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SUBJECT: Informs NRC that CP&L intends to revise SHNPP approach to environmental qualification of safety-related equipment located in mild environments.

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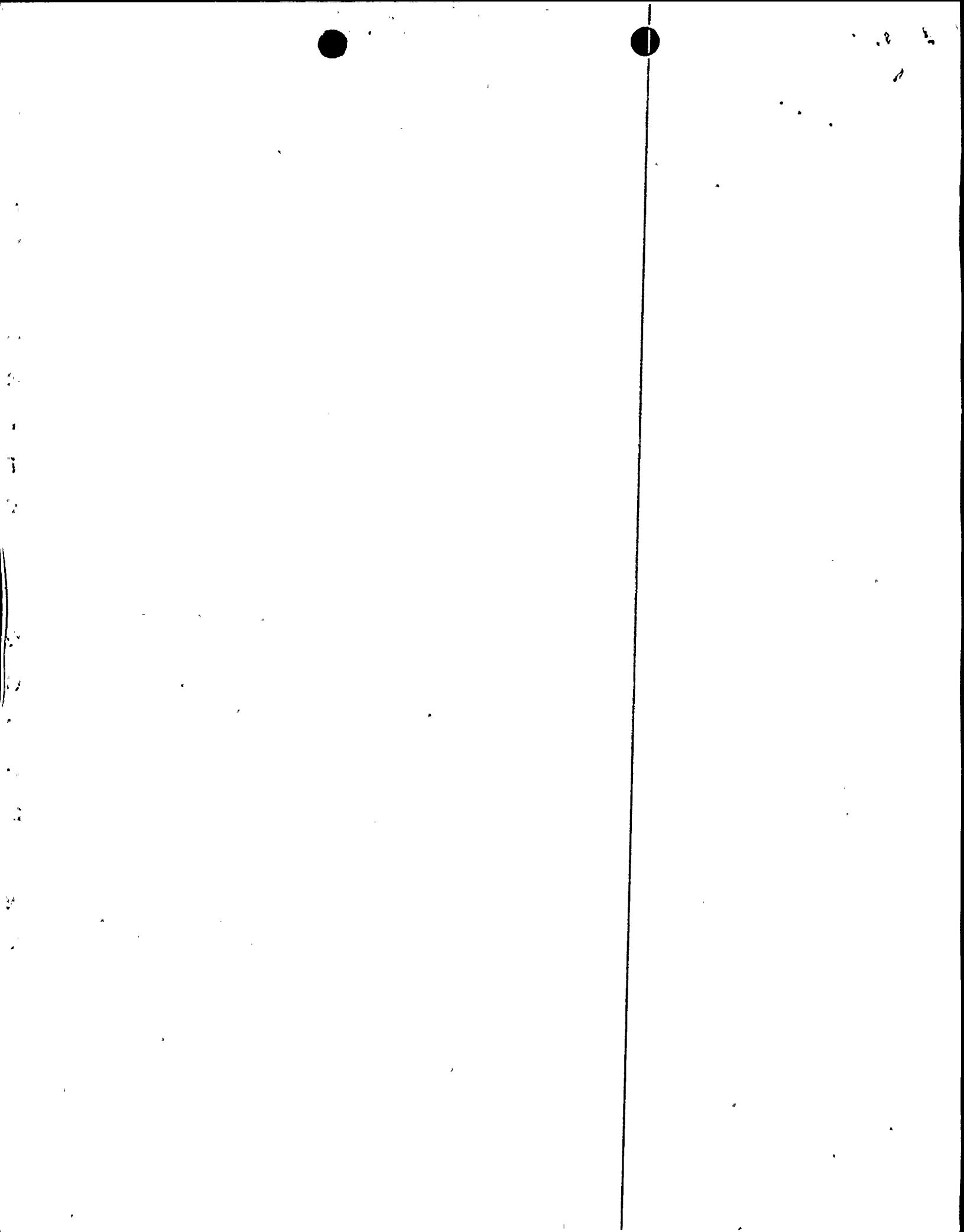
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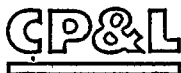
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Carolina Power & Light Company
PO Box 165
New Hill NC 27562

William R. Robinson
Vice President
Harris Nuclear Plant

JUL 13 1994

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United States Nuclear Regulatory Commission
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SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
MILD ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED EQUIPMENT

Gentlemen:

This letter is to inform you that Carolina Power & Light Company (CP&L) intends to revise the Shearon Harris Nuclear Power Plant (SHNPP) approach to environmental qualification of safety-related equipment located in mild environments. The revised approach differs from the approach presented by CP&L in our letter dated October 6, 1986 (Reference 1) and accepted by the staff in Section 3.10.2.1 of Supplement 4 to the Safety Evaluation Report (Reference 2). This revision is predicated on the fact that the existing SHNPP quality and surveillance programs are adequate for mild environment equipment, without the need to impose specific environmental qualification related maintenance and surveillance. The revised approach reflects current regulatory requirements related to this issue as discussed below. Although, no NRC action is required, this revision meets the NRC criteria for a cost beneficial licensing action.

