



Citizens Advisory Board  
Idaho National Engineering and Environmental Laboratory

**DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE  
ADVANCED MIXED WASTE TREATMENT PROJECT**

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**INTRODUCTION**

The Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board (CAB) reviewed the Draft Environmental Impact Statement (EIS) for the Advanced Mixed Waste Treatment Project (AMWTP) prepared by the U.S. Department of Energy (DOE). DOE is commended for its diligence in preparing the Draft EIS in an expedient manner. This recommendation provides our recommendations for preparing a legally defensible Final EIS that will meet the needs of the decision-maker. Detailed comments are also attached.

The goal of treatment at this proposed facility is clearly stated and defined.

Initial reading of the Draft EIS leaves the reviewer unsure of the characteristics of the waste to be treated in the AMWTP, the specific incineration process that would be used as the thermal treatment under the Proposed Action, and the basis for the description of output waste stream characteristics presented.

The document has much information related to the INEEL that is not germane to the specific location of the proposed facility.

The document is not easily reviewed or understood. For example, discussion impacts on air resources appears in numerous sections, including Sections 5.7, 5.12, 5.19, and Appendix E. Unfortunately, rationality and understanding do not follow the same sequence.

Appendix B provides a sufficiently detailed facility description to support the Draft EIS. The descriptions are clear, concise, and technically understandable.

The Glossary appears to be complete and accurate. The plastic bookmark of acronyms was a nice touch.

There was a good use of graphics throughout the document.

**RECOMMENDATIONS**

1. The CAB understands that the DOE-ID wants to allow the contractor the flexibility to choose from a list of possible alternative processes. As two of the alternatives

presented (steam reforming and plasma hearth) would not allow DOE-ID to comply with the terms and conditions of the Idaho Settlement Agreement, we do not feel they are alternatives that could be implemented. We regret that the Draft EIS did not include consideration of any alternatives to the proposed action that could be implemented by the Secretary of Energy. We believe the failure to include more than one implementable alternative violates the spirit of the National Environmental Policy Act (NEPA) and offers the decision-maker no real choices. The INEEL CAB recommends that DOE include additional alternatives in the Final EIS that would meet the purpose and need for action and could be implemented under the legally binding Idaho Settlement Agreement.

2. The public's ability to understand of the EIS would be greatly improved if the apparent selection of auger hearth incineration (as the only treatment process alternative that is acceptable) were made more explicit and all subsequent references to the process alternatives were deleted. If DOE determines that the document must include discussion of all three of the process alternatives, then the INEEL CAB recommends that the outputs and impacts of each should be presented separately and clearly. It is difficult to understand how the outputs and impacts from all three processes could be "equivalent."
3. The Draft EIS implies that the waste acceptance criteria for the wastes to be treated by the AMWTP must be flexible (subject to change, see page F-18). If that is the case, then the INEEL CAB recommends that the Final EIS present the expected outputs and impacts in a manner that will bound the probable outputs and impacts based on an estimate of the worst case situation. That information will be necessary to support a decision. Alternatively, ranges of outputs and impacts could be presented if the conditions under which they would occur are clearly stated.
4. The Final EIS should clearly state that the characteristics of all process outputs and all impacts (described as the impacts of the proposed action) would result from implementation of the auger hearth incineration process on waste as characterized by the waste acceptance criteria as presented in Appendix F. If DOE chooses to present all of the process alternatives, then the discussion of the outputs and impacts attributable to each process alternative should be explicitly identified. Similarly, if the contractor determines that another process is preferable to auger hearth incineration subsequent to the Record of Decision and the final does not bound the impacts that will result from the new process, the Board expects that supplemental environmental documentation will be required in compliance with NEPA.
5. If feed rates may be adjusted to ensure compliance with permitted emissions, then the INEEL CAB recommends that the Final EIS present expected ranges of outputs and impacts.

6. The only references in the Draft EIS to the volumes of wastes that will be treated involve specification of an annual input of 6,500 cubic meters and the total volumes (65,000 and 185,000 cubic meters) that would occur under the two phases of the expected contract. We understand that 16,000 cubic meters (out of the Phase I volume of 65,000 cubic meters) would be incinerated. The public's understanding of the proposed action would be enhanced if the volume of waste to be treated in each of the subprocesses was represented schematically (i.e., what quantity will be supercompacted, macroencapsulated, etc.). The INEEL CAB recommends the inclusion of graphics to illustrate the quantities of wastes to be treated in each of the subprocesses in the Final EIS.
  
