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MILLS,L.M. Tennessee Valley Authority
RECIP.NAME RECIPIENT AFFILIATION
O'REILLY,J.P. Region 2, Atlanta, Office of the Director

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SUBJECT: First interim deficiency rept re buttonheads on rock anchor tendons.Insp of 171 Unit 1 anchor tendons reveals 33 tendons w/one or more raised buttonheads.Insp of Unit 2 tendons will be performed concurrent w/installation of vertical tendons.

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

October 23, 1980

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:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - BUTTONHEADS ON ROCK ANCHOR TENDONS - NCR 1257 - FIRST INTERIM REPORT

The subject nonconformance was initially reported to NRC-OIE Inspector R. W. Wright on September 23, 1980, in accordance with 10 CFR 50.55(e). Enclosed is our first interim report. We expect to submit our next written report by December 29, 1980.

If you have any questions concerning this matter, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc: Mr. Victor Stello, Jr., Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
BUTTONHEADS ON ROCK ANCHOR TENDONS
NCR 1257
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

Inspection of the rock anchor tendon anchorheads in unit 1 indicates some of the tendon wire buttonheads may not be properly seated on the anchorhead. Buttonheads have been found raised approximately 1/8 inch higher than they should be. Raised buttonheads can be an indication of a broken or overstressed wire or double buttonheading caused by a slip of the buttonheading machine.

Interim Progress

Of the 185 unit 1 rock anchor tendons, 171 have been inspected, and the inspection revealed 33 tendons had one or more raised buttonheads as follows:

19 tendons had one raised buttonhead
6 tendons had two raised buttonheads
4 tendons had three raised buttonheads
2 tendons had four raised buttonheads
1 tendon had six raised buttonheads
1 tendon had nine raised buttonheads

Double buttonheads are permitted and were inspected for diameter but were not inspected for buttonhead height. Because of the close spacing of the wires in the anchorhead, it is not possible to see if the buttonheads are double buttonheaded and properly seated. It is also not possible to grip the raised buttonheads to see if the wire is loose. A review of the buttonheading cards indicated there is no direct correlation between double buttonheads and raised buttonheads for each affected tendon. On the tendons that had six and nine raised buttonheads, there were four and six double buttonheads.

For the four tendons that had greater than three raised buttonheads, the anchorheads will be reinspected to determine if the wires are loose at the anchorhead and not seated.

For the remaining tendons that have three or less raised buttonheads, these tendons will not be reinspected. These tendons will be considered fully effective. During installation, the maximum tendon stresses will be adjusted according to the percentage of raised buttonheads to prevent possible overstress.

The inspection of unit 2 tendons will be performed concurrent with the contractor's installation of unit 2 vertical tendons.