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

June 21, 1985

U.S. Nuclear Regulatory Commission
Region II
ATTN: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

BROWNS FERRY NUCLEAR PLANT UNITS ~~1, 2, AND 3~~ - NRC-OIE REGION II INSPECTION REPORT 50-~~259/85-25~~, 50-260/85-25, ~~50-296/85-25~~ RESPONSE TO VIOLATION

Enclosed is our response to D. M. Verrelli's May 22, 1985 letter to H. G. Parris transmitting IE Inspection Report Nos. 50-259/85-25, 50-260/85-25, and 50-296/85-25 for our Browns Ferry Nuclear Plant which cited TVA with one Severity Level V Violation.

If you have any questions, please get in touch with R. E. Alsup at FTS 858-2725.

To the best of my knowledge, I declare the statements contained herein are complete and true.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

J. A. Domer, Chief
Nuclear Licensing Branch

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

IE01

RESPONSE
NRC INSPECTION REPORT NOS.
50-259/85-25, 50-260/85-25, AND 50-296/85-25
DAVID M. VERRELLI'S LETTER TO H. G. PARRIS
DATED MAY 22, 1985

Enclosure

Item 1

Technical Specification 6.3.A.6 requires that detailed written procedures covering surveillance and testing requirements be adhered to.

Contrary to the above, the licensee failed to adhere to battery surveillance instructions established to satisfy the surveillance requirements of Technical Specification 4.9.A.2 in the following examples:

Example a

Although Surveillance Instruction SI 4.9.A.2.a, Auxiliary Electrical Equipment - Battery Check, specifies in Step 4.3 that the reviewing engineer initiate any necessary corrective action should the acceptance criteria not be met, no corrective action was initiated following completion of SI 4.9.A.2.a on February 11, 1985, when Diesel Generator A Battery overall voltage was outside the acceptance criteria of 133.5 (plus or minus) 1.5 volts (it was 130.4 volts).

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons For the Violation

   The root cause of the violation was failure to follow procedure and inattention to detail by individuals during review of the data sheets.

3. Corrective Steps Which Have Been Taken and Results Achieved

   Diesel generator battery "A" voltage was recorded as 130.40 VDC on February 11, 1985. It was rechecked on February 19, 1985, and found to be within acceptable range. Therefore, the corrective action of adjusting the battery float voltage had been taken and no further corrective action on the battery is required.

4. Corrective Steps Which Will Be Taken to Avoid Further Violations

   This event will be covered in detail with the personnel involved as training. The personnel involved have been cautioned to pay more

Example a (continued)

attention to the details of the procedure. This event will be covered with all electricians and cognizant reviewers to avoid further violations.

5. Date When Full Compliance Will Be Achieved

Full compliance will be effected by July 17, 1985.

Example b

Section 3.0 of Surveillance Instruction SI 4.9.A.2.a requires recording pilot cell voltages and specific gravities of the unit batteries, shutdown board batteries and diesel generator batteries. Step 3.1 of SI 4.9.A.2.a references Electrical Maintenance Instruction EMI 4.D.7 for the determination of battery pilot cells. Although EMI 4.D.7 specifies cell number 68 for the main and shutdown board battery pilot cells and cell number 38 for the diesel generator battery pilot cells, these cells were not checked during the performance of SI 4.9.A.2.a on February 25, 1985. Instead, cell number 60 was checked for the main and shutdown board batteries and cell number 30 was checked for the diesel generator batteries.

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons For the Violation

   The root cause of the violation was failure to follow procedure and inattention to detail by individuals during review of the data sheets.

3. Corrective Steps Which Have Been Taken and Results Achieved

   Pilot cells are randomly selected cells whose voltage, specific gravity, and temperature are monitored to provide an indication of general battery condition. Although the data collected was not from the designated pilot cell, it was valid data and provided an adequate indication of battery condition. Therefore, no corrective action to the batteries was required.

4. Corrective Steps Which Will Be Taken to Avoid Further Violations

   This event will be covered in detail with the personnel involved as training. The personnel involved have been cautioned to pay more attention to the details of the procedure. The event will be covered with all electricians and cognizant reviewers to avoid further violations.

5. Date When Full Compliance Will Be Achieved

   Full compliance will be effected by July 17, 1985.

Example c

Step 3.7 of Surveillance Instruction SI 4.9.A.2.b, Auxiliary Electrical Equipment - Battery Analysis, requires that the voltage of all battery cells be verified to be within 0.1 volt of average battery cell voltage. This verification was not correctly performed during SI 4.9.A.2.b conducted on the 250 volt Main Battery No. 2 on February 20, 1985. The average battery cell voltage was initially calculated based upon overall battery voltage of 262.4 volts. Step 3.6 of SI 4.9.A.2.b defines average battery cell voltage as overall battery voltage, divided by the number of cells in the battery.

