

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

April 28, 1995

NRC GENERIC LETTER 95-04: FINAL DISPOSITION OF THE SYSTEMATIC EVALUATION
PROGRAM LESSONS-LEARNED ISSUES

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this generic letter to notify addressees about the final disposition of the 27 lessons-learned issues found in the Systematic Evaluation Program (SEP). It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate. However, suggestions contained in this generic letter are not NRC requirements; therefore, no specific action or written response is required.

Background

In 1977, the NRC staff initiated the SEP to review the designs of older operating nuclear power plants, i.e., plants licensed before 1975 when the Standard Review Plan (SRP) (Reference 1) was issued. In Phase I, the NRC staff identified 137 issues for which the regulatory requirements had changed, and which warranted an evaluation. In Phase II, the NRC staff compared the designs of 10 SEP plants to the SRP issued in 1975. The NRC staff found that 27 of the original 137 issues required some corrective action at one or more of the 10 plants examined in the SEP. The NRC staff also concluded that corrective actions for these 27 issues could benefit safety at older operating plants not in the group of 10 plants examined in the SEP (non-SEP plants). Therefore, the NRC staff concluded that these 27 issues should be considered at the non-SEP plants to determine whether an adequate level of safety existed at these plants.

Discussion

To determine what actions might be appropriate for the non-SEP plants, the NRC staff determined whether each SEP issue had been resolved by a particular licensee, needed to be resolved, or was addressed by other regulatory programs and activities, and placed the SEP issues in four categories. This

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information was sent to the Commission in SECY-90-343, dated October 4, 1990 (Reference 2), as follows:

- (1). Completely resolved (4)
- (2). Low safety significance requiring no further regulatory action (1)
- (3). Unresolved but covered by existing regulatory programs (19)
- (4). Unresolved; existing regulatory program has not yet been identified (3)

Further evaluation by the NRC staff as part of the generic safety issues program (NUREG-0933, "A Prioritization of Generic Safety Issues," Reference 3) led to some adjustments among the categories after SECY-90-343 was issued. The final categorizations follow:

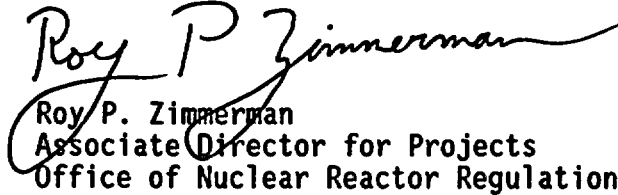
- (1). Completely resolved (4)
- (2). Low safety significance requiring no further regulatory action (2)
- (3). Unresolved but covered by existing regulatory programs (20)
- (4). Unresolved; existing regulatory program has not yet been identified (1)

Attachment 1 lists the six issues in categories 1 and 2. The NRC staff determined that the 21 issues remaining in categories 3 and 4 did not require immediate action to protect public health and safety, and incorporated them into the established NRC regulatory process for determining the safety importance of generic safety issues. The 20 issues in category 3 are covered by existing regulatory programs described in NUREG-0933. The NRC staff has incorporated the category 4 issue into the generic issues program and is determining the priority of this category 4 issue, SEP Issue 6.1, "Pipe Break Effects on Systems and Components" (now New Generic Issue 156.6.1 in Reference 3). Attachment 2 lists the 21 issues in Categories 3 and 4.

The NRC staff will no longer track SEP issues separately because each original SEP issue is either resolved, need not be resolved, or has been incorporated into the generic issues program. The pipe break issue is currently being assigned a priority under the generic issues program.

Consequently, future consideration of the original SEP issues will be confined to the normal reviews, audits, or inspections carried out in conjunction with the generic issues program. The staff procedure for handling generic issues involves evaluating any proposed actions for each case under existing regulations and procedures and considering backfit implications in accordance with Section 50.109 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.109).

This generic letter requires no specific action or written response. If you have any questions about this matter, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.


Roy P. Zimmerman
Associate Director for Projects
Office of Nuclear Reactor Regulation

Technical contact: Sheri R. Peterson, NRR
(301) 415-2752

References:

1. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," 1st Edition, November 1975.
2. SECY-90-343, "Status of the Staff Program to Determine How the Lessons Learned From the Systematic Evaluation Program Have Been Factored Into the Licensing Bases of Operating Plants," October 4, 1990.
3. NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994.

