



U.S. Department of Energy  
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# INL Sitewide Institutional Controls Annual Report—FY 2006

August 2006

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## Idaho Cleanup Project

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# **INL Sitewide Institutional Controls Annual Report—FY 2006**

**August 2006**

**Prepared for the  
U.S. Department of Energy  
DOE Idaho Operations Office**

## **ABSTRACT**

This document reports the results of the fiscal year 2006 institutional controls assessment at Comprehensive Environmental Response, Compensation, and Liability Act sites at the Idaho National Laboratory. These activities are described in the *INEEL Sitewide Institutional Controls Plan*. Inspections were performed by Long-term Stewardship Program personnel with representatives of the various facilities.

The assessments showed that the various institutional control measures in place across the Idaho National Laboratory Site are functioning as intended. Information in the *Idaho National Engineering and Environmental Laboratory Comprehensive Facilities and Land Use Plan* was reviewed as part of the annual assessment and was revised as needed to reflect the current status of the institutional control sites.



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## ACRONYMS

ARA	Auxiliary Reactor Area
BORAX	Boiling Water Reactor Experiment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
CFLUP	Comprehensive Facility and Land Use Plan
CITRC	Critical Infrastructure Test Range Complex
DOE-ID	U.S. Department of Energy Idaho Operations Office
EBR	Experimental Breeder Reactor
FY	fiscal year
IET	Initial Engine Test
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
MFC	Materials and Fuels Complex
NRF	Naval Reactors Facility
NSD	Notice of Soil Disturbance
OCVZ	organic contamination in the vadose zone
OU	operable unit
PBF	Power Burst Facility
RTC	Reactor Technology Complex
RWMC	Radioactive Waste Management Complex
TAN	Test Area North
TRA	Test Reactor Area
TSF	Technical Support Facility
WAG	waste area group
WRRTF	Water Reactor Research Test Facility





# INL Sitewide Institutional Controls Annual Report—FY 2006

## 1. INTRODUCTION

In accordance with guidance from the U.S. Environmental Protection Agency, institutional controls have been implemented where hazards to human health or the environment are present at the Idaho National Laboratory (INL) Site. Institutional controls include a variety of non-engineered controls. They are used during remedial actions and, if hazards remain, after remediation at sites regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Institutional controls are assessed annually to ensure that the controls are operating in accordance with their intended purpose. This report describes the fiscal year (FY) 2006 assessment of the institutional controls at the INL Site.

The INL Site occupies 890 mi<sup>2</sup> in southeast Idaho and consists of nine primary facility areas situated on an expanse of otherwise undeveloped, high-desert terrain. Buildings and structures at the INL Site are clustered within these primary facility areas, which are typically less than a few square miles in size and separated from each other by a buffer of primarily undeveloped land. The undeveloped land is used for environmental research, ecological preservation, socio-cultural preservation, grazing, and limited big game hunting.

Under a federal facilities agreement and consent order (DOE-ID 1991), the INL Site was divided into 10 waste area groups (WAGs) to facilitate environmental remediation efforts. The boundaries of WAGs 1 through 9 generally correspond to those of the primary facility areas at the INL Site, and WAG 10 comprises the remaining land within the INL Site boundaries (see Figure 1):

- WAG 1—Test Area North (TAN)
- WAG 2—Reactor Technology Complex (RTC), formerly the Test Reactor Area (TRA)
- WAG 3—Idaho Nuclear Technology and Engineering Center (INTEC)
- WAG 4—Central Facilities Area (CFA)
- WAG 5—Auxiliary Reactor Area (ARA)/Critical Infrastructure Test Range Complex (CITRC), formerly the Power Burst Facility (PBF)
- WAG 6—Boiling Water Reactor Experiment (BORAX)
- WAG 7—Radioactive Waste Management Complex (RWMC)
- WAG 8—Naval Reactors Facility (NRF)
- WAG 9—Materials and Fuels Complex (MFC), formerly Argonne National Laboratory-West
- WAG 10—INL Sitewide Area.

This report is divided into sections that correspond to each WAG under the control of the U.S. Department of Energy Idaho Operations Office (DOE-ID). This report does not discuss WAG 8 (i.e., NRF) further, because it falls outside the control of DOE-ID. The 2006 inspection logs are recorded and stored in the Long-term Stewardship files.

