SECY-98-166

July 6, 1998

FOR: The Commissioners

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

SUBJECT: SUMMARY OF ACTIVITIES RELATED TO GENERIC SAFETY ISSUES

PURPOSE:

To provide the annual summary report on activities related to generic safety issues (GSIs).

BACKGROUND:

It has been the practice of the staff to provide the Commission with an annual update of its progress in resolving GSIs. Further, in a staff requirements memorandum dated May 8, 1998, in response to SECY-98-030 - Implementation of DSI-22, Research, the Commission directed the staff to provide an annual summary of activities related to open GSIs.

The process for addressing GSIs is an integral part of the Generic Issues Program and consists of six steps: identification, prioritization, resolution, imposition, implementation, and verification. Generally, safety concerns associated with operating events, research results, or risk assessments form the basis for the identification of GSIs by the staff, Advisory Committee on Reactor Safeguards (ACRS), industry, or the public. After a potential GSI is identified, a decision is made concerning whether or not resources should be expended on the issue to define a resolution. This step, prioritization, may be completed by conducting an analysis of the potential safety or risk associated with the issue or by a management decision to treat the GSI as High priority. High and Medium priority GSIs enter the resolution step, and no additional action is taken for Low priority GSIs. Resolution is the step which includes analysis of the GSI to identify potential cost beneficial actions to correct or resolve the GSI. In the imposition step, the affected licensees are required to prepare schedules for implementing any new requirements that may result from the resolution of the GSIs. Implementation covers the step where the affected licensees perform the actions on their operating plants to satisfy the commitments made during the imposition step. Finally, verification is accomplished by NRC inspection of licensee actions.

CONTACT: Ronald C. Emrit, RES
(301) 415-6447

Over the years, the Generic Issues Program focused on GSIs related to nuclear power plants. However, following a Commission briefing on mechanisms for addressing GSIs on December 19, 1995, the staff expanded the program to include non-reactor GSIs identified by the Office of Nuclear Material Safety and Safeguards (NMSS).

GSIs associated with nuclear reactor power plants are prioritized by the Office of Nuclear Regulatory Research (RES) using the methodology of NUREG-0933, "A Prioritization of Generic Safety Issues." GSIs with a priority ranking of HIGH or MEDIUM are generally assigned to RES for resolution. In addition, RES is responsible for: (1) resolving GSIs through the conduct of research, except those that involve high level waste; (2) tracking the status of all generic issues in the agency-wide Generic Issue Management Control System (GIMCS); and (3) documenting the results in NUREG-0933. The Office of Nuclear Reactor Regulation (NRR) is responsible for managing the imposition, implementation, and verification stages of those GSIs that are related to nuclear reactors. For non-reactor GSIs, NMSS is responsible for managing all six steps of the program. As of early this year, NUREG-0933 is being maintained on a publicly available NRC website.

DISCUSSION:

This report contains attachments which summarize the progress made by the staff in identifying, prioritizing, and resolving generic issues since the last report to the Commission. During the past year, no new reactor GSIs were identified and eight new non-reactor GSIs were identified:

NMSS-5	Potential for Erroneous Calibration, Dose Rate, or Radiation Exposure Measurements
NMSS-6	Criticality in Low-Level Waste
NMSS-7	Criticality Benchmarks Greater than 5% Enrichment
NMSS-8	Year 2000 Computer Problem - Non-reactor Licensees
NMSS-9	Amersham Radiography Source Cable Failures
NMSS-10	Troxler Gauge Source Rod Weld Failures
NMSS-11	Spent Fuel Dry Cask Weld Cracks
NMSS-12	Inadequate Transportation Packaging Puncture Tests

Attachment 1 is a listing of GSIs prioritized and resolved since the last report and Attachment 2 is a listing of currently unresolved GSIs.

The annual review by the Office for Analysis and Evaluation of Operational Data (AEOD), NRR, and the Regional Offices of the 31 reactor GSIs that were previously prioritized as LOW, taking into consideration new information that could affect their prioritization, resulted in two GSIs being identified as

candidates for reprioritization:

GSI-71 Failure of Resin Demineralizer Systems and Their Effects on Nuclear Power Plant Safety

GSI-107 Main Transformer Failures

Staff review of these GSIs is not yet complete, but it appears that new requirements will not be needed.

A letter from the ACRS dated March 16, 1998, stated that much work needs to be done by the staff to achieve a more efficient prioritization and resolution process for GSIs. As a result, RES has initiated an assessment of the GSI process to determine what improvements should be made. This activity is being performed with the assistance of Arthur Anderson in conjunction with a recent contract to improve NRC capability to conduct internal assessments. The results of the assessment of the GSI process will be available in August 1998 and the staff plans to brief the ACRS soon thereafter. The staff will provide the Commission with any significant recommendations to modify this program. A copy of the staff's response to the ACRS is provided in Attachment 3.

