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**MEMORANDUM**

31 October 2000

**To:** Yucca Mountain File, Nye Co. N.W.R.P.O.  
**From:** Don L. Shettel  
**Subject:** Review of AMR/PMR: ANL-EBS-MO-000002 Rev 00.

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Title: Aging and Phase Stability of Waste Package Outer Barrier.

DoE has just begun to work with alloy 22, and not under repository conditions expected in the first 10,000 years of repository operation. DoE is performing saturated type isothermal testing, instead of dripping different water compositions on a hot metallic surface under non-isothermal conditions.

DoE has not built a single prototype canister (of any scale) and performed realistic welding and testing on it. Even the nuclear power industry did this for their first reactors for testing purposes.

DoE uses primarily assumptions in its TSPA models. Recent work by State contractors suggests trace elements (such as lead and mercury) can have a great effect on corrosion, and thus DoE's models will eventually have to be revised.