

April 7, 2010

MEMORANDUM TO: Greg A. Casto, Chief
Balance of Plant Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

Michael L. Scott, Chief
Safety Issue Resolution Branch
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FROM: Benjamin G. Beasley, Chief */RA/*
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SUBJECT: GENERIC ISSUE MANAGEMENT CONTROL SYSTEM
REPORT (FY 2010, Q2)

Enclosed please find the Generic Issue Management Control System (GIMCS) report for the second quarter of FY 2010. The following table summarizes the status of the Generic Issues (GIs) and the subsequent paragraphs provide a narrative summary of the current status of these GIs. Both this memorandum and the enclosed GIMCS report contain data that is current as of February 28, 2010.

CONTACT: Richard Perkins, RES/DRA
301-251-7479

Status Summary of Active Generic Issues During Q2 of FY 2010						
GI No.	Title	Current Stage	Status	Planned Closure	Months Open	Regulatory Impacts
186	Potential Risk and Consequences of Heavy Load Drops in Nuclear Power Plants	Verification	Active	6/2010	131	NUREG-1774; Standard Review Plan (NUREG-0800), Section 9.1.5
189	Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident	Regulatory Office Implementation		6/2010	106	Title 10, Sections 50.34 and 50.44, of the <i>Code of Federal Regulations</i> (10 CFR 50.34 and 50.44)
191	Assessment of Debris Accumulation on PWR Sump Performance	Regulatory Office Implementation		12/2010	162	Regulatory Guide 1.82, Rev. 3; NUREG-0800; GL 1985-22; Bulletin 2003-01; GL 2004-02
193	BWR ECCS Suction Concerns	Technical Assessment	Active	7/2011*	94	To Be Determined
199	Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States for Existing Plants	Safety/Risk Assessment	Active	7/2010*	58	To Be Determined

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* Proceed to regulatory assessment stage or close the GI.

GI-189 and GI-191 have exited the Generic Issues Program. The responsibility for their implementation and verification was transferred to the Office of Nuclear Reactor Regulation (NRR) in accordance with SECY-07-0022, "Status Report on Proposed Improvements to the Generic Issues Program," dated January 30, 2007 (ADAMS Accession No. ML063460239). Their status will continue to be tracked and reported in GIMCS until completion by the technical office.

Reactor Generic Issues

GI-186, Implementation and Verification, Potential Risk and Consequences of Heavy Load Drops in Nuclear Power Plants (pages 1-3 of the GIMCS report). In April 2008, the Nuclear Energy Institute (NEI) submitted preliminary guidelines to address reactor vessel head drop consequence analyses and to establish a highly reliable handling system for reactor vessel head lifts. In July 2008, NEI submitted final industry-developed guidelines for the above specified applications and other related applications. On September 5, 2008, the NRC staff issued a safety evaluation endorsing these guidelines, with one exception regarding acceptance criteria for the consequence analysis. The staff also issued supplementary inspection guidance for refueling and other outage activities that addresses implementation of the industry initiative on control of heavy loads. This inspection guidance was posted for inspector use and public review on September 18, 2008. The NRC issued Regulatory Issue Summary 2008-28, "Endorsement of Nuclear Energy Institute Guidance for Reactor Vessel Head Heavy Load Lifts," to notify stakeholders of NRC endorsement of the guidelines in NEI 08-05. The NRC staff is continuing to conduct sampling inspections to validate initial implementation of the guidelines. The staff plans to submit a closeout memorandum, for review through the ACRS, during the 3rd quarter of FY 2010.

GI-189, Regulatory Office Implementation, Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion during a Severe Accident (pages 4-7 of the GIMCS report). The NRC staff has reviewed industry proposals from licensees affected by GI-189 and has concluded that those proposed modifications will resolve GI-189 and provide benefit for some separate security scenarios which were identified during the course of the investigation. On June 15, 2007, the NRC staff issued letters to affected licensees accepting the commitments. Since that time, licensee implementation and NRC verification inspections performed pursuant to NRC Temporary Instruction (TI) 2515/174, "Hydrogen Igniter Backup Power Verification," have been completed at all 9 affected sites. The staff is conducting activities to support closure of this generic issue in mid 2010.

