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

August 16, 1983

MEMORANDUM FOR: W. J. Dircks
Executive Director for Operations

FROM: R. F. Fraley, Executive Director
Advisory Committee on Reactor Safeguards

SUBJECT: ACRS COMMENTS ON THE PRIORITIZATION OF GENERIC SAFETY ISSUES

During its 280th meeting, August 4-6, 1983, the ACRS completed its review of the adequacy of the NRC Staff's assignment of priority rankings to individual generic issues and its comments are contained in the following attachments. Partial lists of ACRS comments on the related matter were transmitted to you on two previous occasions through a memorandum from R. F. Fraley, dated June 20, 1983 and also through a memorandum from M. W. Libarkin, dated July 15, 1983:

- Attachment 1 lists those items for which the ACRS agrees with the priority rankings proposed by the NRC Staff.
- Attachment 2 includes a list of items for which the ACRS agrees with the priority rankings proposed by the NRC Staff, but has comments.
- Attachment 3 contains a list of items for which the ACRS disagrees with the NRC Staff's proposed priority rankings along with the reasons therefor.

It is requested that the NRC Staff provide written responses to the ACRS comments identified in Attachments 2 and 3. Cognizant ACRS Subcommittees and/or the ACRS may review the NRC Staff's responses.

Please note that those items designated as Unresolved Safety Issues were not reviewed by the ACRS at this time; these items will be reviewed by the appropriate ACRS Subcommittees and/or the ACRS when their resolutions become available.

In addition, the following items were reviewed by the ACRS Subcommittee on Reactor Radiological Effects during its meeting on April 29, 1983, but action was deferred owing to lack of sufficient information and/or other reasons (See Attachment 4). These issues will be reviewed by the cognizant Subcommittee and the ACRS when sufficient information becomes available:

ITEM NO	TITLE
1	Failures in Air-Monitoring, Air-Cleaning, and Ventilating Systems
B-36	Develop Design, Testing, and Maintenance Criteria for Atmosphere Cleanup System Air Filtration and Adsorption Units for Engineered Safety Feature Systems, and for Normal Ventilation Systems
B-65	Iodine Spiking
B-66	Control Room Infiltration Measurements
III.D.2.3(1)	Develop Procedures to Discriminate Between Sites/Plants
III.D.2.3(2)	Discriminate Between Sites and Plants that Require Consideration of Liquid Pathway Interdiction Techniques
III.D.2.3(3)	Establish Feasible Method of Pathway Interdiction
III.D.2.3(4)	Prepare a Summary Assessment

Also note that the following were not reviewed by the ACRS since they are not considered to be nuclear-safety-related issues:

ITEM NO	TITLE
B-2	Forecasting Electricity Demand
B-45	Need for Power - Energy Conservation

ITEM NO	TITLE
III.C.1(1)	Review Publicly Available Documents
III.C.1(2)	Recommend Publication of Additional Information
III.C.1(3)	Program of Seminars for News Media Personnel
III.C.2(1)	Develop Policy and Procedures for Dealing with Briefing Requests
III.C.2(2)	Provide Training for Members of the Technical Staff

Attachments: As Stated

ATTACHMENT 1

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

Item No.	Title
17	Loss of Offsite Power Subsequent to LOCA
B-12	Containment Cooling Requirements (Non-LOCA)
I.B.1.3(1)	Require Licensees to Place Plant in Safest Shutdown Cooling Following a Loss of Safety Function Due to Personnel Error
I.B.1.3(2)	Use Existing Enforcement Options to Accomplish Safest Shutdown Cooling
I.B.1.3(3)	Use Non-Fiscal Approaches to Accomplish Safest Shutdown Cooling
I.B.2.2	Resident Inspector at Operating Reactors
I.B.2.3	Regional Evaluations
I.B.2.4	Overview of Licensee Performance
I.E.1	Office for Analysis and Evaluation of Operational Data
I.E.2	Program Office Operational Data Evaluation
I.E.3	Operational Safety Data Analysis
I.E.4	Coordination of Licensee, Industry, and Regulatory Programs
I.E.5	Nuclear Plant Reliability Data System
I.E.6	Reporting Requirements
I.E.7	Foreign Sources
I.E.8	Human Error Rate Analysis
II.F.5	Classification of Instrumentation, Control, and Electrical Equipment
III.D.2.5	Offsite Dose Calculational Manual

