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UNION OF CONCERNED SCIENTISTS

June 2, 1997

Mr. Samuel J. Collins, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REACTOR SAFETY MARGIN

Dear Mr. Collins:

Thank you for your letter dated May 23, 1997, in response to my letter of March 21, 1997. It seems that we agree on the theory involved, but disagree on its application. I will endeavor to clarify my concerns on the NRC's position on reactor safety margin.

In your letter, you reiterated the theme expressed in your February 27, 1997, letter that "...it is not prudent to require a plant [with a nonconformance that does not pose an undue risk to public health and safety] to shut down and thus risk that a plant transient might occur and increase operational risks" and "...it may be more prudent to correct the nonconformance before allowing startup, because a delayed startup does not usually leave a plant in a condition that could cause an undesirable transient."

A nonconformance poses no undue risk to public health and safety if and only if reasonable engineering judgement concludes that the affected systems remain capable of performing their required functions. I know from personal experience that operability determinations are taken very seriously within the industry and that these evaluations assume that the system experiences its most limiting operational transient or design bases accident condition. When performed properly, operability determinations using the guidance in Generic Letter 91-18 provide reasonable assurance of safety during all operating modes including steady state, startups, and shutdowns.

Your answer implies that the act of shutting down a reactor increases the potential for an undesirable transient. Please provide me with the NRC's analysis that indicates that the simple task of shutting down a reactor increases operational risks above those associated with surveillance testing (e.g., turbine stop valve testing), online maintenance, and routine plant evolutions (e.g., taking a reactor recirculation pump on a BWR out of service for MG set brush replacement).

I wholeheartedly agree with your statement that "...it may be more prudent to correct the nonconformance before allowing startup...". However, it is exclusively the licensee's prerogative to make this decision. If a nonconforming condition truly poses no undue risk to public health and safety during reactor operation, there is neither a rule-based nor performance-based reason for the NRC to require the nonconformance to be corrected before restart. In my opinion, the NRC has absolutely no legal or moral right to impose its will on such a prudency matter.

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In my letter dated April 4, 1997, to Mr. Thomas T. Martin, Director - Division of Reactor Program Management, on the closely related subject of the staff's unreviewed safety question threshold, I used the following examples:

To illustrate my opposition to the staff's position on USQ threshold, please consider a licensee with a two unit site. Both units are operating at full power when a nonconforming or degraded condition is identified that applies to both plants. Since the condition does not trigger an Action Statement in the Technical Specifications and operability can be assured using the guidance in Generic Letter 91-18, both units continue to operate. However, if one of the units were to experience an inadvertent trip, the NRC's position dictates that the condition *for that unit and only that unit* be resolved prior to that unit restarting. The other unit, which represents an identical risk to public health and safety, can and does continue to operate in full compliance with the staff's "prudent regulatory practice" position.

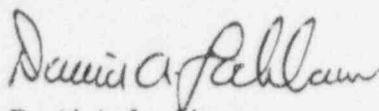
The preceding example featured a multiple unit site. Consider, for a moment, a nonconforming or degraded condition identified at the single unit Wolf Creek Nuclear Generating Station in Kansas that also affects the other SNUPPS plant, the single unit Callaway plant in Missouri. As in the first example, since the condition does not trigger an Action Statement in the Technical Specifications and operability can be assured using the guidance in Generic Letter 91-18, both units continue to operate. Again, if Callaway experienced an inadvertent trip, the NRC's position dictates that the condition *for that unit and only that unit* be resolved prior to its restart. From a safety perspective, it does not appear prudent to expose the people in Kansas to a safety risk that warrants resolution in Missouri. From an economic perspective, it does not appear prudent to impose sanctions on the utility in Missouri and permit the utility in Kansas to operate with an economic advantage.

A few years ago, the Towers Perrin report suggested that the NRC acted capriciously at times towards its licensees. The NRC's prudence policy is a perfect example of these valid industry concerns. It seems blatantly unfair for the NRC to keep a plant shutdown to resolve a nonconformance which poses no undue risk to public health and safety while it allows another plant with the same nonconformance to continue operating. Again, from personal experience, I can state that the NRC loses considerable credibility with its licensees by proclaiming risk-informed regulatory standards and by advocating resolving items based on their safety significance, yet taking actions based on totally different criteria like the prudence policy. I reiterate the conclusion I expressed to Mr. Martin:

A nonconforming or degraded condition should be resolved in a time frame commensurate with its safety significance PERIOD. As illustrated by the examples, reactor restart should not be the governing factor in the resolution schedule. In reality, the NRC staff's current positions on reactor safety margin and USQ threshold do not reflect "prudent regulatory practice;" they represent the staff "punting" on the issue of where to draw the line on safety. "Prudent regulatory practice," in my opinion, would involve providing criteria that can be used by licensees and the staff in objectively defining appropriate resolution times for safety issues. This criteria would include appropriate triggers for immediate plant shutdown for conditions not explicitly controlled in the Technical Specifications. The development of such criteria would also support efforts to determine when an aggregate of problems, which individually do not require such action, warrant the plant to be shut down. My concern is that the staff is hiding behind these "prudent regulatory practice" positions, which serve neither the public nor the licensees well, and is thereby avoiding the establishment of meaningful regulatory practices. For these reasons, these staff positions must be expeditiously revised.

It is imperative that the NRC draw the line on safety. However, it is equally imperative that this line be drawn using risk significance and not on reactor mode switch position. The NRC's position as described in your letter is simply a placebo. I recommend that the NRC immediately discard this unfair and seemingly illegal prudency approach and replace it with objective and meaningful criteria on when a nonconforming condition warrants a reactor shutdown. If the NRC really stands behind the guidance in GL 91-18 as providing this criteria, then the NRC does not need to hedge its bets with this prudency concept. If the NRC is not willing to stand behind GL 91-18, then it must expeditiously develop and implement appropriate guidance.

Sincerely,



David A. Lochbaum
Nuclear Safety Engineer

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