UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 18, 1998

Mr. Thomas Gurdziel
9 Twin Orchard Drive
Oswego, NY 13126

Dear Mr. Gurdziel:

Thank you for your letter of November 5, 1998, to Chairman Jackson expressing your interest in nuclear power and for sharing your thoughts with us on NRC oversight of the nuclear power industry. Since your letter deals with matters primarily within the purview of the Office of Nuclear Reactor Regulation, I have been asked to respond to you. You requested clarification of some risk terminology, the rationale for our judgment concerning a risk analysis of boiling water reactor (BWR) vessel failure frequency, our views on how the NRC may continue to carry out its mandate when faced with shrinking resources, and our response to an event at Washington Nuclear Project, Unit 2.

With regard to terminology -- specifically, definitions of "risk-informed" and "risk-based," and why we are making the transition to risk-informed regulation and not to risk-based regulation -- I offer the following comments. The term "risk-informed" expresses the NRC's determination to base technical decisions on the results of traditional engineering evaluations that are augmented by quantitative and qualitative insights about the risk significance. In general, risk insights are developed through the use of probabilistic risk assessment (PRA). "Risk-based" refers to a process whereby technical decisions would be based primarily or exclusively on the results of risk assessments.

There are many reasons for our decision to embark on a long-term and ambitious transition to risk-informed regulation. Chief among these is that this avenue acknowledges that we have a sound body of regulations that have served us well, as evidenced by the excellent safety record of the industry, which can be maintained, and in some instances, improved by sharpening our focus on -- and enhancing our understanding of -- safety issues through the incorporation of risk insights.

Concerning the BWR Vessel and Internals Project study, BWRVIP-05, submitted in support of proposed modifications to programs for inspecting welds in the shells of BWR pressure vessels, the NRC staff did not accept the industry's initial estimates of crack frequency. The staff performed an independent analysis of the issue, a not uncommon practice when important issues are involved and the staff has concerns about reported results. As a result of the staff's analysis and further discussion with the licensees involved, upper bound estimates of "end of vessel life" failure frequencies were obtained (approximately 8 E-08 failures per reactor-year for circumferential welds and 4 E-04 for axial welds, where it was conservatively assumed that the flaws in the axial weld with the limiting material properties and chemistry are all located at the inside surface of the vessel, and that after initial inspection there are no weld inspections throughout vessel life). These values were used in determining that inspection of circumferential welds could be relaxed (allowing permanent relief from inservice inspection requirements of 10 CFR 50.55a(g)), and that requirements for inspection of axial welds could

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time. The BWRVIP is expected to provide the NRC with follow-up analyses that would remove conservative assumptions and better estimate the vessel failure frequency for axial welds.

The NRC staff must continue to protect public health and safety without compromise and, at the same time, adapt to a reduction in our resources. I would agree that we cannot continue to do the same activities the same way with fewer resources. We can do more of the tasks important to safety by doing less of the activities not as important to safety. We are making a major step toward developing the capacity to accurately and routinely make such distinctions by proceeding with the expeditious yet deliberate transition to risk-informed regulation. Also, to be better able to meet the demands of today, as previously mentioned, and the challenges of tomorrow, to the extent we can anticipate them, we are in the process of reorganizing the agency.

With regard to timeliness, the staff continues to strive to make correct decisions about when an assessment is sufficient for a particular application, a sometimes difficult task, which can often be made more tractable with the application of risk assessment. In addition, we anticipate that our reorganization will improve matters.

Finally, concerning the June 17, 1998, fire water flooding event, an augmented inspection team (AIT) was sent to the site to examine the facts surrounding the event. Although the event did not pose a risk to public health and the actual safety consequences were minimal because there was no fire and the reactor had been shut down for an extended period of time, the staff does consider the event significant for its potential impact on safety. After a follow-up inspection conducted in September identified several organizational performance weaknesses, the staff cited three violations in a Notice of Violation and the licensee took corrective actions.

Once again, thank you for your comments.

Sincerely,
Original signed by
Gary M. Holahan, Director
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

*See previous concurrences.

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