Attachments:

1. SEP Issues in Categories 1 and 2
2. SEP Issues in Categories 3 and 4
3. List of Recently Issued NRC Generic Letters

Attachments filed in Jacket

SEP ISSUES IN CATEGORIES 1 AND 2

SEP ISSUE NUMBER	TITLE	REFERENCE	CATEGORY
3.6.2	Emergency DC Power	3	2
3.7	Leakage Detection at the Reactor Coolant Pressure Boundary	2	1
5.1	Organic Materials	2	1
5.2	Water Purity in the Reactor Coolant System	2	1
6.2	Containment Isolation	2	1
6.3	Reactor Coolant System Activity Limits	2	2

Category 1 - Completely resolved

Category 2 - Low safety significance requiring no further regulatory action

SEP ISSUES IN CATEGORIES 3 AND 4

SEP ISSUE NUMBER	TITLE OF ISSUE	EXISTING REGULATORY PROGRAM RESOLVING SEP ISSUE (see NOTES)	CATEGORY
1.1	Settlement of Foundations and Buried Equipment	IPEEE	3
1.2	Dam Integrity and Site Flooding	IPEEE	3
1.3	Site Hydrology and Ability to Withstand Floods	IPE, IPEEE	3
1.4	Industrial Hazards	IPEEE	3
1.5	Tornado Missiles	IPEEE	3
1.6	Turbine Missiles	TAP A-37	3
2.1	Severe Weather Effects on Structures	IPEEE	3
2.2	Design Codes, Criteria, and Load Combinations	IPEEE	3
2.3	Containment Design and Inspection	NGI 118	3
2.4	Seismic Design of Structures, Systems, and Components	IPEEE	3
3.1.1	Shutdown Systems	TAP A-45, IPE, IPEEE, SDLOW	3
3.1.2	Electrical Instrumentation and Controls	TAP A-45, IPE, IPEEE, SDLOW	3

Category 3 - Unresolved but covered by existing regulatory programs

Category 4 - Unresolved; no covering existing regulatory program yet identified

SEP ISSUES IN CATEGORIES 3 AND 4

SEP ISSUE NUMBER	TITLE OF ISSUE	EXISTING REGULATORY PROGRAM RESOLVING SEP ISSUE (see NOTES)	CATEGORY
3.2	Service and Cooling Water Systems	NGI 51, 130, 143, 153; GL 89-13, 91-13; TAP SW	3
3.3	Ventilation Systems	NGI 83, 106, 136, 143, 148; 10CFR	3
3.4	Isolation of High and Low Pressure Systems	NGI 105	3
3.5	Automatic Emergency Core Cooling System (ECCS) Switchover	NGI 24	3
3.6.1	Emergency AC Power	TAP A-44, B-56; NGI 128	3
3.8	Shared Systems	TAP A-44; NGI 43, 130, 153	3
4.1	Reactor Protection System (RPS) and Engineered Safety Features System (ESFS) Isolation	NGI 142	3
4.2	Testing of the RPS and ESFS	NGI 120; 10CFR	3
6.1	Pipe Break Effects on Systems and Components	NGI 156.6.1	4

Category 3 - Unresolved but covered by existing regulatory programs

Category 4 - Unresolved; no covering existing regulatory program yet identified

NOTES

Program	Reference
IPEEE	Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities - 10 CFR 50.54(f)," June 28, 1991.
IPE	Generic Letter 88-20, "Individual Plant Examination for Severe Accident Vulnerabilities - 10 CFR 50.54(f)," November 23, 1988; Supplement 1, August 29, 1989; Supplement 2, April 4, 1990; Supplement 3, July 6, 1990.
TAP	Task Action Plan Items, NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994, Section 2.
A-37	Turbine Missiles
A-44	Station Blackout
A-45	Shutdown Decay Heat Removal Requirements
B-56	Diesel Reliability
NGI	New Generic Issues, NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994, Section 3.
24	Automatic ECCS [emergency core cooling system] Switchover to Recirculation
43	Reliability of Air Systems
51	Proposed Requirements for Improving the Reliability of Open Cycle Service Water Systems
83	Control Room Habitability
105	Interfacing Systems LOCA [loss of coolant accident] at BWRs [boiling water reactors]
106	Piping and Use of Highly Combustible Gases in Vital Areas
118	Tendon Anchorage Failures
120	On-Line Testability of Protection Systems
128	Electrical Power Reliability
130	Essential Service Water Pump Failures at Multiplant Sites
136	Storage and Use of Large Quantities of Cryogenic Combustibles on Site
142	Leakage Through Electrical Isolators in Instrumentation Circuits
143	Availability of Chilled Water Systems
148	Smoke Control and Manual Fire-Fighting Effectiveness
153	Loss of Essential Service Water in LWRs [light water reactors]
156.6.1	Referred to the Office of Research for prioritization as Generic Issue 156.6.1.

