14

TABLE IV: PCT* leachability of geopolymerie vs hydroceramic concretes

	Hydroceramic	Geopolymer	Geopolymer	Geopolymer
Cure Conditions	200°C, 2 hours	200°C, 2 hours	90°C, 4 days	~20°C, 4 days
pH of leachate	10.7	11.3	11.7	12.3
% Na leached	7.1	9.6	21	52
% Cs leached	0.086	0.060	0.18	2.0
% nitrite leached	26	36	51	71
% nitrate leached	14	46	57	71

*samples crushed to pass 100 mesh screen (150 micron)- no lower size limit, powders leached with 10x as much 90°C distilled water,

ACIdoc

HLW & FD EIS PROJECT - (AR) PF
Control # DC-81

Dennis Donnelly
56 Tulane Ave.
Pocatello ID 83201

March 12, 2000

Thomas L. Wichmann, Document Manager
U.S. Department of Energy, Idaho Operations Office
850 Energy Drive, MS 1108
Idaho Falls, Idaho 83401-1563
Attention: Public Comment: Idaho HLW & FD EIS

Mr. Wichmann,

Please accept this as my formal written commentary on DOE/EIS-0287D, the Idaho High-Level Waste and Facilities Disposition Draft Environmental Impact Statement dated December 1999.

A fully acceptable solution to the problem of what to do with radioactive waste has never been implemented or even discussed. I will here present my thoughts on the subject.

A. Repository Location

81-1
X1 (7)

Because waste radioactive materials must be isolated from the biosphere and because water transport is the principal mechanism for migration (after carefully excluding tectonic activity), a truly dry location with no access to a water table must be chosen.

The current U.S. repository sites fail to meet the dual site-selection criteria: no tectonic activity and no water. In fact, no U.S. locations at all meet both these criteria. Have you seriously considered locations outside the United States? I would like to point out that according to the global seismic hazard map on the web at http://seismo.ethz.ch/GSHAP/ there are large regions in Africa that appear to be low seismic risk and presumably quite dry. In fact a line all the way across that continent at 20 degrees north latitude appears free of seismic hazard. I suggest serious negotiations (and serious resources) be engaged in this region for repository selection, characterization, and implementation.

I feel the Yucca Mountain site is totally unacceptable as a high-level waste repository due to the tectonic hazard there. The close proximity, geologically, to the phreatic eruption site at Ubehebe Crater in Death valley shows what I mean. This class of volcano has the potential to blow hundreds of cubic miles of earth into the sky, as it did just up the road, at the Crowley Lake / Mammoth Lakes area on the east side of the Sierra Nevada.

B. Waste Form

81-2 III.D.2.c(4) The physical/chemical structure of radioactive waste to be disposed of must meet demanding criteria of long-term stability and non-dispersability to ensure its safety in transport and disposal site. DOE has considered glass and concrete forms, but glass is not as stable as it needs to be: in a radiation environment, glass becomes friable and tends to break down into dispersable fine powder. So does concrete, even without radiation.

81-3 III.D.4(2) Have you considered crystalline silicon? Silicon is abundant in the earth's crust, and when high purity is not required, need not be too expensive. When molten, silicon is practically a universal solvent, meaning it could dissolve every piece of radioactive material you have. When it solidifies, even with dissolved impurities, it forms a stable permanent material. Large amounts of dissolved impurities would tend to be concentrated at the boundaries between the microcrystals upon cooling to a solid, and thus be subject to leaching over time, but this can be prevented by site selection which excludes water. Waste bearing silicon ingots should be mechanically stable over geologic time periods, period. Silicon crystal conducts heat very well.

Furthermore, the silicon approach is one which should remove the need to characterize all the different types of radioactive waste into separate classifications and treat them separately. All the waste should just go into the silicon ingots and thence to a safe repository.

81-4 II.A(2) I seriously ask that you leave NO radioactive wastes in Idaho or elsewhere in America, we just have no place for it that is long-term safe. So I request that you dig up, process into silicon ingots, and remove all the radioactive materials at the Idaho NRTS/INEL/INEEL site.

