EPA Region 10 on January 29, 1990 (Monson 1992). This Notice of Noncompliance Consent Order addresses concerns regarding the RCRA secondary containment requirements for the INEEL HLW tanks by prescribing dates by which the tanks must be removed from service. In accordance with this Consent Order and an August 18, 1998 modification (Cory 1998), five of the tanks known as pillar and panel tanks must be removed from service ("cease use") on or before June 30, 2003 and the remaining tanks on or before December 31, 2012. DOE-ID and the Idaho ***Department*** of Environmental Quality have agreed to define "cease use" as emptying the tanks to their "heels" (Cory 1998). A third modification to the Consent Order on April 19, 1999 (Kelly 1999) further stipulates that DOE must place the New Waste Calcining Facility calciner in a standby mode by June 1, 2000 unless the facility receives a hazardous waste permit for continued operation. ***DOE placed the calciner in standby prior to the deadline of June 1, 2000 and submitted a two-phased, partial closure plan on August 29, 2000, for the calciner portion of the New Waste Calcining Facility that is consistent with the Consent Order milestone and 40 CFR 265.112(a). If DOE decides in the Record of Decision for this EIS to upgrade and permit the calciner, DOE would modify the closure plan accordingly through the permitting process.***

### Settlement Agreement/ Consent Order

In October 1995, the State of Idaho, the Department of the Navy, and DOE settled the case of Public Service Company of Colorado v. Batt, involving the management of spent nuclear fuel at INEEL. The resulting Consent Order (USDC 1995) requires DOE, among other things, to:

- Complete calcination of all remaining non-sodium bearing liquid ***mixed*** HLW by June 1998 (completed February 1998)
- Start negotiations with the State of Idaho by December 31, 1999 regarding a plan and schedule for treatment of calcined waste ***(begun September 1999)***
- Start calcination of liquid mixed transuranic waste/SBW by June 2001 (begun February 1998)
- Complete calcination of liquid mixed transuranic waste/SBW by December 2012
- Treat all ***HLW currently*** at INEEL ***so that it is ready to be moved out*** of Idaho ***for disposal*** by a target date of 2035

The Settlement Agreement/Consent Order also addresses the potential that the National Environmental Policy Act process may result in selection of an action that conflicts with the actions in the Agreement. In that event, ***Section J.4 of the Agreement provides a process where*** DOE may request ***a modification to the Settlement Agreement requirements*** to conform to the selected actions.

### Site Treatment Plan

Under the Federal Facility Compliance Act of 1992, DOE was required to enter into an agreement with the State of Idaho as to how it would attain compliance with applicable treatment requirements for mixed wastes at INEEL. The Site Treatment Plan (DOE 1998a) sets forth the terms and conditions with which DOE must comply to satisfy the land disposal restrictions applicable to the hazardous components of the mixed wastes at INTEC. The Plan proposes treatment of ***mixed*** HLW and mixed transuranic waste/SBW by calcination through the New Waste Calcining Facility and a new Remote-Handled Immobilization Facility for processing the waste into forms suitable for disposal. In accordance with provisions of the Site Treatment Plan, these waste treatment proposals are updated annually by DOE.

## 2.3 EIS Scope and Overview

This EIS examines potential environmental impacts associated with managing mixed HLW and mixed transuranic waste/SBW and closing the HLW management facilities at INTEC. The

## National Environmental Policy Act

A thorough understanding of environmental impacts that may occur when implementing proposed actions is a key element of Department of Energy decision-making. The National Environmental Policy Act provides Federal agency decision-makers with a process to consider potential environmental consequences (beneficial and adverse) of proposed actions ***and alternatives*** before agencies make decisions. An important part of this process is the opportunity for the public to learn about and comment on proposed agency actions before a decision is made.

The Act requires Federal agencies to consider the potential environmental impacts of their proposed major actions before implementing them. If a proposed action could have a significant impact on the environment, the agency must prepare an Environmental Impact Statement.

Environmental Impact Statement:

A detailed environmental analysis for any proposed major Federal action that could significantly affect the quality of the human environment. A tool to assist in decision-making, it describes the positive and negative environmental effects of the proposed undertaking and alternatives. A draft EIS is issued, followed by a final EIS.

Scoping:

An early and open process in which the public is invited to participate in identifying issues and alternatives to be considered in this EIS. DOE allows a minimum of 30 days for the receipt of public comments.