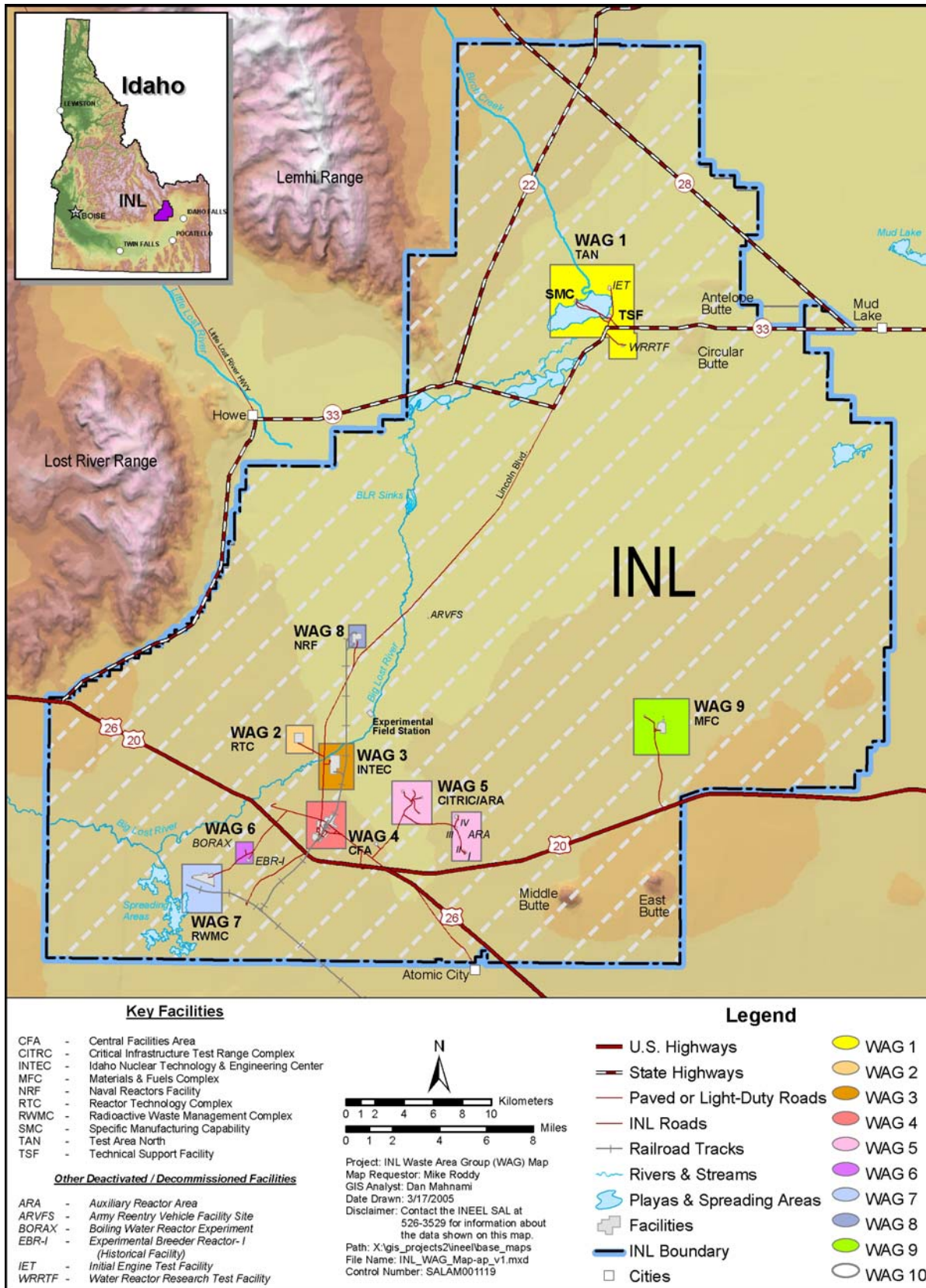


Figure 1. WAG locations at the INL Site.

Information in the *Idaho National Engineering and Environmental Laboratory Comprehensive Facilities and Land Use Plan* (CFLUP) (DOE-ID 1997) was reviewed as part of the annual assessment and was revised as needed to reflect the current status of the institutional control sites.

## 2. WAG 1, TEST AREA NORTH

Designated as WAG 1, TAN is located in the north-central portion of the INL Site and comprises approximately 102 acres. The original TAN facilities were built between 1954 and 1961 to support the Aircraft Nuclear Propulsion Program. Upon termination of that research in 1961, the area facilities were converted to support a variety of other U.S. Department of Energy research projects. From 1962 through the 1980s, the area supported reactor safety testing at the Loss-of-Fluid Test Facility. Beginning in 1980, TAN was used to conduct research on material from the 1979 Three-Mile Island reactor accident. That material has been relocated to storage at INTEC. Current activities at TAN include the ongoing work at the Specific Manufacturing Capability Facility. Operational activities have ceased at other TAN facilities, and closure of TAN is in progress.

Twenty institutionally controlled areas were assessed on May 12, 2006. They were Initial Engine Test (IET)-04, Technical Support Facility (TSF)-05, TSF-06 Area 1, TSF-06 Area 5, TSF-06 Area 11, TSF-06 Area B, TSF-07, TSF-08, TSF-09, TSF-10, TSF-18, TSF-23, TSF-26, TSF-28, TSF-29, TSF-39, TSF-42, TSF-43, and Water Reactor Research Test Facility (WRRTF)-01. Refer to Table 1 for the results of the 2006 assessment.

Table 1. Institutional control sites inspection at WAG 1.

