UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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am-10

WM Record File 101
WM Dir.
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WMPI WMLL
WMHT R/O WMHL
WMUR Others

recd 2-23-83
nb

MEMORANDUM FOR: Robert Wright
High-Level Waste Technical Development Branch
Division of Waste Management

FROM: Michael B. McNeil
Waste Management Branch
Division of Health, Siting, and Waste Management

SUBJECT: RADIOLYSIS IN BASALT REPOSITORIES

Bob Cook has just called the attached report to my attention. I think the findings of this report on the subject of hydrogen nucleation in backfills containing clay are of great importance in estimating the seriousness of potential hydrogen embrittlement problems in the basalt case. I would be grateful if you could send this to Dr. Ernest Moore at Rockwell Hanford.

Mike

Michael B. McNeil
Waste Management Branch
Division of Health, Siting,
and Waste Management, RES

Enclosure: As stated

cc: F. R. Cook, NMSS

WM Record File 101
WM Project WM-10
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Cook ~ KBS-TR-82-02
G. Z. McVay
sent to Pederson

Studsvik Report

STUDSVIK/NW–82/273

RADIOLYSIS OF GROUNDWATER FROM HLW STORED IN COPPER CANISTERS

Hilbert Christensen
Erling Bjergbakke

NB: I know we are not looking seriously at copper containers, but the point of this report is that use of clay backfill seems to stop the radiolytic hydrogen escaping and lead to hydrogen nucleation in the immediate vicinity of the HLW container. This may require some serious attention, especially in regard to basalt repositories.

Michael McNeil
NRC/RES/WMB