

PART 21 IDENTIFICATION NO. 81-357-000 COMPANY NAME Tennessee Valley Authority

DATE OF LETTER 1/30/81 DOCKET NO. 50-390/391

DATE DISTRIBUTED 2/5/81 p.m. ORIGINAL REPORT ☒ SUPPLEMENTARY ☐

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VENDOR BR. R-IV

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LOEB / MPA MNB 5715

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CENTRAL FILES 016

CENTRAL FILES 016

CENTRAL FILES (CHRON)

CENTRAL FILES (CHRON)

PDR

CENTRAL FILES SS-396

LPDR

PDR

TERA

LPDR



TERA

CENTRAL FILES 016

CENTRAL FILES (CHRON)

PDR

LPDR

TERA

ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

IE ☒

NRR ☐

NMSS ☐

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REV. 8/1/80
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NRC Part 2, ID # 81-757-000
TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

January 30, 1981

WBRD-50-390/81-09
WBRD-50-391/81-08

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:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - HIGH DENSITY SPENT FUEL RACKS -
WBRD-50-390/81-09, WBRD-50-391/81-08 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. W. Wright on December 17, 1980, in accordance with 10 CFR 50.55(e) as NCR WBN CEB 8012. TVA considers 10 CFR Part 21 to be applicable to this deficiency. Our first interim report was submitted on January 21, 1981. Enclosed is our second interim report. We expect to provide additional information by May 12, 1981.

If you have any questions, 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, Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ENCLOSURE
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
HIGH DENSITY SPENT FUEL RACKS
WBRD-50-390/81-09, WBRD-50-591/81-08
SECOND INTERIM REPORT

Description of the Deficiency

The deficiency identifies written procedures which do not contain acceptable tolerance limits or were not properly implemented. These procedures provide instructions for the installation and inspection of the high density spent fuel racks in the areas of verticality, levelness, and dummy drag insertion. A description of the specific procedural problems are identified below:

1. Measurement Procedure TVA-T-198, "Verticality and Pedestal Plate Inspection Procedure for Spent Fuel Storage Racks," contains no tolerance limits and resulted in measurement data which was not repeatable. The procedure was provided by Wachter Associates, Incorporated (Wachter), Pittsburgh, Pennsylvania, who manufactured the high density spent fuel storage racks and was utilized by the Tennessee Valley Authority (TVA) to obtain verticality measurement data for the installation of the high density spent fuel storage racks.
2. Watts Bar Nuclear Plant Quality Control Procedure (WBN-QCP) 4.22, "Inspection of the Installation of the Spent Fuel Storage Racks," paragraph 6.5.2.3.3, does not identify the method of incorporating equipment tolerance limits into the measurement data. The procedure was utilized by TVA to obtain levelness measurement data for the installation of the high density spent fuel storage racks.
3. At the time this nonconformance report (NCR) was initiated, it was TVA's opinion that WBN-QCP-4.22, "Inspection of the Installation of the Spent Fuel Storage Racks," paragraph 6.5.2.3.4, had not properly been implemented. Data obtained from the oversize dummy fuel drag test was inconsistent and not conclusive. However, in the interim, it has been identified that the oversize dummy fuel insertion test device used for determining drag force data was not properly controlled in that it sustained undetected damage/distortion which affected its calibration. This condition resulted in the acquisition of inaccurate/nonrepeatable data and has been identified on NCR WBNQAB8101.

Interim Corrective Action

TVA has taken the following interim actions to correct the stated deficiency:

1. Measurement procedure TVA-T-198 has been replaced by a new verticality measurement procedure which is based on a technique used successfully by the Westinghouse Electric Corporation. This procedure was informally transmitted to the plant site December 10 and 12, 1980, and formally transmitted to the site on January 22, 1981. The measurement procedure has resulted in repeatable data which TVA is using to evaluate the racks.

The verticality acceptance criteria for the storage of new fuel and fuel to be reinserted into the core is a worst wall condition of 1/4-inch or less. This corresponds to a shim reading of 18. To take into account instrument tolerance limits, a shim measure of 16 has been identified as the limit for the storage of new fuel and reinsertable fuel into the core. This criteria was transmitted to the plant site on January 22, 1981.

2. Equipment tolerance limits have been incorporated into the levelness measurement data by expanding the original levelness acceptance criteria from 1/16-inch to 1/16-inch plus 1/64-inch. The additional 1/64-inch is intended to include the inaccuracies in the measurement techniques and, as such, does not represent a relaxation from the original 1/16-inch requirement. TVA has received written concurrence from Westinghouse by letter from M. A. Siano to J. R. Ratliff dated January 22, 1981. This information was transmitted to the plant site.

These changes will be incorporated into the appropriate portions of WBN-QCP 4.22 as soon as possible.

As a result of the corrective actions given above, TVA has reviewed measurement data on six of the high density spent fuel racks (129-24, 129-28, 129-29, 129-30, 129-32, and 129-33). Specific cells within these racks have been identified to meet stated acceptance criteria for the storage of new fuel which will be inserted into the core.