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PDR
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WM DOCKET CONTROL CENTER
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MEMORANDUM FOR: ^{86 JUL 24 AM 11:09}
Dave Brooks
Geotechnical Branch
Division of Waste Management, NMSS

FROM: Michael B. McNeil
Waste Management Branch
Division of Engineering Safety, RES

SUBJECT: BWIP EA SECTION ON POTENTIALLY ADVERSE GROUND-WATER
CONDITIONS

At your request, I have reviewed the material on groundwater effects on corrosion in Section 6.3.1.2.8 of the BWIP EA (pp 6-117 - 6/123).

I am sorry to have missed this section in my review, but it was reordered in a way that made it difficult to track from the draft.

The section in question asserts that "data obtained....indicate that pitting and stress corrosion cracking will not be active corrosion modes... Thus, uniform corrosion is expected to be the most probable active corrosion mode." (p 6-121).

There are two things wrong with this statement. First, I do not believe that the experimental record will support the assertion that "pitting and stress corrosion cracking will not be active corrosion modes." BCL has studied these modes in groundwaters representative of the BWIP repository and are convinced that both pitting and stress corrosion cracking are possible under plausible repository conditions. Second, the statement that "uniform corrosion is expected to be the most probable active corrosion mode," although true, is not relevant. What is relevant is what is the corrosion mode that is most likely to lead to violation of the requirements of 10 CFR 60, and how likely is it to do so. It is precisely this issue which BWIP has so far not addressed.

Michael B. McNeil

Michael B. McNeil,
Waste Management Branch
Division of Engineering Safety, RES

cc: Kien Chang, WMEG
Paul Hildenbrand, WMRP

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