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INEEL Reporter Supplement

ENVIRONMENTAL RESTORATION

Progress

A Status Report of Environmental Cleanup at the INEEL

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Overview

This progress report (formerly called the Citizens' Guide) presents an overview of the Idaho National Engineering and Environmental Laboratory (INEEL) environmental investigation and cleanup activities at inactive sites conducted in 1997. It also briefly previews upcoming activities.

In 1991, the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Idaho partnered together to conduct environmental investigations at INEEL to ensure environmental hazards associated with inactive waste sites are identified and remediated. 1997 marked the sixth year of this partnership, and accelerated schedules continued to provide early completion of many milestones. To date, 18 environmental investigations have been completed with public and agency involvement. These investigations have resulted in 15 Records of Decision; three are pending. Remediation activities for 10 of the 15 signed Records of Decision are complete; four are in progress.

While most projects have remained on or ahead of schedule, two fell behind schedule in 1997: the Test Area North groundwater project and the Radioactive Waste Management Complex Pit 9 project. The Department of Energy, the Environmental Protection Agency, and the State of Idaho reached agreement on addressing the delays—the parties agreed to new deadlines for the projects and fines for the delays.



Waste Area Group	Investigation	Public Comment and Decision
1 Test Area North	Injection Well	✓
	Groundwater	✓
	Comprehensive	◇
2 Test Reactor Area	Warm Waste Pond	✓
	Perched Water	✓
	Comprehensive	✓
3 Idaho Chemical Processing Plant	Comprehensive	◇
	Tank Farm	◇
4 Central Facilities Area	Motor Pool Pond	✓
	Landfills	✓
	Comprehensive	◇
5 Power Burst Facility/ Auxiliary Reactor Area	PBF Evaporation Pond	✓
	ARA Evaporation Pond	✓
	Stationary Low-Power Reactor-1/ Boiling Water Reactor Experiment	✓
	Comprehensive	◇
6 Experimental Breeder Reactor-1/Boiling Water Reactor Experiment	Comprehensive	See Waste Area
7 Radioactive Waste Management Complex	Pit 9	✓
	Pad A	✓
	Vadose Zone	✓
	Pits and Trenches	◇
	Comprehensive	◇
	8 Naval Reactors Facility	Industrial Waste Ditch
Comprehensive		✓
Comprehensive		◇
9 Argonne National Laboratory—West	Comprehensive	◇
10 Miscellaneous Sites and Snake River Plain Aquifer	Unexploded Ordnance	✓
	Comprehensive	◇

✓ Completed phase

Remedial Design and Action	Ongoing Maintenance/Monitoring	Comments
✓ ◇	◇	Action completed; routine monitoring ongoing Cleanup ongoing until 2027 Public comment began February 16, 1998
✓ ✓ ◇	◇ ◇	Action completed; routine monitoring ongoing Action completed; routine monitoring ongoing Record of Decision signed in December 1997
		Public comment to begin in April/May 1998
N/A ✓	N/A ◇	Investigation determined no action was necessary Action completed; routine monitoring ongoing Public comment scheduled for early 1999
✓ N/A ✓	◇ N/A ◇	Action completed; routine monitoring ongoing Investigation determined no action was necessary Action completed; routine monitoring ongoing Public comment period planned for 1999
Area Group 10: Miscellaneous Sites and Snake River Plain Aquifer		
◇ ✓ ◇	◇	Action completed; routine monitoring ongoing Concurrent with the comprehensive investigation Scheduled for completion in 2003
✓	◇	Action completed; routine monitoring ongoing Public comment period ends March 12, 1998
		Public comment period ends March 12, 1998
◇	◇	Planned completion in 2003

◇ Current phase



Investigation

Sites that may be contaminated are assessed to determine the extent of contamination and the potential risk. Cleanup alternatives are identified and evaluated, resulting in the selection of a preferred alternative.



Public Comment and Decision

The public is invited to review and comment on the proposed plans. Following public comment and resolution, the selected remedy is documented in a Record of Decision.



Remedial Design and Action

The selected remedy is further detailed and carried out.



Ongoing Maintenance/Monitoring

Routine monitoring is conducted to verify that the remedy remains protective of human health and the environment.

Remediate:

Clean up or resolve an identified or potential environmental hazard to eliminate or reduce the hazard.

Record of Decision:

The legal document signed by the partnering agencies that identifies and details the selected remedy for a specific waste site.

Overview and Area 1

Evaluation Criteria:

