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August 24, 2000

Dr. Ashok Thadani
Office of Research
U. S. Nuclear Regulatory Commission
11545 Rockville Pike
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Dear Dr. Thadani:

I appreciate the time that you and other NRC personnel took to talk to me on August 18, 2000, about Option 3 of SECY 98-300 in response to my letter to you dated July 19, 2000. The meeting was very valuable to me because it allowed me to recognize the differences between what the nuclear industry has been proposing in the Whole Plant Study and what the NRC staff is now proposing in Option 3. Clearly, there are major differences between the respective approaches. My summary of the respective positions and differences as discussed in the meeting is as follows.

The objective of Option 3 is for NRC personnel to write a set of deterministic regulations for existing nuclear electric power units in a manner that will assure that the public health risk to individuals and society from these nuclear units is below (more restrictive), on a risk graph, the risk level defined by the Quantitative Health Effects Objectives ("how-safe-is-safe-enough") of the 1986 NRC Policy Statement on Safety Goals for Operating Nuclear Power Plants. The key principles are "defense-in-depth," "safety goals," and "uncertainty." The implementation of the Option 3 objective is accomplished by writing regulations that are based on separate "partition factors" (defense-in-depth) that, when taken in the aggregate, guarantee that the public health risk is below the Quantitative Health Effects Objectives (safety goals) by a substantial margin (uncertainty). This program is "voluntary" except that if regulations are added to achieve the Option 3 objective and the added regulations meet the criteria of 10CFR50.109, Backfitting; then the added requirements may be mandatory.

The objective of the Whole Plant Study is to use insights from Probabilistic Risk Assessments to change the existing regulations for existing nuclear electric power units to achieve "reasonable assurance of adequate protection of public health and safety" in a more effective and efficient manner (regulations will address significant risk items by cost effective means). The key principles are "adequate protection;" 10CFR50.109, Backfitting; and the Quantitative Health Effects Objectives ("how-safe-is-safe-enough"). The implementation of the Whole Plant Study objective is accomplished by retaining

portions of existing regulations that are effective and efficient (adequate protection); deleting portions of existing regulations that are not effective and efficient; and, where appropriate, adding regulations that meet the criteria of 10CFR50.109; except that no regulations are added below the risk level of "how-safe-is-safe-enough."

To me it is clear that there are major differences between the two approaches. The objectives are different, the key principles are different, and the implementation strategies are different. The only common element may be the use of insights from Probabilistic Risk Assessments. The Quantitative Health Effects Objectives of the 1986 NRC Safety Goal Policy Statement and 10CFR50.109, Backfitting, are used in each program but their use is drastically different in such a manner that I hesitate to say these items are common to each program. In my opinion, the most important difference in the programs is that Option 3 does not accept the concept that substantial compliance with the existing regulations provides "reasonable assurance of adequate protection of public health and safety" while this concept is the starting point for the work in the Whole Plant Study. The implementation of regulations based on the recommended Option 3 "partition factors" would represent a "ratcheting" of the level of safety of nuclear electric power units to a standard more restrictive than that which the Commission has defined as "safe enough."

I believe the discussion we had on August 18, 2000, was very beneficial to all concerned. Again, thank you for taking the time to discuss this matter with me.

Sincerely,

Bob Christie

Bob Christie

cc: Samuel J. Collins, NRR
Dr. Dana Powers, ACRS