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January 22, 1999

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Commissioner Jeffrey S. Merrifield
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: CURRENT EXAMPLE OF RISK-DEFORMED REGULATION

Dear Chairman and Commissioners:

During the January 11th Commission briefing on risk-informed regulation and during the January 20th briefing on the proposed reactor oversight process, I expressed our concern that the NRC and the nuclear industry are making risk decisions using incomplete and inaccurate data. As a current example, I call your attention to the license amendment application dated December 23, 1998, by the Carolina Power & Light Company involving spent fuel storage at the Harris Nuclear Power Plant and the subsequent proposed no significant hazards consideration determination (*Federal Register*: January 13, 1999, Vol. 64, No. 8) prepared by the NRC staff.

The licensee and the NRC staff have improperly downplayed the risk associated with the proposed activity. Their risk characterization is wrong. The licensee should be required to resubmit a corrected application and another *Federal Register* notice issued with a corrected proposed no significant hazards consideration determination.

The error involves the determination made by the licensee and endorsed by the staff regarding the affect of the proposed activity, namely placing storage racks in Spent Fuel Pools 'C' and 'D' at the Harris plant, on the probability of a fuel handling accident. From the *Federal Register* notice:

> "The probability that any of the accidents in the above list [a spent fuel assembly drop in a spent fuel pool / loss of spent fuel pool cooling flow / a seismic event / misloaded fuel assembly] can occur is not significantly affected by the activity itself. ... The probabilities of accidental fuel assembly drops or misloadings are primarily influenced by the methods used to lift and move these loads. The method of handling loads during normal plant operations is not signficantly changed, since the same equipment (i.e., Spent Fuel Handling Machine and tools) and procedures as those in current use in pools 'A' and 'B' will be used in pools 'C' and 'D.' Since the methods used to move loads during normal operations remain nearly the same as those used previously, there is no significant increase in the probability of an accident."

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It is precisely this type of "smoke and mirrors" shenanigans that we decried during the briefings. The logic seems proper at face value, but it does not take much effort to show that it is wrong. In Enclosure 1 to the license amendment submittal, the licensee reported that the total storage capacity of pools 'A' and 'B' is 3,669 assemblies and that the proposed activity will add 4,715 storage locations in pools 'C' and 'D.' Thus, if the amendment is granted, CP&L will handle – pick up and move – about twice as many irradiated fuel assemblies as they will if the amendment is not granted.

Consider for a moment the old game of Russian roulette using a six-chamber revolver loaded with a single bullet. CP&L and the NRC staff would apparently conclude that the probability of losing the game are not increased whether one or two turns are taken because, after all, the same method and the same equipment are used each turn. Their logic is simply wrong. The probability of a fuel handling accident at Harris will nearly *double* if the license amendment request is granted. This material fact contradicts the conclusion of the licensee and the staff that there will be "no significant increase in the probability," unless doubling the risk is not significant.

Luckily, there's an opportunity to fix the mistake this time. Unfortunately, it's not the first, and probably won't be the last, time this mistake is made. The NRC staff made this same mistake in April 1998 when it allowed the Paducah facility to continue operating with its risk doubled.

We have no intention at this time of formally intervening in this Harris licensing action. We trust that the NRC staff will take the necessary steps to have the licensee fix the fundamental flaw in the licensing amendment request before granting it.

Sincerely,

David A. Lochbaum
Nuclear Safety Engineer