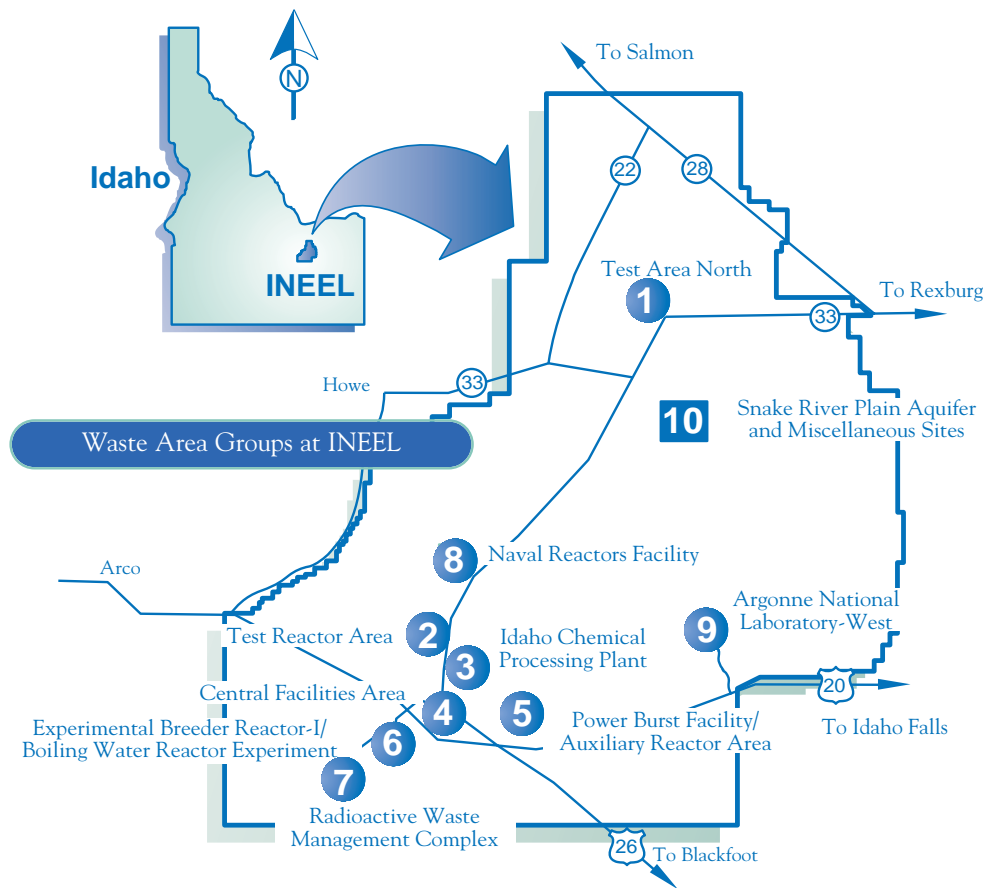
Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, a selected remedy must be evaluated for:


- Protection of human health and the environment
- Compliance with laws
- Long-term effectiveness
- Short-term effectiveness
- Reduction of toxicity, mobility, or volume of the contaminants of concern
- Implementability
- Cost effectiveness
- State acceptance
- Community acceptance

For information

about activities conducted prior to 1997, refer to previous editions of the *Citizens' Guide* or call INEEL at

1 800
708-2680



Notably, 1997 was the year of comprehensive remedial investigations/feasibility studies. A comprehensive investigation is the extensive, final investigation for an area in which all previous cleanup decisions and activities are reviewed, combined impacts of all release sites in the area are assessed, and risk is evaluated for the entire area. Comprehensive investigations were completed in 1997 for the Test Reactor Area, the Naval Reactors Facility, Argonne National Laboratory–West and Test Area North. Work also progressed in the other areas, and the comprehensive investigations for the Idaho Chemical Processing Plant, the Central Facilities Area, and the Power Burst Facility/Auxiliary Reactor Area are planned for completion in 1998. 

Test Area North (Waste Area Group 1)

From 1954 to 1961, Test Area North was used to support the Aircraft Nuclear Propulsion Program, whose mission was to test the concept of a nuclear-powered airplane. From 1962 through the 1970s, the area was devoted principally to the Loss-of-Fluid Test Facility, which was used to perform reactor safety testing and behavior studies. Beginning in 1980, the area was used to conduct work with material from the 1979 Three-Mile Island reactor accident. The area currently supports nuclear inspection and storage operations and the Specific Manufacturing Capability Facility, whose mission is the manufacture of armor for military vehicles.

The main sources of contamination at Test Area North include releases in disposal (burn) pits, surface soil releases from low-level waste operations, releases to surface ponds/ditches, past discharges to an injection well, wind-blown releases, a mercury spill, and a release from a fuel-oil line. The injection well discharges led to contamination of the aquifer beneath Test Area North. **Radionuclides** and **organic chemicals** are the most prevalent contaminants at Test Area North.

During 1996, Test Area North

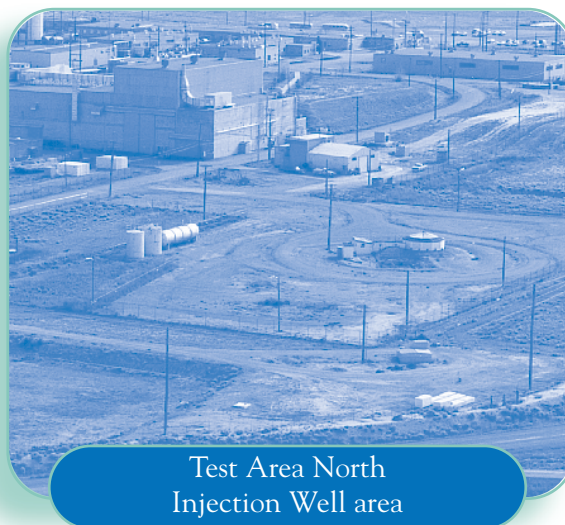
Fines Assessed for Project Delay

groundwater remediation design activities fell behind schedule, resulting in a \$30,000 fine. Based on

the revised schedule developed for dispute resolution, the remediation activities are on schedule.

The Test Area North comprehensive investigation was completed in 1997. A 30-day public comment period for this project began February 16, and public meetings were held in Idaho Falls, Boise, and Moscow. The investigation evaluated various remediation alternatives, including **institutional controls**, **containment**, excavation and disposal, and removal and treatment alternatives.

Following the public comment period, the selected alternative will be documented in a Record of Decision and the remedial design and action phase will begin. Implementation of the selected remedy is scheduled to begin by January 2000. 🌱



Test Area North Injection Well area



Radionuclide:

A particle that emits radiation.

Organic Chemical:

Substance containing carbon, such as carbon tetrachloride.

Test Area North Status:

- 94 Sites Investigated
- 53 Required No Action
- 31 Addressed in Previous Record of Decision (Operable Unit 1-07B)
- 10 Require Remedial Action



4 Removal Actions Completed

Test Area North Comprehensive Investigation Preferred Alternatives:

- Soil Contamination Area South of Turntable - Excavation and onsite disposal
- Disposal Pond - Limited action
- Burn Pits - Limited action
- Mercury Spill Area - Excavation and offsite disposal
- Diesel Fuel Leak - Limited action
- V Tank - In situ vitrification
- PM-2A Tanks - Soil excavation, in situ treatment of tank contents, and onsite soil disposal

Institutional Controls:

Restrictions placed on access to the area of concern. Controls can include fencing or other physical barriers and land use restrictions.

