

Engineering Test Reactor Engineering Evaluation/Cost Analysis

Alternative 3 Selection

At the November 2006 meeting, the Citizens Advisory Board (CAB) received a presentation and engaged in lengthy discussion with various Department of Energy (DOE) and Idaho Cleanup Project (ICP) personnel regarding the Engineering Test Reactor (ETR) Engineering Evaluation/Cost Analysis (EE/CA). The CAB had received a copy of the EE/CA prior to the meeting and had numerous questions. The CAB expressed appreciation for the effort that was put forth by DOE to address their questions and concerns. Following in-depth discussion, the CAB voted to support Alternative 3 for the key reasons outlined here:

- Balances short-term and long-term Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) objectives for the site.
- The transfer of the reactor vessel to the Idaho CERCLA Disposal Facility (ICDF) reduces the site footprint for contaminated areas which is one of Environmental Protection Agency's (EPA) principle objectives for the Idaho National Laboratory (INL).
- Personnel radiation exposure is managed within contractor guidelines, well below DOE standards, and consideration is given to industrial safety, and employment continuity.
- Lowest total cost when ongoing costs are considered.

Prior to the vote of support, the consensus deliberation process provided a sense for the level of agreement among the members regarding support of Alternative 3. Among the voting quorum of 10, four fully support Alternative 3, three supports with minor reservations, one supports with reservations, and two were opposed.

The CAB believes it is important for DOE to understand the concerns expressed during this deliberation, both in support and in opposition to Alternative 3. The CAB also believes it is important for DOE to understand CAB concerns related to the information – or lack thereof – in this specific EE/CA, as well as suggestions for improvement of future EE/CAs; therefore a brief summary of these items is noted below.

- *DOE did not do a thorough job of listing the reasons for each alternative in the EE/CA*
 - There was very little how this is (or is not) consistent with the overall Idaho Cleanup Project.
 - The “reduce the footprint” concept seems to be one of the most important plus factors in both Alternates 3 and 4. This argument should be in the EE/CA.
 - The difference between Alternative 2 and 3 can not be very much when it comes to residual radioactive contamination once the vessel has been either grouted in place or moved to the land fill and grouted.

- Since Alternative 3 has a greater amount of worker exposure and industrial risk, there should have been more in Alternative 3 on how you planned to mitigate these risks. This information was received during the latter part of the CAB meeting.
- *Alternative 2 should have been given more analysis and consideration.*
 - With the right kind of protective cover, such as a concrete or stone pyramid or other monumental structure engraved with appropriate warning symbols such as the universal symbol for radioactivity, it would be protective of human health well beyond 2095 by preventing such land use as residential.
 - It was unclear why Alternative 2 wasn't by far the cheapest way to handle this program as well. It seems highly unlikely it would cost \$500,000 (this number was presented in present value, not annual costs) per year to monitor the site.
 - There could have been an Alternative 2A. This would have included a permanent cover over the grouted ETR.
- *The cost factors in the total cost analysis were not clear.*
 - Since this may or may not be an important part of each alternative, they certainly should have been covered in a clear and concise manner.
 - For future EE/CA's, develop more complete cost comparison analyses. Use present value of money method.
 - Future operating costs should be included in the alternatives. However, it was clear from the conference call and the CAB meeting that not enough effort had been put into this. It was implied that Alternatives 2, 3, and 4 had the same operating costs. We now know that this cannot be true. One of the justifications for Alternative 3 vs. Alternative 2 was the verbal assurance that Alternative 3 would have lower, but unspecified, ongoing costs vs. Alternative 2. Also need to see some breakdown of costs for a typical year such as sampling labor, lab analysis costs, etc. This shows diligence. When you convert this to present worth, you should indicate how many years are included and what discount/interest rate you used. It should stop at 20, as the requirements beyond this could be different, and the present worth of years 21 through infinity is close to zero anyway. In the presentation to the CAB, it was good to see that DOE had rounded off the numbers to 1–2 significant figures, giving a better representation of their accuracy.
- *Safety: workers now and public in the future*
 - The safety of the workers handling this project should have been made a more important part of the study. Grouting the reactor in place seems like the easiest and safest way to isolate this hot vessel. Any worker exposure that can be avoided should be avoided.
 - The EPA is using unnecessary exposure for workers to reduce the footprint.
 - The potential house and garden next to the ETR site argument is unrealistic. No one is going to build a home next to an abandoned reactor. However, the same exposure argument could be made for an industrial use or a future INL mission which is far more credible.

- It was expressed there is not consistency on each item in the Idaho Cleanup Project. It is not understood why it is acceptable to leave some items in place and to move others.
- It was suggested that the ICDF might become a high-tech Radioactive Waste Management Complex (RWMC). Is this consistent with the ICP vision?
- If the reactor vessel is to be removed and placed in the ICDF, then ICDF may be designated as a waste dump site for everything on the INL. By reducing the footprint, it seems that we will have put in place another high-level waste storage site. If the ETR vessel was left in the containment and grouted in place there would only be one area of concern. There was a scenario mentioned that discussed the type of standards the INL will be in a 100-year time period, those areas that will have administrative controls will never be able meet residential standards. Further more, there is concern that once that ICDF is utilized for the ETR vessel, then it will set precedence for all waste (reactor) to be placed there including waste from other Environmental Management Sites. Finally, there is concern that if the ICDF is used for this type of waste there may be a remote possibility that other Environmental Management cleanup sites may look at the INL as a disposal area.
- CAB was assured by the description of the contractor's extensive large load lifting experience.
- The idea that DOE is just moving waste around the site from one place to another is not valid. The RWMC and the ICDF are the two places "planned" for storage of contaminated material. Limiting the long-term storage of as much of the material at the site that can be put into these two locations is how the "footprint" mentioned above is decreased.