closure Plan,	D&D Characterization Plan	Historic facility reports, waste manifests
Effluent monitoring data and plans	RI, Track 1, Track 2	RCRA Closure Plan	D&D Characterization Plan	Historic facility reports, monitoring plans, reports, Site-wide monitoring reports
Historic release records	RI, Track 1, Track 2, New Site Identification Forms	RCRA Closure Plan	D&D Characterization Plan	Occurrence reports, rad control & incident records
Historic groundwater, soil, air, vegetation, climatological and related monitoring and characterization data	RI, Track 1, Track 2, New Site Identification Forms	RCRA Closure Plan		ESRF reports, NEPA EIS documents, INEEL COCA documents, INEEL Installation Assessment Document
Historic Infrastructure	Summaries in RI, Track 1, Track 2, New Site Identification Forms, Remedial Design	Summaries in RCRA Closure Plan, Title II Design	Summaries in D&D Characterization and Decision Analysis Report, Title II Design	
As-builts, photos, utility drawings of former facilities and remaining facilities	Summaries in RI, Track 1, Track 2, New Site Identification Forms, Remedial Design	Summaries in RCRA Closure Plan, Title II Design	Summaries in D&D Characterization and Decision Analysis Report, Title II Design	Historic facility reports, historic Title II designs
Former property leases and historic public access records, Memoranda of Agreement between agencies	Located in Information Repository and/or Administrative Record	RCRA Closure Plan	D&D Characterization and Decision Analysis Report	CFLUP
List of key personnel				List of authors of historic reports, old Project Management Plans

2. Transfer of Data, Information, Records Relative to Disposition of Historical Hazards:				
Criterion	CERCLA	RCRA	DD&D	Other
Characterization data pre-remedy • soil, groundwater, air, ecological field and analytical data • facility characterization data • geospatial data for samples, maps depicting nature and extent of contamination • geological and hydrological data • contaminant transport modeling for air, soil, and groundwater	Remedial Investigation, Track 1 Reports, Track 2 Reports, including Field Sampling Plans, Sampling and Analysis Plans, QA/QC Plans, Journal publications	RCRA Closure Plan, UST Closure Plan, NEPA documentation, Field Sampling Plans, Sampling and Analysis Plans, QA/QC Plans	DD&D Project Characterization Plans, Decision Analysis Plan, NEPA documentation, Field Sampling Plans, Sampling and Analysis Plans, QA/QC Plans, S&M Reports	Annual site-wide monitoring reports per DOE Orders, facility monitoring reports under existing operating permits
Risk Assessment of baseline condition, including: • future land use assumptions • exposure pathway assumptions • source term description • models used	Baseline Human Health and Ecological Risk Assessments in RI/FS, Journal publications	Risk-based closure assessment in RCRA Closure Plan	Site performance assessment under DOE Order 435.1	

2. Transfer of Data, Information, Records Relative to Disposition of Historical Hazards:				
Criterion	CERCLA	RCRA	DD&D	Other
Description of remedy and basis for remedy selection, implementation plans, including: • NEPA considerations • Cleanup levels • Acceptable residual risk levels • Institutional control requirements • cost and schedule estimates	Feasibility Study, Treatability Studies, Proposed Plan, Record of Decision, ROD Amendments, Explanation of Significant Differences, RD/RA Statement of Work, RD Work Plan, Remedial Design, Institutional Control Plan, Safety Analysis Report	RCRA Closure Plan, NEPA documents (CX,EA, FONSI, EIS, ROD), Title II Designs, Safety Analysis Report	Decision Analysis Report, D&D Plan, Title I and II Designs, Safety Analysis Reports	
Remedy implementation data, including: • waste analyses • performance assessment/verification sampling • waste inventory/shipping records • monitoring data • deviations from design	RA Work Plan, RA Report, O&M Plan, O&M Report,	RCRA Closure Report, RCRA Post-Closure Permit, UST Closure Report, UST/AST Risk-Based Corrective Action Documentation	D&D Data Packages, Independent Verification Reports	Annual site-wide monitoring reports per DOE Orders, facility monitoring reports under existing operating permits
List of key project personnel	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan, list of report authors	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan, list of report authors	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan, list of report authors	