Containment:

A remedy that leaves the contaminants in place but limits their migration from a waste site by enclosing the area with some type of barrier.

Test Reactor Area (Waste Area Group 2)

The Test Reactor Area was established in the early 1950s to house facilities for studying the effects of radiation on materials, fuels, and equipment. Three major reactors were built at the Test Reactor Area: the Materials Test Reactor, the Experimental Test Reactor, and the Advanced Test Reactor. The Advanced Test Reactor is currently the only operational reactor at INEEL. The contaminants with the greatest potential for causing adverse human health effects at the Test Reactor Area are radionuclides and metals.



The Test Reactor Area comprehensive investigation was finalized during 1997, two years ahead of schedule. Five alternatives were evaluated as part of the investigation, ranging from no action (with monitoring) to excavation and disposal actions. Following public comment, the Record of Decision was signed



December 22, 1997 documenting the selected remedies. During 1998 and 1999, a remedial design for the cleanup activities will be developed and implemented.

Test Reactor Area Status:

- 55 Sites Investigated
- 47 Required No Action
- 8 Required Remedial Action and Continued Monitoring of the Perched Water per 3 Records of Decision

Test Reactor Area Comprehensive Investigation Selected Remedies:

- Warm Waste Pond 1952 & 1957 Cells - containment and institutional controls; 1964 Cell - Basalt riprap or cobble gravel layer on existing native soil cover and institutional controls
- Chemical Waste Pond - Native soil cover and institutional controls with possible excavation, treatment, and disposal
- Cold Waste Pond - Excavation and disposal
- Sewage Leach Pond - Containment and institutional controls
- Soil Surrounding Hot Waste Tanks - Limited action
- Soil Surrounding Tanks 1 & 2 - Limited action with contingent excavation and disposal
- Brass Cap Area - Limited action with contingent excavation and disposal
- Sewage Leach Pond Berms/Soil Contamination Area - Limited action

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Idaho Chemical Processing Plant (Waste Area Group 3)

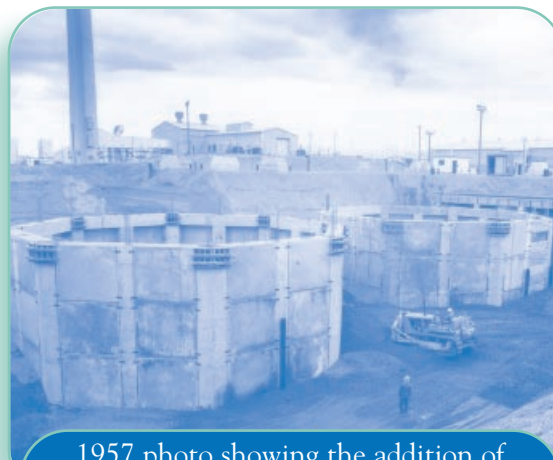
The original mission of the Idaho Chemical Processing Plant, in operation since 1952, was to serve as a nuclear **reprocessing** facility for defense projects and for research and storage of spent nuclear fuel. Some of the liquid wastes generated from reprocessing were **calcined** and the resultant granular solids were stored in stainless steel bins where they remain today. In 1992, fuel reprocessing at the Idaho Chemical Processing Plant was phased out. Calcining of the remaining liquid wastes is under way. The current mission is to receive and temporarily store spent nuclear fuel and radioactive wastes for future disposition.

Contaminants at the Idaho Chemical Processing Plant include radionuclides and other contaminants from accidental and intentional releases to the environment during plant operations.

A radiological soils **removal action** was initiated in 1997 at the Idaho Chemical Processing Plant. The removal action involves excavation, transport, and storage of radionuclide-contaminated soils from the Idaho Chemical Processing Plant to an onsite, consolidated location. The removal action will continue into 1998.

The Idaho Chemical Processing Plant comprehensive investigation is nearing completion and will be finalized in early 1998. Public comment is expected to begin in April. Included with the alternatives evaluated in the comprehensive investigation is a detailed study of options for establishing a **CERCLA**–contaminated soils and debris consolidated facility at the Idaho Chemical Processing Plant. Costs would be reduced by having a centralized facility for managing all INEEL contaminated soils and debris.

During the Idaho Chemical Processing Plant comprehensive investigation, it was determined that additional information was required to make a final decision for the Tank Farm sites; therefore, the agencies postponed a final decision on those sites. Additional characterization and analysis activities will be performed at the Tank Farm in a separate investigation. The alternatives evaluated for the Tank Farm and the preferred alternative will be documented and presented to the public in a separate proposed plan. 



1957 photo showing the addition of two concrete vaults at the Tank Farm. Stainless steel tanks were placed inside the concrete vaults and were covered with soil.

Reprocessing

Dissolving spent nuclear fuel and extracting usable uranium from the liquid.

Calcined/ Calcining:

A process by which liquid radioactive wastes are converted into a more stable granular form.

Removal Action:

Short-term cleanup activity initiated at any time to respond *promptly* to situations that pose an immediate threat to human health or the environment.

Idaho Chemical Processing Plant Status:

- 95 Sites Investigated
- 50 Required No Action
- 45 Subject to Remedial Action



4 Removal
Actions
Completed

CERCLA:

Comprehensive Environmental Response, Compensation, and Liability Act

Mercury Retort Site:

Mercury-contaminated soil was heated to drive off the mercury, which was then reclaimed.

