

NOTICE OF NONCONFORMANCE

Ellis & Watts (E&W)
Batavia, Ohio

Docket No.: 99901308

On the basis of an inspection by the staff of the U.S. Nuclear Regulatory Commission (NRC) from December 2 through 6, 1996, it appears that the following activities were not conducted in accordance with NRC requirements:

- 1 Criterion III of Appendix B to 10 CFR Part 50, "Design Control," requires, in part, that measures provide for verifying or checking the adequacy of design. The verification or checking process shall be performed by individuals or groups other than those who performed the original design.

E&W Quality Assurance Manual QC-4000N, Section 3, "Design Control," Revision 7, paragraphs 3.1, 3.1.4, and 3.1.6, require design requirements, as specified in the procurement documents, to be correctly translated into specifications, drawings, procedures, and instructions. Design control measures and product design shall be verified by E&W for adequacy of the design, and the verification or checking process shall be performed by individuals or groups other than those who performed the original design.

- A. Contrary to the above requirements, E&W did not verify the adequacy of design pressure ratings of four air conditioner units (ACUs) supplied by E&W to the Tennessee Valley Authority (TVA) for the Browns Ferry Nuclear Plant. The shell side pressure rating of the installed ACU condensers was less than the minimum pressure necessary. As a result, coolant leaked from the ACU condensers. (99901308/96-01-02).
- B. Contrary to the above requirements, E&W's commercial-grade dedication plans did not address the verification of the following critical characteristics (equipment performance features identified in licensee procurement specifications and E&W dedication documents): (i) that cooling coil fans would operate during tornado conditions at a reduced pressure, (ii) that an oil pump would develop a required minimum oil pressure, (iii) that a thermostatic expansion valve would provide the required flow of liquid refrigerant to the evaporator coil at the specified accident temperature, and (iv) that a gasket for an oil pump and bearing assembly would perform its safety function during the specified accident temperature (99901308/96-01-03).

Enclosure 2

- 2 Criterion XVI of Appendix B to 10 CFR Part 50, "Corrective Action," requires, in part, measures to assure that the cause of the condition is determined and corrective action taken to preclude recurrence.

E&W Quality Assurance Manual QC-4000N, Section 16, "Corrective Action," Revision 7, paragraphs 16.1 and 16.5 require, in part, assurance that conditions adverse to quality are promptly identified and corrected and that corrective actions taken are effective to preclude recurrence.

Contrary to the above requirements, E&W failed to establish effective corrective action for deficiencies in its commercial-grade dedication activities, including deficiencies related to critical characteristics and certified material test reports of commercial-grade materials (99901308/96-01-04).

Please send a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with a copy to the Chief, Special Inspection Branch, Division of Inspection and Support Programs, Office of Nuclear Reactor Regulation, within 30 days of the date of the letter transmitting this Notice of Nonconformance. Your reply should be clearly marked as a "Reply to a Notice of Nonconformance" and should contain for the nonconformances (1) a description of steps that have been or will be taken to correct these items, (2) a description of steps that have been or will be taken to prevent recurrence of these items, and (3) the dates your corrective actions and preventive measures were or will be completed.

Dated at Rockville, Maryland
this 10th day of February 1997