ATTACHMENT 2

LIST OF ITEMS FOR WHICH THE ACRS
AGREES WITH THE PRIORITY RANKINGS
PROPOSED BY THE NRC STAFF, BUT WITH COMMENTS

Issue No:	25
Title:	Automatic Air Header Dump on BWR Scram System
Proposed NRC Staff Priority:	RESOLVED
ACRS Comments:	The ACRS is satisfied with the specific actions taken by the NRC Staff to resolve this issue for the current generation of plants. The ACRS, in its review of future plants, will consider whether fundamental changes should be required to achieve higher system reliability.

Issue No:	II.E.5.1
Title:	Design Evaluation
Proposed NRC Staff Priority:	Resolution Available
ACRS Comments:	The ACRS agrees with the NRC Staff's approach to resolution of this issue, i.e., to continue the effort to improve B&W response to feedwater transients within a broader program of analysis, experimentation, and field trials of modifications. The ACRS wishes to be kept informed of the operational experience gained from the modifications already approved by the Staff for Midland, which are similar to those proposed for other B&W plants that may yield data before the Midland Units. Since the resolution of II.E.5 is closely associated with those of USI A-47 and A-49, the cognizant ACRS Subcommittees and the ACRS will be following any advances made in conjunction with those issues by means of periodic reviews. Also, the ACRS commends the recent agreement by the NRC, the B&W Owners Group, the B&W Company, and EPRI to initiate a joint experimental program on B&W reactors; however, it reserves judgment on the adequacy of the program until its scope has been better defined.

ATTACHMENT 2 (Cont'd)

Issue No:	II.E.5.2
Title:	B&W Reactor Transient Response Task Force
Proposed NRC Staff Priority:	Resolution Available
ACRS Comments:	See comments made on II.E.5.1

Issue No:	II.F.4
Title:	Study of Control and Protective Action Design Requirements
Proposed NRC Staff Priority:	DROP
ACRS Comments:	The ACRS is satisfied with the proposed NRC Staff actions on this issue. The Electrical Systems Subcommittee will examine related issues in their review of USI A-47.

ATTACHMENT 3

LIST OF ITEMS FOR WHICH THE ACRS
DISAGREES WITH THE PRIORITY RANKINGS
PROPOSED BY THE NRC STAFF

Issue No: 4

Title: End-of-Life and Maintenance Criteria

Proposed NRC Staff Priority: RESOLVED

ACRS Comments:

There should be some discussion of the benefits and limitations of "type" testing - especially as regards assembly after repair of type-tested items.

The matter of ensuring that equipment will properly perform under emergency environmental and load conditions should be discussed with respect to testing.

Consideration should be given to the range of conditions which might be obtained within a normally "mild" environment such as drenching from fire extinguishing processes or steaming and condensation from steam leaks.

A particular concern is the matter of ensuring proper valve performance after years of cycling tests at essentially no-load conditions.

The ACRS believes that maintenance is an important issue and the Staff should pay continued attention to this matter. The ACRS plans to establish a Subcommittee on Maintenance to look into maintenance-related issues.

ATTACHMENT 3 (Cont'd)

Issue No:	B-4
Title:	ECCS Reliability
Proposed NRC Staff Priorhty:	Covered in II.E.3.2 which in turn is indicated to be incorporated into USI A-45.
ACRS Comments:	NUREG-0933 states that this issue is covered under the TMI-Action Plan item II.E.3.2, "System Reliability," which in turn has been incorporated into USI A-45, "Shutdown Decay Heat Removal Requirements."

Based on its review, the ACRS believes that the assignment of Issue B-4 to USI A-45 is appropriate only to the extent that Issue B-4 deals with ECCS reliability in small-break accidents. In these scenarios, reactor pressure vessel inventory is maintained over a long period of time via high pressure makeup systems. The ECC systems are currently being treated within this context in USI A-45. To the extent that Issue B-4 is expected to deal with broader issues, such as large break LOCAs, it should be carried out as a separate generic issue with a MEDIUM priority ranking.