81-5 III.D.2.c(6) I request that you create a fully contained, mobile furnace that could safely create stable ingots from the radioactive waste here, and then move this furnace to the other sites and repeat the same process there. A containment structure to fully contain, filter and reprocess the offgases should be the only nonmovable structure involved. The EBRII dome could do this job.

Dennis Donnelly

Dennis Donnelly

CC: Blaine Edmo, Fort Hall Tribal Council
Anne Minard, Idaho State Journal

HLW & FD EIS PROJECT - (AR)PF
Control # DC-82

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, Oregon 97232-2036

IN REPLY REFER TO:

RECEIVED APR 21 2000

April 14, 2000

ER 00/0062

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

Dear Mr. Wichmann:

On March 14, 2000 the Department of the Interior (Department) sent you a letter, regarding the Draft Environmental Impact Statement for the Idaho High-Level Waste and Facilities Disposition, Idaho National Engineering and Environmental Laboratory (INEEL), Butte, Jefferson, Bingham and Bonneville Counties, Idaho, in which we stated that we did not have any comments to offer. Since that letter was sent the Department of Energy (DOE) extended the comment period and the Department is now providing the following comments for your use in preparing the Final Environmental Impact Statement. The March 14, 2000 no comment letter should be disregarded.

The Department has the following concerns regarding the air quality impact assessment for Yellowstone and Grand Teton National Parks (NP), and Craters of the Moon National Monument (NM), areas protected as Class I under the Clean Air Act:

82-1 VIII.B(2) 1) DOE should use the EPA CALPUFF modeling system at least in the "screening mode" to address impacts tc Class I increments and the NAAQS at Yellowstone and Grand Teton NPs.

82-2 VIII.B(2) 2) DOE should use the CALPUFF modeling system to address total deposition of sulfur and nitrogen to the three Class I areas.

82-3 VIII.B(2) 3) DOE should address far field visible haze impacts at the three Class I areas.

82-4 VIII.B(2) 4) All dispersion modeling for NPS areas as well as all other areas should use the on-site surface meteorological data with concurrent NWS upper air data.

The proposed Idaho National Engineering and Environmental Laboratory (INEEL) Idaho High-level Waste & Facilities Disposition would be located 23 miles (37 kilometers (km)) east of Craters of the Moon National Monument (NM), 93 miles (150 km) southwest of Yellowstone National Park (NP) and 95 miles (153 km) west southwest of Grand Teton NP, all are Federal mandatory Class I areas administered by the National Park Service (NPS). The DEIS examines impacts from the proposed nine alternatives only to Craters of the Moon NM, but not Yellowstone or Grand Teton National Parks. Because several of the proposed alternatives exceed the significant emission rate of pollutants regulated under the Clean Air Act, the Department recommends that the impacts from the criteria pollutants to these two parks also be addressed in the DEIS.

82-5
VIII.B(2)

DEIS should address the impacts of three pollutants on Yellowstone and Grand Teton National Parks, specifically addressing impacts from the proposed alternatives whose emissions would exceed:

- Greater than 40 tons per year (TPY) of sulfur dioxide (SO_2)
- Greater than 40 TPY of nitrogen oxides (NO_x)
- Greater than 15 TPY of particulate matter (PM_{10})

82-6
VIII.B(2)

The impact analysis should include a state whether the alternatives would be in compliance with the National Ambient Air Quality Standards (NAAQS) and Class I PSD increments for each of the alternatives that will emit pollutants. The INEEL impact analysis should follow the guidance found in the EPA document Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long Range Transport and Impacts (EPA-454/R-98-019, December 1998). This EPA guidance recommends that the EPA CALPUFF model be used either in the screening mode or in the refined mode when modeling long-range transport beyond 50 km. The EPA no longer recommends the model used in the DEIS, Industrial Source Complex Short Term (ISCST3) model, to analyze air quality impact analyses at distances beyond 50 km.

