



NUCLEAR ENERGY INSTITUTE

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May 28, 2004

Mr. John N. Hannon  
Chief, Plant Systems Branch  
Office of Nuclear Reactor Regulation  
Mail Stop O11-A11  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT: PWR Containment Sump Evaluation Methodology**

**PROJECT NUMBER: 689**

Dear Mr. Hannon:

Enclosed is a report describing a methodology for use by PWR plants in the evaluation of containment sump performance. This report is provided in accordance with the schedule established at the March 23, 2004 public meeting to discuss industry activities to address PWR sump performance issues (GSI-191).

The methodology is intended to allow licensees to address and resolve GSI-191 issues in an expeditious manner through a process that starts with a conservative baseline evaluation. The baseline evaluation serves to guide the analyst and provide a method for quick identification and evaluation of design features and processes that significantly affect the potential for adverse containment sump blockage for a given plant design. The baseline evaluation also facilitates the evaluation of potential modifications that can enhance the capability of the design to address sump debris blockage concerns and uncertainties and supports resolution of GSI-191.

The report offers additional guidance that can be used to modify the conservative baseline evaluation results through revision to analytical methods or through modification to the plant design or operation.

The evaluation methodology allows for incorporation of either a deterministic evaluation process (Option A) or a risk-informed evaluation process (Option B). The risk-informed evaluation process was presented during a May 25, 2004 public

Mr. John N. Hannon

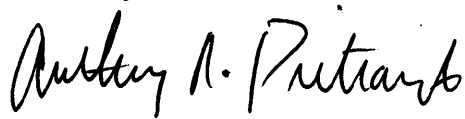
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meeting and acts upon the willingness of NRC staff, expressed in a March 4, 2004 letter, to utilize current work to risk-inform Title 10, *Code of Federal Regulations* Section 50.46, "Acceptance criteria for emergency core cooling system for light-water nuclear power reactors," as a suitable technical basis for defining a spectrum of break sizes for debris generation and containment sump strainer performance.

Please contact John Butler 202.739.8108; [jcb@nei.org](mailto:jcb@nei.org), or me if you have any questions on this transmittal.

Sincerely,

A handwritten signature in black ink that reads "Anthony R. Pietrangelo". The signature is written in a cursive, flowing style.

Anthony R. Pietrangelo

Enclosure

c: Mr. David L. Solorio, U.S. Nuclear Regulatory Commission  
Ms. Angie P. Lavretta, U.S. Nuclear Regulatory Commission  
Mr. Ralph E. Architzel, U.S. Nuclear Regulatory Commission  
Mr. Michael Marshall, U.S. Nuclear Regulatory Commission  
Mr. John G. Lamb, U.S. Nuclear Regulatory Commission