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7/25/85

DATE ISSUED: 7/19/85

ACRS MEETING MINUTES ON THE SAFETY PHILOSOPHY,  
TECHNOLOGY, AND CRITERIA SUBCOMMITTEE,  
JULY 10, 1985  
WASHINGTON, D.C.

PURPOSE: The ACRS Subcommittee on Safety Philosophy, Technology and Criteria met on July 10, 1985 at 1717 H Street, N.W., Washington, D.C. The purpose of this meeting was to continue the review of the results of the NRC's proposed Safety Goal Policy Evaluation Plan and future use of safety goal policy. ACRS action on the matter discussed here was planned for the July 11-13, 1985 ACRS meeting. The Subcommittee heard presentations from representatives of the Safety Goal Steering Group, EDO, NRR, and RES. The meeting began at 1:00 p.m. and was adjourned at 5:00 p.m. and was held entirely in open sessions. The principle attendees were as follows:

MEETING ATTENDEES:ACRS

D. Okrent, Subcommittee Chairman  
J. Ebersole, Member  
W. Kerr, Member  
H. Lewis, Member  
F. Remick, Member  
D. Ward, Member  
C. Wylie, Member  
L. Lave, Consultant  
D. MacLean, Consultant

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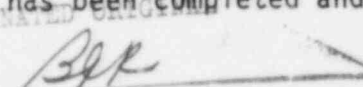
V. Stello, EDO  
T. Spies, NRR  
F. Rowsome, NRR  
M. Spangler, NRR  
R. Minogue, RES  
F. Gillespie, RES

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HIGHLIGHTS

1. The two year review of the proposed Commission (1983) Safety Goal Policy by the Safety Goal Steering Group has been completed and a

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report (Reference 1) has been issued. This report has been transmitted to the EDO and has been commented on by senior NRC staff (References 2, 3 and 4). The EDO has developed a "straw man" position paper which in many significant respects is not supported by the comments submitted by the senior NRC staff or the Steering Group. This Subcommittee meeting was held at the request of the EDO to discuss and, to the extent possible, resolve the various issues.

2. The role of benefit/cost in the decision process and the quantitative goal on core melt frequency appear to be the most controversial issues. The NRC Staff in general supports more emphasis on defense in depth than what it appears would be required under the 1983 Safety Goal Policy. In addition, NRC supports lowering the core melt frequency goal for operating reactors to such a level as to make the occurrence of a core melt within the remaining operating life very unlikely.
3. Dr. Lave and Dr. MacLean served as ACRS consultants during this Subcommittee meeting and advised the Subcommittee as to what insights might be drawn from their respective specialities (economics in the case of Dr. Lave and philosophy and public policy in the case of Dr. MacLean. Both Dr. Lave and Dr. MacLean believed that, once the decision had been made to use benefit/cost in the decisions, all significant cost and benefits should be considered. There was some discussion as to what would be included in significant cost and benefits. Both Dr. Lave and Dr. MacLean believed that the benefit/cost analysis should include averted property loss and averted replacement power costs. The \$1000 per person rem was viewed as placing a value on human life within the range that is being used in most areas of governmental consideration in our society. However, it was noted that this type of determination is subject to much controversy. Both consultants

supported the use of ALARA in reducing core melt frequency and a safety goal policy which would strive to make the occurrence of core melt very unlikely.

3. The EDO, in his consideration of the Safety Goal Policy, has asked the NRC Office Directors to comment on the Steering Group report. NRR and RES (References 3 and 4) have responded. NRR has recommended (Reference 3) that the core melt performance guidelines be reduced from  $10^{-4}$ /Ry to  $10^{-5}$ /Ry and that the  $10^{-5}$ /Ry criteria be applied to core melt accidents that result "in a large scale release of fuel and fission products from the reactor coolant system." NRR further recommended that a document further developing the NRC staff rational for benefit/cost analysis be written and provided to the Commission with the NRC staff recommendations in this area. NRR also recommends that ways which give weights to defense in depth without the use of on-site losses be developed as alternatives to the Steering Group's proposal. In addition, NRR takes issue with the characterization of the latent cancer guideline as a "Societal Risk Objective" and notes that it is not a very demanding safety goal objective and that the Safety Goal Policy as now written could accept large risks. NRR also comments to some extent on the implementation guidance and ALARA (pages 5-6 of Reference 3). NRR recommends using mean rather than median values and takes issue with the Steering Group's dismissal of Commissioner Asselstine's proposed safety goal. NRR suggested that this goal be rewritten and that more consideration be given to the policy issue of regulating "well-contained" severe core damage. In addition, NRR supports the use of containment performance guidelines.

RES has recommended (Reference 4) that core melt frequency be regulated and that considerable emphasis should be given to prevention in a safety goal policy. RES recommends that a range (such as the  $3 \times 10^{-5}$  to  $1 \times 10^{-3}$  recommended by the Steering

Group) be established and that alternate measures to reduce core melt frequency without using cost-benefit analysis, established at \$1000 per person rems, as the determination factor.

REFERENCES:

1. NRC Safety Goal Evaluation Steering Group report dated April 1985, "Safety Goal Evaluation Report," transmitted by memorandum from Thomas E. Murley, Chairman, Safety Goal Steering Group, to Raymond F. Fraley, Executive Director, ACRS, dated April 18, 1985
2. Memorandum from Malcom L. Ernst, Deputy Director, Office of Nuclear Regulatory Research, to Thomas E. Murley, Regional Administrator, Region I, Subject: Emphasis on Defense-in-Depth and Accident Prevention in Safety Goals, dated May 10, 1985
3. Memorandum from Harold Denton, Director, Office of Nuclear Reactor Regulation, to William J. Dircks, Executive Director for Operations, Subject: Safety Goal Evaluation Report, dated June 12, 1985
4. Memorandum from Robert B. Minogue, Director, Office of Nuclear Regulatory Research, to William J. Dircks, Executive Director for Operations, Subject: Safety Goal Evaluation Report, dated May 21, 1985

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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 Ann Riley and Associates, Ltd., 1625 I Street, N.W., Suite 921, Washington, D.C.