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PROPOSED MEETING SUMMARY/MINUTES
FOR THE ACRS CLASS 9 ACCIDENTS SUBCOMMITTEE
MAY 2, 1985 - WASHINGTON, DC

Purpose

The Subcommittee met with the Staff to review NUREG-0956, "Source Term Reassessment."

Principal Attendees:

ACRS

W. Kerr, Chairman
D. Ward, Member
C. Siess, Member
R. Axtmann, Member
P. Shewmon, Member
C. Mark, Member
I. Catton, Consultant
M. Corradini, Consultant
M. Bender, Consultant
P. Davis, Consultant
A. Wang, Staff, DFO*

NRC

D. Ross
M. Silberberg
J. Mitchell
R. Wright
R. Meyer

*Designated Federal Official

Introduction

W. Kerr opened the meeting by stating his objectives for this meeting were to:

1. Determine from the Staff what sort of commentary would be most useful in the further development of NUREG-0956.
2. Determine the relationship between the work described in the NUREG and the current code development program.

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3. What is the purpose of the codes and how will they be used in the decision-making process.

C. Siess stated his concern was how does the Staff know when the source term work is "completed"? I. Catton stated the codes should be validated and assessed before they are used.

Objectives of NUREG-0956

D. Ross stated his main objective is to start to persuade the ACRS of the validity of the Staff source term methodology and its usability for regulation. He stated he believes the ACRS comments can be of three general types:

1. Source term methodology is not mature, go back and do more.
2. Acknowledge that source term methodology is improved and should be applied, however, the Committee would reserve judgment on its application until it is applied on a case by case basis.
3. Endorse the methodology.

D. Ross stated a companion paper to the NUREG is being prepared by NRR to determine the regulatory applications of the source term work.

W. Kerr asked if D. Ross believed the physics is understood well enough to make decisions. Also, it is possible to make a relative statement about the current methodology versus WASH 1400? For instance, can one say WASH 1400 will produce higher releases and is at least an upper bound. W. Kerr and C. Siess both stated their basic problem with the current approach is that RES does not know how the methodology is going to be used. They feel before one can determine if a methodology to

solving a problem is adequate, one must first know what and how the methodology is going to be used.

Overview of NUREG-0956

W. Kerr asked would M. Silberberg state what is the principal purpose of the NUREG. M. Silberberg stated NUREG-0956 is the Staff's attempt to display what they have learned, show that there have been improvements in the source term methodology, show that it is superior to previous analyses even with current uncertainties, and to show that the methodology can be used in the regulatory regime. C. Mark asked why the Staff has not modeled the TMI-2 accident and compared. The results of calculations with what was observed, P. Davis stated that it appears the major application of the best estimate analysis will be emergency planning. He believes the Staff has done enough research to argue that they know enough about the source term for emergency planning. C. Siess asked how much uncertainty is acceptable and has research reduced the uncertainties? M. Silberberg stated he could not answer these questions at this time. They are looking at such questions as part of their ongoing research.

NRC Sponsored Methodology (Chapter 3)

Ralph Meyer gave a brief description of the suite of codes used in NUREG-0956. W. Kerr asked if the Staff position is that a significant amount of code development is still needed but the current suite is usable for regulation. R. Meyer answered yes. M. Bender said that before he can make a decision he will need more information on what uncertainties need to be reduced and what improvements the reductions provide. W. Kerr stated he had the same problem. The NUREG does not explain what the deficiencies in the codes are, how important these deficiencies are and how the research program will remedy on these deficiencies. R. Meyer stated the QUEST program is looking at many of these questions. W. Kerr stated QUEST is a sensitivity study which is not the same as an uncertainty analysis. W. Kerr asked T. Kress (ORNL)

about one of his conclusions in a code validation report. T. Kress stated that a significant problem he had in evaluating the codes is that he did not know how the codes are to be used. He feels that validation of a code should be based on how accurate an answer is needed, based on how the result is to be used.

Results for Selected Accident Sequences (Chapter 4)

J. Mitchell stated she proposed to illustrate some examples of the results, uncertainties, and compare results for different sequences and plants. W. Kerr asked if J. Mitchell could provide a qualitative idea of how the WASH-1400 methodology might have compared with these results. J. Mitchell stated the results are dependent on containment failure mode and timing. Results have been found to be lower, comparable to or a little higher than WASH-1400 results. J. Mitchell stated INTER was used in March. W. Kerr asked why was INTER used when the code package will use CORCON? M. Silberberg stated it was because CORCON was not available until recently. W. Kerr stated it does not make sense to promulgate a code package with results from another code. If he interprets M. Silberberg correctly, I. Catton stated this code package is not really state-of-the-art but vintage 1982 or 1981. R. Meyer stated the package has codes of different vintage but he considers most of it to be 1982-1983 vintage work.

W. Kerr closed the meeting by stating he hopes to finish the remaining chapters the next meeting. M. Silberberg requested comments as soon as possible for their review of the NUREG.

NOTE: Additional meeting details can be obtained from a transcript of this meeting available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., or can be purchased from ACE-Federal Reports, 444 North Capitol Street, Washington, D.C. 20001, (202) 347-3700.