



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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July 29, 2004

Tennessee Valley Authority
ATTN: Mr. K. W. Singer
Chief Nuclear Officer and
Executive Vice President
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

**SUBJECT: BELLEFONTE NUCLEAR PLANT - NRC INSPECTION REPORT NOS.
50-438/04-01 AND 50-439/04-01**

Dear Mr. Singer:

On July 8, 2004, the NRC completed an inspection at your Bellefonte Units 1 and 2 reactor facilities. The enclosed report documents the inspection results which were discussed on July 8, 2004, with Mr. M. Phillippe and other members of your staff.

The purpose of the inspection was to determine whether equipment preservation activities authorized by the construction permits were conducted safely and in accordance with NRC requirements. Specific areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selected examinations of procedures and representative records, interviews with personnel, and observation of layup equipment in operation.

Based on the results of this inspection, no findings of significance were identified.

TVA

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Sincerely,

/RA/

Stephen J. Cahill, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-438, 50-439
License Nos. CPPR-122, CPPR-123

Enclosure: NRC Inspection Report 50-438/04-01 AND 50-439/04-01
w/Attachment - Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-438 and 50-439
License Nos: CPPR-122 and CPPR-123

Report No: 50-438/04-01 and 50-439/04-01

Applicant: Tennessee Valley Authority (TVA)

Facility: Bellefonte Nuclear Plant, Units 1 & 2

Location: Bellefonte Road
Hollywood, AL 35752

Dates: July 7 - 8, 2004

Inspectors: W. C. Bearden, Senior Resident Inspector, Browns Ferry (Unit 1)
R. L. Monk, Resident Inspector, Browns Ferry

Approved by: S. J. Cahill, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000438/2004-001, IR 05000439/2004-001; 7/-7/8/2004; Bellefonte Nuclear Plant, Units 1 & 2; Routine Layup Inspection.

This annual inspection was to review the layup and maintenance of plant systems and the review of various plant records. This was an announced routine inspection conducted by two visiting Resident Inspectors. Based on the results of this inspection no findings of significance were identified. The inspectors concluded that, overall, the applicant's layup and preservation program had been effective.

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Report Details

Summary of Plant Status

Bellefonte Nuclear Plant (BLN) Units 1 and 2 remain in a deferred construction status as described in a July 14, 2000, Tennessee Valley Authority (TVA) letter to the NRC regarding confirmation of construction deferral status. The majority of piping systems remain in dry lay-up with the exception of fire protection-related systems, chiller and associated support systems, and those systems required to support operation of the Unit 1 emergency diesel generators which are used as needed to assist in meeting temporary electrical distribution system peak load demand.

1.0 Plant Walkdowns

a. Inspection Scope (92050)

The inspector toured selected portions of the turbine building, auxiliary building, Units 1 and 2 reactor buildings, and Units 1 and 2 diesel generator buildings to evaluate the lay-up and preservation condition of selected safety-related equipment. During these tours, the inspector observed the proper operation of installed dehumidifiers and checked various safety-related components. Proper housekeeping practices and other control measures were verified to be in place. Selected safety-related components were checked by the inspector for external condition and protective covering, where necessary. Electrical motors and generators checked by the inspector were verified to be warm, with either internal heaters or heat tape energized. The following specific components were inspected:

- Component cooling 1A and 3A pumps and motors
- Unit 1 Diesel generators (Dgs) 1A and 1B
- Unit 1 High pressure injection (HPI) 1A, 2A, and 1B pumps and motors
- Unit 1 Reactor building spray 1A and 1B pumps and motors
- Unit 1 Decay heat removal 1A and 1B pumps and motors
- Unit 1 Motor-driven auxiliary feed water (AFW) 1A and 1B pumps and motors
- Unit 2 Decay heat removal 2A and 2B pumps and motors
- Unit 2 HPI 2A and 1B pumps and motors
- Unit 2 Reactor building spray 2A and 2B pumps and motors
- Unit 2 Motor-driven AFW 2A and 2B pumps and motors
- Unit 2 DGs 2A and 2B
- Unit 1 Vital battery rooms

b. Observations and Findings

The inspector noted that some battery cells were continuing to show signs of impending failure (cell structure was buckled) on the vital batteries. Most of the cells are approaching 30 years old and are well beyond their design life. Multiple cells had previously been jumpered out and evidence existed of frequent cleaning of the vital battery rooms due to the accumulation of acid-induced corrosion. The inspectors verified that battery condition was monitored daily during operator rounds and ventilation

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of the battery rooms was maintained. The inspector was informed that the applicant planned to dispose of the aged battery cells during Fiscal Year 2005 and to provide an alternate means of providing 125-VDC control power for switchgear.

Accumulated water was noted on the floor in the Unit 1 HPI Pump 3B room on elevation 590' in the Auxiliary Building. The inspectors notified the applicant who determined that the water had leaked from an air compressor undergoing maintenance on the 610' elevation. Service Request 2531 was issued to remove the water and divert the water coming from above.

The inspectors were unable to verify motor heat applied to the Unit 2 HPI pump 1A motor. This concern was discussed with the applicant and the associated system engineer verified that motor heat was energized for this component. The inspectors determined that motor heat had been energized prior to the inspection but the presence of metal temperature above ambient levels in the room was difficult to verify.

