



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

August 3, 1990

Mr. Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Bernero:

SUBJECT: NRC STAFF'S APPROACH FOR DEALING WITH UNCERTAINTIES IN
IMPLEMENTING THE EPA HLW STANDARD

During the 22nd meeting of the Advisory Committee on Nuclear Waste, July 30-31, 1990, we met with the NRC staff to review and comment on the subject draft SECY paper (Reference 1). This draft was prepared by the staff in response to a request by the Commission for a "... summary on the staff's current approach to dealing with uncertainties/methodologies in implementing the EPA probabilistic standard so as to avoid [as] many of the controversial aspects as possible."

We believe, for the reasons given below, that the staff's approach is not adequate. We include in this letter specific comments on the draft paper and also provide our comments on other aspects of the staff's role in implementing the EPA Standards.

1. The draft paper describes two parts to the finding of compliance with the EPA Standards. One part deals with the standard of performance and the other with confidence that the standard of performance has been met. The staff has failed, however, to provide an adequate approach for dealing with residual uncertainties that will be encountered in completing this finding. Much of the paper concerns methods for reducing and managing uncertainties related to 10 CFR Part 60 and the potential activities of DOE, but the staff appears to have neglected to develop an adequate approach for dealing with uncertainties inherent in 40 CFR Part 191.
2. The paper acknowledges, albeit in conditional terms, the need for expert judgment, but provides no insight on how the staff will apply this judgment or develop an approach for selecting from among conflicting but apparently equally supported opinions. We believe that expert judgment will be required

regardless of the specific form of the final EPA Standards, and thus, the approach to the use of expert judgment in a robust manner is crucial to the quality of the licensing determinations.

The transcript of the 22nd ACNW meeting contains the details of our discussion with the staff concerning conflicting expert opinions. Our conclusion is that it may not be appropriate to treat discrepancies in expert opinions by using weighted averages unless this process has been carefully analyzed and the limitations of its application to both technology and licensing matters are well defined.

3. The staff has included strategies in the paper such as rule-makings to 10 CFR Part 60 to reduce uncertainties. While it is possible to narrow the technical and regulatory topics so that only fully determinable variables remain to be considered in the licensing process, we believe this tactic is neither likely to be successful nor is it appropriate. The description offered by the staff does not allow insight into the scope or the schedule that the staff strategy would call for, in part because existing rulemaking topics are not in an advanced stage of development. The status and description of rulemaking previously proposed to support the conclusion that the EPA Standards are workable are cast into question as is the ability to bring uncertainties into concert with the use of the HLW probabilistic standards.
4. We were unable to discern the relationship between the draft paper and the content of the related strategy document prepared by the NRC staff (Reference 2). We concluded that an integrated overall strategy and a strategy for devising methods for demonstrating compliance with the EPA Standards are necessary and we urge the staff to develop such an integrated approach for delineation of methods that would demonstrate such compliance. Such an integrated strategy should also address the connection between those activities to be carried out by DOE in response to uncertainties related to 10 CFR Part 60 and the NRC staff activities related to demonstration, by DOE, of compliance with 40 CFR Part 191.
5. The current reevaluation of the EPA Standards, which may include a reformulation of its probabilistic requirements, mandates a reexamination of assumptions about its implementability that were made a number of years ago. This requires prompt attention to the development of a coherent strategy for dealing with the various uncertainties that arise in performance assessment. The staff should be urged to undertake such a development without delay.

We conclude that the draft paper should be modified by the staff to include a coherent strategy outline that explicitly addresses the implementation of the EPA Standards and consideration of the associated uncertainties. The modifications should include exposition of the bases on which the strategies are developed, their application to regulatory and technical uncertainties, and a more deliberate discussion of how expert judgment would be applied, evaluated and justified.

Sincerely,



Dade W. Moeller
Chairman

References:

1. Staff's Approach for Dealing With Uncertainties in Implementing the EPA HLW Standards (WITS 8900236), draft SECY paper, undated.
2. SECY-90-207, First Update of the Regulatory Strategy and Schedules for the High-Level Waste Repository Program, dated June 7, 1990.

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