

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

January 9, 1984

BLRD-50-438/83-02

U.S. Nuclear Regulatory Commission
Region II

Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

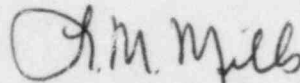
BELLEFONTE NUCLEAR PLANT UNIT 1 - FAILURE OF AIR COMPRESSOR MOTOR -
INGERSOLL RAND - BLRD-50-438/83-02 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector P. E. Fredrickson on December 9, 1982 in accordance with 10 CFR 50.55(e) as NCR 2102. This was followed by our interim reports dated January 7 and May 26, 1983. Enclosed is our third interim report. WCRs 2285 and 2535 have since been reported and are now being included as part of this 50.55(e) concern. We expect to submit our next report on or about October 3, 1984.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Licensing

Enclosure

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

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNIT 1
FAILURE OF AIR COMPRESSOR MOTOR - INGERSOLL RAND
NCRs 2102, 2285 AND 2535
BLRD-50-438/83-02
10 CFR 50.55(e)
THIRD INTERIM REPORT

Description of Deficiency

During performance of a functional test on stationary air compressor motor 1RJ-EM01-002-B, the motor failed during an attempted restart. This was the second instance of this type of failure on this type and size motor (nonconformance report 1942). NCRs 2285 and 2535 document the third and fourth failures respectively, of the same size and type motor.

Bellefonte is the only TVA nuclear plant to use this size motor and system configuration.

Interim Progress

TVA indicated in our previous report on this deficiency that the motor stators were to be returned to the vendor for rework. However, TVA has since determined that Class 1E motors will be used for this application and has initiated discussions with the vendor and the motor manufacturers in order to secure 1E motors. Engineering change notice 1516 has been approved to implement the motor replacement. TVA is continuing to investigate the nonconformance to determine the root cause of the problem and the actions required to prevent recurrence.

Based on the circumstances surrounding the fourth motor failure (NCR 2535), recommendations were made by TVA's Division of Engineering Design (EN DES) to TVA's Division of Construction (CONST) as follows: (1) strict precautions should be taken to ensure cleanliness of the air compressor units and the areas surrounding the units and to ensure that introduction of water, either accidentally or intentionally, into the motors be prohibited, (2) temporary construction air compressors should be installed to supply service air requirements needed by TVA's Division of Nuclear Power. Also, additional control changes may be identified and implemented to prevent startup of the compressors while fully loaded.

TVA will examine its policies regarding guidance concerning the use of permanent, safety-related equipment for construction purposes. If it is determined that the root cause of all four motor failures can be attributed to premature and abusive operation as the result of improper guidance, policy changes will be made as required.