CONCLUSION:

The staff will continue to use the processes of NUREG-0933 and NMSS Policy and Procedures Letter 1-57 as well as the procedures of Management Directive 8.5 to identify, prioritize, and resolve reactor and non-reactor GSIs. The Commission will be kept informed of any significant results of the ongoing assessment of these areas.

L. Joseph Callan
Executive Director for Operations

Attachments:
1. GSIs Prioritized or Resolved since May 19, 1997
2. Unresolved GSIs as of June 1998
3. Letter to R. Seale from L. Callan dated May 28, 1998

ATTACHMENT 1

GSI #	Title	Date Ident.	Priority	Lead Office	Status
169	BWR MSIV Common Mode Failure Due to Loss of Accumulator Pressure	10/93	Drop	RES	Prioritized. Low safety significance. No further work required.
173.B	Spent Fuel Storage Pool: Permanently Shutdown Facilities	02/96	High(1)	NRR	Resolved. No generic action required.
NMSS-1	Door Interlock Failure Resulting from Facility MicroSelectron-High Dose Rate Remote Afterloader	04/96	High[1]	NMSS	Resolved. IN 96-21 issued.
NMSS-2	Significant Quantities of Fixed Contamination Remain in Krypton	07/96	High[1]	NMSS	Resolved. IN 96-51 issued.
NMSS-3	Corrosion of Sealed Sources Caused by Sensitization of Stainless Steel Source Capsules During Shipment	07/96	High[1]	NMSS	Resolved. IN 96-54 issued.
NMSS-4	Overexposures Caused by Sources Stolen from Facility of Bankrupt Licensee	07/96	High[1]	NMSS	Resolved. Existing guidance documents adequate for NRC incident response.
NMSS-5	Potential for Erroneous Calibration, Dose Rate, or Radiation Exposure Measurements from Victoreen Electrometers	06/97	High[1]	NMSS	Resolved. Bulletin 97-01 issued.
NMSS-6	Criticality in Low Level Waste	08/97	Medium	NMSS	Resolution in progress, see Attachment 2.
NMSS-7	Criticality Benchmarks Greater than 5% Enrichment	05/98	Low	NMSS	Resolution in progress, see Attachment 2.
NMSS-8	Year 2000 Computer Problem - Non-reactor Licensees	05/98	High	NMSS	Resolution in progress, see Attachment 2.
NMSS-9	Amersham Radiography Source Cable Failures	05/98	High	NMSS	Resolution in progress, see Attachment 2.
NMSS-10	Troxler Gauge Source Rod Weld Failures	05/98	Medium	NMSS	Resolution in progress, see Attachment 2.

NMSS-11	Spent Fuel Dry Cask Weld Cracks	05/98	Medium	NMSS	Resolution in progress,see Attachment 2.
NMSS-12	Inadequate Transportation Packaging Puncture Tests	05/98	Medium	NMSS	Resolution in progress, see Attachment 2

ATTACHMENT 2

Unresolved GSIs as of June 1998

GSI #	Title	Date Ident.	Priority	Lead Office	Status
23	Reactor Coolant Pump Seal Failures	12/80	High	RES	Seal failure models, currently being developed, will be used to assess plant specific vulnerabilities using probabilistic safety assessments and the adequacy of the coping analyses performed in compliance with the station blackout rule (10 CFR 50.63). The technical basis for resolving this issue is scheduled for completion in December 1998.
163	Multiple Steam Generator Tube Leakage	06/92	High	NRR	The staff intends to issue a generic letter directing utilities to submit amendments to their technical specifications as necessary. Guidelines will be provided in the form of model technical specifications and a regulatory guide. A proposed generic letter is scheduled to be sent to the Commission in September 1998.
165	Spring-Actuated Safety and Relief Valve Reliability	10/92	High	RES	Preliminary analysis provided a basis for resolving this issue with no new requirements. Further review and refinement of this analysis is ongoing. The technical basis for resolving this issue is scheduled for June 1999.
171	ESF Failure from LOOP Subsequent to a LOCA	02/95	High	RES	A more detailed study of the accident scenarios showed lower CDF values than were initially estimated. It appears that this issue will be resolved without additional requirements. The technical basis for resolving this issue is scheduled for September 1998.
158	Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions	09/91	Medium	RES	The staff is investigating whether NRC needs to focus additional attention on air-, hydraulic-, and solenoid-operated valves similar to what was done in the motor-operated valve program. The technical basis for resolving this issue is scheduled for June 1999.
B-17	Criteria for Safety-Related Operator Actions	06/78	Medium	RES	Alternatives to endorsing ANSI/ANS 58.8, "Time Response Design Criteria for Nuclear Safety Related Operator Actions," are being considered. Resolution of the issue is scheduled for December 1999.
B-55	Improve Reliability of Target Rock Safety Relief Valves	06/78	Medium	NRR	The staff is continuing its evaluation of licensee installation of one of three alternatives: additional pressure switches; stellite 21 disks; or platinum ion-beam implanted disks. Resolution of the issue is scheduled for December 1998. In addition, the staff is evaluating when and if longer-term actions would be necessary.
B-61	Allowable ECCS Equipment Outage Periods	06/78	Medium	RES	A resolution of B-61 is in concurrence showing that, given the maintenance rule, there is no significant safety benefit from taking any further action. The criterion for significant safety benefit is taken from the regulatory analysis guidelines (NUREG/BR-0058, Rev. 2).
145	Actions to Reduce Common Cause Failures	09/88	High(2)	RES	It is anticipated that this issue will be resolved in the fourth quarter of 1998 with the publication of the information collected on common mode failures.
168	Environmental Qualification of Electrical Equipment	04/93	High[1]	RES	A programmatic review of the NRC EQ program was completed. Research on pre-aging of instrumentation and control electrical cables is continuing.
170	Reactivity Transients and	01/95	High[1]	RES	Current data cannot be correlated to design-based criteria and conclusive data will not be available for several years. Research is continuing on assessing the