Central Facilities Area Status:

- 52 Sites Investigated
- 31 Required No Action
- 2 Remedial Actions Completed per 2 Records of Decision
- 2 Addressed with Waste Area Group 10
- 17 Investigated with Comprehensive Investigation



2 Removal Actions Completed

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Central Facilities Area (Waste Area Group 4)

The original facilities at the Central Facilities Area were built in the 1940s and 1950s to house Naval Gunnery Range personnel. The facilities have been modified over the years to fit the changing needs of INEEL and now provide four major types of functional space: craft, office, service, and laboratory. Sites investigated at the Central Facilities Area include landfills, spill sites, ponds, underground storage tanks, dry wells, and a sewage treatment plant. Contaminants of concern include organic compounds, radionuclides, petroleum wastes, and heavy metals.

Excavation of petroleum-contaminated soils; (inset) Mercury-contaminated water being shipped offsite

In 1997, two removal actions were completed at the Central Facilities Area: calcined/mercury-contaminated soil and petroleum-contaminated soil. For the **mercury retort site**, all contaminated soils, water, and the by-product solids were treated and dispositioned offsite. In addition, all associated tanks were decontaminated and dispositioned offsite. The petroleum-contaminated soil removal action was also completed, removing 11,700 cubic yards of contaminated soil. The final reports for the two removal actions will be published in 1998.



Landfills Remedial Action Completed 1 Year Ahead of Schedule

The remedial action to cap the Central Facilities Area landfills was completed one year ahead of schedule. The groundwater, soil gas, and moisture levels in and around the landfills will be monitored routinely to verify the action remains protective.

The Central Facilities Area comprehensive investigation was initiated. The investigation, including the identification and evaluation of alternatives, is scheduled to be completed in late 1998. A public comment period on the proposed cleanup plan is scheduled for early 1999, to be followed by a Record of Decision.



Power Burst Facility/Auxiliary Reactor Area (Waste Area Group 5)

The Power Burst Facility, initially constructed in the 1950s, once housed the four Special Power Excursion Reactor Tests reactors. In 1970, the experiments ceased and the reactors were subsequently removed. In the mid-1970s, the Power Burst Facility reactor was built to support additional reactor studies. The facility was placed in **standby** condition in 1985.

The Auxiliary Reactor Area, also constructed in the 1950s, initially consisted of four reactors used for testing reactor behavior and for reactor safety studies. The Auxiliary Reactor Area has been **inactive** since 1989.

The Power Burst Facility/Auxiliary Reactor Area facilities include evaporation ponds, sanitary sewer systems, a waste burial ground, contaminated soils areas, and several storage tanks. Contaminants include radionuclides, metals, organic compounds, **polychlorinated biphenyls**, pesticides, and herbicides.

The Stationary Low-Power Reactor-1 at the Auxiliary Reactor Area (located in Waste Area Group 5) and the Boiling Water Reactor Experiment-I (located in Waste Area Group 6) burial sites were addressed together due to the similarities between the two sites: at both sites a small nuclear reactor was destroyed resulting

*Remedial
Action
Completed*


in radioactive debris and contaminated soil. In 1996, caps were placed over both burial sites isolating the contaminated materials. During 1997, the areas were reseeded with crested wheatgrass and fenced, completing the remedial action.

The Power Burst Facility/Auxiliary Reactor Area comprehensive investigation was initiated in 1997 and field sampling was completed in September. The comprehensive investigation will include the identification and evaluation of remediation alternatives and is scheduled to be completed in 1998.



Public comment on the proposed cleanup plan is scheduled for early 1999. 

Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area (Waste Area Group 6)

The Experimental Breeder Reactor-I and Boiling Water Reactor Experiment were originally constructed to house test reactors that have since been decommissioned. The Experimental Breeder Reactor-I is now a National Historic Landmark open to the public. No operations other than monitoring take place in either area. The Boiling Water Reactor Experiment-I burial site was investigated with a similar site in Waste Area Group 5. The comprehensive investigation for this area is being conducted in combination with the Waste Area Group 10 investigation. 

Standby:

The components necessary to run the reactor are still present.

Inactive:

The components necessary to run the reactor have been removed.

Polychlorinated biphenyls:

Also known as PCBs. A known carcinogen used historically in transformers.

Power Burst Facility/Auxiliary Reactor Area Status:

- 54 Sites Investigated
- 34 Required No Action
- 3 Remedial Actions Completed per 3 Records of Decision
- 17 Investigated with Comprehensive Investigation

Experimental Breeder Reactor-I/Boiling Water Reactor Experiment Area Status:

- 22 Sites Investigated
- 17 Required No Action
- 1 Addressed in Waste Area Group 5
- 4 Investigated with Waste Area Group 10



Aerial view of the Radioactive Waste Management Complex

Radioactive Waste Management Complex (Waste Area Group 7)

The Radioactive Waste Management Complex was established in 1952 as a disposal site

for solid low-level radioactive waste generated by onsite operations. From 1954 through 1970, **transuranic waste** from the Rocky Flats Plant in Colorado was also buried at the complex; however, after 1970, shallow land disposal of transuranic waste was discontinued in favor of above-ground storage on asphalt pads.

Contaminated sites at the Radioactive Waste Management Complex include pits, trenches, and soil vaults with radioactive waste; an above-ground disposal pad; a Transuranic Storage Area release site; and three septic tanks.

Recontouring of the Pad A cover was completed in late 1995. Ongoing monitoring of the soil, surface water, air, and existing groundwater wells is conducted to verify protectiveness of the action. In 1997, the two-year review of the Pad A remedial action was completed with agency oversight.

A Record of Decision was signed in 1994 to remediate the organic contamination in the **vadose zone** beneath the Radioactive Waste Management Complex. **Vapor vacuum extraction** was selected as the method to reduce and remove the organic compound vapors from the vadose zone. The objective of this remediation activity is to protect the groundwater of the Snake River Plain Aquifer. Since vapor vacuum extraction began in January 1996, over 34,000 pounds of volatile organic compounds have been removed from the subsurface of the Radioactive Waste Management Complex. This mass of volatile organic compounds already removed significantly reduces the future threat to the Snake River Plain Aquifer. At present, vapor extraction activities are planned to continue through the completion of the Radioactive Waste Management Complex comprehensive investigation.

