

TENNESSEE VALLEY AUTHORITY

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APR 09 1990

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No. 50-260

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 2 - RESPONSE TO INSPECTION REPORT
50-260/89-59 - IMPLEMENTATION OF ELECTRICAL ISSUES PROGRAM

Reference: NRC Letter to O. D. Kingsley dated February 23, 1990

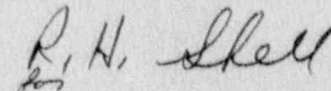
This letter transmits TVA's response to the open items identified in NRC's inspection of the adequacy of BFN's implementation of the electrical issues program. Enclosure 1 contains TVA's response to the open items identified in section 4.0 of the subject report.

Enclosure 2 contains a summary list of the commitments contained in this submittal.

If you have any questions, please telephone Patrick P. Carier, BFN, Site Licensing, (205) 729 3570.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



E. G. Wallace, Manager
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Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

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ENCLOSURE 1

RESPONSE

NRC INSPECTION REPORT
NO. 50-260/89-59
LETTER FROM B. D. LIAW TO O. D. KINGSLEY, JR.
DATED FEBRUARY 23, 1990

OPEN ITEM #1

NRC CONCERN

"TVA in their ampacity calculations has not considered loading of cables in tray 2HO-ESII from motor heaters and lug receptacles. TVA should either provide justification for this omission or the ampacity calculations for this tray should be done again with these loads energized. (Section 4.1.3)"

TVA RESPONSE

TVA has prepared a revision to the ampacity calculation to address the loading of motor heaters and plug receptacles. These revised calculations did not identify any additional safety-related cable failures. This calculation was issued on March 31, 1990, and is available for review.

OPEN ITEM #2

NRC CONCERN

"In order to ascertain proper cable separation, the team was only able to walkdown the signal tracing of one circuit. Schedule constraints did not permit the additional walkdowns that were planned for the inspection. The team will walkdown the remaining circuits at a later date. (Section 4.2.3.3)"

TVA RESPONSE

Signal tracing of cables was completed on March 22, 1990. TVA is currently compiling the data collected during the signal tracing test. The report which provides the results of this testing will be complete by April 30, 1990, and will be available for review upon completion.

OPEN ITEM #3

NRC CONCERN

"The specification for installation of instrument sense lines, ER-BFN-EEB-001, does not require that the potential hazard posed by missiles caused by equipment failure be considered when routing redundant instrument tubing. TVA committed to revise the specification to require consideration of this hazard in the routing of redundant sense lines. (Section 4.3.3.1)"

TVA RESPONSE

Specification ER-BFN-EEB-001, Revision 1, will add the requirement for evaluating missile hazards when routing redundant instrument lines. This revision is presently in the review cycle and will be issued by May 31, 1990.

OPEN ITEM #4

NRC CONCERN

"Review of as-built instrument line slope excluded pressure instruments that employ sealed capillary tubes for pressure transmission. TVA justified this exclusion on the basis that slope is not critical in these devices because all gas is removed from the lines at manufacture. While this is true, sometimes the sense element at the end of a capillary tube connects to the process via an unsealed sense line. The inspection identified two such instruments, both channels of Torus Wide Range Level. At least one sense line for these sensors is oriented such that liquid could collect in the gas sense line. During the inspection TVA confirmed that the two instruments in question are the only critical instruments that employ capillary tubing and are connected to the process via an instrument tube. Further, TVA committed to evaluate the impact of the incorrect slope on the torus level instruments and correct the installation if necessary. (Section 4.3.3.2)"

TVA RESPONSE

TVA's evaluation consisted of reinspection of the two instruments in question. As a result of this evaluation, two Maintenance Requests were initiated to correct the installation of the sense lines associated with the torus wide range level instruments. The modifications will be completed by August 7, 1990.

OPEN ITEM #5

NRC CONCERN

"The inspection found some stainless steel instrument lines bear ink marks that were made to track walkdown activities. TVA could not confirm during the inspection, that the markings were made with chloride free pens. They committed to determine if the marking material contains chloride and if so clean the markings from the sense lines. (Section 4.3.3.2)"

TVA RESPONSE

TVA tested the instrument lines bearing the ink marks, identified in the inspection, in accordance with BFN Technical Instruction 92 for detrimental halogens including chloride. The test results confirmed that acceptable markers were used to track the walkdown activities.

