

March 25, 2010

Mr. Douglas W. Coleman, Chairman  
Boiling Water Reactors Owners Group  
c/o Energy Northwest  
Mail Drop PE/04  
P O Box 968  
Richland, WA 99352-0968

Dear Mr. Coleman:

Thank you for your ongoing interest in Generic Issue (GI) 193, "ECCS Suction Concerns," and for submitting the BWROG report, NEDO-33526, "Assessment of Generic Safety Issue #193" (proprietary) dated October 2009.

I would like to provide you with some additional information pertaining to the planned test program at Purdue. Enclosure 1 to this letter provides a description of the test program planned. Enclosure 2 provides details on the test facility itself. The primary objective of the testing is to gain a better understanding of complex bubble transport phenomena by employing a simulated blowdown in a modeled environment designed to resemble a BWR Mark I wetwell.

Last year we published draft documentation related to the planned test program at the PUMA facility located at Purdue University. The document, dated September 2009 and entitled "Task 6: Suppression Pool Void Distribution During Blowdown Scaling, Overall Dimensions, Proposed Test Facility Modifications, and Instrumentation" (ADAMS Accession No. ML092920025), provided a preliminary evaluation and technical specifications of the PUMA facility.

The tests will be under the direction of Professors Mamoru Ishii and Takashi Hibiki, School of Nuclear Engineering, assisted by a number of undergraduate and graduate students. Dr. Ishii and Hibiki are well-known researchers in the nuclear power industry, having been contracted by the Pressurized Water Reactor Owners Group to help evaluate issues related to Generic Letter 08-01, "Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems."

Both steady state and transient tests are planned at this time. Depending upon the results, additional tests to model the initial thrust of drywell air into the wetwell at the accident initiation may be considered.

ECCS pumps have limited capability to handle non-condensable drywell atmosphere concentrations beyond a few percent. A literature search was performed in the earlier stages of this issue; those results are also publicly available (ML050910465). The staff believes that a key factor affecting the extent to which air binding challenges the pumps is the proximity of the downcomers to the suction strainers. Our test configuration attempts to model the relative location based upon available information.

The testing facility is in the final stages of modification and preparation, and we envision that the tests will commence in the near future. If you have any comments or questions about it, please contact me at 301-251-7676 or John C. Lane, the GI-193 project manager at 301-251-7446.

Sincerely,

*/RA/*

Benjamin Beasley, Chief  
Operating Experience & Generic Issues Branch  
Office of Nuclear Regulatory Research

Enclosures:  
As stated

cc: C. Lui  
D. Coe  
J. Uhle  
S. Bajorek  
C. Hoxie  
A. Velazquez-Lozada

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**ADAMS Accession No.: ML100750228**

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DATE	3/16/10	3/25/10

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