82-7
VIII.B(2)

82-11
VIII.B(2)

82-8
VIII.B(2)

The DEIS should also examine the impacts at the Class I areas to air quality related values (AQRVs) such as visibility and acid deposition to lakes, from the proposed alternatives with significant emissions. The DEIS does contain a coherent near field visibility analysis using the EPA VISCREEN model for Craters of the Moon NM. This analysis indicates that there will not be a coherent plume impact from any of the alternatives at Craters of the Moon NM. The Department requests sources locating greater than 50 km from its Class I areas conduct a far-field visible-haze analysis instead of a plume analysis. A far-field visible-haze analysis needs to be performed for the impacts from the alternatives to both Yellowstone and Grand Teton NPs. The far-field haze-visibility analysis should follow the procedures described in the IWAQM Phase 2 report. Since the distance from the INTEC area of INEEL is greater than 50 km from the western portion of Craters of the Moon NM, a far-field visibility analysis also needs to be performed for the monument. The NPS will provide DOE with the background extinction values for the three Class I areas to be used in the far-field visibility analysis.

82-9
VIII.B(2)

The Department also requests that the DEIS analyze the impacts of acid deposition to lakes at Grand Teton NP from the different alternatives with significant emission rates of criteria

pollutants. The generalized descriptions found in Chapter 5 of the DEIS are inadequate for the Department to make an informed decision regarding acid deposition impacts. The Department requests that the deposition analysis contain the impacts of total nitrogen (N) and total sulfur (S) from the various alternatives. The INEEL analysis should follow recommendations found in the EPA IWAQM Phase 2 report. Background information to assist DOE in addressing deposition impacts to Grand Teton NP can be found in the NPS document, Assessment of Air Quality and Air Pollutants Impacts in National Parks of the Rocky Mountains and Northern Great Plains, August 1998, NPS D-657.

82-10
VIII.B(2)

The Department recommends changing the source for the meteorological data used in all of the DEIS's modeling analyses for both near- and far-field. As described in Appendix C.2 of the DEIS, the air quality analyses applied two years of on-site surface meteorological data and climatic averaged upper air data to calculate the impacts from the nine different alternatives of the proposed project. The Department believes that using "climatic averaged" mixing heights is not appropriate for a project of national importance, especially considering the inexpensive cost of computing resources today. The Department recommends that DOE should purchase, for a few hundred dollars, concurrent National Weather Service (NWS) upper air data which is available through the National Climatic Data Center in Asheville, North Carolina. We believe that the concurrent Salt Lake City mixing height data would be most representative, but defer this opinion to the recommendations of the State of Idaho and the U.S. EPA.

We thank you for the opportunity to comment on this DEIS. The NPS Air Resources Division (ARD) is available to provide technical assistance to DOE for any of the Class I issues. For further information, or to set up a meeting, please contact John Notar of the NPS ARD at (303) 969-2079.

Sincerely,

Preston A. Sleeger
Regional Environmental Officer

Coalition 21 Coalition 21
Phone: 208-528-2161
FAX:
email: facts@srv.net

April 11, 2000

HLW & FD

EIS PROJECT - AR/PF
Control # DC-83

U.S. Department of Energy
850 Energy Drive
Idaho Falls, Id. 83401

Attention: John Medema
HLW DEIS Comments

Dear Mr. Medema,

GENERAL COMMENTS

COALITION 21 has reviewed the Department of Energy's (DOE) "Idaho High Level Waste (HLW) and Facilities Disposition" Draft EIS document. The Coalition thanks DOE for extending the deadline for comments to allow time for more adequate review before submitting our comments. This proposal is undoubtedly the most complex project for the public to review, as well as being challenging for the INEEL technical personnel to produce.

Coalition 21 is a major group of public minded citizens from across the State of Idaho. IT includes many Idaho citizens who have technical knowledge and expertise in science and engineering. We have reviewed the DEIS, and its supplementary cost documents. The Coalition has also reviewed the recent National Research Council's "Alternative High Level Waste Treatment" document as well as a number of other papers and documents relative to this subject.

While The Coalition commends the DOE for the effort that went into the preparation of the document, we have a number of concerns and hopefully constructive criticisms about the resulting DEIS. We feel that a number of potentially viable alternatives have not been considered, nor were there explanations for their exclusion. Thus, many of our comments are expressed as questions that need considered, fact based, and responsive answers from DOE.

