November 9, 2004

Mr. Lew W. Myers
Chief Operating Officer
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, A210
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT - REQUEST FOR ADDITIONAL INFORMATION (RAI) FOR THE REVIEW OF RELIEF REQUESTS, IR-050, IR-051, AND IR-052, FROM CERTAIN ISI REQUIREMENTS ASSOCIATED WITH THE IMPLEMENTATION OF SECTION XI OF THE ASME BOILER AND PRESSURE VESSEL CODE (TAC. NOS. MC3169, MC3170 AND MC3171)

Dear Mr. Myers:

By letter dated May 14, 2004, First Energy Nuclear Operating Company, requested approval of three requests for relief from certain Inservice Inspection requirements associated with the implementation of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code for the Perry Nuclear Power Plant (PNPP).

During the review, the NRC staff has identified that additional information is needed in order to complete the review. Specific questions are presented in the attached request for additional information (RAI).

The enclosed questions have already been discussed with your staff. In order to accommodate PNPP's need for this change, please respond to this RAI by November 29, 2004. If you have any questions concerning our review, or additional time is needed to respond to the RAI, please contact me at (301) 415-3154.

Sincerely,

/RA/

Stephen P. Sands, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION
PERRY NUCLEAR POWER PLANT (PNPP)
RELIEF REQUEST IR-050, IR-051, AND IR-052 FOR RELIEF FROM CERTAIN INSERVICE INSPECTION (ISI) REQUIREMENTS ASSOCIATED WITH THE IMPLEMENTATION OF SECTION XI OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) BOILER AND PRESSURE VESSEL CODE

The Nuclear Regulatory Commission staff has reviewed the May 14, 2004, First Energy Nuclear Operating Company submittal regarding relief from certain Inservice Inspection requirements associated with the implementation of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code for the Perry Nuclear Power Plant (PNPP).

1) **IR-050**, "Proposed Alternatives and Technical Basis," Item 11 provides the proposed alternative as Table VIII-S10-1, "Performance Demonstration Detection Test Acceptance Criteria." What are the proposed values for "False Call Test Acceptance Criteria" when the number of flawed grading units and the minimum detection criteria under "Detection Test Acceptance Criteria" are 20 and 14, respectively?

2) **IR-051**, "ASME Boiler & Pressure Vessel Code Section XI Requirements," states that the only Category C-F-2 item numbers applicable to PNPP are C5.51, C5.52, and C5.81. Item No. C5.81 covers pipe branch connections of branch piping with a nominal pipe size (NPS) greater than or equal to 2. The subject components affected by this relief request are identified as Class 2, Category C-F-2, carbon steel piping welds greater than NPS 4.

   A) Please explain how Item C5.81 will be affected by this relief request.

   B) What Class 2 components (examination categories and item numbers) are affected in Section III, "Relief Requested"?

3) **IR-051**, "Basis for Relief," states that: "Table 4-11 *'Summary of Degradation-Specific Inspection Requirements and Examination Methods,'* of the EPRI report lists the required degradation mechanisms to be evaluated in Class 1, 2, and 3 piping." Table 4-11 is not mentioned in the Electric Power Research Institue report, and the title mentioned above belongs to Table 4-1. What table is being referenced in this section?

4) **IR-052,** Alternative to Use Code Case N-613-1 for Reactor Vessel Nozzle to Vessel Weld Inspections

   A) Provide the number of nozzles included in this request and the identification of each nozzle.

   B) In the submittal it states, "The examination volume required by IWB-2500-7(b) for the reactor vessel pressure retaining nozzle-to-vessel welds extends far beyond the weld and the heat affected zones into the base metal, and is unnecessarily large." It further states, "Note that residual stresses in the weld and heat affected zones of the nozzle-to-shell welds

are minimal as all these welds, including in-process weld repairs if any, were subjected to post-weld heat treatment during vessel fabrication." Provide analyses to indicate the extent and magnitude of stresses associated with reactor pressure vessel (RPV) nozzle-to-vessel welds at PNPP in support of the contention that highly stressed areas of the reactor vessel nozzle-to-shell welds will be included in the proposed examination volume.

C) In accordance with guidance provided to staff for review of relief requests, provide detailed drawings which depict the examination volume that has been examined during previous inspections and the proposed examination volume. The weld sketches should show the exact dimensions of the as installed welds and the positions of any repairs to those welds so that the licensee will be able to precisely locate the extremities (widest sections) of the nozzle-to-vessel welds and any repair weld areas so that the new examination volumes will encompass these repair weld areas.

(a) Discuss the documentation available of the actual cross-sectional dimensions and precise locations of repaired areas for all RPV nozzle-to-vessel welds at PNPP. Discuss the process for defining new examination volumes that encompass these repair weld areas.

(b) If examination personnel are to identify the extremities (widest sections) of the nozzle-to-vessel welds, what positive means of examination will be used to identify the weld extremities, such as, weld etching, etc.? Will the weld extremities be identified on both the inside diameter and outside diameter of the vessel to ensure complete coverage of the welds?

5) In the submittal it states, "In addition, these regions have been extensively examined during the fabrication and installation periods before the vessels were put in service and during the inservice examinations already performed." What is the date that the last inservice examination was performed on the welds and base metal and what were the results? If necessary, can comparisons be made between past and present examinations, with the reduced base metal examination volume?

Perry Nuclear Power Plant, Unit 1

cc:

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