3. Transfer of Data, Information, Records Relative to Existing Hazards (post-cleanup, post-closure):				
Criterion	CERCLA	RCRA	DD&D	Other
Nature and disposition of contamination and related structures remaining in place after cleanup or closure, including: • precise geospatial location data • as-builts • verification sampling results	RA Report, including as-built drawings; O&M Report, Construction Completion Report, CERCLA Close-Out Reports, NPL Deletion Documentation, Five-Year Review Reports, site performance assessment under DOE Order 435.1	RCRA Closure Report, RCRA Post-Closure Permit, UST Closure Report, UST/AST Risk-Based Corrective Action Documentation, PE certification of closure, site performance assessment under DOE Order 435.1	Final D&D Reports, D&D Data packages, Independent Verification Contractor reports, as-built drawings, site performance assessment under DOE Order 435.1	
Active institution controls: Information on structures, infrastructure necessary to maintain remedy (e.g., landfill covers, leachate collection systems, etc), timeframe for controls	RA Report, including as-builts; Construction Completion Report, O&M Report, Well Completion reports, Institutional Control Plans, Institutional Control reports	RCRA Closure Report, RCRA Post-Closure Permit, UST Closure Report, UST/AST Risk-Based Corrective Action Documentation, PE certification of closure	S&M Plans and Reports, Final D&D Reports	
Additional Active Institutional Controls: Information on monitoring networks necessary to assess remedy performance, timeframe for monitoring; annual monitoring results, data trends	RA Report, Construction Completion Report, O&M Plan and/or Report, Five-Year Review Reports, Annual IC reports, other monitoring reports	RCRA Post-closure monitoring plan and monitoring reports	S&M Plans and Reports	
Passive Institutional Controls: land survey data, land use restrictions, title and deed restrictions, land ownership transfer records, lease records	ROD, ROD Amendment, ESD, IC Plan, Annual IC Reports, Five-Year review reports, CFLUP database	RCRA Closure Report, RCRA Post-Closure Permit, UST Closure Report, UST/AST Risk-Based Corrective Action Documentation, CFLUP	CFLUP database	

3. Transfer of Data, Information, Records Relative to Existing Hazards (post-cleanup, post-closure):

Criterion	CERCLA	RCRA	DD&D	Other
Plans for response to upset conditions	O&M Plan, Five-Year Review Report, Annual IC Reports	RCRA Emergency Response Plan, RCRA Post-Closure Plan, RCRA Post-Closure Permit	S&M Plan	Facility Emergency Response Plans Enforcement Action Records
List of key project personnel	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan	Project Management Plan, Sampling and Analysis Plan, Health and Safety Plan	

4. Records regarding overlapping issues

Criterion	CERCLA	RCRA	DD&D	Other
Cultural resource identification and location data	RI	RCRA Closure Plan, facility NEPA documents	Facility NEPA documents	Site-wide cultural resource reports, NEPA documents, CFLUP
Agreements regarding cultural resources, historic properties, sacred sites with affected Tribes, SHPO, local groups, etc.	RI, ARARs in ROD	RCRA Closure Plan, facility NEPA documents	Facility NEPA documents	Site-wide DOE/agency agreements, CFLUP
Floodplain and wetlands determinations and assessments, maps, data	RI, ARARs in ROD	RCRA Closure Plan, facility NEPA documents	Facility NEPA documents	Site-wide determinations, NEPA documents, USGS reports for INEEL
Natural resources information, including threatened and endangered species, migratory bird environments, etc. Records of consultations with other agencies	RI, Natural Resource Damage Assessments, ARARs in ROD	RCRA Closure Plan, facility NEPA documents	Facility NEPA documents	Site-wide NEPA documents
DOE Commitments Arising from Stakeholder Involvement	ROD Responsiveness Summary	Permit public comment response records, RCRA Post Closure Plan	Facility NEPA documents	Community Advisory Board (CAB) Recommendations and DOE responses
Storm water runoff prevention plans	ARARs, Remedial Design, Remedial Action Work Plan, O&M Plan	SPCC Plans, Title II designs	D&D Plan, Title II design	Site-wide plans

4. Records regarding overlapping issues				
Criterion	CERCLA	RCRA	DD&D	Other
Pollution Prevention Plans	ARARs, Remedial Design, Remedial Action Work Plan, O&M Plan	RCRA Post Closure Plan		
Mitigation requirements of adverse environmental effects associated with completed remedy	O&M Plan, NRDA Plan	NEPA Mitigation Action Plan	NEPA Mitigation Action Plan	

5. Project Planning Scope, Schedule, Budget Records				
Criterion	CERCLA	RCRA	DD&D	Other
Key assumptions regarding long-term active institutional controls, including remedy O&M, passive Institutional Controls, monitoring requirements	PBS, ROD, ROD Amendments, ESD, IC Plan, O&M Plan or Report	PBS, VCO, 1995 Settlement Agreement, NOVs	PBS, D&D Final Report	PBS
Lifecycle cost estimate for monitoring networks	PBS, ROD, ROD Amendments, ESD, IC Plan, O&M Plan or Report	Post-Closure Plan and permit		
Lifecycle cost estimate for remedy O&M (maintenance of landfill caps, etc.)	PBS, ROD, ROD Amendments, ESD, IC Plan, O&M Plan or Report	Post-Closure Plan and permit		
Lifecycle cost estimate for maintenance of passive Institutional Controls	PBS, ROD, ROD Amendments, ESD, IC Plan, O&M Plan or Report	Post-Closure Plan and permit		
Lifecycle cost estimate for annual and periodic reviews, regulatory reporting	PBS, ROD, ROD Amendments, ESD, IC Plan, O&M Plan or Report	D&D Final Report		
Lifecycle cost estimate for records management	PBS for the Administrative Record and Information Repository			
Lifecycle cost estimate for DOE financial support to tribal, local, State, and emergency management organizations				

Schedule for LTS completion (exit strategy)	RA Report, IC Plan and Report, Five-Year Review Report	RCRA Closure Report, RCRA Monitoring Plan, Post-Closure Plan and Permit	D&D Report	
Identification of out-year funding sources for LTS				DOE?