

November 20, 2000

Mr. James M. Kenny, Chairman  
BWR Owners Group  
PPL, Inc.  
2 North Ninth Street M/C A6-1  
Allentown, PA 18101

SUBJECT: BOILING WATER REACTOR OWNERS GROUP (BWROG) - FIRE  
PROTECTION CIRCUIT ANALYSIS CRITERIA (TAC NO. MA8544)

Dear Mr. Kenny:

The purpose of this letter is to thank the BWROG for its voluntary deterministic fire protection circuit analysis criteria development efforts over the past two years, to notify the BWROG of a near-term revision to the fire protection base-line inspection procedure, and to discuss the U.S. Nuclear Regulatory Commission (NRC) staff's expectations regarding the completion of an integrated Nuclear Energy Institute (NEI) and BWROG industry post-fire safe shutdown document in calendar year 2001, NEI 00-01, that addresses fire-induced circuit failure analyses from a risk-informed point of view.

During our meeting on July 26, 2000, the BWROG informed the NRC staff that the purpose in developing the November 15, 1999, BWROG guidance document, "BWR Owners' Group Appendix R Fire Protection Committee Generic Guidance Document for BWR Post-Fire Safe Shutdown Analysis," was to collect deterministic post-fire safe shutdown analysis criteria contained in selected reactor plant licensing bases. As a result of our discussions, the NRC staff now (1) appreciates the wide variability of existing post-fire safe shutdown circuit analysis licensing bases, and (2) ascribes a heightened importance to establishing agreed upon circuit analysis criteria for application by reactor plant licensees.

In telecons since the July 26, 2000, meeting, the BWROG expressed its concern regarding unnecessary licensee burdens resulting from having to address associated circuit-related triennial fire protection team inspection circuit analysis findings under the new "Baseline" Inspection Procedure (IP) 71111.05 (Fire Protection). The BWROG pointed out that, in many cases, without agreed upon criteria, associated circuit-related circuit analysis findings would not only be inevitable, they would be essentially unresolvable by the inspection team.

In light of the lack of agreed upon technical criteria in the area of associated circuit fire-induced circuit failures, the staff has decided to temporarily suspend most of the direct circuit analysis lines of inspection inquiry of IP 71111.05 pending resolution of the circuit analysis issues. The staff concluded that focusing our limited inspection resources on other important safe shutdown topics (e.g. protection of redundant trains and the provision of independent alternative shutdown equipment) would actually enhance safety during industry's initiative to resolve circuit analysis issues. An exception to this temporary suspension is the relatively non-controversial subject of fuse/breaker coordination. Further, the inspectors are not prohibited from identifying any calculation errors or plant configuration

errors in licensee circuit analyses. Unavoidable (by-product) associated circuits issues will temporarily be treated as unresolved issues (URI's). This temporary procedure change was effective in late August 2000, and the revised procedure was issued on September 22, 2000 (ADAMS ML003759636). The revised procedure will remain in effect while the nuclear industry continues its concerted efforts to technically resolve the outstanding circuit analysis issues.

The staff understands that this fall, NEI and EPRI (Electric Power Research Institute) will conduct energized electrical cable fire tests, and that this research will be focused on assessing the assumptions inherent in the BWROG guidance document, as well as establishing the technical and risk bases for appropriate circuit analysis criteria. The staff understands that the BWROG is partially funding the EPRI/NEI fire tests, and we recognize the importance and significance of the BWROG's financial commitment to the continuation of this industry initiative. The staff has already been afforded the opportunity to review and comment on the NEI/EPRI fire testing protocol.

Based on input from NEI, the staff understands that during fall 2000, it will receive an updated draft of NEI 00-01 containing new probabilistic safety assessment application details and changes resulting from pressurized water reactor specific considerations. The staff also understands that finalization of a risk-informed version of the existing integrated NEI/BWROG guidance document (NEI 00-01) will occur in early winter 2000, (based in large part on the December 2000, NEI/EPRI fire test results). Further, pilot testing of the finalized guidance document is planned for winter 2000, and final staff review of that document should, therefore, occur in the spring of 2001.

The staff plans to issue a single safety evaluation (SE) at the completion of this joint NEI/BWROG effort. Our planning for this SE is based on the expectation that the fire test supported, risk-informed version of NEI 00-01 will comprehensively provide technical bases and justifications (analytical criteria) for resolution of the outstanding circuit analysis issues.

The NRC supports the use of industry initiatives as an efficient and effective way to identify safety significant issues and reduce unnecessary regulatory burden. The staff acknowledges that the BWROG guidance document represents a valuable contribution to the industry initiative to resolve the circuit analysis issues. If there are any questions, please contact Robert M. Pulsifer at (301) 415-3016.

Sincerely,

***/RA by Jack Strosnider for/***

Brian Sheron, Associate Director  
for Project Licensing and Technical Analysis  
Office of Nuclear Reactor Regulation

Project No. 691

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DISTRIBUTION FOR THE BOILING WATER REACTOR OWNERS GROUP - FIRE  
PROTECTION CIRCUIT ANALYSIS CRITERIA

Dated: November 20, 2000

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