No findings of significance were identified.

2.0 Preventive Maintenance Program

a. Inspection Scope (92050)

The inspector reviewed the applicant's Preventive Maintenance (PM) Program to determine adequacy of the program for maintaining systems in lay-up. Maintenance of the applicant's layup and preservation program relies on performance of PMs. Examples of PMs performed under this program include motor heat verification, shaft rotation, component external inspections, system lay-up valve lineups, and humidity checks. Specific PM requirements were specified in the BLN Maintenance Code Book, Rev. 94. Site personnel have performed approximately 12,000 to 15,000 scheduled PMs on an annual basis, depending on the schedule requirements. The inspector reviewed the results of the applicant's program for verification of system dry lay-up by performance of drain valve checks and humidity checks. Verifications involved routinely opening drain valves at designated low points in each system to check for the presence of moisture. Humidity checks involved sampling system flow paths for relative humidity.

The inspector reviewed documentation associated with various PM requirements that were completed by site personnel during the period of July 2003 - June 2004, including a review of applicable portions of the BLN Maintenance Code Book which specified the PM requirements. The inspector also reviewed completed PM records to verify that the PM requirements had been satisfied and that actions had been initiated to address any discrepancies which were identified during performance of the PM. In addition, the inspector reviewed documentation for selected inspection intervals of the PM activities to verify that the frequencies were performed on schedule.

The following PM records were reviewed:

Component	PM Codes	Work Performed
1ND-MPMP/EMOT-002-B, Decay Removal Pump and Motor	243, 533, 115, 160, 202	Rotate pump/motor shaft, lubricate. Perform visual inspection of external/internal surfaces and clean as necessary. Verify motor heat
1NS-MPMP/EMOT-002-B, Reactor Building Spray Pump and Motor	116, 243, 160, 202	Rotate pump/motor shaft, lubricate. Perform visual inspection of external/internal surfaces and clean as necessary. Verify motor heat
2NS-EMOT-002-B, Reactor Building Spray Motor	252	Insulation test
1EU-EBC-53-G/01, 125-V DC vital battery charger	N/A	Visual inspection, clean if required
1EU-EDP-53C/01, 125-V DC Distribution Panel	N/A	Visual inspection, clean if required
1CA-MPMP-003-Q, Auxiliary Feedwater Pump and Turbine	052	Oil sample
2CA-MPMP-003-Q, Auxiliary Feedwater Pump and Turbine	022	Internal visual inspection
1CA-MPMP/EMOT-002-B, Auxiliary Feedwater Pump and Motor	022, 243, 155, 201, 625, 115	Rotate pump/motor shaft, lubricate. Perform visual inspection of external/internal surfaces and clean as necessary. Verify motor heat tape applied
1KC01-RHR-4.1.3.1, Component cooling system	N/A	Perform dry system reverification
1KE-EMOT-007-A, Nuclear Service Water Strainer Motor 1A1	243	Cleanliness inspection

1NB-MPMP/EMOT-007-A, Boric Acid Pump and Motor 1A	052, 014, 156, 243	Cleanliness inspection, lubricate and rotate, oil sample
1RT-MDSL-002-B/1, Emergency Diesel Generator 2B	051	Oil sample
2RG-MRCR-004-B, Unit 2 EDG Start Air Tank	176	Verify nitrogen blanket 5 - 10 psig
1NI-EPEN-027-B, Electrical Containment Penetration	177	Verify nitrogen pressure 15 psig
0WE-GRDWATER-08	N/A	Verify temporary ground water control, check caulking, drain not obstructed
2KE-MH-2B1-2B13, ERCW Manholes	NA	Inspect for presence of water, pump dry if required
1NC-EMOT-008/2, Reactor Coolant Pump 1B2	030, 154	Check oil level and rotate

b. Observations and Findings

No findings of significance were identified.

3.0 Exit Meeting Summary

The inspectors presented the inspection results to Mr. M. Phillippe, Operations and Maintenance Manager, and other members of staff on July 8, 2004. The inspector asked the applicant whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified. The applicant acknowledged the findings presented.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Applicant Staff

R. Brown, Nuclear Licensing
R. Davis, System Engineer
H. Fischer, System Engineer
G. Lyle, System Engineer
S. Patterson, System Engineer
M. Phillippe, Operations and Maintenance Manager

ITEMS OPENED AND CLOSED

Opened

None

Closed

None

LIST OF DOCUMENTS REVIEWED

- TVA Nuclear Quality Assurance Plan, TVA-NQA-PLN89-A, Revision 13
- Generic Letter 87-15, Policy Statement on Deferred Plants
- TVA Memorandum dated July 1, 1988, transmitting Draft Quality Assurance Plan for Deferred Plants/Units
- TVA Letter dated July 14, 2000, BLN Nuclear Plant Units 1 & 2 and Watts Bar Nuclear Plant Unit 2 - Confirmation of Construction Deferral Status
- TVA Letter dated December 13, 1999, BLN Nuclear Plant - PM reductions for manpower leveling
- BLN Engineering Requirements Specification Manual
- BLN Maintenance Code Book, Revision 94
- Site Specific Procedure (SSP) - 9.90, Preventative Maintenance for Long Term Lay-up, Revision 2