development of calcine treatment would result in a de-facto decision to leave the calcine in place. Even if there is time before a calcine treatment process decision can be made, funding is necessary immediately to provide the technical information necessary to support that decision. **Therefore, the INEEL CAB recommends that the preferred alternative in the final EIS and ROD must support continuation of activities to identify the path forward for treating the calcine on a schedule to meet the Idaho Settlement Agreement milestone, including critical waste characterization and processing research activities. Based on DOE funding cycles and the duration of time required to fully develop an appropriate technology, the INEEL CAB recommends DOE provide sufficient funding to ensure timely progress with respect to treatment of INEEL's calcine.**

USE OF BEST ENGINEERING ESTIMATES, ALONG WITH WORST-CASE "BOUNDING" SCENARIOS, IN NEPA DOCUMENTATION

55-42 VIII.A(2)

The Draft EIS considers the impacts of worst-case scenarios to estimate "bounding" cases. These bounding cases are based on worst-case probabilities for doses to the public along with maximum possible waste quantities. While this approach may be effective to support scientific and legal review, it can have a serious negative impact on public perception. For example, the reported worst case emissions for the proposed Advanced Mixed Waste Treatment Project (AMWTP) are much higher than the actual emissions are expected to be with a result of causing excessive fear among individuals who consider themselves to be "downwinders." We note that the conservative approach is standard for environmental documentation prepared to satisfy NEPA, and agree that it is necessary to support an adequate and conservative evaluation of the impacts of a proposed new action. The INEEL CAB recommends DOE consider the possibility of modifying the existing approach to include an evaluation of impacts under a "best engineering judgment" case, in addition to that based on a bounding case. This approach would allow the public to better understand the risks and consequences of each alternative. **For the purposes of this EIS, which has proceeded to date based on worst-case scenarios, the INEEL CAB recommends that such the final EIS include best engineering estimates of impacts as well, if possible.**

CALCINE AND SODIUM-BEARING WASTE QUANTITIES AND COMPOSITION

55-43 V(5)

Because the EIS evaluates the impacts of a range of alternatives for treating INEEL's HLW, the composition of the waste is an integral part of the EIS. We note that Chapter 5.2.13 describes the wastes generated under each alternative using general waste categories such as industrial, hazardous, low-level waste, mixed low-level waste, and HLW. We are unable to find a description of the waste composition and quantities of calcine and sodium-bearing waste requiring treatment, however, although we assume that information provides the basis for estimation of impacts.

The INEEL CAB recently reviewed the Draft EIS for the proposed geologic repository, and commended DOE for providing a detailed description of the compositions and quantities of all HLW and spent nuclear fuel. In fact, the information presented in that EIS appeared to be much more detailed than in previous DOE publications. **The INEEL CAB recommends that the INEEL HLW EIS include known information on existing calcine and sodium-bearing liquid waste compositions and quantities in a technical appendix in the Final EIS even though additional characterizations are needed.** We would expect to be able to compare that information with what was reported in the proposed geologic repository EIS. It will be difficult to conclude that the numbers are the same in the absence of evidence to that effect.

HLW & FD EIS PROJECT - AP/PF
Control # DC-56

RECEIVED APR 11 2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

April 3, 2000

Reply To
Attn Of: ECO-088

Ref: 00-007-DOE

T.L. Wichmann
U.S. Department of Energy
Idaho Operations Office
850 Energy Drive, MS 1108
Idaho Falls, ID 83401-1563
Attn: Idaho HLW & FD EIS

Dear Mr. Wichmann:

We have reviewed the draft Environmental Impact Statement (EIS) for the proposed **Idaho High-Level Waste and Facilities Disposition** in accordance with our responsibilities under the National Environmental Policy Act and §309 of the Clean Air Act. The draft EIS analyzes the potential environmental consequences of managing two waste types at the Idaho National Engineering and Environmental Laboratory (INEEL), namely, High-Level Waste (HLW) in a calcine form and liquid mixed transuranic waste. The draft EIS also analyzes the disposition of existing and proposed HLW facilities after their missions have been completed. The draft EIS does not identify a preferred alternative.

Include circled text as prefix to each of the first 3 comments

56-1 IV.D(1) 56-21 V(5) 56-22 III.F.4(2)

Based on our review, we have rated the supplemental draft EIS, EC-2 (Environmental Concerns - Insufficient Information). Our concerns stem from the uncertainties (due to a lack of analysis and documentation in the EIS) that 1) grout containing the Low-Level Waste (LLW) would prevent contamination of the aquifer for 500 years, 2) that waste stream products could be reclassified as LLW, thus allowing DOE to pursue separations alternatives, and 3) that facilities exist for handling and storing LLW. We also identify important components missing from the cost report. This rating and a summary of our comments will be published in the *Federal Register*.

Modeling Transport of Contaminants to the Aquifer from Grouted Low-Level Waste (LLW)

56-2 VIII.C(4)

The analysis of transport of contaminants leached from Low-Level Waste (LLW) Class A and Class C grout placed in the tanks and calcined bins assumes that the grout has a 500 year lifetime over which leaching of contaminants does not occur. However, there is no evidence that the grout will in fact achieve the 500 year design lifetime. If the grout fails before 500 years, I-129 leaching from the grout could arrive at the aquifer at a time coinciding with the peak concentrations of I-129 from the abandoned INTEC injection well. This situation could result in an exceedance of the I-129 MCL in the aquifer and potential risks to human health. The EIS should provide modeling results predicting the impact to water quality in the aquifer if the grout and containing structures fail in shorter periods of time, such as 100, 200, 300, and 400 years.