Site	Signs	Comments	CFLUP Review
IET-04	Good condition	None	No change
TSF-05	Good condition	None	No change
TSF-06 Area 1	Good condition	None	No change
TSF-06 Area 5	Good condition	None	No change
TSF-06 Area 10	Good condition	None	No change
TSF-06 Area 11	Good Condition	None	No change
TSF-06 Area B	Good condition	None	Remedy complete
TSF-07	Good condition	None	No change
TSF-08	Good condition	None	No change
TSF-09	*(see below)	*(see below)	Remedy in progress
TSF-10	Good condition	None	No change
TSF-18	*(see below)	*(see below)	Remedy in progress
TSF-23	Good condition	None	No change
TSF-26	Good condition	None	Remedy complete
TSF-28	Good condition	None	No change
TSF-29	Good condition	None	No change
TSF-39	Good condition	None	No change
TSF-42	Good condition	None	No change
TSF-43	Good condition	None	No change
TSF-46	*(see below)	*(see below)	Newly added
TSF-47	*(see below)	*(see below)	Newly added

Table 1. (continued).

Site	Signs	Comments	CFLUP Review
TSF-48	*(see below)	*(see below)	Newly added
TSF-52	Good condition	None	Newly added
TSF-54	Good condition	None	Newly added
TSF-55	Good condition	None	Newly added
WRRTF-01	Good condition	None	Remedy complete

Note: Remediation of TSF-03 is complete, all hazards have been removed, the site is now a “No Action” site, TSF-03 was removed from the table for 2006.

\* Area is within a construction or remediation work zone, signs and barriers are in place restricting access. Institutional control signs will be replaced following completion of remedial actions as necessary.

Remediation of TSF-03 is complete, and all hazards have been removed. Therefore, the site is reclassified as a “No Action” site, the institutional control signs have been removed, and the record in the CFLUP has been removed.

The TSF-26, TSF-06 Area B, and WRRTF-01 site remedies have also been completed, but they will remain institutionally controlled sites, because hazards remain. TSF-09 and TSF-18 are being remediated. As part of the remedial actions, the institutional control signs were removed; however, work zone signs and barriers are in place restricting access. TSF-46, TSF-47, and TSF-48 are within construction zones and the signs were removed to facilitate the work; however, work zone signs and barrier are in place restricting access. Institutional control signs will be replaced following the completion of remedial actions and construction activities as necessary.

The TSF-05 and TSF-23 sites are associated with Operable Unit (OU) 1-07B, groundwater contamination beneath TAN. The TAN groundwater monitoring wells were visited in April 2006, as part of the annual institutional controls inspection. Table 2 shows the WAG 1 wells visited in 2006. All wells were found to be secured and properly labeled. No repairs or maintenance actions were recommended.

Table 2. WAG 1 wells assessed in 2006.

Well Number	Well Number	Well Number	Well Number
ANP-8	TAN-11	TAN-29	TAN-46
GIN-1	TAN-12	TAN-30A	TAN-47
GIN-2	TAN-13A	TAN-31	TAN-48
GIN-3	TAN-14	TAN-32	TAN-49
GIN-4	TAN-15	TAN-33	TAN-50
GIN-5	TAN-16	TAN-34	TAN-51
TAN-1	TAN-17	TAN-35	TAN-52
TAN-2	TAN-18	TAN-36	TAN-53A
TAN-3	TAN-19	TAN-37	TAN-54
TAN-4	TAN-20	TAN-38	TAN-55
TAN-5	TAN-21	TAN-39	TAN-56
TAN-6	TAN-MW-2	TAN-40	TAN-57

Table 2. (continued).

Well Number	Well Number	Well Number	Well Number
TAN-7	TAN-22A	TAN-41	TAN-58
TAN-8	TAN-23A	TAN-42	TAN-CH1
TAN-9	TAN-24A	TAN-43	TAN-CH2
TAN-10	TAN-25	TAN-44	TSF-05
TAN-10A	TAN-26	TAN-45	USGS-24
TAN-27	TAN-1859	TAN-D1	TAN-1861
TAN-28	TAN-1860	TAN-D2	

The WAG 1 CFLUP records (DOE-ID 1997) were reviewed and updated as part of the FY 2006 assessment. These records are published electronically at <http://cflup.inel.gov>. New photographs were taken at each WAG 1 site and were included in the CFLUP as needed.

### 3. WAG 2, REACTOR TECHNOLOGY COMPLEX

The RTC, designated as WAG 2, was established in the early 1950s to study the effects of radiation on materials, fuels, and equipment. Three major reactors have been built at RTC: (1) Materials Test Reactor, (2) Engineering Test Reactor, and (3) Advanced Test Reactor. The Advanced Test Reactor is currently the only major operating reactor at RTC. In addition to operation of the reactor, various laboratory facilities are used for isotope production, broad-based research, development, analysis, and testing.

Sixteen institutionally controlled sites are located at WAG 2: TRA-03, TRA-04, TRA-06, TRA-08, TRA-13, TRA-13-SCA, TRA-15, TRA-19, TRA-34, TRA-62, TRA-63, TRA-X, TRA-Y, TRA-619, TRA-626, and TRA-653. These sites were assessed in April 2006. The institutional controls were found to be in good condition, and all warning signs were legible and placed correctly. Table 3 shows the results of the 2006 assessment at WAG 2.

Table 3. Institutional control sites inspection at WAG 2.