83-1 III.D.4(6)

83-2 IX.C(1)

An additional general concern of the Coalition is that recent actions by some members of the public, both instate as well as out of the State of relative to INEEL cleanup of wastes demonstrates the need for the DOE to go even further in assuring the safety, viability, and practicality of any proposed process or option.

83-3 VIII.G(7)

SPECIFIC COMMENTS RE: "IDAHO HIGH-LEVEL WASTE: DOE/EIS-0287D"

83-4 X(14)

1. Why does the DOE believe that a treatment cost of ~$.85 - 4 million dollars/cu. m. provides a realistic cost-effective solution to the handling of high-level wastes? An EIS is not required to consider costs. However, DOE needs to provide the public, as well as their congressional

represent- atives, a realistic cost-inclusive evaluation of the proposed alternatives to justify possible funding. Fig. S-1 of the DEIS supplementary "Cost Analysis" document DOE/ID 10712, shows a range of $3 - 6.5 billion for just treatment and storage of the 11 different processing alternatives discussed. These costs along with additional minor transportation and major (though questionable) disposal costs, results in total costs of ~$850,000/cu.m. All alternatives, except the "No-action" alternative and the "Continued Current Operation" would require peak accrual funding of approximately 2-8 times the current funding levels. It is totally unrealistic to think that either the Congress or the public would accept a funding level this high.

We strongly suggest that DOE develop some "fiscal common sense" in support of its proposals. This is the subject of a paper to be published in the spring 2000 issue of Nuclear Technology. This very worthwhile paper is entitled "Alternatives to High Level Waste Vitrification; the Need for Common Sense." The author is Jimmy Bell. DR. BELL estimates remediation costs for vitrification of site-wide DOE defense wastes will run from $2-4 Million/cu. m. or costs of $75 Billion for the INEEL, Savannah River & Hanford wastes. Will the public tolerate this huge and largely unnecessary expense? He (and we) think not. Compare these ridiculous figures: a US annual budget of say $2 trillion, against what would have to be an annual DOE request of $807 million for INEEL. The current annual INEEL cleanup budget is ~ $51 million.

83-5 VII.D(6)

2. How does DOE reconcile this DEIS with the implementation of the 1995 Idaho Settlement Agreement? This agreement between the Federal Government and the State of Idaho calls for calcining all of INEEL's reprocessing wastes by 2012. Four alternatives of the proposed in the DEIS do not use calcining. Also, four options (exclusive of the "No-Action" and "Continued Current Operation options) allow the on-site storage of wastes. Two of these are for grouting waste in storage tanks. These would have to be permanent storage at the INEEL options which are not permitted by the Agreement.

83-24 VII.D(2)

It is our understanding that this DEIS was supposed to be a cooperative report by the DOE and The State. Has secured the State Of Idaho's concurrence in or approval of these proposed options/alternatives? If not, it appears that legally-binding changes would be required to the original Settlement Agreement. If no changes to the Agreement are contemplated, what are DOE's alternative plans for resolving these issues? Decision makers and the public need and demand to know DOE'S plans for dealing with such issues.

83-6 III.D.4(6)

3. Why has DOE created some artificial and unnecessary barriers to full consideration of options for dealing with HLW? These barriers unnecessarily closed out some alternatives/ options and/or abnormally raised costs of some other options. The DOE should describe the rationale for not evaluating the environmental consequences and costs for a number of cases including the options described in: non DOE scientific and engineering journals; conference proceedings; the recent National Research Council (NRC) report on the INEEL's HLW program; the NRC reviewer's suggestion that DOE-ID accept STUDVIK's bid to replace the NWCF with a brand new MACT-compatible calcination system; and, NRC's suggestion that disposal is an incremental cost and should not dominate decision making. STUDVIK's bid had all the emission controls to meet the new EPA clean air requirements ... at a total cost less than half the estimated cost to modify the existing calciener.

83-7 VIII.A(2) One additional artificial barrier for making rational assessments of HLW is focusing on worst-case bounding scenarios without also including best engineering estimates of radiological doses to the public. Such a negative focus gives a distorted and unrealistic perception to the public: one that impairs the public's ability to make intelligent, facts-based evaluations of the issues and their attendant risks.

