

APPENDIX B

Nuclear Energy Services (NES)
Danbury, Connecticut

NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on September 16-19, 1985, which was part of the NRC's review of outage activities associated with Omaha Public Power District's Ft. Calhoun facility and to evaluate NES' quality assurance and engineering activities related to the steam generator nozzle dams for Ft. Calhoun, it appears that certain of your activities were not conducted in accordance with NRC requirements. These items are listed below.

1. Criterion III of Appendix B to 10 CFR Part 50 requires, in part, that measures be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. These measures include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Measures are also required for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components. Design control measures are required which apply to items such as the following: reactor physics, stress, thermal, hydraulic, and accident analysis; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; and delineation of acceptance criteria for inspections and tests.

Contrary to the above, the Ft. Calhoun steam generator nozzle dam design calculation (identified as NES project 5273, task 140) did not include the following: (85-01-02)

- a.) Documentation to substantiate the selection of (a) the type of and suitability of application of the materials used in the design and (b) the method of analyses used to demonstrate the adequacy of the dam.
- b.) Any analysis of the diaphragm/seal assembly portions of the dam.
- c.) All possible loading conditions and superposition of individual loading effects which the dams must be capable of withstanding (i.e. hydrostatic pressure, pneumatic pressure and seismic loads.)
- d.) Use of the guidelines of the ASME boiler and pressure vessel code, section III, subsection NB Class 1 as specified in Omaha Public Power District contract No. 1453, section H, part 3.8 and NES proposal 8560-103, section 2, part 2.4.

8601230368 860121
PDR GA999 EECNESI
99900762 PDR

e.) Considerations in the stress analyses for the dimensional tolerances specified on fabrication drawings for the aluminum casting sections of the dams.

2. Criterion XVI of Appendix B to 10 CFR Part 50 states: "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

Contrary to the above, NES' Document No. 80A9010, "Computer Code Documentation Control Procedure," did not have provisions for handling computer code error reports. Computer code error reports received from vendors supplying computer code services such as Control Data Corporation (CDC), were not promptly identified, nor was corrective action to assure that computer code errors which could have been adverse to quality for past and present safety related components determined, documented and reported to appropriate levels of management. (85-01-03)

3. Criterion XVIII of Appendix B to 10 CFR Part 50 states: "A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits shall be performed in accordance with the written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audit results shall be documented and reviewed by management having responsibility in the area audited. Followup action, including reaudit of deficient areas, shall be taken where indicated."

Contrary to the above, while NES had used Control Data Corporation's (CDC) services for computer codes used to perform safety-related design analyses: a) NES had not performed an audit of CDC to verify CDC's compliance with all aspects of the quality assurance program, b) an audit of CDC was not scheduled, and c) CDC was not on the NES approved vendors list (dated 9-16-85). (85-01-04)