Site	Signs	Comments	CFLUP Review
TRA-03	Good condition	None	No change
TRA-04	Good condition	None	No change
TRA-06	Good condition	None	No change
TRA-08	Good condition	None	No change
TRA-13	Good condition	None	No change
TRA-13-SCA	Good condition	None	No change
TRA-15	Good condition	None	No change
TRA-19	*(see below)	*(see below)	No change
TRA-34	Good condition	None	No change
TRA-62	Good condition	None	Added New
TRA-63	Good condition	None	Added New

Table 3. (continued).

Site	Signs	Comments	CFLUP Review
TRA-X	Good condition	None	No change
TRA-Y	Good condition	None	No change
TRA-619	Good condition	None	No change
TRA-626	Good condition	None	No change
TRA-653	Good condition	None	No change

\* Area is within a work zone, signs and barriers are in place restricting access. Institutional control signs will be replaced following completion of construction activities.

The WAG 2 CFLUP records (DOE-ID 1997) were reviewed and updated as part of the FY 2006 assessment. The records are published electronically at <http://cflup.inel.gov>. New photographs were taken at WAG 2 sites and have been uploaded to the electronic version of the CFLUP as needed.

#### 4. WAG 3, IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER

INTEC, designated as WAG 3, began receiving, storing, and reprocessing nuclear materials in 1953. The nuclear materials included irradiated nuclear fuel from test, defense, and research reactors in the United States and other countries. Between 1954 and 1989, the INL received defense-related waste for storage. Facilities at INTEC (formerly the Idaho Chemical Processing Plant) were also used to reclaim highly-enriched uranium by reprocessing spent nuclear fuel from 1954 to 1992. Currently, the INTEC mission includes receiving and temporarily storing spent nuclear fuel and other radioactive wastes, managing waste, and performing remedial actions.

Known contaminant releases at WAG 3 are the result of spent nuclear fuel reprocessing; storage, research, and ancillary activities; and releases associated with the INTEC tank farm. The WAG 3 release sites requiring remedial action have been categorized into seven groups according to shared characteristics or common contaminant sources. Other sites are classified as “No Action” and “No Further Action” sites. Remedial actions have been completed from the following sites and they have been removed from the tables: CPP-34, CPP-37a, CPP-67, CPP-97, CPP-98, and CPP-99. Institutional controls are a part of the remedy for each of the seven groups and for the “No Further Action” sites. The 2006 WAG 3 institutional controls inspection was conducted in May 2006. The results of the visits are noted by group in Tables 4 through 9. Refer to <http://cflup.inel.gov> for information on specific sites, such as title, description, cleanup schedule, and contaminants of concern.

Table 4. Institutional control sites inspection at WAG 3, Group 1 (tank farm soil).

Site	Signs	Comments	CFLUP Review
CPP-96*	Good condition	None	No change

\* The 1999 record of decision for OU 3-13 consolidated Group 1 sites (CPP-16, CPP-20, CPP-24, CPP-25, CPP-26, CPP-28, CPP-30, CPP-31, CPP-32, and CPP-79) and sites adjacent to the CPP-604 Rare Gas Plant/Waste Evaporator building (CPP-15, CPP-27, CPP-33, and CPP-58) into site CPP-96.

Table 5. Institutional control sites inspection at WAG 3, Group 2 (soil under buildings).

Site	Signs	Comments	CFLUP Review
CPP-02	Good condition	None	No change
CPP-41	Good condition	None	No change
CPP-60	Good condition	None	No change
CPP-68	Good condition	None	No change
CPP-80	Good condition	None	No change
CPP-85	Good condition	None	No change
CPP-86	Good condition	None	No change
CPP-87	Good condition	None	No change
CPP-89	Good condition	None	No change

Table 6. Institutional control sites inspection at WAG 3, Group 3 (other surface soil).

Site	Signs	Comments	CFLUP Review
CPP-01	Good condition	None	No change
CPP-03	Good condition	None	No change
CPP-04/05	Good condition	None	No change
CPP-08/09	Good condition	None	No change
CPP-10	Good condition	None	No change
CPP-11	Construction zone	Remount sign post-construction	No change
CPP-13	Good condition	None	No change
CPP-14	Good condition	None	No change
CPP-19	Good condition	None	No change
CPP-35	Good condition	None	No change
CPP-36	Good condition	None	No change
CPP-37b	Good condition	None	No change
CPP-37c	Good condition	None	No change
CPP-44	Good condition	None	No change
CPP-48	Good condition	None	No change
CPP-55	Good condition	None	No change
CPP-91	Good condition	None	No change
CPP-92	Good condition	None	No change
CPP-93	Good condition	None	No change

Note: Remedial actions are complete at sites CPP-34, CPP-97, CPP-67, and CPP-37a. Status of CPP-34 and CPP-97 is documented in [FMDP-RFDP-05-139](#), status of site CPP-67 is discussed in the site completion report DOE/NE-ID-11234, and CPP-37a is discussed in the remedial action work plan for Group 3 Phase I (DOE-ID-11089). In addition, the boxed soils at sites CPP-98, and CPP-99 have been removed to the ICDF (see ICDF Waste Tracking Form ICDF03055863). Consequently none of these sites were visited during the 2006 institutional control site assessments.