	Fuel Damage Criteria for High Burn-up Fuel				adequacy of fuel damage criteria at high burn-ups.
172	Multiple System Responses Program (MSRP)	10/89	High[1]	RES	Data are being collected to evaluate the manner in which the MSRP concerns were addressed by licensees in their IPE/IPEEE submittals. Staff assessment of licensee submittals will determine whether the concerns have been adequately addressed.
173.A	Spent Fuel Storage Pool: Operating Facilities	02/96	High[1]	NRR	The staff is in the process of revising its guidance documents for spent fuel storage design (i.e., portions of SRP 9.1.3 and Regulatory Guide 1.13). Currently, the staff is working with industry on an ANS Subcommittee to revise ANSI/ANS-57.2, the standard that contains guidance for spent fuel storage pool design. The staff plans to incorporate the improvements from this standard into the revised SRP and Regulatory Guide. The expected completion date for issuance of the revised guidance documents is August 2000.
190	Fatigue Evaluation of Metal Components for 60-Year Plant Life	08/96	High[1]	RES	The staff is studying the risk of failure from fatigue of selected components. A report, "Fatigue Analysis of Components for 60-year Plant Life" is underway making use of updated fatigue design curves for stainless steels developed by Argonne National Laboratory in March 1998. An ACRS meeting is planned for November 1998. The issue is expected to be resolved by March 1999.
191	Assessment of Debris Accumulation on PWR Sump Performance	09/96	High[1]	RES	Research is being planned on coatings and debris transport to determine the potential severity of PWR sump blockage effects. This work will be initiated in FY 1998 and may take several years to complete.
156.6.1	Pipe Break Effects on Systems and Components	02/91	To be Determined	RES	Undergoing prioritization. The staff is investigating whether the NRC should focus additional attention on pipe break effects inside containment for plants licensed prior to publication of the SRP.
NMSS-6	Criticality in Low Level Waste	05/97	Medium	NMSS	A generic methodology for evaluating the risk of a post-disposal criticality is being developed to reduce any residual uncertainty concerning criticality safety
NMSS-7	Criticality Benchmarks Greater than 5% Enrichment	05/98	Low	NMSS	Guidance is to be developed for use in licensing reviews of commercial fuel fabrication facilities and other licensing evaluations.
NMSS-8	Year 2000 Computer Problem - Non-reactor Licensees	05/98	High	NMSS	A generic letter to fuel cycle licensees is being developed to address the Year 2000 problem.
NMSS-9	Amersham Radiography Source Cable Failures	05/98	High	NMSS	An investigation report is being prepared on radiography source disconnects involving drive cable breaks.
NMSS-10	Troxler Gauge Source Rod Weld Failures	05/98	Medium	NMSS	The staff is continuing its efforts to ensure that no cracked source rods in moisture density gauges remain in service.
NMSS-11	Spent Fuel Dry Cask Weld Cracks	05/98	Medium	NMSS	Research will be conducted to assess whether corrective actions implemented by the industry have resolved the problem of cracking in dry cask closure welds.
NMSS-12	Inadequate Transportation Packaging Puncture Tests	05/98	Medium	NMSS	Puncture testing is to be resolved with the development of guidance for applications for certification of new package designs and for licensing actions for existing Certificates of Compliance for affected packages.

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