NOTES (continued)

Program	Reference
SDLOW	SECY-91-283, "Evaluation of Shutdown and Low Power Risk Issues," September 9, 1991.
GL 89-13	Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment," July 18, 1989.
GL 91-13	Generic Letter 91-13, "Request for Information Related to the Resolution of Generic Issue 130, 'Essential Service Water System Failures at Multi-Unit Sites,' Pursuant to 10 CFR 50.54(f)," September 19, 1991.
TAP SW	Memorandum from A. Thadani for W. Russell, "Task Action Plan for Resolution of Service Water System Problems," June 27, 1991.
10CFR	Title 10, <i>Code of Federal Regulations</i> , "Energy"

LIST OF RECENTLY ISSUED GENERIC LETTERS

Generic Letter	Subject	Date of Issuance	Issued To
95-03	CIRCUMFERENTIAL CRACKING OF STEAM GENERATOR TUBES	04/26/95	ALL HOLDERS OF OLs OR CPs FOR PRESSURIZED WATER REACTORS (PWRs).
95-02	USE OF NUMARC/EPRI REPORT TR-102348, "GUIDELINE ON LICENSING DIGITAL UPGRADES," IN DETERMINING THE ACCEPTABILITY OF PERFORMING ANALOG-TO-DIGITAL REPLACEMENTS UNDER 10 CFR 50.59	04/26/95	ALL HOLDERS OF OLs OR CPs FOR NUCLEAR POWER REACTORS.
89-04, SUPP. 1	GUIDANCE ON DEVELOPING ACCEPTABLE INSERVICE TESTING PROGRAMS	04/04/95	ALL HOLDERS OF OLs OR CPs FOR NUCLEAR POWER REACTORS.
95-01	NRC STAFF TECHNICAL POSITION ON FIRE PROTECTION FOR FUEL CYCLE FACILITIES	01/26/95	ALL CURRENT LICENSEES & APPLICANTS FOR URANIUM CONVERSION & FUEL FABRICATION FACILITIES.
94-04	VOLUNTARY REPORTING OF ADDITIONAL OCCUPATIONAL RADIATION EXPOSURE DATA	09/02/94	ALL HOLDERS OF OLs OR CPs FOR NPRs, RADIOGRAPHY LICENSEES, FUEL PROCESSING LICENSEES, FABRICATING & REPROCESSING LICENSEES, MANUFACTURERS & DISTRIBUTORS OF BY-PRODUCT MAT'L, INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS, FACILITIES FOR LAND DISPOSAL OF LOW-LEVEL WASTE, & GEOLOGIC REPOSITORIES FOR HIGH-LEVEL WASTE.
94-03	INTERGRANULAR STRESS CORROSION CRACKING OF CORE SHROUDS IN BOILING WATER	07/22/94	ALL HOLDERS OF OLs OR CPs FOR BOILING WATER REACTORS EXCEPT FOR BIG ROCK POINT, WHICH DOES NOT HAVE A CORE SHROUD.

OL = OPERATING LICENSE
CP = CONSTRUCTION PERMIT
NPR = NUCLEAR POWER REACTORS

This generic letter requires no specific action or written response. If you have any questions about this matter, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Original signed by

Roy P. Zimmerman
Associate Director for Projects
Office of Nuclear Reactor Regulation

Technical contact: Sheri R. Peterson, NRR
(301) 415-2752

References:

1. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," 1st Edition, November 1975.
2. SECY-90-343, "Status of the Staff Program to Determine How the Lessons Learned From the Systematic Evaluation Program Have Been Factored Into the Licensing Bases of Operating Plants," October 4, 1990.
3. NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994.

Attachments:

1. SEP Issues in Categories 1 and 2
2. SEP Issues in Categories 3 and 4
3. List of Recently Issued NRC Generic Letters

NOTE: JHConran's 4/5/95 e-mail to SRPeterson indicated that ELJordan had determined that no CRGR review of the generic letter is needed.