Table 7. WAG 3 wells inspected during the 2006 institutional controls inspection.

Well Number	Well Number	Well Number	Well Number
CFA-01	ICPP-MON-A-021	ICPP-SCI-P-226	USGS-038
CFA-02	ICPP-MON-A-022	ICPP-SCI-P-227	USGS-039
CPP-01	ICPP-MON-A-230	ICPP-SCI-P-228	USGS-040
CPP-02	ICPP-MON-P-004	ICPP-SCI-P-229	USGS-041
CPP-03	ICPP-MON-P-005	ICPP-SCI-P-247	USGS-042
CPP-04	ICPP-MON-P-006	ICPP-SCI-P-248	USGS-043
CPP-33-1	ICPP-MON-P-007	ICPP-SCI-P-249	USGS-044
CPP-33-2	ICPP-MON-P-008	ICPP-SCI-P-250	USGS-045
CPP-33-3	ICPP-MON-P-009	ICPP-SCI-P-251	USGS-046
CPP-33-4-1	ICPP-MON-P-010	ICPP-SCI-P-252	USGS-047
CPP-33-4-2	ICPP-MON-P-011	INTEC-MON-P-001	USGS-048
CPP-37-4	ICPP-MON-P-013	INTEC-MON-P-002	USGS-049
CPP-55-06	ICPP-MON-P-014	INTEC-MON-P-003	USGS-050
ICPP-1781	ICPP-MON-P-015	LF2-08	USGS-051
ICPP-1782	ICPP-MON-P-016	LF2-09	USGS-052
ICPP-1783	ICPP-MON-P-017	LF2-10	USGS-057
ICPP-1785	ICPP-MON-P-018	LF2-11	USGS-059
ICPP-1786	ICPP-MON-P-019	LF3-08	USGS-067
ICPP-1800	ICPP-MON-P-020	LF3-09	USGS-077
ICPP-1801	ICPP-MON-P-024	LF3-10	USGS-082
ICPP-1802	ICPP-SCI-P-216	LF3-11	USGS-085
ICPP-1803	ICPP-SCI-P-217	PW-1	USGS-111
ICPP-1804	ICPP-SCI-P-218	PW-2	USGS-112
ICPP-1807	ICPP-SCI-P-219	PW-3	USGS-113
ICPP-1829	ICPP-SCI-P-220	PW-4	USGS-114
ICPP-1831	ICPP-SCI-P-221	PW-5	USGS-115
ICPP-2018	ICPP-SCI-P-222	USGS-034	USGS-116
ICPP-2019	ICPP-SCI-P-223	USGS-035	USGS-121
ICPP-2020	ICPP-SCI-P-224	USGS-036	USGS-122
ICPP-2021	ICPP-SCI-P-225	USGS-037	USGS-123

Note: In accordance with the Institutional Controls Plan, the wells listed in Table 7 were inspected. All wells were found to be secured and properly labeled. No repairs or maintenance actions were recommended.



Table 8. Institutional control sites inspection at WAG 3, Group 5.

Site	Signs	Comments	CFLUP Review
CPP-23	Good condition	None	No change

Table 9. Institutional control sites inspection at WAG 3, Group 7 (SFE-20 hot waste tank system).

Site	Signs	Comments	CFLUP Review
CPP-69	Good condition	None	No change

The WAG 3, Group 6 buried gas cylinders were remediated and there is no longer any hazard associated with those sites.

The 2006 assessment of institutional control sites at INTEC identified that signs were missing only from areas where remediation or construction activities were in progress (CPP-11). No deficiencies were noted at any of the other institutional control sites at INTEC.

The management of soil disturbances at WAG 3 is handled with notices of soil disturbance (NSDs). During FY 2005, thirteen NSDs were submitted to the regulatory agencies for approval. Additionally, one NSD was ongoing from previous years. The status of these NSD activities is listed in Table 10.

The WAG 3 CFLUP records (DOE-ID 1997) were reviewed and updated electronically as part of the FY 2006 assessment. The CERCLA module of the CFLUP is available electronically at <http://cflup.inel.gov>. Photographs of many WAG 3 sites have been updated as part of the 2006 assessment.

Table 10. Notices of Soil Disturbance during FY 2005.