Alternatives:

A range of courses of action that would meet the agency's purpose and need for action. Council on Environmental Quality regulations require that an EIS consider a No Action Alternative.

Comment Period:

A regulatory minimum 45-day period for public review of a draft EIS during which the public may comment on the environmental analyses and suggest revisions or additional issues or alternatives to be evaluated in the final EIS. The agency considers these comments in its preparation of the final EIS.

Record of Decision:

A public record of the agency decision, issued no sooner than 30 days after publication of a final EIS. It describes the decision, identifies the alternatives (specifying which were considered environmentally preferable) and the factors balanced by an agency in making its decision.

EIS also includes an alternative under which the Idaho HLW would be treated at the Hanford Site.

The EIS has been prepared in accordance with requirements established under the National Environmental Policy Act of 1969, as amended (42 USC 4321 et seq), the Council on Environmental Quality (40 CFR 1500 et seq.), and DOE (10 CFR 1021). In addition, this EIS seeks to fulfill the objectives of the National Environmental Policy Act as discussed in the Western Governors' Associations' Policy Statement (WGA 1996).

A key element of DOE decisionmaking is a thorough understanding of environmental impacts

that may occur when implementing a proposed action. DOE, with the State of Idaho as a cooperating agency, has prepared this EIS to (1) assess various treatment and disposal alternatives and (2) provide the necessary background, data, and analyses to help decisionmakers and the public understand the potential environmental impacts of each alternative. DOE will present its decision in a Record of Decision, which will be issued after the EIS is complete.

During DOE's initial activities preparing this EIS, it became apparent that the State of Idaho has special expertise and perspectives that can assist DOE in its data gathering and analysis activities. From the perspective of DOE, it was advantageous to obtain input from the State on the regulatory implications of implementing the various alternatives considered in the EIS as early as possible in the process. From the State's perspective, early consideration of these regulatory implications and consideration of the technical aspects of the alternatives by State experts would improve the EIS and facilitate DOE's ***progress*** toward meeting the legal requirements of the Idaho Settlement Agreement/Consent Order, a goal the State has a very strong interest in seeing met. Among other things in the Idaho Settlement Agreement/Consent Order, DOE agreed to evaluate alternatives for the treatment of mixed HLW and ***to*** treat all mixed HLW at INEEL so that it is ready to be moved out of Idaho for disposal by a target date of 2035. ***This*** EIS will help DOE make informed decisions about how best to carry out these activities.

Agencies that agree to work together on an EIS can do so formally in several different ways (40 CFR 1501 et seq.). Accordingly, on September 24, 1998, the State of Idaho and DOE entered into a Memorandum of Understanding in which both parties agreed that the most effective relationship would be one in which DOE serves as "Lead Agency" and the State serves as the "Cooperating Agency."

### 2.3.1 OTHER RELATED NEPA AND CERCLA *REVIEWS*

DOE must manage the HLW generated at facilities across the country that were involved in the processing of spent nuclear fuel. Under current DOE plans, certain types of waste would be disposed of at geologic repositories, such as the Waste Isolation Pilot Plant for defense transuranic waste or the potential repository at Yucca Mountain for HLW and spent nuclear fuel. DOE must formulate alternatives for management of mixed HLW and mixed transuranic waste/SBW at INTEC that are consistent with alternatives considered in other EISs that relate to INEEL. Consistency means that the Idaho HLW & FD EIS should reasonably take into account activities considered in other EISs that

#### What is Road Ready?

The Settlement Agreement/Consent Order states that "DOE shall accelerate efforts to evaluate alternatives for the treatment of calcined waste so as to put it in a form suitable for transport to a permanent repository or interim storage facility outside Idaho." In this EIS, DOE uses the term "road ready" to describe the condition the waste must be in so that it can be transported out of Idaho and be accepted by a designated storage or disposal facility.

In order to be "road ready" to leave Idaho, the mixed HLW must meet the appropriate regulatory requirements for shipping radioactive waste over U.S. highways or rail systems. Meeting regulatory requirements includes putting the treated waste into a canister that can then be overpacked ***within*** a transportation cask. The transportation cask will be designed for protection during normal, incident-free transportation, as well as protection from accident conditions. In order to be accepted by a designated storage or disposal facility, the waste must meet the specific waste acceptance criteria of that facility.

