

ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
WATER FOUND IN ROCK ANCHOR TENDON HEAD PROTECTIVE GREASE CANS
NCR 1005
10 CFR 50.55(e)
SECOND INTERIM REPORT

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Description of Deficiency

Inspection of approximately 20 (10 randomly chosen on each unit) rock anchor tendon head protective grease cans indicates water is collecting in the grease cans. This could result in the tendons and tendon heads experiencing a wet and dry cyclic environment which could result in corrosion of the steel. No other TVA plants have a prestressed tendon system.

Interim Progress

Examination of the rock anchor tendons in unit 1 indicates there has been no detectable corrosion of tendon components. Also physical and chemical analysis of the protective grease indicates its properties are within or very close to the manufacturer's specification of the original product.

Chemical analysis of ground water samples taken from immediately outside the unit 1 secondary containment and from the grease cans failed to conclusively prove the source of the water. However, TVA believes that ground water is the cause because observation holes drilled outside the structure near azimuth 200 degrees have shown the ground water level to be 16 feet above the tendon gallery floor slab.

TVA is attempting to intercept and remove this water by drilling 24 5-1/2-inch diameter holes through both units' tendon gallery floor slabs. These holes are located between the rock anchor tendon bearing plates and the outside gallery wall at a radius of 71 feet 10 inches and on \pm 20-foot centers. Submersible pumps with a float switch will then be installed in the holes to dewater the holes and keep the water out of the grease cans.

The initial phase of the work involves five holes in the area between azimuth 165 degrees and 235 degrees in unit 1 tendon gallery. Presently, the holes are being drilled through the tendon gallery floor slab and fill concrete to the top of rock. Drilling will then continue through the rock down to elevation 555. The plumbness of the drill holes will be checked to avoid interference with any of the anchor tendons. The results of this initial dewatering as it affects the water in the grease cans will be evaluated to determine the effectiveness of the proposed solution.