June 26, 1979

CT-1135

PDR 9/13/79

DISTRIBUTED TO ACRS M.

To: Dr. Dade Moeller, Chairman, ACRS Subcommittee on Waste Management.

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ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS U.S. N.R.

JUN 27 1979

From: Dr. R. F. Foster, Consultant

Subject: Comments on NRC Research Program in Nuclear Waste Management

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These comments are in response to Mr. Ragnwald Muller's request dated June 18, 1979.

The write-up prepared by the NRC staff for ACRS review has an impressive list of titles of research projects that are included in the "present program" but only about a third of them are on-going. Because of limited funds, apparently most of the program can not be started until FY 1981. In view of the limited information provided (titles only), substantive comments are difficult to make on any individual project.

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Relative to the program as a whole, there appears to be a need for prioritizing the work. (See recommendation #17 from the Oct. 11-12, 1978 ACRS meeting). Such

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prioritization might well consider:

- NRC's mission (V.S. that of DoE and EPA).
- Near term rulemaking and Reg Guide needs.
- The consequences (especially in the uncertainty of risk to the public) of delayed acquisition of new data.

Review and comment on the overall program would be much more useful if each of the titles were assigned a priority and was accompanied by at least a tentative time schedule and budget.

Virtually all of the titles appear relevant to waste management problems and many seem to reflect recommendations of the ACRS. Never-the-less, it is not always apparent whether the objective of the study is to:

a) aid in the development of the technology
b) aid in site selection
c) aid in the specification of criteria that must be met
d) aid the NRC Staff in evaluating applications
e) aid in the development of technical specifications
or f) aid in future monitoring to demonstrate compliance.

I would expect that identifying each research project with one of these phases of the regulatory

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process would aid in the assignment of priorities and a time schedule. Obviously, there needs to be coordination with the research efforts underway in this waste management area by DOE, USGS, and EPA.

Basic to many of the performance criteria that must be established is some "acceptable" dose or risk that could be received by future generations as a consequence of present-day waste management practices. Ostensibly, this is to be done by EPA, but NRC should press for an early resolution of the matter because both the level of the risk and the manner in which it is expressed can markedly affect the direction and extent of NRC's research effort.

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At this time, low-level wastes appear to warrant continued and priority attention by the NRC Research Staff because the sites are establish and in (or were in) use, because of recognized and publicized problems with some of them, and because NRC's role with

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them will very likely increase in the near future. The subject research plan includes investigations at Maxey Flats, Sheffield and West Valley. Specific plans for the research at these burial grounds might benefit from review by the ACRS Waste Management Subcommittee. In March of this year, the Subcommittee was briefed on practices used by the operator of the State licensed burial ground on the Hanford Reservation and learned that drums are randomly "placed" in trenches (v.s. orderly stacking) so that occupational exposure is minimized. A study of the long-range desirability of such random placement is worthy of inclusion on the list of research topics.

Administration of the overall research package will require substantial skill and effort. With well over 100 separate projects, a small staff could be overwhelmed with preparation of RFP's, contractor selection, project administration and reviews so that no time remains for careful and systematic planning of future work. Steps should be taken to avoid this common malady.

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