

June 28, 2011

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SUBJECT: GENERIC ISSUE MANAGEMENT CONTROL SYSTEM  
REPORT (FY 2011, Q3)

Enclosed is the Generic Issue Management Control System (GIMCS) report for the third quarter of FY 2011. 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 31, 2011.

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Status Summary of Active Generic Issues During Q3 of FY 2011						
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	12/2011	146	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		12/2011	121	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		To Be Determined	177	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	To Be Determined	109	To Be Determined
199	Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States for Existing Plants	Regulatory Office Implementation		To Be Determined	73	IN 2010-018

GI-189, GI-191 and GI-199 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 Management Directive 6.4, "Generic Issues Program," dated November 17, 2009 (Agencywide Documents Access & Management System (ADAMS) Accession No. ML083181192). 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 July 2008, Nuclear Energy Institute (NEI) submitted final industry-developed guidelines in NEI 08-05 to address reactor vessel head drop consequence analyses and to establish a highly reliable handling system for reactor vessel head lifts. On September 5, 2008, the U.S. Nuclear Regulatory Commission (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 closeout memoranda, to the Advisory Committee on Reactor Safeguards and the Executive Director for Operations, by December 2011.

**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 GI-189 review. On June 15, 2007, the NRC staff issued letters to affected licensees accepting the commitments to changes that enhance plant capabilities to mitigate the potential for early containment failure from hydrogen combustion. Since that time, licensee implementation and NRC verification inspections performed pursuant to NRC Temporary Instruction 2515/174, “Hydrogen Igniter Backup Power Verification,” have been completed at all 9 affected sites. In November 2010, the staff received a commitment from the Tennessee Valley Authority to implement measures at Watts Bar Unit 2 equivalent to those measures verified to have been implemented at Watts Bar Unit 1. Because reactor events in Japan are related to this issue, the staff intends to suspend closeout activities pending release of the lessons learned task force recommendations regarding the Japan events. Final closeout is planned for December 2011.

**GI-191, Regulatory Office Implementation, Assessment of Debris Accumulation on Pressurized Water Reactor (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 the related generic letter (GL 2004-02), 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. Some testing was performed, but testing and NRC evaluation are continuing because of NRC staff concerns about the testing results and related assumptions. The Commission issued a Staff Requirements Memorandum (SRM) in December 2010. The Commission determined that it was prudent to allow the nuclear industry

to complete testing on in-vessel effects and zone of influence in 2011, and to develop a path forward by mid 2012. The SRM directed the staff to evaluate alternative approaches, including risk-informed approaches, for resolving GSI-191 and to present them to the Commission by mid 2012. The Commission further agreed that modifications should be completed within two operating cycles for smaller Loss of Coolant Accidents (LOCAs) and three operating cycles for larger LOCAs after development of the path forward. NRC staff will determine a closure date for this GI after meeting with the Commission in mid-2012.

**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 effects 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 conducted at Purdue University. The experiments should 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 at ADAMS Accession No. ML100750236. Steady state and transient tests were completed by December 2010. The final report was received in March 2011. The staff is in the process of evaluating the test results.

**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 plants. For the Safety/Risk Assessment, the Office of Nuclear Regulatory Research evaluated the effects of new seismic hazard data and methods on U.S. nuclear plants, and collaborated with the Electric Power Research Institute to assure a sound technical approach. The Safety/Risk Assessment Panel Report was issued on September 2, 2010. The panel recommended that further actions be taken to address GI-199 outside the GI Program. The issue was transferred to NRR on September 2, 2010 for Regulatory Office Implementation. Information Notices were issued in September 2010, to inform stakeholders of the issuance of the GI-199 Safety/Risk Assessment Report. Information Notice IN 2010-18 was issued to nuclear power plants and independent spent fuel storage installations (ISFSI); it stated that the NRC will follow the appropriate regulatory process to request operating plants and ISFSIs to provide specific information relating to their facilities to enable the NRC staff to complete the Regulatory Assessment where candidate backfits are identified and evaluated. Information Notice IN 2010-19 was issued to fuel cycle facilities. NRR is developing a Generic Letter to request needed data from power reactor licensees.

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.

S. Bailey et al.

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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

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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