NSD Number/ Approval Date	Title	Comments
NSD-05-01, 10/21/2004	Steam Leak Repair	Excavation required to repair the steam leak in a tunnel east of CPP-1683 in an area just south of site CPP-58.
NSD-05-02, 11/10/2004	Fire Line near CPP-749	Excavation required to repair the 8-inch bonstrand firewater line that feeds PIV 2506 within the area of site CPP-88.
NSD-05-03, 11/09/2004	Hydrant Replacement	Excavation required to replace the fire hydrant near the northwest corner of CPP-654 located within site CPP-88.
NSD-05-04, 11/22/2004	Steam Leak by CPP-666	Excavation required to repair a condensate line that has a leak near CPP-666 within site CPP-88.
NSD-05-05, 12/15/2004	Steam Leak between CPP-675 and -1608	Excavation required to locate a steam leak and determine the extent of damage to underground piping in the area between CPP-675 and CPP-1608 within site CPP-88.
NSD-05-06, 2/08/2005	Tank Farm Duct Bank	Excavation to place a duct bank on the surface of the Tank Farm from valve box C-22 to valve box B-4 within site CPP-96.
NSD-05-07, 2/28/2005	Water Line by CPP-1663	Excavation required to repair a raw water line west of CPP-1663 within area CPP-88.
NSD-05-08, 4/28/2005	Fence at INTEC	Excavation for fence posts.
NSD-05-09, 5/18/2005	Cap Water Line by CPP-691	Soil disturbance to cap an abandoned potable water line servicing the removed trailers TR-17, TR-18, and TR-19 within site CPP-88.
NSD-05-10, 7/29/2005	Locate Abandoned Condensate Line	Excavation required to locate an abandoned condensate line located east of CPP-601 within site CPP-88.
NSD-05-11, 8/07/2005	D&D and Removal of two Buildings	Soil disturbance during the D&D and removal of CPP-TR-35 and CPP-675 within site CPP-88.
NSD-05-12,	Removal of Buildings	Soil disturbance during the D&D and removal of numerous buildings at INTEC.
NSD-05-13, 9/02/2005	Geotechnical Survey	Soil disturbance to perform a geotechnical survey requiring approx. 30 core holes, 6-inches in diameter and up to 40-feet deep that will include sites CPP-88, CPP-95 and CPP-37C.

## 5. WAG 4, CENTRAL FACILITIES AREA

CFA, designated as WAG 4, has been used since 1949 to house many of the support services for all of the INL Site operations, such as laboratories, security operations, fire protection, medical facility, communication systems, warehouses, cafeteria, vehicle and equipment pools, and the bus system.

Five institutionally controlled areas were assessed at WAG 4 in May 2006: CFA-01, CFA-02, CFA-03 (three landfills), CFA-07 (the French drain), and CFA-08 (the sewage plant drain field). Institutional controls at WAG 4 were found to be in proper order and correct. No recommendations were needed. Table 11 shows a summary of the assessment.

Table 11. Institutional control sites inspection at WAG 4.

Site	Signs	Comments	CFLUP Review	Actions Needed
CFA-01	Good condition	None	No change	None
CFA-02	Good condition	None	No change	None
CFA-03	Good condition	None	No change	None
CFA-07	Good condition	None	No change	None
CFA-08	Good condition	None	No change	None

The WAG 4 CFLUP records (DOE-ID 1997) were reviewed electronically as part of the FY 2006 assessment. All records were found to be current. The CERCLA module of the CFLUP is available electronically at <http://cflup.inel.gov>.

## 6. WAG 5, CRITICAL INFRASTRUCTURE TEST RANGE COMPLEX/AUXILIARY REACTOR AREA

The CITRC, formerly PBF, and the ARA make up WAG 5. The areas are in fairly close proximity and were experimental reactor facilities built in the 1950s.

The 2006 institutional control assessment was performed in May 2006 at WAG 5. Thirteen institutionally controlled areas were inspected: ARA-03, ARA-06, ARA-07, ARA-08, ARA-23, ARA-24, ARA-25, PBF-10, PBF-12, PBF-13, PBF-21, PBF-22, and PBF-26. Table 12 shows a summary of the assessment.

Table 12. Institutional control sites inspection at WAG 5.

Site	Signs	Comments	CFLUP Review
ARA-03	Good condition	None	No change
ARA-06	Good condition	None	No change
ARA-07	Good condition	None	No change
ARA-08	Good condition	None	No change
ARA-23	Good condition	None	No change
ARA-24	Good condition	None	No change
ARA-25	Good condition	None	No change
PBF-10	Good condition	None	No change

Table 12. (continued).

Site	Signs	Comments	CFLUP Review
PBF-12	Good condition	None	No change
PBF-13	Good condition	None	No change
PBF-21	Good condition	None	No change
PBF-22	Good condition	None	No change
PBF-26	Good condition	None	No change

Note: The following sites were removed from the above table for the 2006 report since remediation activities are complete: ARA-01, ARA-02, ARA-12, and ARA-16.

The institutionally controlled areas at WAG 5 were in good condition, with the institutional controls operating as planned. The WAG 5 CFLUP records (DOE-ID 1997) were reviewed and updated electronically as part of the FY 2006 assessment. The CERCLA module of the CFLUP is available at <http://cflup.inel.gov>. New photographs of WAG 5 sites have been uploaded to the electronic version of the CFLUP as needed.

## 7. WAG 6, BOILING WATER REACTOR EXPERIMENT

WAG 6 consists of the Experimental Breeder Reactor (EBR) I, now a historic landmark, and the nearby BORAX facility. Five institutionally controlled areas require annual inspection at WAG 6: BORAX-01, BORAX-02, BORAX-08, BORAX-09, and EBR-08. The WAG 6 institutional control sites were visited in May 2006. Table 13 shows the results of the assessment.

Table 13. Institutional control sites inspection at WAG 6.