*SEE FJMiraglia's 3/16/95 memo to ELJordan for PREVIOUS CONCURRENCES

OFFICE	TA:DOPS	D:DOPS	#1 7/25 ADP:NRR
NAME	AJKugler	BKGrimes	RPZimmerman
DATE	04/25/95	04/25/95	04/25/95

DOCUMENT NAME: 95-04.GL

E. Jordan

-2-

The Office of the General Counsel reviewed this generic letter and has no legal objections.

The generic letter is sponsored by Brian Sheron, Director, Division of Engineering.

Attachments:

1. Proposed Generic Letter Titled "Final Disposition of the Systematic Evaluation Program Lessons-Learned Issues"
2. Response to CRGR Charter Questions
3. SECY-90-343, "Status of the Staff Program to Determine How the Lessons Learned From the Systematic Evaluation Program Have Been Factored Into the Licensing Bases of Operating Plants," October 4, 1990
4. NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994, pp. 3.156-1 through 3.156-31

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*see previous page for concurrence

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S. Peterson



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 16, 1995

MEMORANDUM TO: Edward L. Jordan, Chairman
Committee To Review Generic Requirements

FROM: Frank J. Miraglia, Deputy Director *Frank J. Miraglia*
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR ENDORSEMENT WITHOUT FORMAL REVIEW OF THE
PROPOSED GENERIC LETTER TITLED "FINAL DISPOSITION OF THE
SYSTEMATIC EVALUATION PROGRAM LESSONS-LEARNED ISSUES"

The Office of Nuclear Reactor Regulation (NRR) requests that the Committee to Review Generic Requirements (CRGR) informally review the subject proposed generic letter. NRR will proceed to issue the proposed generic letter after 10 working days from the date of this memorandum, unless instructed otherwise by the CRGR.

NRR believes that formal CRGR review and public comment for the proposed generic letter are not warranted because the letter does not contain any new staff positions or request any licensee actions. The purpose of this generic letter is to notify licensees about the final disposition of the 27 lessons-learned issues found in the Systematic Evaluation Program (SEP).

Attachment 1 is the generic letter proposed by the staff. In 1977, the NRC staff initiated the SEP to review the designs of older operating nuclear power plants. The staff defined issues for which the regulatory requirements had changed, warranting an evaluation at each of the plants licensed before 1975 when the Standard Review Plan was issued. This generic letter informs licensees that the NRC will no longer track SEP issues separately because each original SEP issue has either been resolved or has been incorporated into the generic issues program. No specific actions or written responses are required. The staff considers this generic letter to be Category 2. However, as mentioned above, the staff believes that formal CRGR review is not warranted because the proposed generic letter does not contain any new staff positions or request any licensee actions.

Attachment 2 is the response to the questions contained in Section IV.B of the CRGR Charter. Attachments 3 and 4 contain the relevant portions of the documents listed as references in the proposed generic letter with the exception of the 1975 edition of NUREG-0800, the first edition of the Standard Review Plan.

The staff will not publish a notice of opportunity for public comment on the proposed generic letter in the Federal Register because the letter does not contain any new staff positions or request any licensee actions. The proposed generic letter will be published in the Federal Register when it is issued.

CONTACT: Sheri R. Peterson, NRR/DE
415-2752

The Office of the General Counsel reviewed this proposed generic letter and has no legal objections.

The generic letter is sponsored by Brian Sheron, Director, Division of Engineering.

Attachments:

1. Proposed Generic Letter Titled "Final Disposition of the Systematic Evaluation Program Lessons-Learned Issues"
2. Response to CRGR Charter Questions
3. SECY-90-343, "Status of the Staff Program to Determine How the Lessons Learned From the Systematic Evaluation Program Have Been Factored Into the Licensing Bases of Operating Plants," October 4, 1990
4. NUREG-0933, "A Prioritization of Generic Safety Issues," Supplement 17, September 1994, pp. 3.156-1 through 3.156-31

From: James H. Conran, CRGR Staff (JHC)
To: SRP
Date: Wednesday, April 5, 1995 5:06 pm
Subject: CRGR Review of GL

Sheri:

This is in response to the memorandum, dated March 16, 1995, from Frank Miraglia to Ed Jordan, regarding the question of CRGR review of the proposed generic letter titled "Final Disposition of the Systematic Evaluation Program Lessons-Learned Issues", and your followup telephone call today. Because no new backfitting is intended or approved in connection with the issuance of this letter, Mr. Jordan has determined that no CRGR review is needed.

Jim

CC: DFR, ELJ1, FJM