December 16, 2002

Mr. Alex Marion, Director
Engineering Department
Nuclear Generation Division
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, D.C. 20006-3708

Dear Mr. Marion:

By letter to me, dated October 15, 2002, you provided the NRC a copy of NEI 00-01, "Guidance for Post-Fire Safe Shutdown Analysis," Draft Revision D. This document has been well worth the effort that NEI expended to develop it. We have enclosed a few general comments for you to consider before publishing it in final form. We also wish to acknowledge the outstanding contribution that NEI and EPRI made to the knowledge of circuit analysis failure modes that were the result of the testing that you sponsored at the Omega Point Testing laboratory. The level of cooperation and commitment to safety and objective fact finding set a standard for future industry initiatives.

It is our intention to use NEI 00-01, "Guidance for Post-Fire Safe Shutdown Analysis," Draft Revision D as one of the documents to be referenced as background information for a facilitated workshop scheduled for the February 2003 time frame. As such it will help those attending participate effectively in helping us achieve consensus on the most risk significant aspects of associated circuit configurations allowing us to resume inspections in this arena. In this way, NEI 00-01 will be a most valuable contributor to a more efficient and effective regulatory process.

We understand that NEI would like the NRC staff to consider endorsing NEI 00-01 as an acceptable method for risk screening in circuit analysis. The proper vehicle for doing so is a regulatory guide. If you believe it would be useful to the industry to have the NRC staff develop a regulatory guide that endorses NEI 00-01 with certain exceptions, please advise us accordingly.

Sincerely,

/RA/

John N. Hannon, Chief
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

Project No. 689

Enclosure: As stated

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Nuclear Generation Division
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Attachment

General Staff Comments on NEI 00-01 Draft Rev.D

The staff, with the support of our contractor Brookhaven National Laboratory (BNL), performed a cursory review of NEI 00-01 Draft Rev.D. By letter to Alex Marion, dated March 6, 2002, the staff made a number of comments on previous revision, Draft Rev.C of NEI 00-01. Because the staff is unaware of how some of the previous comments were addressed, we would appreciate any resolution of comments document that you may have to help us understand the basis for some of the positions taken in draft D. Listed below are the staff's general comments on Draft Rev.D.

1. The staff remains concerned that the methodology may be too narrow in scope to bound the range of possible fire impacts within each fire area. The staff believes that for the methodology to be fully successful, it must address spurious equipment operation, or mal-operations in non-essential shutdown systems that may have a significant effect on shutdown capability. Specific examples would include: actuation of main feedwater in a BWR, actuation of containment spray in a PWR, or false signals generated by fire damage to plant protection system logic circuitry or the false starting of non-essential electrical loads such as pressurizer heaters and large pumps.

2. The methodology presented in NEI 00-01 appears to focus exclusively on fire-induced cable failures. The staff is concerned that cable failure assumptions/criteria/test results may not be a direct correlation to the fire effects causing damage to electronic circuits and wiring located within termination cabinets such as MCCs, power distribution panels and control boards. Additional testing in this area may be necessary to draw definitive conclusions.

3. The methodology in Section 3.1.1.3 states that any system capable of achieving natural circulation would be acceptable for achieving redundant safe shutdown in a PWR. The staff remains concerned that this guidance would permit the use of feed and bleed using a charging pump and a pressurizer PORV as the only fire protection safe shutdown path.

4. The methodology screens out from further analysis potential high consequence events based upon the probability of spurious actuation and fire frequency with credit given to automatic suppression, detection, manual suppression or safe shutdown capability. (Table 4-1). Consequences of the spurious actuations do not enter the decision process. It may be

appropriate to either integrate the spurious actuation consequences into the table or retain some deterministic acceptance criteria for high consequence events.

5. The NEI 00-01 proposed resolution of the circuit analysis issue is a risk screening tool that we may be able to use as guidance for focusing inspections, prioritizing corrective actions, or finding the proper significance determination process (SDP) color. We understand that NEI 00-01 can be used within the bounds of the current regulations to identify and potentially support exemptions or deviations. Also, it may in the future be used to implement the proposed rule which endorses NFPA 805.