Site	Signs	Comments	CFLUP Review
BORAX-01	Good condition	None	No change
BORAX-02	Good condition	None	No change
BORAX-08	Good condition	Additional sign being added at West end of trench	No change
BORAX-09	Good condition	None	No change
EBR-08	Good condition	None	No change

The WAG 6 CFLUP records (DOE-ID 1997) were reviewed as part of the FY 2006 assessment and were found to be current. The records are available electronically at <http://cflup.inel.gov>. New photographs of the WAG 6 sites were obtained and placed in the CFLUP.

## 8. WAG 7, RADIOACTIVE WASTE MANAGEMENT COMPLEX

The RWMC, which is designated as WAG 7, is located in the southwestern quadrant of the INL Site. There are three OUs at WAG 7: OU 7-08 (organic contamination in the vadose zone [OCVZ]), OU 7-12 (Pad A), and OU 7-10 (Pit 9). Each of these OUs is located within the Subsurface Disposal Area of the RWMC. The institutional control signs placed at each corner of Pad A are inspected quarterly. In addition, institutional control signs are placed on the perimeter fence of the Subsurface Disposal Area and are inspected annually.

The 2006 assessment was performed in May 2006. Warning signs were observed around the perimeter of the SDA and at Pad A. No deficiencies or recommendations were noted (see Table 14). The WAG 7 CFLUP records (DOE-ID 1997) were reviewed and found to be current.

Table 14. Institutional control sites inspection at WAG 7.

Site	Signs	Comments	CFLUP Review
Subsurface Disposal Area	Good condition	None	No change
Pad A	Good condition	None	No change

## 9. WAG 9, MATERIALS AND FUELS COMPLEX

The Materials and Fuels Complex is the new name for the Argonne National Laboratory-West Facility which is designated as WAG 9. CERCLA sites at WAG 9 include tanks and wastewater handling and disposal systems such as ditches, ponds, pits, and drains. Contaminants at these sites included metals and radionuclides, predominately cesium-137. Cleanup actions at WAG 9 have consisted of the removal of radioactively contaminated sludge from the EBR II leach pit, removal of contaminants using phytoremediation, and removal of contaminated soils from ditches. The last remediation activities were completed in 2004.

Currently, two CERCLA sites at the MFC require institutional controls. These areas are the industrial waste pond (ANL-01) and the interceptor canal (ANL-09). The ANL-09 site has been further subdivided into the interceptor canal-ditch and the interceptor canal-mound because of the distinct differences in the soil in the ditch and the dredged and stockpiled soil of the mound. These three areas have radiological contamination from cesium-137. The contamination level is below action levels but greater than background. All three sites have institutional controls in place; specifically, warning signs are visible around the site perimeters. The interceptor canal-mound and the area above the high-water mark in the industrial waste pond were seeded in the fall of 2004. The interceptor canal-canal was not revegetated, because it lies in a natural drainage ditch and is underwater during rain and snowmelt events.

Additionally, the sanitary sewage lagoon (ANL-04) is a CERCLA site that presents an ecological risk because of mercury levels in the sludge. The remediation of this site has been transferred to OU 10-08. Final remediation will be conducted after the useful life of the sanitary sewage lagoons, which is anticipated to be 2033. Remediation might not be required if, during the evaluation of the OU 10-08 baseline risk assessment, the human and ecological risks are found to be acceptable. Currently, the risk from the mercury is mitigated by maintaining the liquid level in the lagoon to cover the sludge. This eliminates the exposure pathway to small burrowing mammals.

Institutional controls were found in good condition and a summary is shown in Table 15. The former Argonne National Laboratory-West signs will be replaced with new signs to be more consistent with the other institutional control signs around the INL Site. The WAG 9 CFLUP records (DOE-ID 1997) were entered as part of the FY 2006 assessment. The CERCLA module of the CFLUP is available electronically at <http://cflup.inel.gov>.

Table 15. Institutional control sites inspection at WAG 9.

Site	Signs	Comments	CFLUP Review
ANL-01	Good condition	None	Updated
ANL-04	Good condition	None	Updated
ANL-09 Ditch	Good condition	None	Updated
ANL-09 Mound	Good condition	None	Updated

## 10. WAG 10, INL SITEWIDE AREA

WAG 10 consists of the INL Site area that lies outside the boundaries of the other WAGs and includes miscellaneous surface sites and liquid disposal areas. WAG 10 also encompasses areas beyond the INL Site boundaries when such areas have been or might have been impacted by INL activities. Sitewide groundwater concerns also fall within WAG 10 and are managed separately from institutional controls.

WAG 10 includes areas where explosive ordnance items are present due to activities that occurred from 1942 through 1950, when portions of the present-day INL Site made up the Arco Naval Proving Ground. Projectiles (explosive and inert), explosive materials, and ordnance explosive wastes litter parts of the INL Site. Radioactively contaminated soil, unexploded ordnance, and explosive residues have been removed from several areas of the INL Site. Chemically contaminated soil and explosive materials have been disposed of during several cleanup actions.

Although much of the WAG 10 is assumed to be uncontaminated, 28 sites within WAG 10 are institutionally controlled in accordance with the *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004). The areas were assessed in May 2006, for the condition of warning signs, the general condition of the site, and the effectiveness of controls. All institutional controls were found to be in good condition. No recommendations were noted. Table 16 shows the sites and a summary of the 2006 assessment.