GI-191, Regulatory Office Implementation, Assessment of Debris Accumulation on PWR Sump Performance (pages 8-13 of the GIMCS report). This generic issue concerns the possibility that, following a loss of coolant accident in a PWR, debris accumulating on the emergency core cooling system sump screen may result in clogging and restrict water flow to the pumps. As a result of this generic issue and/or the related generic letter, all PWR licensees increased the size of their containment sump strainers, significantly reducing the risk of strainer clogging. An associated issue, which needs to be resolved to close GI-191, regards the potential for debris to bypass the sump strainers and enter the reactor core. In 2008, the NRC staff determined that additional industry-sponsored testing was necessary to support resolution of this issue. The testing resulted in submittal of a topical report to the NRC in April 2009, which remains under NRC review. Additional testing, required by the NRC, yielded unexpected results, therefore further testing is in progress. The NRC expects to issue a safety evaluation on the topical report which will provide guidance to licensees regarding use of the industry-developed test results and the topical report. The expected issuance date of this safety evaluation has been delayed until August 2010 or later because of the incomplete industry testing. Licensees have sought to take credit for an assumption of reduced generation of debris following a LOCA based on vendor testing. The NRC staff reviewed this testing and, despite numerous interactions with the industry, has been unable to conclude that the reduced

generation assumptions are valid. The NRC staff plans to send letters, regarding this issue, to the affected licensees during the 3rd quarter of FY 2010.

GI-193, Technical Assessment, Boiling Water Reactor (BWR) Emergency Core Cooling System (ECCS) Suction Concerns (pages 14-16 of the GIMCS report). The task action plan to resolve this GI involves an evaluation of suppression pool designs, the dynamics of air entrainment in the suppression pool, and the impact of air entrainment on ECCS pump performance. Based upon a staff request, the BWR owners group provided voluntary data regarding the characteristics of LOCA phenomena at the earliest stages of the postulated accidents plus general information about wetwell geometries in relation to ECCS suction strainers. Staff efforts are continuing in order to estimate the maximum potential void fraction through scale experiments planned for 2010 at Purdue University. The purpose of the experiments is to provide clarification as to the potential for bubbles formed during a simulated LOCA blowdown to be transported in the wetwell to the ECCS pump inlets and, consequently, ingested into the ECCS pump impellers. The experiment test plan will be released publicly in March 2010. Both transient and steady state testing are now planned to start in mid 2010.

GI-199, Safety/Risk Assessment, Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States for Existing Plants (pages 17-20 of the GIMCS report). While reviewing new reactor applications and updating seismic hazard information from the U.S. Geological Survey, the staff identified that the estimated seismic hazard levels at some current central and eastern U.S. (CEUS) nuclear sites may be higher than seismic hazard values used in design and previous evaluations. GI-199 was opened to assess the implications of updated seismic data and methods on operating nuclear plants. A comparison of the new seismic hazard data and methods with the earlier evaluations conducted by the NRC staff as part of the Individual Plant Examination of External Events (IPEEE) Program showed that seismic designs of operating plants in the CEUS still provide adequate protection. At the same time, the staff recognized that the new seismic data and models could reduce available safety margins. The Electric Power Research Institute (EPRI) evaluated the effects of new seismic hazard data and methods on U.S. nuclear plants. The NRC Office of Nuclear Regulatory Research collaborated with EPRI to assure that the complex seismic hazard assessments make use of available expertise for a sound technical approach. A public meeting is planned for the spring of 2010. A briefing to the subcommittee of the Advisory Committee on Reactor Safeguards is planned for the summer of 2010.

Thus, five reactor GIs remain to be resolved.

Nonreactor Generic Issues

At the end of the reporting period, no nonreactor GIs remain to be resolved.

I will continue to keep you informed of the staff's progress in resolving the remaining reactor GIs and any future GIs as well as any major problems that may surface during their resolution.

Enclosure:
As stated

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DATE	3/26/10	4/7/10

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Memorandum to Greg A. Casto and Michael L. Scott dated April 7, 2010

SUBJECT: GENERIC ISSUE MANAGEMENT CONTROL SYSTEM REPORT (FY 2010, Q2)

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