The one-acre Pit 9 received wastes primarily from the Rocky Flats Plant consisting of sludge and solids contaminated with transuranic waste (plutonium and americium).

A Record of Decision was signed in 1993 to extract and treat an estimated 250,000 cubic feet of waste and contaminated soil.

Pit 9 Schedule

Revised and

Alternate Plan

Developed

Because terms identified in this Record of Decision were not met, fines were assessed. A revised Remedial Design and Action Scope of Work was completed in October 1997 to establish a revised schedule for this project. Included in this Scope of Work is a contingency plan that describes a course of action in the event Lockheed

Transuranic Waste:

Radioactively contaminated waste with a greater atomic number than uranium (e.g. plutonium and americium).

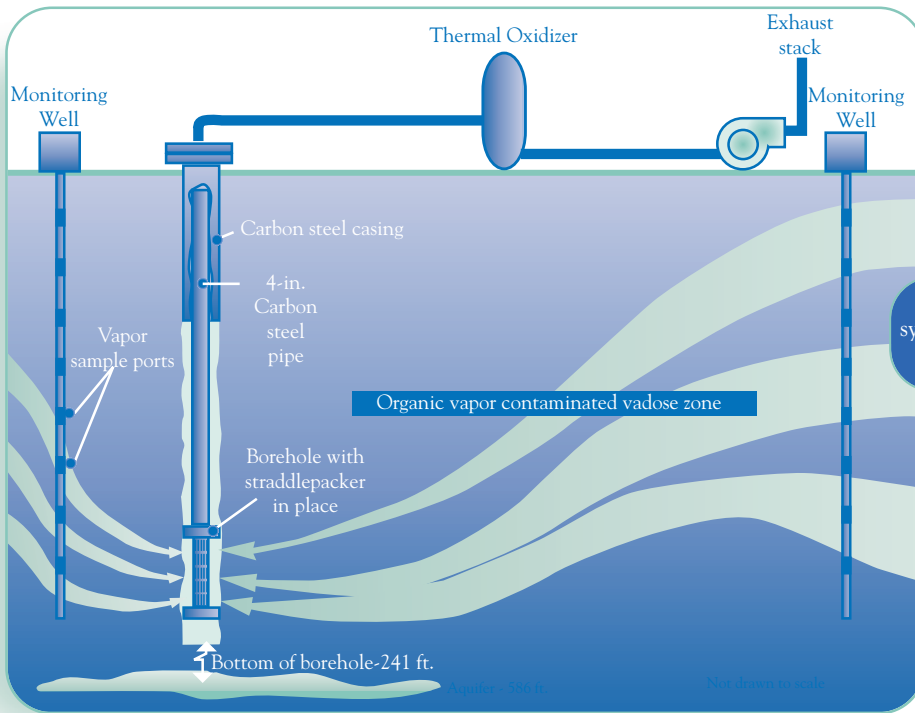
Vadose Zone:

The area between the land surface and the top of the Snake River Plain Aquifer.

Vapor Vacuum Extraction:

Removal of volatile organic vapors from the subsurface through an induced vacuum, followed by treatment at the surface prior to discharge to the atmosphere.

1 800
708-2680



Vapor vacuum extraction system at the Radioactive Waste Management Complex

In Situ Treatment:

Treatment of waste or contaminated soils in place.

Ex Situ Treatment:

Treatment of waste or contaminated soils after removal/excavation.

Radioactive Waste Management Complex Status:

- 15 Sites Investigated
- 3 Required No Action
- 1 Remedial Action Completed per Record of Decision
- 2 Remedial Actions Ongoing per Records of Decision
- 9 Investigated with Comprehensive Investigation

Martin Advanced Environmental Systems, the current subcontractor on the project, fails to perform their Pit 9 subcontract.

The Acid Pit is an inactive pit centrally located in the Subsurface Disposal Area. From 1954 to 1961, the pit received liquid organic and inorganic wastes, some of which were radioactively contaminated. In September 1997, a section of the Acid Pit was used for an *in situ* stabilization treatability study, which involved the high-pressure injection of grouting material into contaminated wastes and soils to cause mixing and subsequent stabilization (encapsulation) of the wastes. Based on data from this study, the technology may be used to help remediate buried waste pits.

The Radioactive Waste Management Complex transuranic pits and trenches investigation was combined with the comprehensive investigation to consolidate the investigation process for the Radioactive Waste Management Complex. Completion of the combined comprehensive investigation was rescheduled to 2003 because of delays on the Pit 9 Project. The comprehensive investigation will determine possible impacts to human health and the environment from a variety of remedial alternatives considered. In situ and *ex situ* treatment and containment alternatives will also be explored.



A 1998 drilling program at the pits and trenches is designed to address key investigation needs. These include determining the extent of contamination in the subsurface below the waste and the properties of buried waste and drum degradation, as well as obtaining waste and contaminated soils to be used for studies to support alternatives analysis.

Details concerning the January 1998 forum on remediation of the pits and trenches are included in "Topics of Interest" (p. 15)

Comment Period Extended

The comment period for the proposed plans for the Naval Reactors Facility (Waste Area Group 8) and for Argonne National Laboratory–West (Waste Area Group 9) has been extended to March 12, 1998.

Naval Reactors Facility Status:

- 71 Sites Investigated
- 43 Required No Action
- 10 Addressed in 1994 Record of Decision
- 18 Addressed with Comprehensive Investigation



1 Removal Action Completed



Aerial photo of the Naval Reactors Facility

Naval Reactors Facility (Waste Area Group 8)

The Naval Reactors Facility was established in 1949 as a testing site for the Naval Nuclear Propulsion Program. The facility consists of three naval nuclear reactor prototype plants, the Expanded Core Facility, and various support buildings. The submarine thermal reactor prototype was constructed in 1951 and shut down in 1989; the large ship reactor prototype was constructed in 1958 and shut down in 1994; and the submarine reactor plant prototype was constructed in 1965 and shut down in 1995. The prototypes were used to train sailors for the nuclear navy and for research and development purposes. The Expanded Core Facility, which receives, inspects, and conducts research on naval nuclear fuel, was constructed in 1958 and is still operational. The contaminants of concern for the Naval Reactors Facility are primarily radionuclides and lead.