Table 16. Institutional control sites inspection at WAG 10.

Site	Signs	Comments	CFLUP Review
OMRE-01	Good condition	None	No change
ORD-01	Good condition	None	No change
ORD-03	Good condition	None	No change
ORD-04	Good condition	None	No change
ORD-05	Good condition	None	No change
ORD-06	Good condition	None	No change
ORD-07	Good condition	None	No change
ORD-08	Good condition	None	No change
ORD-09	Good condition	None	No change
ORD-10	Good condition	None	No change
ORD-11	Good condition	None	No change
ORD-12	Good condition	None	No change
ORD-13	Good condition	None	No change

Table 16. (continued).

Site	Signs	Comments	CFLUP Review
ORD-14	Good condition	None	No change
ORD-15	Good condition	None	No change
ORD-16	Good condition	None	No change
ORD-17	Good condition	None	No change
ORD-18	Good condition	None	No change
ORD-19	Good condition	None	No change
ORD-20	Good condition	None	No change
ORD-21	Good condition	None	No change
ORD-22	Good condition	None	No change
ORD-24	Good condition	None	No change
ORD-25	Good condition	None	No change
ORD-26	Good condition	None	No change
ORD-27	Good condition	None	No change
ORD-28	Good condition	None	No change
STF-02	Good condition	None	No change

The WAG 10 CFLUP records (DOE-ID 1997) were reviewed as part of the FY 2006 assessment and found to be in good order. The CERCLA module of the CFLUP is available electronically at <http://cflup.inel.gov>.

## 11. DEQ INSPECTION OF SELECTED INSTITUTIONAL CONTROL SITES

In addition to the inspections conducted internally, on June 1, 2006, Mark Clough from the Idaho Department of Environmental Quality (DEQ) conducted inspections of several institutional control sites from each of the WAG areas at the INL site. As a result of the observations and discussions of these inspections, several issues were discussed and resolved. For example, another institutional control sign is being made and placed at the west end of the Borax 8 ditch. The maintenance of various fences was discussed and researched and it was determined that fences that are incidental to the institutional control areas are not required and their maintenance is beyond the scope of the institutional controls charter. Table 17 lists the institutional control sites visited along with observations and resolutions.

Table 17. Institutional control sites inspected by DEQ.

Site	DEQ Comments	Resolution
TSF-07	Fence post leaning, determine if fence is required as part of institutional control.	The fence that borders TSF-07 is not part of the institutional controls, however, as a best-management-practice, the fence post may be repaired to prevent the fence from collapsing. The Facility maintenance organization at TAN has been notified of the deteriorating fence post.
TSF-43	None	N/A
ORD-19	None	N/A
ORD-13	None	N/A

Table 17. (continued).

Site	DEQ Comments	Resolution
TRA-03	Rip rap in good condition	N/A
TRA-04	None	N/A
TRA-06	None	N/A
TRA-15	None	N/A
CPP-01	None	N/A
CPP-02	None	N/A
CPP-04	One sign is down due to site work, the rest are up.	The sign will be put back up following the completion of work.
CPP-05	One sign is down due to site work, the rest are up.	The sign will be put back up following the completion of work.
CPP-08	None	N/A
CPP-09	None	N/A
CPP-010	Inspection not performed. Signs have been temporarily removed due to SFE-106 project work.	The signs will be put back up following the completion of work.
CPP-011	Inspection not performed. Signs have been temporarily removed due to SFE-106 project work.	The signs will be put back up following the completion of work.
CPP-019	None	N/A
CPP-69	Inspection not performed. Signs have been temporarily removed due to SFE-106 project work.	The signs will be put back up following the completion of work.
CFA-01	Land fill (ET) cover is in good condition	N/A
CFA-02	Land fill (ET) cover is in good condition	N/A
CFA-03	Land fill (ET) cover is in good condition. One subsidence site has been noted and repaired.	N/A
Borax-02	None	N/A
Borax-08	Sign on SE is OK, need to install a sign on NW end. Warning sign is faded. Are 'No Trespassing' signs required by the institutional control?	A new sign is being made and will be installed at the NW end of the ditch. The 'Warning' and 'No Trespassing' signs were installed by the previous landlord and are not part of the institutional controls.
PBF-10	None	N/A
PBF-26	None	N/A
ARA-06	None	N/A
ARA-25	One strand of wire on the fence was broken. This was fixed on-the-spot, and is now acceptable.	Minor repairs were made to the broken strand of wire on the fence as soon as it was noticed. The concern was resolved immediately.
ORD-09	None	N/A



## 12. REFERENCES

DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Record No. 1088-06-29-120, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.

DOE-ID, 1997, *Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land Use Plan*, DOE/ID-10154, U.S. Department of Energy Idaho Operations Office, December 1997. (Official Use Only) Unclassified version available at <http://cflup.inel.gov>.

DOE-ID, 2004, *INEEL Sitewide Institutional Controls Plan*, DOE/ID-11042, Rev. 1, U.S. Department of Energy Idaho Operations Office, June 2004.