Section 3.11 of the Standard Review Plan (Reference 3) states the environmental qualification of all electrical and mechanical equipment located in a mild environment is acceptable if the following procedure is followed:

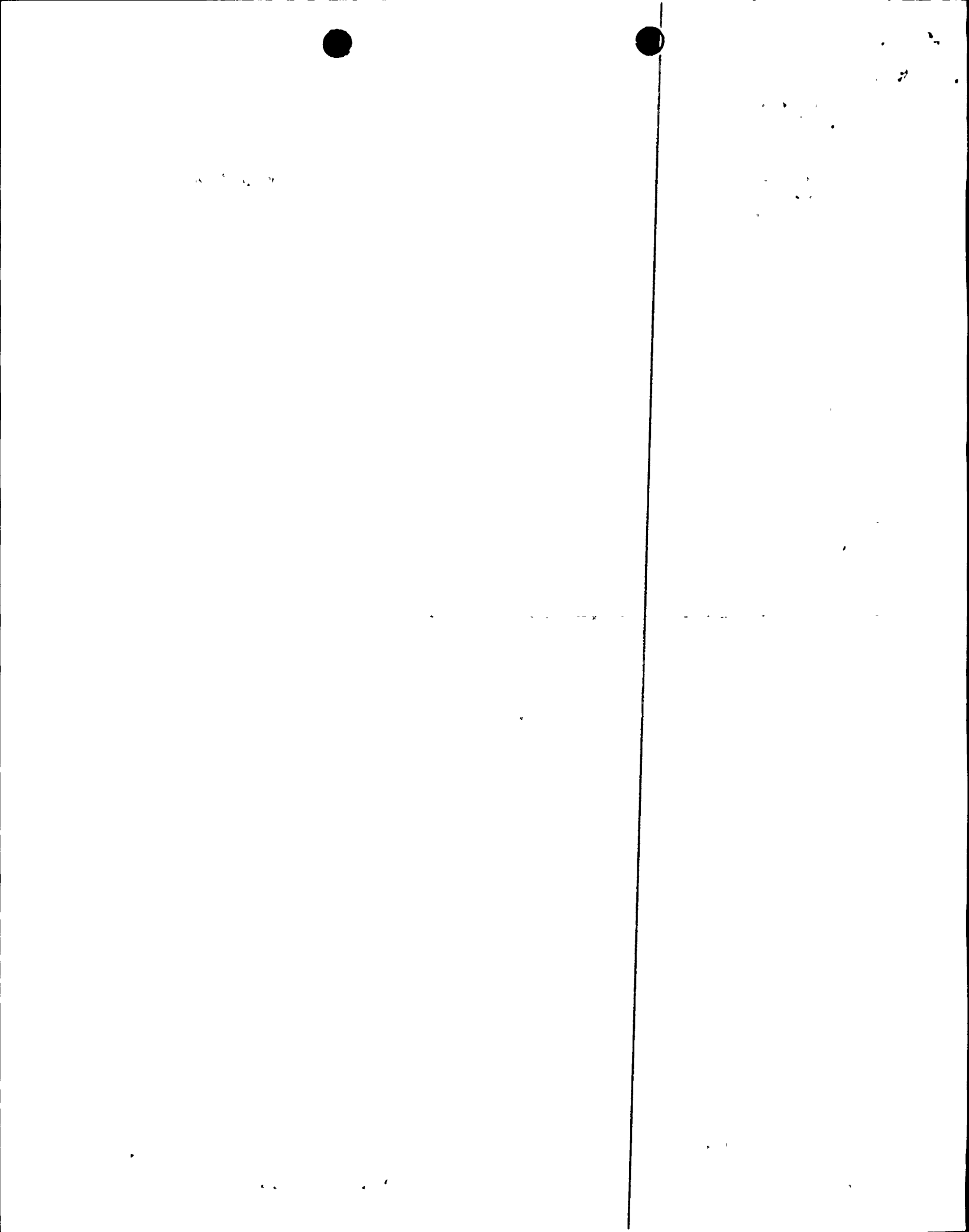
1. "Design/Purchase" specifications that contain a description of the functional requirements for specific environmental zones during normal and abnormal conditions are required to demonstrate qualification.
2. A well supported maintenance/surveillance program with data and records is reviewed at least every 18 months to ensure qualified life has not suffered degradation.
3. A good preventative maintenance program.