For example, the waste acceptance criteria for HLW at ***the potential Yucca Mountain*** repository are being developed by DOE. These criteria include performance assessment standards, such as how much heat can be generated over time, safety analysis concerns, and any other requirements that NRC, the licensing authority, determines are appropriate.

may affect the management of wastes or disposition of facilities at INEEL.

An EIS may use previously developed information and analyses by "tiering" from other EISs. This EIS will use and supplement, as necessary, the information contained in the *Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs EIS* (SNF & INEL EIS) (DOE 1995) and the *Final Waste Management PEIS for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (Waste Management PEIS) (DOE 1997b).

Volume 2 of the SNF & INEL EIS is a sitewide EIS for the INEEL that assessed impacts from environmental restoration and waste management actions that may be taken over a 10-year period from 1995 to 2005. Volume 2 analyzed the potential environmental impacts associated with ongoing mixed HLW treatment, storage, and management operations at the INEEL. In a Record of Decision based on the SNF & INEL EIS (60 FR 28680; June 1, 1995), DOE decided to resume operation of the New Waste Calcining Facility calciner and to convert the mixed HLW and mixed transuranic waste/SBW to calcine prior to further treatment. DOE also decided to construct a facility to treat the mixed HLW calcine (and any remaining liquid waste) in accordance with RCRA requirements and on a schedule to be negotiated with the State of Idaho under the Federal Facility Compliance Act. In addition, DOE would install special equipment in the Tank Farm to rinse the tanks' interior walls and remove the tank heels in preparation for closure.

***Initially, DOE had questions regarding the ability of bin set 1 (one of seven bin sets available for the storage of mixed HLW calcine) to meet current seismic design standards, and if confirmed, DOE may have been required to move mixed HLW calcine from bin set 1 to bin set 6 or 7. However, the resultant Unresolved Safety Question concerning the structural integrity of bin set 1 has been resolved and, based on the Safety Analysis Report (DOE 2000a), the mixed HLW calcine in bin set 1 will not have to be transferred to another bin set. However, DOE continues to evaluate the structural integrity of bin set 1.***

This EIS analyzes the environmental impacts of ***mixed*** HLW and mixed transuranic waste/SBW management and facility disposition alternatives that encompass a broader timeframe than the 10-year period evaluated in Volume 2 of the SNF & INEL EIS. Decisions under this EIS will include (1) the future operational use of the New Waste Calcining Facility calciner, (2) the type of separations and/or immobilization technologies to be used for the mixed transuranic waste/SBW and mixed HLW at INTEC, and (3) methods for closure of HLW management facilities.

The Waste Management PEIS, issued in May 1997, is a DOE complex-wide study examining the environmental impacts associated with managing five types of radioactive and hazardous wastes generated by past, present, and future activities at sites located around the United States. The five types of waste examined in the Waste Management PEIS are low-level mixed waste, low-level waste, transuranic waste, hazardous waste, and HLW. The Waste Management PEIS characterizes and identifies the volumes of HLW at DOE facilities nationwide, including the INEEL, and uses or updates information presented in the SNF & INEL EIS. For HLW, the Waste Management PEIS only evaluated the storage of immobilized HLW in canisters; treatment and disposal of HLW were not analyzed. The preferred alternative in the Waste Management PEIS is for each of the four sites (one of which is INEEL) to store its own immobilized HLW canisters onsite until shipment to a geologic repository for disposal. The Record of Decision to proceed with DOE's preferred alternative of decentralized storage for immobilized HLW was issued August 26, 1999 (64 FR 46661). The storage of INEEL's immobilized HLW under the waste processing alternatives in the Idaho HLW & FD EIS is consistent with the HLW Record of Decision based on the Waste Management PEIS.

***The Waste Management PEIS Record of Decision for disposal of low-level waste and mixed low-level waste was issued February 25, 2000 (65 FR 10061). DOE has decided to establish regional low-level waste and mixed low-level waste disposal at two DOE sites: Hanford and the Nevada Test Site. (The term "regional" does not impose restrictions on which DOE sites may ship waste to a disposal site.) In addition, DOE will continue, to the***

