

July 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  
Division of Safety Systems  
Office of Nuclear Reactor Regulation

FROM: Benjamin G. Beasley, Chief */RA/*  
Operating Experience and Generic Issues Branch  
Division of Risk Analysis  
Office of Nuclear Regulatory Research

SUBJECT: GENERIC ISSUE MANAGEMENT CONTROL SYSTEM  
REPORT (FY 2010, Q3)

Enclosed is the Generic Issue Management Control System (GIMCS) report for the third 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. This memorandum and the enclosed GIMCS report contain data that are current as of May 30, 2010.

CONTACT: April Smith, RES/DRA  
301-251-7450

<b>Status Summary of Active Generic Issues During Q3 of FY 2010</b>						
<b>GI No.</b>	<b>Title</b>	<b>Current Stage</b>	<b>Status</b>	<b>Planned Closure</b>	<b>Months Open</b>	<b>Regulatory Impacts</b>
186	Potential Risk and Consequences of Heavy Load Drops in Nuclear Power Plants	Verification	Active	11/2010	134	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		12/2010	109	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		6/2011	165	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	12/2012*	97	To Be Determined
199	Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States for Existing Plants	Safety/Risk Assessment	Active	8/2010*	61	To Be Determined

\* 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 program 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 4<sup>th</sup> quarter of CY 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 proposed modifications as 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. These activities include evaluating methods to close this issue for Watts Bar Nuclear Plant, Unit 2, which is currently undergoing an operating license review.

**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 December 2010 or later because of NRC staff concerns about the results of the industry testing. Licensees have also 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 industry plans a new testing campaign to address the staff's concerns.

On April 15, 2010, the NRC staff and industry briefed the Commission regarding the current status of the resolution of GI-191. Representatives from industry summarized their actions to address the issue and suggested that these actions have resolved the safety implications of this GI. The industry representatives further recommended resolution and closure via the application of 10 CFR 50, Appendix A, General Design Criterion 4 (GDC-4). This criterion allows credit for certain purposes for the high likelihood that a reactor coolant leak would be detected before a major piping rupture would occur; the NRC staff has not heretofore allowed this credit for resolving sump performance issues. The staff acknowledged the industry's actions to address this issue. However, the staff stated its position that the issue remains of concern for plants with relatively high fibrous insulation loading that have not demonstrated adequate sump performance using methods acceptable to the NRC. Based on the information presented, the Commission directed the staff to provide the Commission, by August 27, 2010, information on potential approaches for bringing GI-191 to closure. The expected closure date for GI-191 will likely be adjusted based on the Commission's direction.

**GI-193, Technical Assessment, Boiling Water Reactor (BWR) Emergency Core Cooling System (ECCS) Suction Concerns** (pages 14 – 17 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 draft test plan is available using the Agencywide Documents Access & Management System (ADAMS), accession number ML100750236. Transient and steady state testing are planned to start by July 1, 2010 and will continue throughout the remainder of the year.

**GI-199, Safety/Risk Assessment, Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States for Existing Plants** (pages 18 – 21 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 safety margins. 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. The Safety/Risk Assessment Panel reconvened in March 2010 and will convene again in June 2010 to review their recommendations. The current plans are to issue the Safety/Risk Assessment Panel report and transfer the issue to NRR for regulatory office implementation in the summer of 2010. A public meeting is planned for the summer of 2010 followed by a planned briefing to the subcommittee of the Advisory Committee on Reactor Safeguards in the fall of 2010.

As summarized above, 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 significant challenges that may arise during their resolution.

Enclosure:  
As stated

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Enclosure:  
As stated

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OFFICE	RES/DRA/OEGIB	RES/DRA/OEGIB
NAME	ASmith	BBeasley
DATE	7/ 6 /10	7/7/10

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