7. The "Purpose and Need" section provides an inadequate explanation of the need for treatment of waste that is already stored in RCRA compliant containers at the INEEL. The INEEL CAB recommends that the Final EIS provide more evidence that waste stored in RCRA compliant containers needs further treatment.

Attached is a set of detailed comments and suggestions that the EIS project team may find of benefit in developing the Final EIS.

## DETAILED COMMENTS

### Comments on the Summary Section of the Draft EIS:

- The boxes had a design life of 20 years, but have been used for storage for 28 years. Has the condition of the boxes been investigated to determine corrosion or decomposition? If not, why not?
- DOE has been storing waste since the 1970's not 80's.
- How can 95% of the 65,000 cubic meters be classified as mixed waste when 10% of the volume is classified as "to be determined" and 24% as metal debris?
- The description of supercompaction should discuss the weight limits on puck drums.
- Incineration controls should indicate key parameters (e.g. mercury levels).
- Why would the maximum increment of carcinogenic and non-carcinogenic air pollutants be projected to occur at the INEEL boundary rather than at the proposed facility?
- In the opening paragraph on page S-11, the term "criteria" should be defined.

### Comments on other sections of the Draft EIS:

- Reduce the non-specific (generic) information presented in Sections 4.2, 4.3, 4.4, 4.5, 4.7, 4.8, 4.10, 4.11, 4.12, 4.13 and the related sections in Chapter 5.
- The last paragraph on page 4.4-1 should be explicit as to "sites" at the location of the proposed facility.
- "Earthquake ground motion" is defined on page 4.5-3 as "acceleration *due to gravity*," which is incorrect. It is ground motion measured in terms of the constant  $g=32\text{ft}/\text{sec}^2$ , which is the acceleration due to gravity.
- Is it accurate that the natural background dose for Snake River Plain residents is 360 millirem per year (stated on page 4.7-3) when 200 millirem is attributable to inhalation of radon decay particles? This doesn't seem consistent with a statement on page 4.9-5 that indicates 90% of radioactivity found in the vegetation at the Radioactive Waste Management Complex is attributable to Strontium-90 or Cesium-137.
- None of the historical data on page 4.12-2 are related to the expected impacts of the AMWTP.

- The sections on page 5.7-2 are particularly opaque to the average reader. For example, references to “ISC-2” and “ISC-3” are meaningless.
- Where does all the H<sup>3</sup> on Table 5.7-1 (page 5.7-3) come from?
- Is there any concern for cultural and ecological resources when the 7-acre site has all been disturbed previously? (See page 5.16-2 and 5.16-7).
- Table E-3-1 (on page E-3-8) shows projected mercury stack emissions of 83 micrograms per day, which will exceed the Maximum Achievable Control Treatment (MACT), standard of 40 micrograms per day. The projected emissions were based on a “conservative” assumption that the feed stock will have 1% mercury, when the actual content is known to be “much less than 1%”. Why use an assumption that is known to be inaccurate?
- Figure 5.7-1 gives a distorted picture of the radiological impact. It looks huge, but is less than 1 millirem per year. A worker dose of less than 1 millirem per year relates to a limit of 5,000 millirem per year. The maximum allowable offsite limit is 10 millirem per year with an expected 0.11 millirem per year. Discussion of the long-term storage impacts (on page 5.21-2) related to the “driller scenario” shows an equal probability of a latent cancer from contact handled (CH) and remote handled (RH) transuranic waste (TRU). Conversely, the hypothetical gardener has a smaller risk for latent cancer fatality from RH TRU than from CH TRU. These discrepancies are not readily apparent and are not explained.
- Footnote c. on Table E-3-1 (on page E-3-8) is unsubstantiated in the text. These emission rates haven’t even been estimated which certainly doesn’t warrant assuming compliance with the MACT limit.
- Table E-4.1-1 shows that the risks of fatal cancer from radiation exposure and from nonfatal cancers are higher among the general public than among site workers. It also reported that the risks of genetic effects and nonfatal cancers are the same for site workers as for the general public, but the risk of genetic effects is higher than the risk of nonfatal cancers among the general public. These data do not appear to make sense.