November 24, 2003

The Honorable Maurice D. Hinchey
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Hinchey:

On behalf of the Nuclear Regulatory Commission, I am responding to your letter of September 24, 2003, in which you requested that the NRC thoroughly review the petition filed by the Union of Concerned Scientists and Riverkeeper, Inc., on September 8, 2003. The petitioners requested that the NRC take certain actions until the containment sumps at Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and 3) are modified to resolve issues identified in NRC Generic Safety Issue (GSI) 191, "Assessment of Debris Accumulation on PWR [pressurized-water reactor] Sump Performance." The NRC established GSI-191 to evaluate the impact of potential debris-induced loss of emergency core cooling systems (ECCSs) at PWRs. You asked that the NRC take steps to ensure the safety of IP2 and 3, including the prompt review of the petition, and to inform you of how the NRC would proceed on this concern.

The NRC agrees that sump performance is an important issue. It is currently being addressed through our Generic Issue Program. On June 9, 2003, the NRC issued a bulletin informing licensees of the results of an NRC-sponsored parametric study that identified the potential susceptibility of PWR recirculation sump screens to debris blockage in the event of an accident requiring recirculation operation of the ECCSs and the potential for additional adverse effects due to debris blockage of necessary flowpaths. Licensees were requested, in light of these potentially adverse effects, to confirm their compliance with existing applicable regulatory requirements or describe any compensatory measures implemented to reduce the potential risk due to post-accident debris blockage until evaluations to determine compliance are completed. The NRC recognized that it would be necessary for some licensees to undertake complex evaluations to determine whether regulatory compliance exists in light of the concerns identified in this bulletin, and the staff is preparing a generic letter that will formally request these evaluations. In its letter of August 7, 2003, Entergy Nuclear Operations provided its response to the bulletin for IP2 and 3.

The NRC is evaluating the responses from Entergy and the other licensees as part of its established action plan for resolving GSI-191. All PWR licensees have been participating in the resolution process. A methodology for evaluating each plant's susceptibility to debris clogging is being developed to ensure that each plant evaluation is based on state-of-the-art, plant-specific information and to provide the NRC the technical basis for ensuring that any proposed solution adequately addresses the issue. The NRC plans to review this methodology for adequacy as part of the action plan. While the evaluations are being done, many plants, including IP2 and 3, have taken steps to minimize the potential risk associated with this issue. It is also important to recognize that the probability of an accident that would require the sump to provide a safety function, such as a large-break loss-of-coolant accident (LOCA), is low.

After thorough consideration of the issues raised in the petition, the NRC denied the request for the immediate shutdown of IP2 and 3. A copy of the NRC's letter to the petitioners, dated October 22, 2003, is enclosed for your review. The NRC concluded that continued operation of the plants does not pose an undue risk to public health and safety while the generic safety issue is being resolved. The NRC-sponsored parametric study on which the petitioners based their requests was a generic study that does not provide a sufficient basis and level of detail for drawing conclusions about the operability of the sumps at individual plants. Additional plant-specific reviews are needed to assess the sump reliability for individual plants.

The NRC took exception to the petitioners' statement that failure of the IP2 and 3 ECCS sumps during an accident is "almost certain." The study was not intended to draw conclusions for specific plants. There are limitations that make it inappropriate to apply the study data to an individual plant. The study used plant data that is at least 5–7 years old, and the data was not verified for accuracy after the study was completed. Many plants have made significant changes so that plant characteristics modeled in the study do not reflect current plant configurations. For example, at Indian Point, the amount of calcium silicate insulation (a major contributor to sump blockage) was greatly reduced when the steam generators were replaced. The study also assumed a recirculation flow rate that was twice as large as the rate in the actual IP2 and 3 design. A lower flow rate results in significantly greater margin and further reduces the potential for blockage of the sump. The study did not consider that IP2 and 3 each have two independent and redundant sumps. In addition to the two recirculation trains, IP2 and 3 have a separate containment sump that is located in a different part of the containment, utilizes the residual heat removal pumps instead of the recirculation pumps, and does not run during an accident unless initiated by operator action (i.e., will not collect debris while the recirculation sump is operating). Thus, the containment sump provides a completely independent backup sump that can be used if the normal ECCS recirculation pumps lose suction due to debris clogging of the sump screen.

I hope that you find this information useful in understanding the NRC's actions on this generic issue and the implications for IP2 and 3. Although having denied their request for immediate action to shut down the facility, the NRC is continuing to evaluate the alternatives requested by the petitioners. On the basis of the information gained through our action plan for GSI-191, we will determine if further actions are necessary.

Please feel free to contact me with any further questions or concerns.

Sincerely,

/RA/

Nils J. Diaz

Enclosure: Petition Acknowledgment Letter