83-9 III.F.2(6) 4. Why are the of the INEEL's site-wide defense high level wastes (& low level for that matter) not being sent to the Nevada Test Site (NTS)? Defense wastes are entirely different materials from (the so-called) 'spent' nuclear fuel (SNF) and they should be kept separate from them. NTS is the best repository for defense wastes because:

a. It is already "federal land"
b. It has already been contaminated from nuclear weapon tests.
c. It has already been the subject of over 30 years of relevant hydrogeological research.
d. Tests have already been performed there, demonstrating disposal of nuclear wastes.
e. DOD could not object to disposal of defense wastes at the NTS as they did earlier to SNF.

83-10 XI(7) Irradiated commercial SNF is a future potential energy source, since only about 3% of the original fuel's available energy has been utilized. The Integral Fast Reactor (IFR) technology and its associated electrometalurgical technology has been proven effective. It is capable of utilizing most of the available remaining energy in SNF without a proliferation risk. This cutting edge technology also dramatically reduces the amount of final wastes with long-lived radioactive elements that need a final repository.

83-11 III.D.4(8) 5. Why didn't DOE give more consideration to the early NAS study which concluded that some sort of cementation process to solidify wastes would probably prove to be more practical (and affordable) than vitrification? In 1980, A panel of eminent scientists evaluated ICPP's HLW operations. The panel ranked ORNL's new FUETAP cementation process higher in merit than vitrification. The existing US defense reprocessing wastes are hundreds of times less radioactive and a much higher volume than the HLW produced in modern French/British reprocessing plants. Therefore, the choice of these nations to vitrification of the small amounts of their highly radioactive (thus real HLW) is not a directly valid reason for vitrification of US defense wastes. To the contrary, Britain has recently converted virtually all (>20,000 cu.m) of its 'historic' reprocessing wastes into road-ready/shipment form by cementitious technology. This British disposal program handled everything up to 500 W/cu.m total radioactivity, contrasted to INTEC calcine's ~40 W/cu.m. This proved that cementitious disposal of HLW can and should be done.

83-12 III.C(2) 6. Why did DOE reject the option of sugar calcination? Fluidized bed sugar-calcination of SBW was successfully tested on a pilot-plant scale at INEEL 35 years ago. and tested again on a smaller scale only four years ago. The technology was "rediscovered" at Hanford in 1995. and BNFL now routinely implements this beneficial use of sugar with rotary calciners in England. Using sugar in calcining supports reducing the nitrates to elemental nitrogen, rather than to toxic (and visible) NOX. Sugar/calcining also reduces the amount of additional "cold" aluminum nitrate nonahydrate ANN with the ANN'S attendant added cost and doubling the quantity

of calcine produced. Such facts should be compelling arguments for using sugar. The higher temperature proposed for the extra ANN method also could conceivably raises public concerns concerning stack emissions. This consideration again raises the STUDVIK question (item 3).

83-14 III.F.1(3) 7. How did DOE utilize the two Sandia National Laboratory's performance assessments of Idaho's HLW waste problems? The second of these (assuming a Yucca Mountain-like repository and that NRC 19 CFR 60 & EPA40 CFR-191 HLW regulations would apply) concluded that a competently-sited repository would adequately retain radionuclides. Such a repository would do this regardless of the characteristics of the waste form itself. This suggests that Idaho calcine could be directly disposed of without additional chemical treatment (full & TRU separations options), which would drastically reduce overall costs.

83-15 III.F.2(1) 8. We strongly support the State of Idaho's view that DOE's current method of calculating Metric Tons of Heavy Metal (MTHM) should be changed (see comment #3). Either of the State's methods are much more realistic. Using these more realistic calculations would allow DOE's HLW to be placed within today's proposed repository's "space" allotment.

83-16 III.F.2(2) 9. DOE should freeze the waste acceptance criteria without waiting for proposed design of the repository. This would allow expediting decision's on INEEL waste handling, by eliminating bureaucratic procrastination "OF WE'RE WAITING UNTIL THE DESIGN IS FINALIZED." Acceptance of the waste criteria would make it unnecessary for DOE to wait for a repository siting decision to begin preparing INEEL waste for road-ready shipments.

