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Chairman Shirley Jackson
United States Nuclear Regulatory Commission
Washington, DC 20555

Dear Chairman Jackson:

By way of introduction, I am a nuclear engineer with nearly seventeen years of commercial nuclear power plant experience. In November 1992, Don Prevatte, and I submitted a 10 CFR Part 21 report to the NRC regarding a substantial nuclear safety hazard that we had identified in the design of the Susquehanna Steam Electric Station for spent fuel pool cooling. In the ensuing years, Don and I interfaced with the NRC staff, the Office of Investigations, and the Advisory Committee on Reactor Safeguards concerning these issues. I became interested in the history that culminated in the spent fuel pool cooling problems faced by the nuclear power industry today. My research provided the foundation for my recently published book, *Nuclear Waste Disposal Crisis*.

I respectfully present you with a copy of my book for two reasons: to acquaint you with the deficiencies and associated nuclear safety hazards that still exist in the design of operating nuclear power plants like Susquehanna and Millstone Unit 1, and to inform you directly of what I perceive to be serious flaws in the process used by the NRC staff in handling nuclear safety concerns.

The fact remains that over three years after Don and I reported the substantial nuclear safety hazard involving spent fuel pool cooling to the NRC, operating nuclear power plants like Susquehanna Units 1 and 2 and Millstone Unit 1 are still not in compliance with applicable federal safety regulations. There are undoubtedly several other nuclear power plants with similar problems that have yet to be discovered. When an extended loss of spent fuel pool cooling occurs at one of these vulnerable plants, public health and safety will be unnecessarily jeopardized simply because your agency dropped the ball. The deficiencies in the Susquehanna design for spent fuel pool cooling are described in the first part of Chapter 9 in my book. Chapter 8 and Appendix A recount numerous near misses that forecast disaster.

The second issue that I bring to your attention may be even more ominous. Prior to submitting the 10 CFR Part 21 report in 1992, I sought the advice of five trusted colleagues, each of whom has as least as much commercial nuclear power plant experience as me. Each individual counseled me not to go to the NRC with my nuclear safety concerns. All five agreed that my position was sound from both a technical and legal perspective. All five agreed that public health and safety was adversely affected by the design deficiencies. But, all five agreed that I should not go to the NRC because I would needlessly sacrifice my career because the NRC would do nothing about the concerns. Don and I decided to proceed with our report on the good faith assumption that the NRC would do the right thing with it.

Unfortunately, our assumption turned out to be optimistic, perhaps naive, while my five colleagues were proven correct. The NRC staff moved on our report only after elected public officials and the United States Congress entered the debate. Without this external pressure, I believe wholeheartedly that the NRC staff would have buried our report.

Consider for a moment two events: the 10 CFR Part 21 report that Don and I submitted in November 1992, and the Dresden Unit 1 service water pipe rupture in January 1994. Following our report, the NRC staff plodded along for months at an extremely slow pace until the Congress got involved in October 1993. Our concerns directly affected two operating plants and potentially affected more than thirty other operating plants. Even with Congressional interest, the NRC staff has yet to ask nuclear power plant licensees to determine if their designs with respect to spent fuel pool cooling satisfy federal safety regulations. The NRC staff has not even bothered to ask licensees to consider making the numerous modifications and procedure changes that were implemented at Susquehanna to significantly reduce its risk.

Following the Dresden Unit 1 event, the NRC dispatched an Augmented Inspection Team within days. The problem affected a total of eight shutdown plants. Three months later, the NRC staff issued NRC Bulletin 94-01 requiring the licensees for the eight shutdown plants to evaluate their facilities against the Dresden event and within 30 days report back that everything was acceptable or provide a firm schedule for corrective actions.

The concerns that Don and I reported have higher risk significance than the Dresden Unit 1 event, so the NRC staff did not jump on the Dresden event to protect public health and safety. The NRC staff jumped on the Dresden event and jumped on our report in October 1993 for the same reason - external interest (pressure) from the media and public officials made the path of least resistance being for the NRC to take action.

Since submitting the 10 CFR Part 21 report to the NRC, I have been contacted by more than one engineer within the nuclear industry with sincere nuclear safety concerns that were not being properly addressed. These engineers wanted to know if I'd recommend that they notify the NRC of their concerns. Each of their concerns involved the potential for a serious accident (like that Don and I reported) rather than the occurrence of an event (like the Dresden Unit 1 miscue). I was unable to recommend that these dedicated engineers risk career suicide by going to the NRC with their concerns. These engineers explored more productive avenues (e.g., the media and public interest groups like the Union of Concerned Scientists and We The People) and have been successful in ultimately having the safety problems satisfactorily resolved.

I am quite frankly appalled by the cavalier manner by which the NRC staff handles nuclear safety concerns. The second half of Chapter 9 documents repeated errors of commission and omission by the NRC staff in handling our report. The NRC staff is jeopardizing public health and safety by ignoring federal safety regulations violations and by discouraging the open identification of nuclear safety concerns by those most likely to identify them - people within the industry like me. It is my perception that most people working within the industry would rather let a nuclear safety problem go unresolved than bring it to the attention of the NRC. Your agency is apparently quite comfortable with the status quo.

I remain an advocate for the continued, and even expanded, utilization of safe nuclear energy in this country. Adequate nuclear safety is assured by plants that are soundly designed, constructed, maintained and operated as I have described in Chapter 10. Smoke and mirrors, such as the NRC staff's "two wrongs makes a right" ruling covered in Chapter 9, only protect the public if an accident never occurs.

Several people have mentioned to me that my book will become an overnight best seller if an extended loss of spent fuel pool cooling event occurs. I sincerely hope that such an event (i.e., the loss of cooling event - I could tolerate a best seller if it occurred without the loss of cooling event) never occurs. If the extended loss of spent fuel pool cooling event occurs, the NRC staff will be hard pressed to justify why it took absolutely no effective prescriptive action despite extensive knowledge of the potential for the event and its very serious consequences since November 1992.

My objective in providing you my book and my comments is to facilitate changes necessary to enhance the safe operation of nuclear power plants in this country. I apologize if my criticism of your agency sounds overly harsh, but please realize that Don Prevatte and I have been pursuing proper resolution of our safety concerns for an unnecessarily long time largely because of your agency's inertia. It is more than a little bit frustrating.

Thank you for your consideration of my comments. I stand ready to provide you with any clarification or assistance that you request.

Sincerely,

David A. Lochbaum