Printed on Recycled Paper

Disposal Options for LLW Generated in the Separation Alternatives

56-3 V

56-4 III.F.4

56-5 III.F.4

All the separation alternatives generate a waste stream identified in the EIS as LLW, which would be stabilized in grout and disposed either in LLW repositories at INEEL or off-site. Because of its origin, this waste stream is consider to be HLW until it is formally reclassified as LLW. The EIS should identify the process for reclassifying this waste and the uncertainties associated with achieving this reclassification. In addition, all the separation alternatives identify an off-site low-level waste disposal facility as an option for disposal of the generated LLW. The EIS should identify potential off-site LLW disposal facilities which would be available and the difficulties in utilizing these potential disposal facilities. If the ROD selects a remedy requiring disposal of LLW at INEEL, a contingent remedy should also be identified in the case that reclassification of the treated waste is not approved.

Capacity of the Yucca Mt. Repository for DOE High Level Waste (HLW)

56-6 III.F.2

In the draft EIS, DOE calculates metric tons of heavy metal (MTHM) for the INEEL HLW based on historical projections of radioactivity in typical HLW. If the historical projections method is used, the level of radioactivity for each MTHM of DOE HLW disposed at the geologic repository would be significantly lower than the level of radioactivity that would result from each MTHM of commercial Spent Nuclear Fuel disposed. The historical projections method does not recognize, however, that much of the waste located at INEEL is significantly less radioactive than typical commercial spent nuclear fuel and ever less radioactive than most other DOE waste. There are two methods for calculating the MTHM equivalency for HLW which would allow a more equitable allocation of storage space in the proposed Yucca Mountain repository between commercial and DOE waste. These methods are the Total Radioactivity Method and the Radiotoxicity Method. Either of these methods would allow the Department of Energy (DOE) to dispose all of its HLW at Yucca Mountain without exceeding the maximum limit established by Congress. EPA acknowledges that the draft EIS for the proposed Yucca Mountain depository addressed the capacity issue. EPA, however, recommends that DOE consider using either of these two alternative methods for calculating MTHM for its HLW to promote the NEPA goals of disclosing all relevant information to the public and the decision-maker (40 CFR 1500.1 (b)).

Hanford Alternative

56-7 II.E 56-8 II.E 56-9 II.E 56-10 II.E 57-11 II.E

EPA cannot support the alternative that proposes consolidation of INEEL waste at Hanford. At this time, DOE will not commit to treating the existing high-level waste at Hanford. The addition of HLW from INEEL can only make conditions at Hanford worse. No storage facilities exist at Hanford to manage these new wastes and the chemical composition of the INEEL wastes would require pretreatment to be compatible with the waste currently in storage at Hanford. In addition, these wastes may not meet the waste acceptance criteria for the vitrification plant being designed to meet Hanford tank waste treatment requirements. Finally, the proposed vitrification plant would only treat 10 percent (5 million gallons) of Hanford Tank Waste by 2018. Transport of these INEEL wastes to Hanford would further delay processing of Hanford's own waste and extend the treatment schedule beyond 2050.

COMMENTS ON THE DRAFT IDAHO HIGH-LEVEL WASTE & FACILITIES DISPOSITION ENVIRONMENTAL IMPACT STATEMENT COST REPORT

56-12 X(11)

56-13 X(6)

The Cost Analysis of Alternatives, dated January 2000, was distributed to the public to provide relative cost data to be used in consideration of the decisions. Although cost is not typically associated with an evaluation of environmental impacts, given the limited and flat budgets available to DOE, we are currently experiencing the phenomena of one project being bought at the cost of terminating other environmentally necessary activities. For the CERCLA activities ongoing at INEEL, cost estimates and cost/benefit analysis are prepared for even relatively low cost projects at a level of detail sufficient to allow reviewers to understand the major cost elements of the capital and Operations and Maintenance (O&M) activities. This information is not available in the Cost Report. This is unfortunate given the billions of dollars involved in implementing the decisions under consideration. Our comments on the Cost Report are as follows:

56-14 X(6)

1. The summary cost data does not include major cost elements for capital, O&M or Contingency (which assumes an across the board 30%). Without this information, it is not possible to determine the accuracy of the cost figures. As depicted in Figure S-2, only the No Action alternative is within the current $51.2M annual funding allotment.

56-15 IV.C(1) 56-16 VII.B(1) 56-17 IV.C(1) 56-18 IV.C(3) 56-19 X(6)

2. Under the landfill closure option in Table S-2, it is not clear what steps are anticipated to meet the stated closure goals. Releases from piping and valve boxes associated with the high level waste tanks has resulted in extensive soil contamination above and into the bedrock. This contaminated earthen material is being managed under CERCLA, but the CERCLA implications of these decisions are not considered. Closure of the tanks and soil as a landfill assumes a cap would be placed over wastes to serve as a barrier against future leachate generation. This precludes that the CERCLA soils would also be capped. Typical RCRA cap costs are in the neighborhood of $1M per acre. Empty tanks and containers would represent a concern for landfill subsidence and need to be stabilized to minimize void spaces. Filling void spaces could be done with soils from local borrow areas rather than with relatively expensive Class A grout. Providing activity cost element data would allow the reader to value engineer the project costs with large potential cost savings.

56-20 X(6)

3. As no design basis documents were referenced in the Cost Report, nor were Functional and Operational Requirements (F&ORs) provided to support a cost estimate, it is difficult to see how a +50%/-30% cost estimate, much less a probabilistic cost estimate, can be prepared at this time.

Please contact Chris Gebhardt at (206) 553-0253 if you have any questions. Thank you for the opportunity to review this draft EIS.

Sincerely,

Richard B. Parkin

Richard B. Parkin, Manager
Geographic Implementation Unit