83-17 III.D.4(3) 10. Dr. Bell's article suggests that The DOE might want to consider using a Dry-Pack process (DOE-RFPC5-980R22516) for INEEL HLW wastes, at a much reduced total cost of <$1.5 Billion. This compares very favorably cost-wise to the $5 billion quoted for the "Full Separation" alternative in the DEIS cost evaluation document - Fig.12.

83-18 III.D.3(1) 11. The separations alternatives have higher treatment costs than non-separations alternatives, and are very likely to have processing complications. The higher disposal costs for non-separation alternatives seem due to exorbitant disposal charges, which brings up questions about the charges based on current MTHM. The higher treatment costs for separations alternatives are primarily due to vitrification. The separations process will also generate additional waste volumes and steps. Note that two of the three separation options leave the low level waste at INTEC, not off-site; such proposals violate the Idaho Settlement agreement.

83-19 VIII.A(8) 12. Each EIS dealing with nuclear matters should provide information regarding the basic natural radiation background. This should include what RADIOACTIVITY is already NATURALLY in the soil, and be identified by isotope and concentration. This would help the average person relate to how a given INEEL operation might affect their natural exposure to radiation.

83-20 VII.D(6) 13. DOE should justify why it has NO preferred alternative at this time, this after having selected "separations" as the preferred alternative in the 1995 INEEL Waste PEIS. We strongly

recommend that DOE select a cost-effective preferred alternative (not necessarily limited to the ones already presented in this DEIS). This alternative must comply with the Idaho Settlement Agreement stipulations to remove and treat the sodium based wastes (SBW), and calcine it so that it is road-ready for shipment out of Idaho by 2035.

83-21 IX.A(4) 14. DOE should provide an estimate of the additional unnecessary cost for the multi-color layout of this DEIS, and of the resulting final EIS. How much of this publication cost could be saved by issuing only the Summary in this way, and printing the rest of the document without the color layouts, as in other DEIS/EISs?

83-22 XI(1) 15. A final comment is based upon an independent evaluation of scientific and technical issues related to environmental remediation of defense waste sites managed by DOE. An NRC (NAS) 1996 report on governmental research and development operations entitled "Barriers to Science" reported a variety of problems. A number of these deficiencies appear to be applicable to the DOE, including:

1. Planning is driven by existing organizational structures, rather than establishing special groups to deal with the problems to be solved.
2. Commitments are often made without adequately considering technical feasibility, cost & schedule.
3. There is often an innate inability to look at more than one alternative at a time.
4. Priorities are often driven by narrow interpretations of regulations rather than regulation's purpose.
5. Production of documents often seems to be an end in itself, rather than a useful means to achieve an organizational or technical goal.
6. There often is a lack of organizational coordination.
7. There is an exclusionary "not-invented-here" syndrome at individual sites.

In summary, there appears to be some slight measures of improvement in some areas and programs of the DOE. However, much of the problems cited above are ingrained in the DOE culture. The DOE should challenge itself to make substantial progress in eliminating or at least reducing the above-noted problems. This is especially necessary for DOE/ID if INEEL is to truly be recognized as the lead laboratory for environmental remediation. And nuclear research.

LAJ: HLW-DEIS rev.5

Very truly yours

R A Kenney

Richard A. Kenney
President Coalition 21

HLW & FD EIS PROJECT - AR/PF
Control # DC-84

April 18, 2000

TO: Thomas L. Wichmann, Document Manager
U.S. Department of Energy, Idaho Operations Office
850 Energy Drive, MS 1108
Idaho Falls, Idaho 83401-1563

RECEIVED APR 24 2000

FROM: Stephen D. Kruse
1950 South Park Ranch Road
Jackson Hole, Wyoming 83001-9437

SUBJ: Idaho HLW & FD EIS

84-1 IX.A(2) To all the ladies and gentlemen involved in researching and preparing the many documents for the preliminary stages of this Environmental Impact Statement (EIS) process for the Idaho High-level Waste and Facilities Disposition, I would express the thanks of the public you have served. Certainly, your many publications, news articles and public meetings have promoted public awareness. This public awareness, much more than public involvement, seems to have been your most beneficial task.