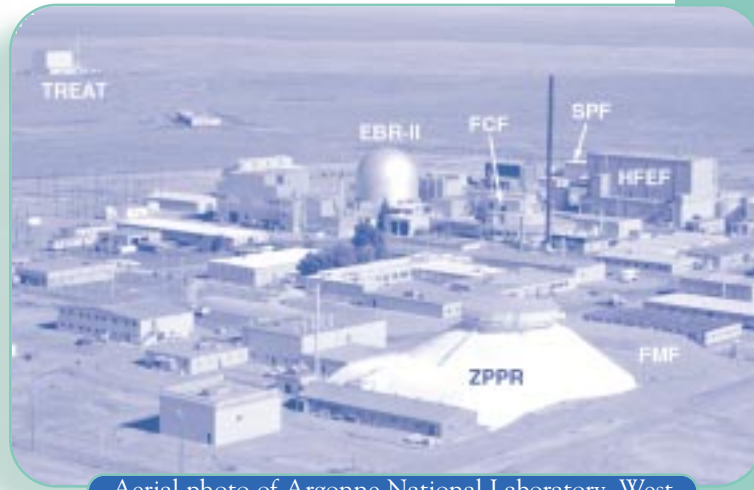
The Naval Reactors Facility comprehensive investigation was completed in 1997. Limited excavation, disposal, and containment was selected as the preferred alternative. Public meetings were held in January; the public comment period ends March 12, 1998.

During 1998, the Record of Decision for the comprehensive investigation will be signed. Once the Record of Decision is signed, remedial design will be completed, and final remediation of Naval Reactors Facility sites will commence in the Fall.

Naval Reactors Facility Comprehensive Investigation Alternatives:

- No action
- Limited action
- Complete excavation and offsite disposal
- Limited excavation, disposal, and containment

Argonne National Laboratory–West (Waste Area Group 9)



Aerial photo of Argonne National Laboratory–West

Argonne National Laboratory–West was established in the mid-1950s. The laboratory houses extensive support facilities for three major reactors: the Transient Reactor Test Facility, the Experimental Breeder Reactor-II, and the Zero Power Physics Reactor. The Transient Reactor Test Facility has been used mainly for safety tests for various fuel types as well as for nonreactor experiments. The Experimental Breeder Reactor-II is currently undergoing shutdown, and the Zero Power Physics Reactor was placed in standby condition in 1992. The contaminants of concern are in shallow ditch and pond sediments and include Cesium-137 and 12 inorganic contaminants.

The Argonne National Laboratory–West comprehensive investigation was completed in November 1997. Public meetings were held in January; the public comment period ends March 12, 1998. Five alternatives were evaluated to eliminate unacceptable risks to human health and the environment. **Phytoremediation** is the preferred alternative and bench-scale testing on selected plants has been initiated.

During 1998, the Record of Decision for the comprehensive investigation will be signed. Once the Record of Decision is signed, remedial design and action will be initiated, and remediation activities for Argonne National Laboratory–West sites will commence. 🌱

Phyto-remediation:

A process of using plants to remove contaminants from soil.

Argonne National Laboratory–West Status:

- 39 Sites Investigated
- 34 Required No Action
- 5 Require Remedial Action per Proposed Plan



1 Removal Action Completed

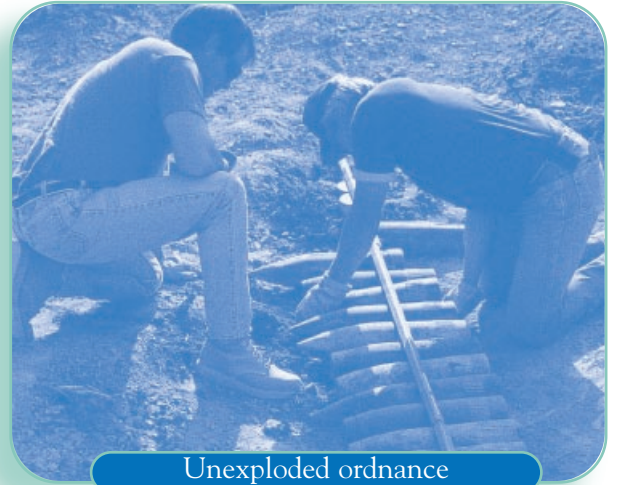
Argonne National Laboratory–West Comprehensive Investigation Alternatives:

- No action, with monitoring
- Limited action
- Containment
- Excavation and disposal
- Phytoremediation

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Miscellaneous Sites/Snake River Plain Aquifer (Waste Area Group 10)

Waste Area Group 10 includes areas in and around INEEL facilities that cannot otherwise be addressed on a waste area group-specific basis. The boundaries of Waste Area Group 10 are INEEL boundaries or beyond, as necessary, to encompass real or potential impact from INEEL activities. Waste Area Group 10 includes the Liquid Corrosive Chemical Disposal Area, the Organic Moderated Reactor Experiment leach pond, former naval ordnance areas, and the Snake River Plain Aquifer.




Unexploded ordnance

Unexploded ordnance existed throughout six main locations: the Central Facilities Area Gravel Pit, a storage bunker north of the Idaho Chemical Processing Plant, the National Oceanic and Atmospheric Administration Grid, Central Facilities Area Building 633, Fire Station II Zone, and Power Line Road. The ordnance was primarily a result of past activities associated with the former Naval Proving Ground prior to the inception of INEEL in 1949. These activities included aerial bombing practice, naval artillery testing, explosives storage bunker testing, and ordnance disposal.

