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New England Coalition

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on Nuclear Pollution

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70 FR 9682

Michael Lesar, Chief
Rules and Directives Branch
Division of Administrative Services
Office of Administration
United States Nuclear Regulatory Commission
Washington, DC 20555-0001
Submitted Via Email
NRCREP@nrc.gov

April 15, 2005

RE: COMMENTS ON FEDERAL REGISTER NOTICE DATED FEBRUARY 28, 2005 (VOLUME 70, NUMBER 38) PAGE 9682
"Station Blackout Risk Evaluation for Nuclear Power Plants (Draft)", January 2005

Dear Mr. Lesar,

The following brief comments are submitted on behalf of the New England Coalition, a non-profit membership organization incorporated in the State of Vermont.

New England Coalition has read, endorses, and herein wishes to incorporate, by reference, the comments of the Union of Concerned Scientists, submitted March 8, 2005.

Our comments are at this time brief and limited to a few points:

1. **Emergency Diesel Generators (EDGs)** – EDGs may start and run, but can they provide adequate power to systems that have been modified and to which additional loads have been added over time?

For example, at Maine Yankee in 1996, EDGs under accident operating conditions were found to be loaded to within 3/10 % of their plate rating. A variety of common discrete conditions and circumstances could make that margin disappear, for example: variations in fuel, service water loss or restriction, or extreme temperature conditions.

In 1994, Maine Yankee accepted a load of diesel fuel; then, for a time, ignored a failed viscosity test on that fuel. It was found that the fuel was what, in northern states, is termed, "winter mix;" having been cut 30 to 40 % with number one oil or, "kerosene." Although diesels run fine on this fuel, they do so at greatly reduced power. Thus, in this example, it is unlikely that the EDGs could have carried the load assigned for accident conditions.

SISP Review Complete
Template = ADM-013

E-RIDS = ADM-03
Add D. Rasmuson (DMR)

In 2004, at Oyster Creek, buried safety-related EDG power feed cables were found to have deteriorated insulation and as a consequence were shorting to ground under very light load. It was found that for the past several years the licensee had experienced several similar cable shorts.

However, due to reliance on a poorly derived wiring chart rather than the appropriate design documents, the licensee did not notice that the failed cables were all from the same manufacturer and lot. Therefore, the license could not predict and interdict the next failure. Had any of the cables been fully loaded during a SBO or Loss-of-Offsite Power (LOOP) incident, it is likely as not that they would have simply burned out or caused the EDG to burn out.

The SBO risk study does not appear to reflect any lessons learned from these real world operating experiences.

2. Internal Events Studied Only During Critical Operation - We are concerned with what we see as inconsistencies in NRC's approach to assessing risk and, in particular, as it applies to the pointed exclusion from the SBO risk study of plants in shutdown mode.

NRC justifies the practice of on-line maintenance with risk numbers based on the availability of more safety systems while a plant is powered-up. So, to our thinking, it follows that conversely at least certain kinds of risk are higher when a plant is in shutdown mode. We know, for example, that the risk of fire, a high-risk, relatively high frequency, initiating event is much greater in plants that are shutdown, refueling, or decommissioning. The purposeful exclusion of such considerations can only serve to skew the SBO risk study results.

At this point, it may serve to mention parenthetically that NRC is pushing the limits of statistical probability in that, with few exceptions, risk studies over the last ten years have uniformly found less risk than previously identified; it is as if the FDA, under the tutelage of the American Tobacco Company had suddenly begun to find the risk in chain-smoking to be much over-blown. Statistically variable findings become suspect when they begin to approach 100% consistency; and in fact, they then become suspect of being driven by predetermined conclusions.

In this case, it appears that the SBO study is but one of a series that set out to find less risk.

3. Vermont Yankee – Poster Child for Optimistic Risk Analysis in the SBO Risk Study

We find that the SBO Core Damage Frequency (CDF) for Entergy Nuclear's Vermont Yankee in NUREG-1776 is 9.17E-07. But in the draft SBO Risk Study, the SBO CDF is merely 8.44E-10. Without a rational, physical explanation for this rather large difference (three orders of magnitude), the entire formulation for conclusions about risk in the study is suspect.

This is especially true with the example of Entergy Nuclear's Vermont Yankee.

In the spring of 2004, Vermont Yankee had a short circuit in a main generator bus leading to a transformer fire, hydrogen fire in the turbine hall, and a reactor recirculation pump motor trip. The plant was down nineteen days. NRC has yet to provide analysis of this event or of the licensee root cause report. There is no evidence that any of this was considered in the SBO risk study.

In August of 2004, NRC completed a Team Engineering Inspection (TEI) at Vermont Yankee. The inspection was a pilot intended to see if the Reactor Oversight Process was adequately identifying design-basis and engineering issues.

The TEI found a significant SBO issue at Vermont Yankee that had to do with the inordinate amount of time it would take to tie Vermont Yankee into alternate offsite AC power from the nearby Vernon Dam following LOOP or SBO. That issue has yet to be resolved. The licensee has promised to submit analysis in the near term.

It appears to us that none of this is reflected in the new optimistic CDF assigned to Vermont Yankee.

Thank you for your consideration. Please place us on any mailing or service list for the issue of SBO and/or the SBO Risk Study.

Respectfully submitted,

Raymond Shadis

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Date: 4/16/05 7:30AM
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