

CORRES. CONTROL
OUTGOING LTR NO.

DOE ORDER #

02 RF 01929



*Probably need to
send to Rehder also*

August 27, 2002

02-RF-01929

LeRoy Moore
Rocky Mountain Peace and Justice Center
P.O. Box 1156
Boulder, CO 80306

REPONSE TO YOUR LETTER DATED MAY 16, 2002 ON PLUTONIUM AND THE SNAKE
RIVER PLAIN AQUIFER - CSD-008-02

Dear Leroy,

In response to your letter regarding the plutonium and the Snake River Plain Aquifer, the Actinide Migration Evaluation (AME) Advisors are aware of the two reports, "Poison in the Vadose Zone" and "Science for Democratic Action". The premise of both reports is that plutonium is migrating rapidly through the vadose zone at the Idaho National Engineering and Environmental Laboratory (INEEL).

It is the AME Advisors' opinion that the state of understanding of data collection and analysis in support of understanding of actinide transport pathways at INEEL and Rocky Flats Environmental Technology Site (RFETS) are not comparable. Eight years ago, RFETS found itself in a situation similar to that currently at INEEL, with a few individuals raising issues about migration of plutonium in RFETS soils, surface-, and ground-waters based on limited data. The AME Group was formed to bring in additional external expertise to carefully examine the data, direct the collection of new data, more sophisticated experiments and models, and quantify the various pathways for actinide migration off site. This approach utilized an Adaptive Management Strategy that began with a conceptual model, a critical review and selection of qualified data sets, a series of new experiments, new models, and new assessments to reach the present understanding. The conclusion that the predominant pathways for plutonium migration are by air and surface water erosion are backed up by state-of-the-art scientific experimentation (XANES, CUFF, SEM, etc.) and models (WEPP, HEC-6T, and MIKE SHE).

It is the AME Advisors' opinion that the claims made by the above mentioned reports ("Poison in the Vadose Zone" and "IEER/Science for Democratic Action, v10:1") are not robust at this early stage in understanding, as INEEL has not completed a similar detailed pathway analysis. The highly variable results for plutonium at INEEL are reminiscent of the state of understanding of plutonium data and migration at RFETS in 1995. Through completion of the detailed pathway analysis at RFETS, it has been concluded that plutonium and americium transport at RFETS is controlled by physical particulate transport processes (where wind and surface water erosion dominate the migration), in contrast to uranium. It is likely that similar transport mechanisms are operable at INEEL, and that substantial differences will be found in the behavior of the wider range of radionuclide contaminants at INEEL. This is especially the case for the vadose zone where dissolved transport is the dominant mechanism, and particulate transport is very small.

DIST.	LTR	ENC
BRAILSFORD, M.D.		
FERRERA, D.W.		
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Date

N REPLY TO RFP CC
NO:

ACTION ITEM STATUS

- PARTIAL/OPEN
- CLOSED

TR APPROVALS:

ORIG & TYPIST INITIALS

CSD:slp

ser Hill Company, L.L.C.

ky Flats Environmental Technology Site, 10808 Hwy. 93 Unit B, Golden CO 80403-8200 ♦ 303-966-7000

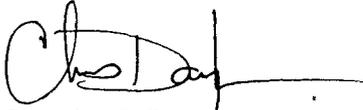
ADMIN RECORD

SW-A-005984

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Based on the opinion of the AME Advisors, RFETS has requested funding from the Department of Energy (Headquarters) to discuss with and obtain information from INEEL actinide migration specialists. We will forward this information to you when it becomes available. Please feel free to contact me if you have any questions.

Sincerely,



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CSD:sle

cc:

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Russell McCallister – DOE, RFFO