In 1993 and 1994, removal actions were conducted at various unexploded ordnance sites to remove or detonate ordnance onsite. During 1997, an additional removal action for unexploded ordnance was conducted. A total of 204 acres was cleared of unexploded ordnance and 30,690 pounds of unexploded ordnance-related scrap were removed.

*Unexploded
Ordnance
Removal Action
Completed*

The Waste Area Group 10 comprehensive investigation was initiated and field work was completed. During 1998, the comprehensive investigation will continue with development of the work plan. The proposed plan, which will detail the alternatives evaluated and the preferred alternative, will be completed in early 2001. A public comment period will follow. 

Miscellaneous Sites/Snake River Plain Aquifer Status:

- 38 Sites Investigated
- 26 Required No Action
- 1 Record of Decision Signed
- 11 Investigated with Comprehensive Investigation
- Incorporates Sites Identified in Waste Area Group 6



3 Removal
Actions
Completed



Decontamination and Dismantlement Program

The **Decontamination and Dismantlement (D&D)** Program mission is the safe disposition of inactive, contaminated facilities and structures at INEEL. Highlights of the D&D Program for 1997 include:

- Removal of asbestos roofing at the Auxiliary Reactor Area-I
- Removal of reinforced shielding concrete from the Auxiliary Reactor Area-I hot cell facility
- Recycling of 50 tons of scrap steel from the Auxiliary Reactor Area-III
- D&D of a guardhouse facility at the Auxiliary Reactor Area-II
- D&D of a reinforced storage bunker from the Army Reentry Vehicle Facility Site
- D&D of a maintenance building “big shop” at the Central Facilities Area
- D&D of a cooling water pumphouse at the Test Reactor Area
- D&D of a waste monitoring station and an off-gas treatment cell at the Idaho Chemical Processing Plant.

In addition, D&D of the Boiling Water Reactor Experiment-V reactor facilities was accomplished with a cost savings of approximately \$225,000. 

Decontamination and Dismantlement:

When facilities that contain radioactive or hazardous materials reach the end of their useful life, they are decommissioned. Depending on the amount and kinds of contamination, the facility can be decontaminated and used for another purpose or the facility may be totally dismantled.

For D&D highlights

from previous years, refer to previous issues of the *Citizens' Guide* or call INEEL at 1 (800) 708-2680.



Demolition and remediation of the Central Facilities Area Big Shop: before, during and after





Public Involvement

Citizens can request copies of INEEL environmental restoration documents by calling INEEL's toll-free number, 1 (800) 708-2680. Citizens are encouraged to review the documents and submit suggestions to DOE in writing, attend a planned public workshop concerning the documents, and submit comments in person or access the documents via the Internet and respond electronically. Requests for briefings, group discussions, tours, and other interactions can also be made by calling INEEL's toll-free phone number.

Forum Held on Remediation of Pits and Trenches

Idaho Falls took center stage January 13 through 15 for remediation technology information. In a joint effort between the U.S. Department of Energy, the U.S. Environmental Protection Agency, the State of Idaho, and LMITCO, a forum was held to address the remediation of pits and trenches.

The forum was organized to promote interaction with industry representatives in an effort to find viable remediation alternatives for the Radioactive Waste Management Complex pits and trenches. Presentations and discussions provided a venue for INEEL environmental restoration personnel to better understand what technology exists and how it has been used, any problems encountered with the technology, and how it can apply to our situation.

The 96-acre Subsurface Disposal Area at the Radioactive Waste Management Complex consists of 16 pits and 58 trenches (waste volume is estimated at approximately 243,000 cubic yards) that received transuranic, low-level radioactive, and hazardous wastes from 1952 to the present. Burial of transuranic wastes stopped in 1970 after about 78,000 cubic yards had been buried.


Two pits, Pit 9 and the Acid Pit, are currently being treated under other actions and were not included in the forum. Pit 9 is a one-acre pit containing transuranic and mixed waste; the Acid Pit was used for direct disposal of both organic and non-organic liquid waste.

Prior demonstrated experience with the remediation technology was an essential prerequisite for industry participation. During the 3-day event, 30 companies presented information in various areas including characterization, monitoring, retrieval and segregation of buried waste, ex situ treatment, and in situ treatment.

The forum hosted over 150 participants, including national and international industry representatives (contractors, technology vendors), INEEL environmental restoration personnel, DOE Headquarters representatives, U.S. Environmental Protection Agency and State of Idaho regulators, key stakeholders, and community representatives. Representatives from other DOE sites with related problems or needs also attended.

1800
708-2680


In addition to providing a venue to better understand available remediation technology and promote interaction with industry, the forum provided several other benefits. Through the interaction, the participating companies learned about contracting in the DOE system and can now better position themselves for future remediation opportunities at INEEL and other DOE sites. The forum also provided increased opportunities for integrating contractors to link with various technology vendors. Finally, the perceptions of what is possible and what is “cutting edge” for remediation solutions was broadened.

Armed with the information from the forum, the agencies can chart a successful path forward. The environmental restoration team is now evaluating the various remediation alternatives for the Radioactive Waste Management Complex pits and trenches. Following a public comment period, the selected remedy will be documented in a Final Record of Decision in April 2003, then remedial design and action will commence. 

INEEL Celebrates 20 Years of Excellence in D&D Work

During 1997, INEEL celebrated 20 years of successful decontamination and dismantlement (D&D) work. INEEL's D&D group has decommissioned six major facilities at the site, all without incident or accident. In addition, the work has been done at an average of 15 percent below projected costs. The goal of D&D is to make the site safe and stable while protecting the environment, workers, and the public.