When the overall battery voltage was subsequently corrected to 268.4 volts, the average battery cell voltage was not recalculated and the verification that individual cell voltages were within 0.1 volt of average battery voltage therefore remained in error.

1. Admission or Denial of the Alleged Violation

   TVA admits the violation as stated.

2. Reasons For the Violation

   The root cause of the violation was failure to follow procedure in that all data was not corrected and inattention to detail by individuals during review of the data sheets.

3. Corrective Steps Which Have Been Taken and Results Achieved

   The initial overall battery voltage was recorded as 262.4 VDC. This gave an average battery cell voltage of 2.186 VDC. The overall battery voltage was changed to 268.4 VDC which resulted in an average battery cell voltage of 2.236 VDC. All cell voltages still met the acceptance criteria of plus or minus 0.1 VDC of the average cell voltage. Therefore, no corrective action on the battery was required.

4. Corrective Steps Which Will Be Taken to Avoid Further Violations

   This event will be covered in detail with the personnel involved as training. The personnel involved have been cautioned to pay more attention to the details of the procedure. This event will be covered with all electricians and cognizant reviewers to avoid further violations.

5. Date When Full Compliance Will Be Achieved

   Full compliance will be effected by July 17, 1985.

Example d.1

Technical Specification 6.3.A.6 requires that detailed written procedures covering surveillance and testing requirements be adhered to.

Contrary to the above, Plant Standard Practice BF 14.25, Clearance Procedure, was not followed in that all electrical power was not isolated from the 2DA low pressure coolant injection (LPCI) motor-generator set under hold order 85-150A. The motor was removed with voltage (18 volts) still applied to the thermistor leads. On April 23, 1985, the inspectors observed that various indicating lights were still illuminated although hold order tags were in place.

1. Admission or Denial of the Alleged Violation

   TVA disagrees that this example is a violation.

2. Reasons For the Violation

   The 2DA low-pressure coolant injection (LPCI) motor generator (mg) set was tagged to pull the generator for transport to Louis-Allis Company for repair. The equipment was tagged in accordance with Standard Practice 14.25 for this job. The electrical maintenance personnel felt the clearance was sufficient and safe to do work, and the shift engineer issuing the clearance felt it was adequate to safely perform the work. Involved personnel were aware of limitations, conditions, and boundaries of this clearance. This meets the intent and purpose of BF-14.25. The 18-volt thermistor power supply is shared with the 2EN LPCI MG set, and there is no way to provide isolation if the other MG set is to remain operable. The maintenance personnel did not request this circuit tagged because they could safely handle the wiring by lifting the leads "hot." This is commonly required and done on systems with common low voltage power supplies. This circuit was subsequently tagged, but this was for NRC inspectors concern rather than a safety concern of personnel doing the work.

Example d.2

Additionally, it was found that the number three tag for hold order 85-150A for the 2DA LPCI motor-generator set was hung on the 2EN LPCI motor generator set (hold order 85-118) and vice versa.

1. Admission or Denial of the Alleged Violation

TVA admits the violation as stated.

2. Reasons For the Violation

When the clearances for 2DA and 2EN LPCI MG sets were issued, the clearance cards were properly placed and second party verified. These two clearances were placed in effect approximately one week apart and had different assistant shift engineers handling them as well as different second party verification. Subsequent to these clearances being placed in effect, permission was requested by electrical maintenance, and received from all parties holding the clearances, to allow testing and/or maintenance on the breakers in compartments 7 D and 2 A, which were tagged on hold orders 85-150A and 85-118, respectively. After talking to electrical maintenance and the assistant shift engineers involved in the tagging, the only explanation for the cards being reversed is: since both breakers were simultaneously out of their compartments for a period of time, when they were returned, the electrical maintenance personnel inadvertently reversed their original locations. The shift engineer immediately had the assistant shift engineer check the placement of the cards when brought to the shift engineer's attention by NRC that they were reversed.

3. Corrective Steps Which Have Been Taken and Results Achieved

Since this event, the operations supervisor has issued a letter to operations personnel instructing shift engineer and assistant shift engineer to not allow any breaker maintenance on any breaker that is part of a clearance. This incident was also covered in supplemental training with each operations group.

4. Corrective Steps Which Will Be Taken to Avoid Further Violations

The electrical maintenance department will revise their appropriate procedures to provide second party verification that breakers removed from any compartment for maintenance/testing are returned to their original compartment.

5. Date When Full Compliance Will Be Achieved

Full compliance will be effected by August 2, 1985.