May 19, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/ Executive Director for Operations

SUBJECT: PROGRESS OF RESOLUTION OF GENERIC SAFETY ISSUES

PURPOSE:
To provide a status report on the progress in resolving generic safety issues (GSIs) since the last report to the Commission (SECY-96-092) on May 1, 1996.

DISCUSSION:

Resolution of GSIs is an integral part of the Generic Issue Program which consists of six stages: identification, prioritization, resolution, imposition, implementation, and verification. In general, the Office of Nuclear Regulatory Research (RES) is responsible for the management of the first three stages of the program (identification, prioritization, and resolution) and the Office of Nuclear Reactor Regulation (NRR) is responsible for the management of the remaining stages. In addition, RES is responsible for tracking generic issues through resolution and documenting the results in NUREG-0933, "A Prioritization of Generic Safety Issues." A complete description of this program was forwarded to the Commission in SECY-93-108 on April 28, 1993. This report focuses on the progress made by the staff in identifying, prioritizing, and resolving generic issues since the last report to the Commission.

The staff continued to prioritize generic issues using the revised methodology approved by the Commission in 1993 and later published in Supplement 16 to NUREG-0933. Twenty new generic issues were identified for prioritization by the staff: 13 GSIs and seven non-safety issues. Four of these GSIs were identified by NMSS in response to the Commission request in SRM 951219A for one agency-wide generic issue resolution tracking system; prior to this request, the Generic Issue Program focused primarily on nuclear power reactors. The total number of generic issues identified so far is 840: 643 GSIs and 197 other issues (Licensing, Regulatory Impact, and Environmental).

Seventeen new issues were prioritized: one HIGH-Priority GSI; four Nearly-Resolved (Planned and in Progress) GSIs; five Resolved GSIs; four Licensing issues; two Regulatory Impact issues; and one Environmental issue. Thus, with the identification of 20 new issues and the prioritization of 17 issues, the number of unprioritized issues increased from three to six. In addition, four GSIs were resolved; these are listed in Attachment 1. Progress since May 1, 1996 in identifying, prioritizing, and resolving GSIs is summarized in Attachment 2. During the last 12 months, the total inventory of unresolved GSIs increased from 18 to 22.

The following is the current disposition of the 643 GSIs:

RESOLVED			
LOW-PRIORITY	-	31	
DROP	-	100	
INTEGRATED		-	217
RESOLVED	-	273	
			621
UNRESOLVED			
HIGH-PRIORITY	-	4	
MEDIUM-PRIORITY		-	4
PLANNED AND IN PROGRESS		-	8
UNPRIORITIZED	-	6	
			22
TOTAL:			**643**

Overall, 621 out of 643 or 97% of all GSIs have been resolved. A list of the sixteen GSIs currently being resolved as well as the six unprioritized issues is given in Attachment 1. The schedule for completion of these twenty-two unresolved issues is provided in Attachment 2. In accordance with SRM 871021A, a review of the 31 LOW-priority GSIs was completed and new information was identified to warrant the reassessment of two isssues. The following is a summary of the current status of the four HIGH-Priority GSIs listed in Attachment 1.

GSI-23, Reactor Coolant Pump Seal Failures: In its response to the staff's rule proposed in SECY-94-225, the Commission noted that there was a "wide range of plant-specific considerations for PWRs, some of which would result in expending excessive resources without a commensurate benefit. In some cases, licensees appear to be planning to address the pump seal failure and other plant improvements identified under their IPE program including use of accident management strategies." The Commission believed that there was insufficient basis for gains in safety and expressed concerns with seal evaluation models. Thus, issuance of the proposed Rule for public comment was disapproved and the staff was directed to communicate this decision to

reactor licensees; as a result, Information Notice 95-42 was issued. The staff is reviewing information on reactor coolant pump seal failures from the IPE program.

GSI-163, Multiple Steam Generator Tube Leakage: This issue addresses the concern for a depletion of coolant inventory due to a potential steam line break outside containment in a PWR and the inability to isolate the steam generator because of multiple tube failures. The issue was designated a HIGH-priority in December 1996. The staff is currently developing a new performance-based, risk-informed regulatory framework for surveillance and maintenance of steam generator tubes. As part of the bases for this new regulatory framework, the staff is assessing the risk significance of multiple tube failures. The Action Plan to be developed for the resolution of GSI-163 will take into consideration the requirements and bases of the new regulatory framework when it is completed.

GSI-165, Spring-Actuated Safety and Relief Valve Reliability: This issue is addressing the unreliability of spring-actuated valves that can lead to core damage from loss of core cooling and inventory make-up. The results of a scoping study present a strong case for closing out this issue without any action on the part of licensees. However, during internal peer review of the study, it was noted that most plant types were studied except for B&W-designed plants. This occurred because no electronic PRA database was readily available for a B&W plant. An electronic PRA plant database for a B&W plant recently became available and is currently being converted to a form that can be used for analysis.

GSI-171, Engineered Safety Feature Failure from Loss of Offsite Power Subsequent to a LOCA: This issue arose from an identified deficiency in the Surry Power Station emergency diesel generator (EDG) loading logic that could have resulted in overloading the EDGs, if a Loss of Coolant Accident (LOCA) occurred followed by a Loss of Offsite Power (LOOP) prior to the reset of the safety injection signal. The prioritization of this issue in June 1996 resulted in a HIGH-priority ranking based on the conservative assumptions used to model equipment failure probabilities. A more thorough evaluation of the issue was performed in April 1997 and reported in NUREG/CR-6538 (Draft), Evaluation of LOCA With Delayed LOOP and LOOP With Delayed LOCA Accident Scenarios, Technical Findings Related to Generic Safety Issue GSI-171, ESF Failure from LOOP Subsequent to LOCA. This study shows lower core damage frequency reductions than were previously estimated in the prioritization analysis depending on plant design characteristics related to load shedding, load sequencing, and load sequencing logic timer vulnerabilities which can lead to EDG or ECCS pump overload conditions. The Draft NUREG/CR-6538 provides the technical findings to support issuance of a generic letter requesting licensees to submit information on the ability of their plants' electrical systems to adequately respond to potential events related to a LOCA/LOOP or a LOOP/LOCA series of events.