***extent practicable, disposal of onsite low-level waste at INEEL, the Los Alamos National Laboratory, the Oak Ridge Reservation, and the Savannah River Site. INEEL and the Savannah River Site also will continue to dispose of low-level waste generated by the Naval Nuclear Propulsion Program. This decision, based on the Waste Management PEIS, does not preclude DOE's use of commercial disposal facilities, consistent with current DOE orders and policy.*** The low-level waste fraction from HLW processing at INEEL, Hanford, West Valley, and Savannah River was specifically excluded from the scope of the Waste Management PEIS. This reflected an understanding that each site would specifically evaluate these waste fractions as part of its site-specific EIS. ***Therefore, as each site would specifically evaluate the waste fractions as part of its site-specific EIS, DOE has analyzed in this EIS that low-level and mixed low-level waste will be disposed of consistent with the Waste Management PEIS Records of Decision.***

In addition to the programmatic EISs described above, other related National Environmental Policy Act analyses that will be considered in the Idaho HLW & FD EIS include:

EIS for the Treatment and Management of Sodium-Bonded Spent Nuclear Fuel (DOE 2000b) - This EIS, issued in July ***2000***, analyzes impacts of alternatives for treatment and management of DOE's inventory of sodium-bonded spent nuclear fuel, much of which is stored at INEEL. This type of fuel contains metallic sodium between the cladding and fuel to improve heat transfer during reactor operations. Treatment of this fuel may be needed prior to disposal due to its reactive and pyrophoric characteristics. Sites analyzed for treatment of this fuel are the Argonne National Laboratory - West at the INEEL and the Savannah River Site. The EIS for sodium-bonded fuel evaluates management and treatment of some of the same types of waste that are evaluated in the Idaho HLW & FD EIS. ***The Record of Decision to proceed with DOE's preferred alternative to electrometallurgically treat some of the sodium-bonded spent nuclear fuel (e.g., fuel from Experimental Breeder Reactor-II) at Argonne National Laboratory-West was issued September 19, 2000 (65 FR 56565). DOE also decided to continue to store some of the sodium-bonded spent nuclear fuel (fuel from Fermi-1) while alternative treatments are evaluated.***

CERCLA Record of Decision for Waste Area Group 3 – The INEEL ***CERCLA*** Program evaluated potential remedial actions. During that evaluation, DOE identified discharges to the existing percolation ponds at INTEC to be a major factor in moving contaminants from the vadose zone under INTEC to the Snake River Plain Aquifer. Alternatives to the existing percolation ponds were evaluated in Davison (1998), including recycling, discharging to the Big Lost River, evaporation ponds, and moving the percolation ponds away from INTEC. DOE, through the CERCLA Record of Decision for the Operable Unit 3-13 portion of Waste Area Group 3 (DOE 1999***d***), decided to replace the existing percolation ponds with new percolation ponds to be constructed approximately 10,200 feet southwest of the current percolation ponds. A wastewater land application permit application for the new ponds ***was submitted to*** the State of Idaho in ***March 2000***. ***In accordance with the CERCLA Record of Decision***, the existing ponds are not expected to receive wastewater after ***December 2003*** and the new ponds are planned to be operational by ***December 2003***. The impacts resulting from this decision and other remedial actions at INTEC carried out by the INEEL ***CERCLA*** Program are presented as cumulative impacts in this EIS.

The Waste Isolation Pilot Plant Disposal Phase Final Supplemental EIS (DOE 1997d) – This supplemental EIS analyzes the treatment and storage of transuranic waste and disposal of such waste at the Waste Isolation Pilot Plant ***near*** Carlsbad, New Mexico. The final supplemental EIS was issued in September 1997. The Record of Decision for disposal of transuranic waste at the Waste Isolation Pilot Plant (63 FR 3624) was issued January 23, 1998. That decision calls for disposal of up to 175,600 cubic meters of transuranic waste at the Waste Isolation Pilot Plant after treatment, as necessary, to meet the waste acceptance criteria (Revision 5). A Record of Decision for the facility locations of treatment and storage of transuranic waste (63 FR 3629; January 23, 1998), based on the Waste Management PEIS, was issued at the same time. Some radioactive waste at INTEC may be affected by these transuranic waste management

decisions based on this supplemental EIS and the Waste Management PEIS.

EIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain (DOE *2002a*) – ***DOE prepared a draft EIS for a geologic repository at Yucca Mountain that evaluates potential environmental impacts from the construction, operation and monitoring, and eventual closure of the repository, including potential long-term post-closure effects. A supplement to the draft EIS was issued May 4, 2001 (66 FR 22540). This supplement to the draft EIS addresses the latest repository design information and the corresponding environmental impact analyses. The final EIS was completed in February 2002 (67 FR 9048, February 27, 2002) and accompanied the Secretary of Energy's recommendation to the President in early February 2002 as required by the Nuclear Waste Policy Act (Abraham 2002a). The President submitted his recommendation of the Yucca Mountain site to Congress on February 15, 2002 (Bush 2002). The Governor of the State of Nevada vetoed the recommendation on April 8, 2002. On July 9, 2002, Congress passed a resolution affirming the President's decision to designate the Yucca Mountain site for the repository. President Bush signed the resolution on July 23, 2002.***

Final Environmental Impact Statement, Tank Waste Remediation System (DOE *1996b*) – The Tank Waste Remediation System EIS evaluated alternatives for retrieval, treatment, and disposal of the Hanford tank wastes. The final EIS was issued in August 1996, and DOE's Record of Decision was published February 26, 1997 (62 FR 8693). A supplement analysis (DOE 1998b) considered new information and data obtained since the final EIS. The Tank Waste Remediation System EIS is relevant to the Idaho HLW & FD EIS because a portion of the inventory of radioactive waste at INTEC is being considered for treatment at the Hanford Site.

Final Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility (NI PEIS) (DOE *2000c*) – ***The NI PEIS evaluated the environmental impacts of four alternative strategies for meeting DOE's responsibility to ensure the availability of isotopes for medical, industrial and research applications, meeting the nuclear material needs of other Federal agencies, and undertaking research and development activities related to development of nuclear power for civilian use. In addition, the NI PEIS evaluated the environmental impacts of permanently deactivating the Fast Flux Test Facility at Hanford. The NI PEIS included an alternative to process irradiated neptunium-237 targets at the Fluorinel Dissolution Process Facility at INTEC, although that alternative was not preferred. The final NI PEIS was issued in December 2000. The Record of Decision was issued on January 26, 2001 (66 FR 7877). DOE decided to use the existing infrastructure to the extent possible and consider opportunities to enhance the existing facilities to maximize the agency's ability to address future mission needs.***

## *2.3.2 OTHER ACTIONS*

***Prospective Coal Fired Power Plant - A coal fired steam plant previously used for INTEC heating may be converted to a commercial coal fired power plant under a lease agreement with a private entity. This possibility is being discussed within DOE and with prospective applicants but at this point the action is considered speculative. Before DOE decides to lease the coal-fired plant, the private entity applicant must fund the preparation an environmental assessment (EA). DOE will release the EA for public review before deciding whether an EIS is required or whether a finding of no significant impact is appropriate, and before deciding whether to lease the coal fired plant. It is expected air emissions would be the primary issue and that a new cumulative air impact analysis for the INEEL would be conducted and presented in the EA.***

## 2.3.3 SCOPING PROCESS

The scoping process for ***this*** EIS began on September 19, 1997, when DOE published in the Federal Register its Notice of Intent to prepare an EIS to evaluate alternatives for managing HLW and associated radioactive wastes and

facilities at INEEL (62 FR 49209). The Notice of Intent included DOE's preliminary identification of EIS issues.

In accordance with the Idaho HLW & FD EIS Public Scoping Plan, DOE sponsored a number of activities and worked with stakeholders to identify new alternatives and issues and allow for meaningful information exchange. The activities included open houses; booths and displays at shopping malls throughout southern Idaho; presentations to schools and civic groups; individual briefings to key stakeholders such as government and Tribal officials, interest groups, site employees, and the INEEL Citizens Advisory Board; and public scoping workshops.

Scoping workshops were conducted in Idaho Falls and Boise, Idaho. DOE made announcements in local newspapers and other media to ***notify*** the public ***of*** these meetings. The workshops provided both formal and informal ways for the public to express their views and obtain information about the intended scope of the analysis. Participants worked in breakout groups to identify issues and alternatives the EIS should address. These issues and alternatives were entered as comments into the administrative record, along with written comments and transcriptions of personal interviews with stakeholders. The scoping period ended November 24, 1997.

During the scoping process, DOE received more than 900 comments addressing 49 categories under 8 issues areas (DOE also considered 69 comments it received either before or after the scoping period). The eight areas are: (1) alternatives; (2) environment, safety, and health; (3) legal, regulatory, and political; (4) National Environmental Policy Act process and public participation; (5) social, economic, and cultural; (6) technical issues; (7) other; and (8) out of scope. The key issues that were identified during the prescoping and scoping activities included:

**Treatment Criteria –** There is considerable uncertainty regarding the proposed repository at Yucca Mountain and the final technical standards for wastes that could be disposed of there. Given those uncertainties, determine what criteria DOE should use to establish that the waste form(s) produced are suitable for disposal in a geologic repository outside the State of Idaho (i.e., that a "road ready" waste form has been achieved).