Per Generic Letter 82-09 (Reference 4), for existing electrical equipment located in mild environments, equipment environmental qualification can be adequately demonstrated by the use of the following three programs:

1. A periodic maintenance, inspection, and/or replacement program based on sound engineering practice and recommendations of the equipment manufacturer which is updated as required by the results of an equipment surveillance program;

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2. A periodic testing program to verify operability of safety-related equipment within its performance specification requirements (system level testing of the type typically required by the plant technical specifications may be used);
3. An equipment surveillance program which includes periodic inspections, analysis of equipment and component failures, and a review of the results of preventative maintenance and periodic testing program.

Generic Letter 82-09 further states that "For replacement and new equipment, the licensee must also establish and document the environmental design basis for the equipment locations. The purchase specifications must reflect those design basis environmental conditions that are bounding for all applicable equipment locations."

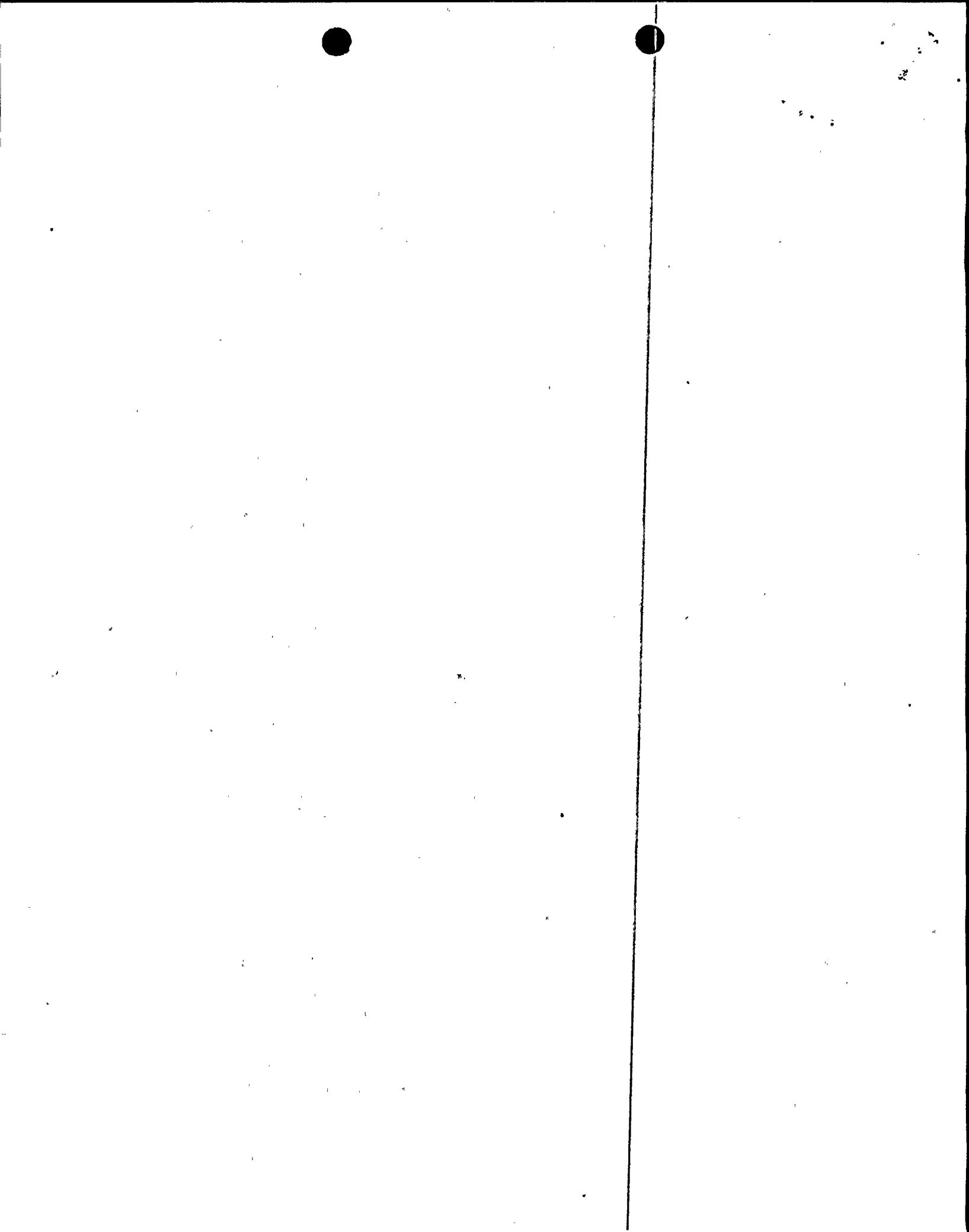
Additional guidance information is contained in NRC policy statements in SECY Letter 82-207 regarding the Final Rule on Environmental Qualification of Safety-Related Electrical Equipment (Reference 5). The letter states:

"The staff believes that the requirements for equipment located in mild environments are not "qualification requirements" but "QA requirements." The staff further believes that the general quality and surveillance requirements applicable to safety-related equipment as a result of other Commission regulations (including 10 CFR Part 50, Appendix B) and Regulatory Guide 1.33 are sufficient to ensure the adequate performance of safety-related electric equipment located in a mild environment. The final rule does not include the safety-related equipment located in mild environments.

This position is further supported by the Federal Register, Vol. 48, No. 15, January 21, 1983, Rules and Regulations, Page 2731 which states, in a response to an issue raising the concern that the preliminary rule (10 CFR Part 50, Section 49) makes no distinction between equipment located in a harsh or mild environment, that:

"The final rule does not cover the electric equipment located in a mild environment. The Commission has concluded that the general quality and surveillance requirements applicable to electric equipment as a result of other Commission regulation, including 10 CFR Part 50, Appendix B (see, for example, Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Revision 3) are sufficient to ensure adequate performance of electric equipment important to safety located in mild environments. Since it has been concluded that no further environmental qualification requirements are needed for such equipment provided they fully satisfy all other applicable regulations, the Commission has determined that no additional requirements are necessary with respect to electric equipment important to safety located in mild environments in order for licensees to satisfy, with respect to such equipment, existing license conditions or technical specifications calling for qualification of safety-related electrical equipment in accordance with DOR Guidelines or NUREG-0588."

As a result, 10 CFR Part 50, Section 49 (Reference 6) states that "requirements for ... environmental qualification of electric equipment important to safety located in a mild environment are not included within the scope of this section."



In addition, it has been shown through extensive research that there is little correlation between a component's seismic capabilities and its age (Reference 7).

In view of the above, it is our position that the SHNPP existing quality and surveillance programs are adequate for mild environment equipment, without imposing specific environmental qualification related maintenance and surveillance (i.e., life limited parts replacement as a result of the environmental qualification evaluation). This is further predicated on the following:

1. SHNPP equipment was procured to a 10 CFR Part 50, Appendix B or equivalent (ANSI N45.2) program.
2. The SHNPP maintenance staff performs preventative maintenance per the respective vendor's Instruction & Maintenance (I&M) manuals, revised by engineering analysis, if necessary.
3. Periodic surveillance is being performed by the SHNPP maintenance staff.
4. SHNPP performs trending and root cause analysis to analyze equipment and component failures.
5. Industry studies have shown that little correlation exists between aging and seismic capability.
6. The mild environment equipment is accessible irrespective of plant normal or accident conditions.
7. The SHNPP program conforms to current NRC guidance in SECY letter 82-207 and Generic Letter 82-09.

Therefore, SHNPP will no longer perform environmental qualification-based testing or analysis on mild environment equipment nor maintain existing environmental qualification documents on this equipment. This action is similar to that taken by other licensees. Questions regarding this matter may be referred to Mr. D. C. McCarthy at (919) 362-2100.

