TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

January 22, 1982

YCRD-50-566/81-13
YCRD-50-567/81-11

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2 - TORNADO DEPRESSURIZATION DESIGN DEFICIENCIES - YCRD-50-566/81-13, YCRD-50-567/81-11 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on April 2, 1981, in accordance with 10 CFR 50.55(e) as NCR YCN CDB 8101. This was followed by our interim reports dated May 4 and September 9, 1981. Enclosed is our third interim report. We expect to submit our next report by October 20, 1982.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2
TORNADO DEPRESSURIZATION DESIGN DEFICIENCIES
YCRD-50-566/81-13, YCRD-50-567/81-11
10 CFR 50.55(e)
THIRD INTERIM REPORT

Description of Deficiency

While reviewing the tornado design of safety-related structures, design engineers discovered a discrepancy between drawings and design criteria for the Yellow Creek Nuclear Plant's Intake Pumping Station and ERCW Pumping Station concrete structures. Final structural design for these structures was completed in accordance with applicable design criteria (N8-9J-D701 and N8-K2-D701) that specify depressurization of the structures during a tornado. Construction drawings (8IE0311-K2 series and 8KE0320-K2 series) were issued, but all parts of these structures were not vented sufficiently to ensure depressurization. Civil and mechanical engineers reviewing these drawings failed to ensure venting in accordance with the design criteria.

The deficiency does not extend to other structures at this or other nuclear plants.

Interim Progress

The ventilation analysis for the ERCW Pumping Station identified the need for design changes in the stairwells. A ventilation opening was added in the exterior door of each stairwell. All doors connecting the stairwells with the main building will be pressure doors. Field Change Requests (FCRs) C-1632 and C-1644 and Engineering Change Notice (ECN) 449 have been issued to revise the appropriate drawings. Design drawings and design criteria N8-MAD-740CR1 will document these changes. Three drawings have been issued, and the remaining drawings and criteria will be issued by August 1982. Supporting calculations have been added to calculation documents 93-K-C001 and 93-K-C002. Issuance of these remaining drawings will complete all design work for the ERCW Pumping Station related to this nonconformance report (NCR).

Last October structural design work for the Intake Pumping Station was halted because of NCR YCN EEB 8102. Resolution of this NCR may involve increasing the physical size of the building for additional electrical equipment. ECN 411 is being prepared and is expected to be issued by April 1982, at which time the structural design will resume. Another ventilation analysis will be required if the original building configuration is changed. All structural design is expected to be completed and the results included in the next report.