**Disposal –** If a geologic repository is not available, determine what other disposal options exist for HLW outside the State of Idaho.

**Storage/Disposal in Idaho –** Clearly examine and explain any proposal to store or dispose of treated waste over the Snake River Plain aquifer, including performance-based or landfill closure of the Tank Farm as opposed to clean closure.

**Hazardous Constituents –** Develop a strategy for dealing with RCRA-regulated hazardous constituents.

**Technical Viability/Privatization –** Demonstrate in advance that the alternative selected will work. (Stakeholders were cautious regarding privatization of the proposed actions.)

**Cost-risk benefits –** The alternative selected should reduce health and safety risks enough to justify the cost of treatment and any additional risk to workers posed by the treatment activities.

**Funding –** Cleanup of the INEEL site is important, and the Federal government should seek adequate funding to honor its commitments to do so.

**Compliance Concerns –** Numerous, and in some cases conflicting, compliance requirements exist for the INEEL HLW management and facilities disposition activities. These conflicts should be clarified, and the compliance factors prioritized. (The majority of the ***commentors*** support the Settlement Agreement/Consent Order. Some ***commentors*** advocated consideration of a "fully compliant" alternative.)

The results of the scoping activities for this EIS are documented in the Scoping Activity Report (DOE 1998c). DOE has used the comments to refine the alternatives and options analyzed in this EIS as described in Chapter 3.

Subsequent to the scoping period, three DOE documents with potential to influence ***this*** EIS were subjected to public evaluation and comment. These documents are (1) the Waste Area Group 3 Remedial Investigation/Feasibility

Study (Rodriguez et al. 1997; DOE 1997e); (2) DOE's Office of Environmental Management Remediation Plan for the DOE Weapons Complex (DOE 1998d); and (3) the AMWTP EIS (DOE 1999*e*). To the extent that public comments on these documents affect ***issues within the scope of this EIS, they are*** addressed.

### 2.3.4 PUBLIC COMMENT PROCESS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

***DOE published the Notice of Availability of the Draft EIS in the Federal Register on January 21, 2000 (65 FR 3432). The Notice of Availability provided information on how the public could obtain copies of the Draft EIS and the locations, dates, and times of the public hearings. The public was provided an opportunity to comment at public hearings held in Idaho Falls, Pocatello, Twin Falls, and Boise, Idaho; Jackson, Wyoming; Portland, Oregon; and Pasco, Washington. At these public hearings, DOE officials and the Manager of the State of Idaho INEEL Oversight Program presented overviews of the Draft EIS from their respective points of view. Members of the public were provided an opportunity to ask questions of the DOE and State representatives and to provide oral and/or written comments on the EIS. DOE initially established a 60-day public comment period. In response to public requests, DOE subsequently extended the public comment period to 90 days (65 FR 9257, February 24, 2000). DOE also held an additional public hearing in Fort Hall, Idaho.***

***DOE provided a variety of opportunities for the public to review and comment on the Draft EIS. In addition to the public hearings, other activities included radio announcements in four Western states, newspaper advertisements in nine states, distribution of Draft EIS information to more than 1,400 individuals and organizations in 27 states and the District of Columbia, and briefings for interested groups and individuals. Briefings were held with government and tribal officials, interest groups, INEEL employees, DOE citizens advisory boards in Idaho and Washington, and state and Federal agencies.***

***DOE received more than 1,000 comments from about 100 individuals and organizations, all of which have been considered in preparing the Final EIS (See the Comment Response Document, Chapter 11, which summarizes the comments received and provides responses to those summaries. See Appendix D for comment documents.). In developing its responses, DOE assembled a group including representatives of the INEEL Citizen's Advisory Board, Shoshone-Bannock Tribes, State of Idaho, and the management and operating contractor for INEEL to summarize key concerns identified during the public comment period. Based on these efforts, the key issues of concern to the public include:***

Preference for treatment alternatives - ***Commentors expressed opinions in support of, or against, various alternatives.***