In response to SRM 951219A, RES, NRR, AEOD, and NMSS have taken steps to exercise more consistency in prioritizing generic issues, and to consolidate all issues being pursued independently by each office into one agency-wide generic issue resolution tracking system.

CONCLUSION:

The staff expects to continue using the procedures of Management Directive 8.5 and the methodology defined in NUREG-0933 to identify, prioritize, and resolve generic issues. The Commission will be kept informed of any significant developments in these areas.

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Attachments:
1. Listing of Resolved and Unresolved GSIs
2. Progress Since 5/1/96 and Schedule for Completion of Unresolved Issues

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ATTACHMENT 1

LISTING OF RESOLVED AND UNRESOLVED GSIs

A. 4 GSIS RESOLVED BETWEEN 5/1/96 AND 4/28/97

HIGH-PRIORITY (1)

15	RADIATION EFFECTS ON REACTOR VESSEL SUPPORTS

MEDIUM-PRIORITY (1)

78	MONITORING OF FATIGUE TRANSIENT LIMITS FOR REACTOR COOLANT SYSTEM

PLANNED AND IN PROGRESS (2)

83	CONTROL ROOM HABITABILITY
166	ADEQUACY OF FATIGUE LIFE OF METAL COMPONENTS

B. 22 GSIS TO BE RESOLVED AS OF 4/28/97

HIGH-PRIORITY (4)

23	REACTOR COOLANT PUMP SEAL FAILURES
163	MULTIPLE STEAM GENERATOR TUBE LEAKAGE
165	SPRING-ACTUATED SAFETY AND RELIEF VALVE RELIABILITY
171	ENGINEERED SAFETY FEATURE FAILURE FROM LOSS OF OFFSITE POWER SUBSEQUENT TO A LOCA

MEDIUM-PRIORITY (4)

158	PERFORMANCE OF POWER-OPERATED VALVES UNDER DESIGN BASIS CONDITIONS
B-17	CRITERIA FOR SAFETY-RELATED OPERATOR ACTIONS
B-55	IMPROVE RELIABILITY OF TARGET ROCK SAFETY RELIEF VALVES
B-61	ALLOWABLE ECCS EQUIPMENT OUTAGE PERIODS

PLANNED AND IN PROGRESS (8)

145	IMPROVE SURVEILLANCE AND STARTUP TESTING PROGRAMS
168	ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT
170	REACTIVITY TRANSIENTS AND FUEL DAMAGE CRITERIA FOR HIGH BURN-UP FUEL
172	MULTIPLE SYSTEM RESPONSES PROGRAM
173.A	SPENT FUEL STORAGE POOL: OPERATING FACILITIES
173.B	SPENT FUEL STORAGE POOL: PERMANENTLY SHUTDOWN FACILITIES
190	FATIGUE EVALUATION OF METAL COMPONENTS FOR 60-YEAR PLANT LIFE
191	ASSESSMENT OF DEBRIS ACCUMULATION ON PWR SUMP PERFORMANCE

UNPRIORITIZED (6)

156.6.1	PIPE BREAK EFFECTS ON SYSTEMS AND COMPONENTS
169	BWR MSIV COMMON MODE FAILURE DUE TO LOSS OF ACCUMULATOR PRESSURE
NMSS-0001	DOOR INTERLOCK FAILURE RESULTING FROM FAULTY MICROSELECTRON-HIGH DOSE RATE REMOTE AFTERLOADER
NMSS-0002	SIGNIFICANT QUANTITIES OF FIXED CONTAMINATION REMAIN IN KRYPTON-85 LEAK-DETECTION DEVICES AFTER VENTING
NMSS-0003	CORROSION OF SEALED SOURCES CAUSED BY SENSITIZATION OF STAINLESS STEEL SOURCE CAPSULES DURING SHIPMENT
NMSS-0004	OVEREXPOSURES CAUSED BY SOURCES STOLEN FROM FACILITY OF BANKRUPT LICENSEE

ATTACHMENT 2

PROGRESS SINCE 5/1/96 AND SCHEDULE FOR COMPLETION OF UNRESOLVED ISSUES

A. PROGRESS OF GSIS BETWEEN 5/1/96 AND 4/28/97

	5/1/96	IDENTIFIED	PRIORITIZED	RESOLVED	4/28/97
HIGH	4	-	+1	-1	4
MEDIUM	5	-	0	-1	4
PLANNED AND IN PROGRESS	6	-	+4	-2	8
UNPRIORITIZED	3	+8*	-5	-	6
* Although 13 GSIs were identified, 5 were previously resolved and only required documentation in NUREG-0933					

B. SCHEDULE FOR COMPLETION OF 22 UNRESOLVED ISSUES

- 6 ISSUES TO BE PRIORITIZED BY THE END OF FY-97

- 10 GSIs (3 HIGH, 4 MEDIUM, 3 PLANNED AND IN PROGRESS) SCHEDULED TO BE RESOLVED BY FY-99
- 6 GSIs (1 HIGH, 5 PLANNED AND IN PROGRESS) TO BE SCHEDULED
- COMPLETION OF ALL 22 GSIs BY FISCAL YEAR:

	FY 1997	FY 1998	FY 1999	TBD
	7	3	2	10