UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 28, 1999

Mr. Gary L. Vine, Senior Washington Representative
Electric Power Research Institute
2000 L Street, N.W., Suite 805
Washington, D.C. 20036

SUBJECT: SAFETY EVALUATION REPORT RELATED TO EPRI RISK-INFORMED INSERVICE INSPECTION EVALUATION PROCEDURE (EPRI TR-112657, REVISION B, JULY 1999)

Dear Mr. Vine:

The NRC staff has completed its review of the subject Topical Report which was submitted by the Electric Power Research Institute (EPRI) by letter dated July 29, 1999. Enclosed is the staff's safety evaluation report (SER) which discusses the adequacy of the EPRI methodology for developing a risk-informed inservice inspection (RI-ISI) program, and indicates its applicability and implementation at individual plants. The staff has found that this report is acceptable for referencing in licensing applications to the extent specified and under the limitations delineated in the report and the associated NRC safety evaluation.

Current inspection requirements for commercial nuclear power plants are contained in the 1989 Edition of Section XI, Division 1 of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC), entitled *Rules for Inservice Inspection of Nuclear Power Plant Components.* EPRI TR-112657, Rev. B, provides technical guidance on an alternative for selecting and categorizing the risk significance of piping components for the purpose of developing a RI-ISI program as an alternative to the ASME BPVC Section XI inservice inspection (ISI) requirements for piping. The RI-ISI programs can enhance overall safety by focusing inspections of piping at risk-significant locations and locations where failure mechanisms are likely to be present, and by improving the effectiveness of inspection of components by focusing on personnel qualifications, inspection for cause, and the use of multi-discipline plant review teams. EPRI TR-112657 provides details required to incorporate risk-insights when identifying locations for inservice inspections of piping in accordance with the general guidance provided in Regulatory Guides 1.174 and 1.178.

In developing the methods described in EPRI TR-112657, Rev. B, the industry incorporated insights gained from two plants, Vermont Yankee and Arkansas Nuclear One, Unit 2 (ANO Unit 2) and it now includes full scope as well as partial scope ISI programs. The staff's review of EPRI TR-112657 incorporates information obtained through technical discussions at public meetings and through formal requests for additional information to address the issues related to the analytical methods, application of the methods to the Vermont Yankee and ANO Unit 2 plants, and reviews of RI-ISI applications for these plants.

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10 CFR 50.55a(a)(3) provides, in part, that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The staff concludes that the proposed RI-ISI program as described in EPRI TR-112657, Revision B, is a sound technical approach and will provide an acceptable level of quality and safety pursuant to 10 CFR 50.55a for the proposed alternative to the piping ISI requirements with regard to the number of locations, locations of inspections, and methods of inspection.

The staff will not repeat its review of the matters described in EPRI TR-112657, Rev. B, when the report appears as a reference in license application, except to ensure that the material presented applies to the specific plant involved. In accordance with procedure established in NUREG-0390, the NRC requests that EPRI publish the accepted version of the submittal, within 3 months of receipt of this letter. The accepted version shall incorporate this letter and the enclosed safety evaluation between the title page and the abstract and a "-A" (designating accepted) following the report identification symbol.

If the NRC's criteria or regulations change so that its conclusion that the submittal is acceptable are invalidated, EPRI and/or the applicant referencing the topical report will be expected to revise and resubmit its respective documentation, or submit justification for the continued applicability of the topical report without revision of the respective documentation.

Should you have any questions or wish further clarification, please call me at (301) 415-2795 or Syed Ali at (301) 415-2776.

Sincerely,

William H. Bateman

William H. Bateman, Chief
Materials and Chemical Engineering Branch
Division of Engineering
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Enclosure: Safety Evaluation

cc w/enc: See next page

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