Calciner operations and thermal treatment - ***Comments relating to operation of the New Waste Calcining Facility generally fell into two groups: those supporting the use of the calciner, and those who opposed its use. Although commentors expressed a range of positions relating to technologies (and thus alternatives) that employ thermal treatment, many opposed thermal treatment such as incineration.***

Schedule for treatment - ***Some commentors urged DOE to treat liquid waste first because it represents a more serious threat to the environment than HLW calcine.***

Reclassification of waste - ***Commentors were divided in their positions as to whether waste could or should be reclassified as mixed transuranic waste.***

Repository issues - ***Commentors expressed concerns about the methods of calculating MTHM, including the uncertainties about the availability of the proposed repository for INEEL HLW and the waste acceptance criteria that precludes disposal of RCRA listed waste.***

Impacts to air and water, including the Snake River Plain Aquifer - ***Commentors generally agreed that protection of air and water resources, particularly the Snake River Plain Aquifer, should be a primary concern.***

*Public involvement - **Commentors asked for continuing opportunities to participate in making decisions about HLW management.***

*Decision-making and obligations to states/tribes versus funding constraints - **Commentors submitted a range of comments relating to the costs of implementing the EIS alternatives. Some recommended that costs not be considered in decision-making while others were concerned that the cost estimates provided would result in biased decision-making or that alternatives were biased because of high costs. Commentors requested information about funding and asked to be involved if DOE has to re-prioritize cleanup and waste management activities because of budget shortfalls.***

*Meeting agreements/requirements versus making sound technical decisions - **Commentors were divided as to which should receive a higher priority: expediting treatment to meet Settlement Agreement/Consent Order and regulatory milestones, or taking more time to decide on an alternative that is potentially more technically sound.***

*Honoring policies/agreements/treaties with tribes - **Shoshone-Bannock Tribe members maintained that DOE must honor all its promises to Native Americans.***

***DOE considered the public comments in the preparation of this EIS. Some comments resulted in changes to the EIS. Other comments required responses to answer technical questions, improve readers' understanding, or explain DOE policies. Some of the comments addressed activities outside the scope of this EIS (e.g., DOE actions that are unrelated or being evaluated in other National Environmental Policy Act documentation). These concerns were forwarded to the DOE organizations responsible for these National Environmental Policy Act evaluations. DOE and the State of Idaho considered public comments along with other factors such as programmatic need, health and safety, technical feasibility, and cost in arriving at their respective Preferred Alternatives.***

***Consideration of public comments on the draft EIS helps ensure the EIS provides information to support decision making. This EIS has been enhanced, as appropriate, in response to public comments. These enhancements include, but are not limited to, the following:***

- ***Identification of the DOE and State of Idaho Preferred Alternatives selected based on consideration of public comment and other information, such as DOE's top-to-bottom review of the Environmental Management Program (Abraham 2002b).***
- ***Sections discussing flood studies and the potential for flooding were clarified.***
- ***Appendix C.9 has been updated to include the results of quantitative sensitivity analyses of the effects of changes in assumed time of grout failure, infiltration rate, and distribution coefficients on the resulting radiation dose to human receptors.***
- ***Sections of the EIS detailing the terms of the Settlement Agreement/Consent Order have been updated to be more internally consistent and to update the status of related milestones.***
- ***A number of editorial changes were made to the EIS to correct errors, and to clarify discussions viewed by some commentors as misleading.***

### 2.3.5 OTHER INFORMATION AND TECHNOLOGIES REVIEWED

*Cost Analysis of Alternatives - **Although a cost report is not required as part of the National Environmental Policy Act process, DOE published a separate document, Cost Analysis of Alternatives for the Idaho High-Level Waste and Facilities Disposition Environmental Impact Statement (or Cost Report) (DOE 2000d), at the time the Draft EIS was released.***

National Academy of Sciences Assessment of Alternatives - ***In January 1998, DOE requested the National Academy of Sciences' National Research Council to conduct an independent review of the technologies being considered for treatment of the mixed HLW calcine and the mixed transuranic waste/SBW at INEEL.***

***In December 1999, the National Academy of Sciences issued its report Alternative High-Level Waste Treatments at the Idaho National Engineering and Environmental Laboratory (NAS 1999). This report addressed several issues and provided recommendations, including:***

