

November 22, 2005

MEMORANDUM TO: Safety Issue Resolution Branch

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FROM: John Hannon, Deputy Director */RA/*
Division of Safety Systems

SUBJECT: DRAFT NRC STAFF REVIEW GUIDANCE FOR EVALUATION OF
DOWNSTREAM EFFECTS OF DEBRIS INGRESS INTO THE PWR RCS
ON LONG TERM CORE COOLING FOLLOWING A LOCA

One of the key areas that licensees are required to address as part of their final evaluation and response to Generic Letter 2004-02 "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors" are the effects from debris that passes through the ECCS sump screen to downstream components (Downstream Effects). One area in particular that must be addressed is the potential impact on reactor fuel. To confirm licensees provide a rigorous evaluation in this area, the staff has included plans to audit licensee evaluations of Downstream Effects as they relate to reactor fuel as Audit Element #12 Downstream Effects, Section 7.3. Downstream Effects, item xviii. "Review the evaluation of Downstream Effects on Reactor Fuel and in-vessel components" in the project plan for resolving GSI-191.

To properly assess Downstream Effects, licensees will be required to include a number of plant-specific considerations (examples: plant-specific insulation types, plant-specific post-LOCA debris loads, plant-specific ECCS sump strainer design, etc.). These evaluations are expected to be complex. Industry is currently attempting to use a standard approach outlined in Westinghouse Owner's Group report WCAP-16406-P "Evaluation of Downstream Sump Debris Effects in Support of GSI-191". To help provide a consistent and detailed review of these licensee evaluations, the staff has developed a draft guidance document. This draft guidance

Attachment: As stated

CONTACTS: NRR/DSS/SSIB, Thomas Hafera
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document outlines the multiple considerations and methods that may be used to evaluate Downstream Effects on reactor fuel. The guidance is meant to be extensive, but not all inclusive. Some items may not apply to plant-specific configurations. This information should be used for guidance, and as an information reference, by the staff when performing detailed audits of final licensee responses to GL 2004-02. This document will be publically available, and will be shared with industry stakeholders to allow feedback and input into the final document. The audit process will also be used to validate this draft guidance, so that it can be finalized at a later date.

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