ATTACHMENT 3 (Cont'd)

Issue No:	B-63
Title:	Isolation of Low Pressure Systems Connected to the Reactor Coolant Pressure Boundary
Proposed NRC Staff Priority:	RESOLVED
ACRS Comments:	Simple redundancy does not preclude common mode failures. Leak testing does not necessarily reveal strength margins or interlock vulnerabilities. It is the quality of the test data with respect to operation under emergency conditions and the reliability of the interlock systems that is in question. In addition, we are not aware of any provisions made to detect the failure of one train of a redundant system given that the second train performs as expected. Although the overpressurization of low pressure systems connected to the secondary side of a PWR is not addressed by this item, the ACRS assumes it is being reviewed in conjunction with pipe breaks outside of containment. This should be verified.

ATTACHMENT 3 (Cont'd)

Issue No: I.B.2.1

Title: Revise OIE Inspection Program, including:

I.B.2.1(1), Verify the Adequacy of Management and Procedural Controls and Staff Discipline.

I.B.2.1(2), Verify that Systems Required to be Operable are Properly Aligned.

I.B.2.1(3), Follow-up on Completed Maintenance Work Orders to Assure Proper Testing and Return to Service.

I.B.2.1(4), Observe Surveillance Tests to Determine Whether Test Instruments are Properly Calibrated.

I.B.2.1(5), Verify that Licensees are Complying with Technical Specifications.

I.B.2.1(6) Observe Routine Maintenance.

I.B.2.1(7) Inspect Terminal Boards, Panels, and Instrument Racks for Unauthorized Jumpers and Bypasses.

Proposed NRC Staff Priority: LICENSING ISSUE - RESOLVED

ACRS Comments: Onsite audits should also include verification of:

- Procedures under which systems must be operated and protected when non-aligned.
- The effectiveness and reliability of equipment isolation and return-to-service procedures including evaluation of locks, seals, and tag-out methods.

Of particular concern is simultaneous, improper maintenance of redundant equipment, leading to common mode failure.

ATTACHMENT 3 (Cont'd)

Issue No:	IV.B.1
Title:	Revised Practices for Issuance of Instructions and Information to Licensees
Proposed NRC Staff Priority:	LICENSING ISSUE - RESOLVED
ACRS Comments:	Information distributed to a utility by a vendor must, of course, be acted upon if it affects safety-related equipment; however, there is no requirement that the utility acknowledge receipt of the information. In light of the Salem incident, this shortcoming should be addressed.

ATTACHMENT 4

COMMENTS BY THE ACRS SUBCOMMITTEE ON REACTOR RADIOLOGICAL EFFECTS

Issue 1 - Failures in Air Monitoring, Air Cleaning and Ventilating Systems (Staff proposes DROP)

Discussion of this issue during the Subcommittee meeting on April 29, 1983 revealed that the Subcommittee had not been clear in defining the problem. As we see it, it involves two subareas:

a. Environmental Control for the Protection of Equipment, and

b. Control Room Habitability.

Issues B-36 and B-66 are related to control room habitability and should be grouped under item b. of this issue as retitled above. In terms of detail, we believe that control room leakage should be evaluated under conditions of positive as well as negative pressure, and that the safety implications of air monitors that fail up-scale as well as down-scale should be assessed.

Once the above reorientation is accomplished and priorities have been assigned, we will be pleased to review these issues further.

B-65 - Iodine Spiking (Previously classified as an environmental issue)

The Staff informed the Subcommittee during the meeting on April 29, 1983 that this issue had been incorrectly classified and should consist of two subparts: one dealing with the model for evaluating design basis accidents, which is a licensing issue; the other is a safety issue, dealing with standard technical specification limits on iodine.

We concur with the Staff that the second part is a safety issue and suggest that it be assigned an appropriate regulatory priority (e.g., MEDIUM priority).

III.D.2.3 - Liquid Pathway Radiological Control (Staff claims that possible resolution has been identified for this issue)

The Subcommittee was unable to evaluate this issue due to a lack of information on the criteria to be used as guidance in evaluating liquid releases, techniques for assessing the loss of a major societal resource that might accompany a major liquid release, specific interdictive measures that are to be evaluated, and methods for assessing the effectiveness of such measures in reducing population doses. We will be pleased to consider this issue and the Staff's resolution when answers to these questions can be provided.