Sincerely,

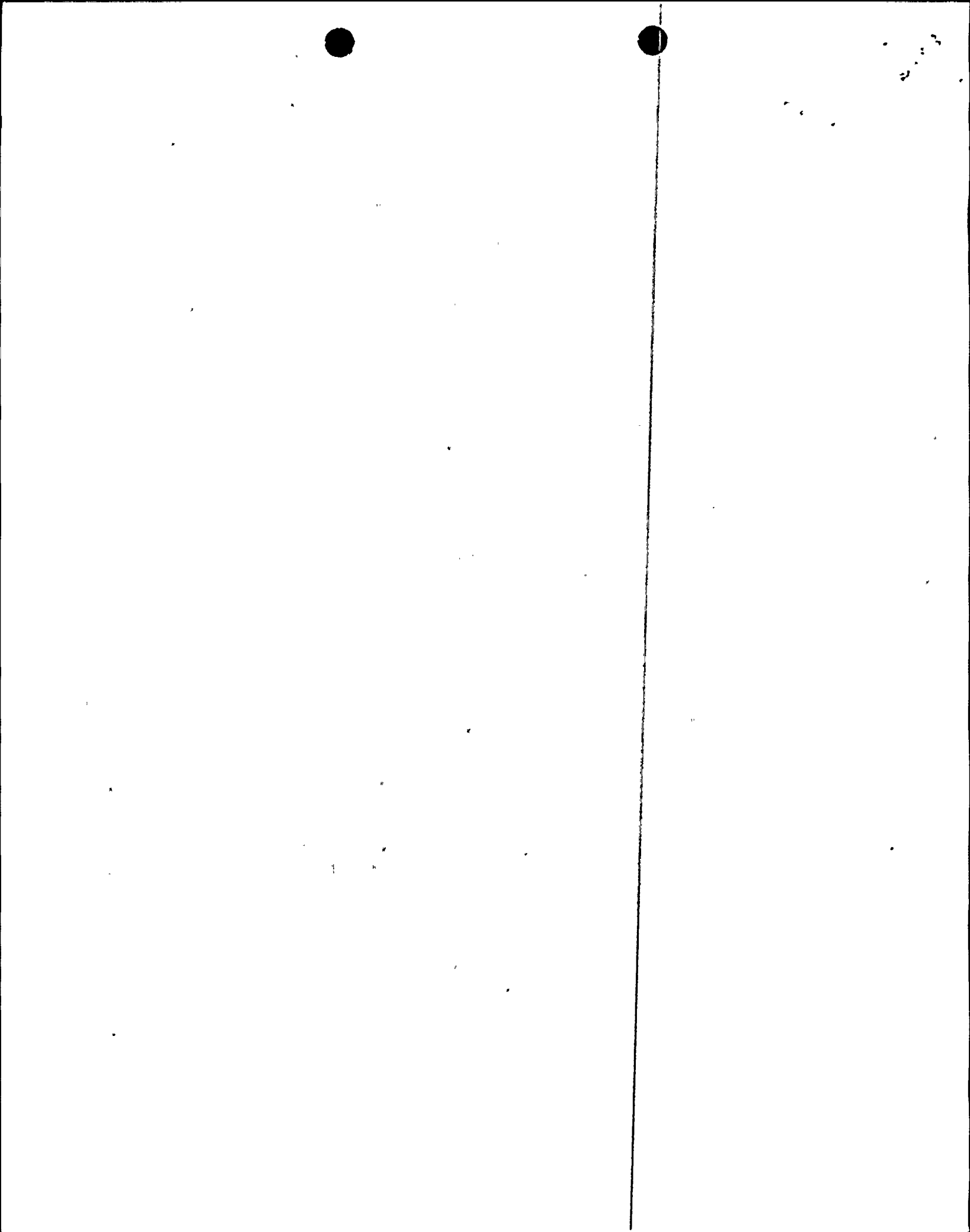


W. R. Robinson

SDC/sdc

Attachment

c: Mr. S. D. Ebnetter
Mr. N. B. Le
Mr. J. E. Tedrow



ATTACHMENT 1

References

1. Letter from A.B. Cutter (CP&L) to H.R. Denton (NRC), dated October 6, 1986 (NLS-86-386). Subject: Seismic Qualification of Safety-Related Equipment.
2. USNRC NUREG-1038, Supplement No. 4; Safety Evaluation Report Related to the Operation of Shearon Harris Nuclear Power Plant, Unit No. 1; Docket No. STN 50-400, dated October 1986.
3. USNRC NUREG-0800; Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants, July 1981.
4. USNRC Generic Letter 82-09; Environmental Qualification of Safety-Related Electrical Equipment, April 20, 1982.
5. USNRC SECY-207; Final Rule Environmental Qualification of Electric Equipment Important to Safety for Nuclear Plants, May 24, 1982.
6. Title 10, Code of Federal Regulations, Part 50, Section 49; Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants.
7. EPRI NP-5024; Seismic Ruggedness of Aged Electrical Components, dated January 1987.