From the beginnings of my acquaintance with this *Draft* EIS, a personal disclaimer of ignorance and lack of fundamental knowledge was most suggestive in this land of technical giants. Hopefully a few of the questions which come through public comments will steer you more precisely toward your goals. Obviously for the general public, most of our time is devoted to slaying dragons in our own workplaces. Knowledge and experience gives us the ability to make and implement sound decisions. Appropriate, effective and inappropriate solutions for INEEL are not readily seen in a one-day tour.

Thus my comments will be more questions for your consideration and a few comments, as you prepare to slay this beast. If any questions and comments from the general public provoke thoughts, investigations, testing and insights toward your goal, then our public involvement will have had a positive result.

Just what are we trying to do?

Can we eliminate the entire problem here (meaning INEEL)?

If we transport a portion of the HLW to Hanford, are we passing the muck (i.e. buck)?

Can we take care of this problem once and for all? (or are we just making neat containers which must be dealt with at some time in the future, whatever the year?)
If **you** have to deal with this 75 years from now, what would **you** like to see?

How can we deal with this HLW with the least amount of handling?

Can the sodium-bearing liquid waste (SBW) be broken down, or go through some kind of evaporative process to reduce its total volume, rather than adding virgin materials (e.g. dolomite) thereby creating more total waste?

84-2 IX.P(6) Once we decide what we are going to do, procedures must be developed and followed. Follow procedure !!

Often the best solution is a combination of solutions. Most of the time just one solution does not take care of everything. Some items go to a Waste Isolation Pilot Plant (WIPP), some to Hanford, most are processed here.

Where is the best place to process HLW?

If transportation is recommended, what is the safest mode of transport?

If transportation is by rail, how many cars maximum should be concentrated on one train?

84-3 VIII.A(5) Trucking may be best to WIPP, since each load may be transported when ready, rather than storing processed materials waiting on a trainload.

84-4 VIII.A(2) What happens if there is an accident? What kind of contamination is possible? probable? What are the relative health risks to our workers, the general public, the environment? We need to develop an objective rating scale for each of the above?

84-5 X(6) A well-written *Cost Analysis of Alternatives* has been published, and while cost is not the most significant factor, a solution so expensive that it is not funded is not a solution. Apparently the No Action option is the only option feasible at current funding levels. Reflect that the future cost of taking no action is often incalculable; if the environment is irreparably damaged, irreplaceable.

Here again the questions of "What if ...?" and "How do you ...? and "Why do you ...?" come to mind.

84-6 IX.D(6) Then again if the solutions are clear. Develop a plan, establish procedures, fund, and proceed.

84-7 VI(1) Whatever we can do now, do now! Implement other plans as they are formulated and approved.

Unless HLW will take care of itself over time without unnecessary risk, No Action will not be one of our chosen options.

84-8 II.B(1) Under "What if's...?" we need to be mindful of weather, potential seismic influences, i.e. things not within our control; think, plan, prepare.

For me, I still have much to learn. I wish you well.

HLW & FD
EIS PROJECT - AR/RF
Control # DOE
RECEIVED
MAY 15 2000

Box 1173, Ketchum, ID 83340
April 18, 2000

Thomas Wichmann
DOE
850 Energy Dr - MS 1108
IF, ID 83401-1563

Please include these comments in the official hearing record for the DEIS - Idaho High-level Waste & Facilities Disposition.

I am greatly concerned about this enormous problem and I am pleased that the department is inviting public comments and suggestions. From my reading of the summary document I have the following observations, comments, and suggestions which I feel need to be considered in the final EIS document:

(1) The INEL should be cleaned up to the standards described in the "Clean Closure Alternative." I doubt very much if the DOE will be able to walk away by the latter years of this century — if ever.

85-1 IV.A(1) Plutonium, as we all know, has a half life which is twice as long as scientists estimate human occupation of North America, so I suggest that DOE or its successors, should acknowledge today that it's job most likely will never end — somebody is going to have

85-2 IX.D(2) to protect generations in the distant future from plutonium contamination.

