options presented, and provide a high level of safety during storage. This process consists of imbedding the calcine in a metal matrix which is itself contained within a metal cylinder. The metal matrix that I suggest is aluminum. This was done on a laboratory scale as early as 1969, and was reported in IN-1322 The author is myself. The laboratory study was done with nonradioactive calcine. A stainless tube was filled with granular calcine. Molten aluminum was then drawn up through the calcine using a vacuum, and an inert atmosphere to prevent aluminum oxide from forming.The metal is allowed to extend beyong the calcine at both ends of the tube, thus forming a sealed system. In order for the radionuclides to be leached from the calcine, the tube would have to be penetrated by corrosion. Even then, the leaching would be very slow because of the aluminum matrix that protects the calcine particles. The tubing containing the calcine could be any thickness desired to provide the desired long-term protection. If really, really long term protection were desired, the tube containing the calcine could be placed within a second stainless steel or ceramic cylinder and a second pouring of metal could be made to seal the tube containing the calcine within the secondary container. Long term stability could easily be provided by the proper choice of containers. Some of the advantages of this process over the other proposed processes are as follows:

1. This process can be done at relatively low temperatures (aluminum m.p. 650 decgrees C), compared to a glassification process.
2.. The energy requirements are low compared to a glassification proecess..
3. Migration of Cs-137 would be negligible at the low temperatures required to melt aluminum.
4. The cost of materials would be relatively low, because ordinary stainless steel and/or ceramic tubing could be used.
5. Argon, which is reasonable in cost, could be used to provide the inert atmosphere.
6. Leaching of radionuclides could be zero for as long as desired by choosing the right containment materials.
7. Handling the stainless steel or ceramics tubes could be done with conventional equipment.
8. The tubes containing the calcine could be transported and stored easily.
9, The aluminum metal and steel container would reduce the external radiation significantly.
10 The process is basically not affected by the chemical composition of the calcine.
11. End caps can be welded on the ends of the tube, thus making it a totally sealed system.
12. The ss tubing would totally shield out the beta radiation, and attenuate somewhot the gamma.
13. The metal matrix provides good heat transfer for any decay heat.]

If you have any questions or if I can be of any help, I can be reached at 652 Brentwood Circle, Idaho Falls, Idaho 83402, phone, 522-8673.

Very truly yours,

D W Rhodes

D. W. Rhodes

HLW & FD

EIS PROJECT - AR/PF
Control # DC-21

Idaho High-level Waste and Facilities Disposition
Draft Environmental Impact Statement
U.S. Department of Energy Idaho Operations Office

Written Comment Form
Must be postmarked or dated by March 20, 2000

I don't know enough about the issues discussed at this meeting, but this seems like a complicated ordeal. All I know is
21-1 III.E(3) that [I prefer storing the waste in the safest possible way (i.e. not harmful to the public, workers, or environment), or to move the waste elsewhere] [I don't think cost should matter. Feeling
21-3 X(4) safe doesn't have a dollar value]

21-4 IX.B(3) [The high schools in the area should have been notified, because the Times News cannot be counted on as a source of information — this meeting was reported to be about nuclear incinerators. Basically, the next generation needs to understand these issues.]

21-5 IX.C(3) [The registration staff was not only helpful, but friendly — a good change of pace in this area! Most public hearings have no staff at all, or are there only to get people to pick up informative papers.]

Written comment forms may be faxed to:
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EIS Document Manager
208-526-1184

Written comment forms may be mailed to:
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Or send comments via the internet at: http://www.jason.com/hlwfdeis