Because of its expertise, INEEL provides consultation, training, and printed guidance and is called on to support D&D projects at other Department of Energy facilities as well as providing support to other agencies, including the U.S. Army and the U.S. Air Force. In fact, a D&D plan developed by INEEL for a McClellan Air Force Base D&D project is now used as an Air Force standard D&D plan.

Malaysian, Korean, Indonesian, and Taiwanese D&D programs are being assisted by INEEL experts. In addition, more than 150 universities have research reactors designated for D&D. This creates a potential market that can benefit from INEEL expertise. The potential for the INEEL D&D team to expand its business base is great based on a successful 20-year history. 

Administrative Record

The Administrative Record is the collection of documents required by the Comprehensive Environmental Response, Compensation, and Liability Act and used by the three agencies to select a response action. The Administrative Record serves as a vehicle for public participation in selecting a response action, provides information on the project being investigated, and maintains the collection of documents used in court if a response action is challenged.

The Administrative Record is maintained at the INEEL Technical Library in Idaho Falls. 1776 Science Center Dr. Idaho Falls, ID 83415 (208) 526-1185

Copies of the Administrative Record are maintained in the Fort Hall and University of Idaho libraries.

The Administrative Record can also be accessed via the Internet at: <http://ar.inel.gov/home.html>.

INEEL Information Repositories

Information repositories contain background information and current studies involving INEEL and general cleanup activities, technical studies, and other information that may be of interest to the public such as press releases, fact sheets, *INEEL Reporters*, and information on public technical assistance grants. Locations of INEEL information repositories are:

INEEL Technical Library
DOE Public Reading Room
1776 Science Center Drive
Idaho Falls, ID 83415
(208) 526-1185

Shoshone-Bannock
Library
HRDC Building
Bannock and Pima Streets
Fort Hall, ID 83202
(208) 238-3882

University of Idaho Library
University of Idaho Campus
434 2nd Street
Moscow, ID 83843
(208) 885-6344

How to Get More Information

There are several ways to obtain information about INEEL environmental restoration activities:

Target Mailing Lists

Mailing lists are maintained and continually updated so interested citizens and groups can automatically receive general or specific INEEL information. You can request to be added to mailing lists by calling the INEEL toll-free number.



Toll-Free Phone Number

To request specific documents; request a speaker or briefing on a particular topic; inquire about public meetings or public comment periods; schedule a tour of INEEL; or request other information, call the INEEL toll-free number at 1 (800) 708-2680.



Videos/Instructional Materials

Videos and brochures are available on a variety of subjects, including the Snake River Plain Aquifer, waste management, and general INEEL history. To request the use of such items, call the INEEL toll-free number.



Internet

The INEEL Home Page is available at <http://www.inel.gov>. Specific INEEL environmental information is available at <http://www.inel.gov/environment/enviro.html>. The INEEL Administrative Record is available at <http://ar.inel.gov/home.html>.



Information Repositories

DOE maintains three information repositories throughout Idaho. Information repositories are a collection of documents that provide detail and backup information on INEEL cleanup projects.




INEEL Idaho Falls Office

The INEEL Community Relations Office is located in Idaho Falls and can provide information and briefings on environmental restoration topics. Call the INEEL Community Relations Plan coordinator at (208) 526-4700 or use the INEEL toll-free number.



INEEL Boise Regional Office

An INEEL Regional Office is located in Boise to provide information and other resources for those located in the western portion of the state. The office is located at 805 West Idaho Street, Suite 301, Boise, Idaho 83703, or call 208-334-9572. 



Calendar

February	mon.	tues.	wed.	thurs.	fri.
	2	3	4	5	6
	9	10	11	12	13
	16	17	18	19	20
	23	24	25	26	27
	2	3	4	5	6

February 16–Test Area North Public Comment Period begins

February 23–Test Area North Public Meeting, Idaho Falls, Shilo Inn

February 24–Test Area North Public Meeting, Boise Public Library Auditorium

February 26–Test Area North Public Meeting, Moscow, University Inn

Upcoming Activities and Public Comment Periods:

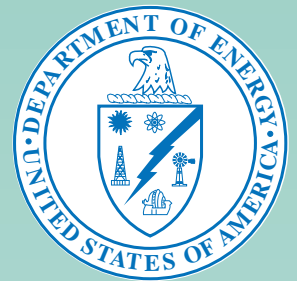
To receive current information on upcoming activities and public comment periods, refer to bi-monthly issues of the *INEEL Reporter* or call the INEEL toll-free number.

March 12–Naval Reactors Facility and Argonne National Laboratory–West Public Comment Period closes

March 17-18–INEEL Citizens Advisory Board Meeting, Pocatello

March 18–Test Area North Public Comment Period closes

March	mon.	tues.	wed.	thurs.	fri.
	2	3	4	5	6
	9	10	11	12	13
	16	17	18	19	20
	23	24	25	26	27
	30	31	1	2	3



April	mon.	tues.	wed.	thurs.	fri.
	30	31	1	2	3
	6	7	8	9	10
	13	14	15	16	17
	20	21	22	23	24
	27	28	29	30	1

April–Waste Management Progress Issued

Idaho Chemical Processing Plant Proposed Plan to be completed (Note: Public comment period and meetings will be held in late April or early May)

April 7-8–INEEL Health Effects Subcommittee Meeting, Boise

Environmental Restoration Progress is an annual DOE newsletter produced for the public by the INEEL Environmental Restoration Program. If you have any questions about the program or articles contained in this document, please call:


Erik Simpson,
INEEL Community Relations Plan Coordinator,
(208) 526-4700
or the INEEL toll-free number:

**1 800
708-2680**



Cover Photo:

The Big Lost River near the INEEL.

The *Environmental Restoration Progress* supplement to the *INEEL Reporter* provides an overview of the INEEL Environmental Restoration Program activities. The Environmental Restoration Program is responsible for environmental investigation and cleanup at “inactive” sites. Status information for operational sites at INEEL will be the topic of the *Waste Management Progress* supplement, which will be issued in April. 

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