(2) Present and future groundwater contamination is a serious problem, considering that the health of a major portion of the populace of the state is dependant on the Snake River Aquifer. You say that Iodine-129 levels exceed the standard by 11 times and that Strontium-90 levels exceed the standard by 19 times, that this is in the ground water and will exceed the standard. You also predict that materials left in place after closure will migrate to the aquifer and "public exposure could occur if people use the aquifer for drinking water and other domestic purposes." Are you serious? What else would the public use an aquifer for? The DOE must come to terms with the fact that they have seriously contaminated the aquifer already. In my opinion the #1 goal

85-3 III.A(1) of cleanup at INEL should be focused on cleaning up the water contamination

85-4 III.A (1) & preventing additional contamination. This is the most important problem and can't wait. How do you clean up a contaminated aquifer? This is even more pressing now that scientists at Los Alamos discovered that Pu travels much more easily and faster through water than had ever before been believed.

(3) I understand from reading this document that there seems to be no way that INEL high level waste will be leaving the state any time soon. At best you are saying that it might be "ready for shipment out" by 2035. So much for the stupid agreement which, as we all know, only gave the Navy the green light to continue to dump its SNF on the dumb spuds. You also admit that "it would be difficult to stop using the tank farm by 2015." Since you have admitted that the agreement isn't worth the

85-5 VII.D (1) paper it was signed on, why not fully plan this HLW cleanup schedule correctly and stop having the tail wag the dog. For instance, why are you bothering to go through this EIS process to choose an alternative to treat the waste now — before DOE identifies its criteria for the mythical long-term repository? You admit that "the lack of criteria

85-6 III.F.2 introduces some uncertainty that could affect design & operation of the treatment options." OK, so doesn't it make sense to decide the criteria first and then (2) come up with alternatives which would treat the waste to meet the criteria not the other way around?

(4) I see that DOE is up to it's old trick of word fabrication and smoke & mirrors. Let's see, how do we make INEL more acceptable to the

85-7 IX.D (1) public? — why add the word "environmental" & they'll all think it's safe. Ah! Now, let's see, we have all of this HLW & don't know what to do with it, but if we call it "waste incidental

85-9 IX.D (2) to reprocessing" then we can legally ship transuranic and then maybe we can slip it into New Mexico, they're almost as dumb as

85-10 V(9) the people in Idaho - Come on! Stop this sort of semantic bullshit and start honestly dealing with the problems.

(5) It's time to come clean to the people of Idaho that there is no proposal to accept mixed HLW at Yucca and "it is unclear whether a geological repository will ever be available to accept mixed HLW." Continuing to play a political game of this will only hurt the DOE's credibility in the long run. Come clean now and focus your energy on cleaning up, not on lying and perpetrating the myth that the mixed HLW will leave Idaho.

85-12 III.D.3(1)

(4) It seems ridiculous to me to be considering alternatives which will create more waste — especially more liquid waste. You have big problems with the calciner and there is no guarantee that it will ever start again. And building a new incinerator is not a good idea. Increased air pollution is a very unsafe (and unpopular) idea. You need to learn to 85-13 III.C (3) 85-14 VIII.B(2) grips with the fact that the general populace doesn't approve of new radio active releases into its air.

(1) I see you have some alternatives which would take the existing dry calcine, re-wet it and then do more 85-15 III.D.3(1) sulphation, and then dry it again. Are you nuts?

(8) I don't understand why you would store the Class A type at INEL in one alternative and remove it in another. 85-16 III.F.4 (1) Since the INEL is in an earthquake & volcanic area on top of a huge aquifer all waste should be 85-17 VIII.E(1) removed to more geologically stable areas for storage.

85-18 III.F.2(2)

I urge you to withdraw this document until the long term storage criteria have been established and then try again to find the most safe way to deal with the huge amount of HLW at INEL. I also am interested in the disposition of the SNF at the ATR and STH arriving. Why wasn't it addressed in this DEIS?

85-19 X1(7)

Ellen Glaccum
Box 1173
Ketchum, ID 83340