OPEN ITEM #6

NRC CONCERN

"The inspection for the Fuse Program found that the drawing revision and permanent labeling of the fuses will not be completed prior to startup. TVA should provide a commitment to complete this effort prior to startup following the first refueling outage after the Unit 2 restart. (Section 4.5.4)"

TVA RESPONSE

TVA commits to completing drawing revisions to remove references to fuse rating and to provide a unique identification for each class 1E fuse such that it can be cross referenced to the fuse tabulation. Additionally, TVA will install permanent labeling in accordance with Site Director Standard Practice 16.8. These commitments will be complete prior to startup following the first refueling outage after the Unit 2 restart.

OPEN ITEM #7

NRC CONCERN

"The surveillance procedures for the battery test should be revised to reflect both electrolyte temperature and level correction. (Section 4.7.5)"

TVA RESPONSE

BFN surveillance instructions (SIs) require specific gravity readings be obtained using a digital density meter (DMA-35) which automatically corrects specific gravity for electrolyte temperature. As a result, no additional calculations are required unless the digital meters are not available. If this is the case, the SI requires the use of a glass hydrometer plus an additional instruction to give temperature correction. This instruction is referenced by each SI. BFN's battery maintenance program, with respect to specific gravity measurements, is based on vendor recommendations. A representative of C&D Power Systems, Inc., stated that from a performance standpoint, the capability of a fully charged cell will be the same regardless of electrolyte level (as long as level is between the high and low indicator marks). BFN does not use level correction as part of routine battery inspections. Therefore, further revision to the surveillance procedure for battery tests is not necessary.

OPEN ITEM #8

NRC CONCERN

"TVA was unable to demonstrate by design drawing that the cable trays in the drywell are adequately grounded. TVA has elected to demonstrate by test that the cable trays in the drywell are adequately grounded. TVA should submit the test results to NRC. (Section 4.8)"

TVA RESPONSE

TVA has completed testing to demonstrate that the cable trays in the drywell are adequately grounded. The maximum resistance measured was 3.3 ohms which meets the National Electric Code, Article 250-84 acceptance criteria of 25 ohms or less.

General Comment

TVA concurs with the content of the referenced inspection report; however, one area was identified which requires clarification. With respect to the discussions that occurred relative to Effects of External Hazards on V1/V2 cables (Section 4.2.3.1, first paragraph) the following revisions (underlined) are provided for clarification:

TVA has used Civil Engineering Branch report CEB 88-06-C (B41 881114 005) to demonstrate that no unacceptable interactions involving safety related conduits or cable trays exist for any postulated breaks within the scope of the pre-restart pipe rupture evaluation for BFN unit 2. . . . However, during a conference call with the TVA Knoxville office, Bob Lancaster and Phil Baxter of TVA stated that the break locations within the pre-restart scope of the pipe rupture evaluation will be re-evaluated prior to unit 2 restart (this re-evaluation will be complete by July 1, 1990) to confirm that modifications made after the report was issued, have not invalidated the conclusions of the report.

ENCLOSURE 2

COMMITMENT SUMMARY

NRC INSPECTION REPORT
NO. 50-260/89-59

1. The signal tracing report will be complete by April 30, 1990.
2. Specification ER-BFN-EEB-01, Revision 1, will add the requirement for evaluating missile hazards when routing redundant instrument lines. This revision will be issued by May 31, 1990.
3. The two Maintenance Requests that were initiated to correct the installation of the sense lines associated with the torus wide range level instruments will be completed by August 7, 1990.
4. TVA commits to completing drawing revisions to remove references to the fuse rating and provide a unique identification for each class 1E fuse such that it can be cross referenced to the fuse tabulation prior to startup following the first refueling outage after unit 2 restart.
5. TVA will install permanent labeling in accordance with Site Director Standard Practice 16.8 prior to startup following the first refueling outage after unit 2 restart.
6. The break locations within the pre-restart scope of the pipe rupture evaluation will be reevaluated by July 1, 1990 to confirm that modifications made after the report was issued have not invalidated the conclusions of the report.