- ***The need for DOE to develop and implement a sampling and characterization plan to obtain adequate characterization data for mixed HLW and mixed transuranic waste/SBW***
- ***The need for DOE to conduct integrated testing of waste processing steps***
- ***The need for DOE to resolve waste form and disposal uncertainties***
- ***Recommendation to maintain interim storage of mixed HLW calcine until it is known where HLW can be sent, in what waste form, and by what transportation pathway***
- ***Recommendation to confirm the useful lifetime of bin sets for interim storage of mixed HLW***
- ***Recommendation to solidify mixed transuranic waste/SBW as soon and as simply as possible, without further calcination***
- ***Recommendation to conduct a comparative risk analysis to determine "cost/benefit" of waste processing versus little or no processing***
- ***Recommendation to consider six additional treatment options for processing mixed transuranic waste/SBW. The recommended treatment options were reviewed and evaluated by subject matter experts. Section 3.3.9 and Appendix B of this EIS provide information on the results of the evaluation.***

***DOE considered the National Academy of Sciences' report and its recommendations in its analysis of the alternatives evaluated in this EIS.***

Tanks Focus Area Assessment of Technologies - ***In June 2000 the Tanks Focus Area, at DOE's request, conducted an independent technical review of a narrowed list of waste treatment technologies under consideration by the DOE Decision Management Team tasked with conducting analyses and developing a recommended preferred alternative for this EIS. The Tanks Focus Area review focused on assessments of technical maturity, research and development status, and identification of technology gaps and uncertainties. Their report (TFA 2000) provided the following recommendations:***

- ***Adopt vitrification as a baseline.***
- ***Pursue cesium ion exchange as an option to backup vitrification.***
- ***Eliminate universal solvent extraction from further consideration.***
- ***Consider methods that maximize heel solids retrieval, but not to the detriment of meeting the Notice of Noncompliance Consent Order milestone to cease use of the HLW tanks by December 2012.***
- ***Aggressively pursue completion of a waste incidental to reprocessing determination for mixed transuranic waste/SBW.***
- ***Consider a "phased" decision for calcine treatment. Carry forward vitrification and separations options to a future decision date consistent with plans to meet the 2035 "road-ready" compliance date in the Settlement Agreement/Consent Order.***
- ***Eliminate the Hot Isostatic Pressed Waste Option.***

*In August 2000, the Tanks Focus Area also conducted a follow-up independent technical review (TFA 2001) of a proposed steam-reforming treatment process for mixed transuranic waste/SBW to determine its feasibility, applicability, and cost realism, and provided the following recommendations:*

- *Maintain and pursue direct vitrification as the baseline technology for treating and immobilizing mixed transuranic waste/SBW.*
- *Do not pursue further steam reforming initiatives for treatment of mixed transuranic waste/SBW to produce waste forms for direct disposal in a HLW geologic repository or at the Waste Isolation Pilot Plant.*
- *Follow a multi-step process with appropriate go/no go decision points to properly evaluate further steam reforming of mixed transuranic waste/SBW to produce an interim solid form suitable for subsequent vitrification.*
- *Consider the application of steam reforming to the treatment of the offgas that would be generated by direct vitrification of the mixed transuranic waste/SBW.*

*DOE considered the Tanks Focus Area reports and recommendations as a part of its analysis of the EIS alternatives.*

*DOE Management Assessment of Alternatives - In September 2001 the DOE Assistant Secretary for Environmental Management requested an assessment of the preferred alternative recommended by the DOE and State of Idaho Decision Management Team and approved in October 2000. The assessment was to be conducted under the following assumptions:*

- *Sodium bearing waste may be managed as mixed transuranic waste*
- *Treated SBW may be disposed of at WIPP*
- *Calcine is an acceptable final waste form for disposal at the geologic repository*
- *Steam reforming is an acceptable treatment technology for the SBW*
- *The mixed transuranic/SBW can be grouted in place*
- *The calciner may be operated in its present interim status configuration.*

*The assessment team decided to add the Steam Reforming Option to the Final EIS in response to public and agency comment and additional information received from private sector industry.*

*The option of containerizing the mixed HLW calcine and shipping it to the geologic repository was added to this EIS as part of the Non-Separations Alternative in the Steam Reforming Option.*

*The option of grouting the mixed transuranic/SBW in place was eliminated from detailed analysis in this EIS because the waste would have to be removed from the tanks and the process involved to neutralize and grout the waste would result in a substantial increase in waste volumes with no long term reduction in risk to the environment.*

*The option of operating the calciner in its interim status configuration is not included in the detailed analysis in the Final EIS based on programmatic considerations.*