

APPENDIX A

NOTICE OF VIOLATION

Tennessee Valley Authority
Hartsville A-1 and A-2

Docket Nos. 50-518 & 50-520
License Nos. CPPR-150 & CPPR-152

As a result of the inspection conducted on December 1 to 26, 1980, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violations were identified.

A. 10 CFR 50, Appendix B, Criterion V, and the accepted QA program, TVA topical report TVA-TR 75-1A, Section 17.1A.5 requires that activities affecting quality shall be prescribed and accomplished in accordance with documented procedures. Criterion X of Appendix B and Section 17.1A.10 of TVA-TR 75-1A requires inspection of activities affecting quality to verify conformance with documented instructions, procedures and drawings.

1. TVA General Construction Specification G-2, Plain and Reinforced Concrete, provides specific requirements for placing concrete. Specification G.2, paragraph 10.2 requires all reinforcing bars be carefully inspected for proper position and fastening prior to approval for placement of concrete. TVA Quality Control Instruction C-201, Instruction 2 requires the Civil QC inspector to verify correctness of preparations for placement, and Instruction 4 requires the materials inspector to verify that reinforcing bars are not distorted or shifted. TVA Construction Engineering Procedure C.E.P.9.02 requires the Civil Project Engineer to verify the correctness of reinforcing and to initial and date the concrete placement form.

Contrary to these requirements, placement had been authorized and was in progress in the Unit A-1 weir wall on December 10, 1980, with a long section of curved #18 rebar protruding into the 4-3/8" clearance between the inner and outer rows of #18 rebar effectively blocking the vertical passage of concrete mix. After the NRC inspector notified quality control and construction personnel of this obstructing rebar, the rebar was forced back into position with steel wedges, clearing this blockage.

2. Specification G-2 paragraph 10.4 requires that reinforced concrete placed within forms be deposited in layers of 12 to 18 inches; that batches be deposited vertically in a manner to avoid segregation; that the deposited concrete shall not be worked along the forms for any distance; that the concrete be compacted as close to the point of deposit as practical; and that the reinforcements shall be protected against splashing.

Contrary to these requirements, build up in excess of 24 inches was observed in one area of the weir wall and vibration was not in progress on this build up. Transport of mix for considerable distances occurred at several locations. Splitting of the plastic tube extension to the pump line caused splashing of reinforcing bars below the splits.

3. Specification G-2, paragraph 9.1 forbids segregation of the concrete stream by free fall through reinforcing steel and limits free fall to 10 feet without the use of a confining drop pipe.

Contrary to these requirements, clogging of plastic drop tubes, in the space between the inner and outer layers of horizontal rebar, required splitting of the tubes to clear them. Splitting of the tubes near the pump line permitted fall of the released concrete in excess of ten feet across the rows of rebar which could result in segregation.

4. Specification G-2 paragraph 9.1 also prohibits imposition of limitations on consistencies and proportions of concrete by inadequate deposition equipment.

Contrary to this requirement, the plastic tubes used to prevent the free fall of concrete were inadequate to pass the concrete without clogging during the early stages of the A-1 weir wall placement when problems with the plasticizer admix caused the mix to stiffen.

The above items constitute multiple failures to meet specification and procedure requirements during the weir wall placement.

This is a Severity Level IV Violation (Supplement II.D.1) applicable to Docket No. 50-518 only.

- E. 10 CFR 50, Appendix B, Criterion V, and the accepted QA program, TVA topical report TVA-TR 75-1A, Section 17.1A.5 requires that activities affecting quality shall be prescribed and accomplished in accordance with documented procedures. TVA General Construction Specification G-2, Plain and Reinforced Concrete, paragraph 9.1 requires depositing concrete as near as possible to its final position to preclude use of placing methods that would cause concrete to flow in the forms. TVA Quality Instruction G-201, Concrete Placement, requires the materials inspector to verify conveying and placement of concrete is in accordance with General Construction Specification G-2.

1. Contrary to the above, concrete was not placed in accordance with TVA General Construction Specification G-2 on December 10, 1980, in that concrete was caused to flow horizontally up to eight feet while placing concrete in the Unit A-2 reactor pressure vessel pedestal.
2. Contrary to the above, Quality Instruction G-201 was not followed in that the QC material inspector who witnessed the above placement did not stop the work or require a change in the point for depositing concrete until the NRC inspector questioned him about this violation.

This is a Severity Level V Violation (Supplement II.E.) and is applicable to Docket No. 50-520 only.

Pursuant to the provisions of 10 CFR 2.201, Tennessee Valley Authority is hereby required to submit to this office within twenty-five days of the date of this Notice, a written statement or explanation in reply, including: (1) admission or denial of the alleged violations; (2) the reasons for the violations if admitted; (3) the corrective steps which have been taken and the results achieved; (4) corrective steps which will be taken to avoid further violations; and (5) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation.

Date: FEB 11 1981