D900911

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

FROM: Carlyle Michelson
Chairman, ACRS

SUBJECT: PROPOSED PRIORITY RANKINGS OF GENERIC ISSUES: SIXTH GROUP

During the 365th meeting of the Advisory Committee on Reactor Safeguards, September 6-7, 1990, we discussed the priority rankings proposed by the staff for a group of generic issues identified in Table A, attached. Our comments are contained in the following attachments:

Attachment 1 lists those issues for which we agree with the priority rankings proposed by the staff.

Attachment 2 includes those issues for which we agree with the proposed priority rankings, but have comments.

Attachment 3 identifies the generic issue for which we disagree with the proposed priority ranking.

We request that the NRC staff provide written responses to the comments included in Attachments 2 and 3.

We will continue our review of proposed priority rankings for additional generic issues when they become available.

Attachments:
As stated

ATTACHMENT 1

LIST OF GENERIC ISSUES FOR WHICH
THE ACRS AGREES WITH THE
PRIORITY RANKINGS PROPOSED BY THE NRC STAFF

GENERIC ISSUE NO.	TITLE
15	Radiation Effects on Reactor Vessel Supports
43	Reliability of Air Systems
57	Effects of Fire Protection System Actuation on Safety-Related Equipment
62	Reactor Systems Bolting Applications

63	Use of Equipment Not Classified as Essential to Safety in BWR Transient Analysis
71	Failure of Resin Demineralizer Systems and Their Effects on Nuclear Power Plant Safety
95	Loss of Effective Volume for Containment Recirculation Spray
104	Reduction of Boron Dilution Requirements
107	Main Transformer Failures
109	Reactor Vessel Closure Failure
117	Allowable Outage Times for Diverse Simultaneous Equipment Outages
125.I.5	Safety Systems Tested in All Conditions Required by the Design Basis
125.II.11	Recovery of Main Feedwater as Alternative to Auxiliary Feedwater
131	Potential Seismic Interaction Involving the Movable In-Core Flux Mapping System Used in Westinghouse Plants
137	Refueling Cavity Seal Failure
139	Thinning of Carbon Steel Piping in LWRs
140	Fission Product Removal Systems

ATTACHMENT 1

141	Large Break LOCA with Consequential SGTR
142	Leakage Through Electrical Isolators in Instrumentation Circuits
B-31	Dam Failure Model
III.D.1.1(2)	Review Information on Provisions for Leak Detection
III.D.1.1(3)	Develop Proposed System Acceptance Criteria

ATTACHMENT 2

LIST OF GENERIC ISSUES FOR WHICH THE ACRS AGREES WITH THE PROPOSED PRIORITY RANKINGS BUT WITH COMMENTS

Generic Issue No: 96

Title: RHR Suction Valve Testing

Proposed Priority Ranking: The safety concerns of this issue have been integrated into the resolution of Generic Issue No. 105, "Interfacing Systems LOCA at LWRs."

ACRS Comment: We agree with the staff's proposal to integrate the safety concerns of this issue into the resolution of Generic Issue 105. We believe that failure of both RHR suction valves may not be very likely, but the consequences of such an occurrence could be severe. Results of the Indian Point and Zion PRAs revealed that the dominant interfacing systems LOCA (ISLOCA) events involved the failure of RHR suction valves. Therefore, special attention should be given to this dominant contributor to ISLOCA in the resolution of Generic Issue 105.

Generic Issue No: 129

Title: Valve Interlocks to Prevent Vessel Drainage During Shutdown Cooling

Proposed Priority Ranking: DROP

ACRS Comment: We agree with the proposed priority ranking for this generic issue. However, we believe that this issue should receive attention in the PRA studies now under way to investigate the risks from events that occur during shutdown operations.

ATTACHMENT 2

Generic
Issue No: D-2

Title: ECCS Capability for Future Plants

Proposed
Priority Ranking: DROP (The safety concerns of this issue will be addressed in the Severe Accident Policy Implementation Program.)

ACRS Comment: We agree with the staff's proposal to address the safety concerns of this issue in the Severe Accident Policy Implementation Program. However, we offer the following comments.

The ECCS design for future plants is now based on Appendix K to 10 CFR Part 50 in its unrevised form. In light of what is known today, and given the industry's calculational capabilities, there is no reason to continue to use the unrevised form of Appendix K. Implementing the Commission's Severe Accident Policy will not change the fact that the ECCS will be designed and operated according to a set of non-physical rules rather than the best tools available. Overall safety enhancement by implementation of the Commission's Severe Accident Policy may well be compromised as a result.

ATTACHMENT 3

GENERIC ISSUE FOR WHICH THE ACRS DISAGREES
WITH THE PROPOSED PRIORITY RANKING

Generic
Issue No: 81

Title: Impact of Locked Doors and Barriers on Plant and Personnel Safety

Proposed
Priority Ranking: DROP

ACRS Recommendation: Be Reanalyzed

Reasons: The risk "calculation" to support the "Drop" priority ranking for this generic issue is worthless. The staff argument to drop this issue is as follows:

1) There is a 99% probability of success

in penetrating a locked barrier within an hour, and the probability dependence on time is an exponential, 1-exp(-Kt).

2) The probability of core melt, given a failure to penetrate the barrier in an hour is unity, and its dependence on time is a power law, Atn, where n>o.

3) The overall probability of core melt is the product of these two, and is maximized by assuring that they are equal to each other, and that their slopes are equal and opposite.

4) The maximum probability is then 3.4 x 10-2, at 22 minutes.

There is no justification for either the number or the functional dependence in (1) or (2). The procedure in (3) is mathematically incorrect.

Therefore, no credibility can be assigned to the conclusion in (4), on which the rest of the argument rests.

We have seen no evidence that the recommendation to drop is correct, and it is unsupported by the purported analysis. It may be true, but that has not been demonstrated. We recommend that the analysis be done correctly and resubmitted.