UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

January 18, 2002

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

SUBJECT: BROWNS FERRY NUCLEAR PLANT - NRC INSPECTION REPORT 50-259/01-07, 50-260/01-07, AND 50-296/01-07

Dear Mr. Scalice:

On December 21, 2001, the NRC completed an inspection at your Browns Ferry Nuclear facility. The enclosed report presents the results of that inspection. The results were discussed on December 21, 2001, with Mr. Ashok Bhatnagar, Site Vice President, and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and with the conditions of your operating license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the sample selected for review, there were no findings of significance identified during this inspection. The inspectors concluded that overall, problems were properly identified, evaluated, and resolved within the Browns Ferry problem identification and resolution programs.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system

(ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Paul E. Fredrickson, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-259, 50-260, 50-296
License Nos. DPR-33, DPR-52, DPR-68

Enclosure: NRC Inspection Report 50-259/01-07, 50-260/01-07, 50-296/01-07
w/Attachment - Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-259, 50-260, 50-296
License Nos:	DPR-33, DPR-52, DPR-68
Report Nos:	50-259/2001-07, 50-260/2001-07, 50-296/2001-07
Licensee:	Tennessee Valley Authority (TVA)
Facility:	Browns Ferry Nuclear Plant, Units 1, 2, & 3
Location:	Corner of Shaw and Browns Ferry Roads Athens, AL 35611
Dates:	December 10 through 21, 2001
Inspectors:	P. Taylor, Senior Projects Engineer, Lead Inspector J. Starefos, Resident Inspector, Browns Ferry E. Brown, Resident Inspector, Brunswick
Approved by:	P. Fredrickson, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

Summary of Findings

Adams Template:

IR 05000259-01-07,05000260-01-07, 05000296-01-07; on 12/10-21/2001; Tennessee Valley Authority (TVA); Browns Ferry Units 1, 2, and 3; annual baseline inspection of the identification and resolution of problems.

The inspection was conducted by a Region II senior projects engineer, the Browns Ferry resident inspector, and a Brunswick resident inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website.

Identification and Resolution of Problems

The licensee was effective at identifying problems and placing them into the corrective action program. The licensee's effectiveness at problem identification was evident by the relatively few deficiencies identified by external organizations, including the NRC, that had not been previously identified by the licensee. The licensee appropriately evaluated individual problems based on significance of the issue when establishing schedules for implementing corrective actions. Corrective actions were generally implemented in a timely manner and effective in correcting the equipment deficiencies.

Licensee audits and assessments were found to be thorough and self-critical. Findings and problems identified by the audits and assessments were consistent with the inspectors' observations. The interviews of plant personnel indicated that they had a willingness to report problems and were knowledgeable in the use of the Corrective Action Program (CAP) and Administrative Control Programs to initiate corrective action to resolve problems. A safety conscious work environment was evident at Browns Ferry. The use of problem evaluation reports (PERs) to identify lower threshold problems (level "D" PERs) and place them into the trending program was considered generally adequate to monitor problems before they resulted in a more significant one. However the inspectors found instances where low level personnel contamination events (PCEs) were not being reported via the corrective action program (i.e., level D PER) for trending.

Report Details

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors reviewed items selected across the Reactor Oversight Process seven cornerstones and four high risk systems to verify that problems were being properly identified, appropriately characterized, and entered into the corrective action program for evaluation and resolution. Specifically, the inspectors reviewed approximately 85 PERs from approximately 2,050 which had been issued between January 2001 and December 2001. A list of the specific PERs reviewed is included in the Attachment. The inspectors reviewed licensee PER backlog evaluation through the examination of the August 2001 Browns Ferry Corrective Action Program Monthly Report and Summary dated October 1, 2001. The inspectors also reviewed selected PERs associated with the following risk-significant systems and conducted walkdowns to determine the licensee's effectiveness in identifying deficient conditions.

- residual heat removal service water (RHRSW) system
- emergency diesel generator (EDG) system
- high pressure coolant injection system
- reactor core isolation cooling system

The inspectors also reviewed PERs, personnel contamination events (PCEs) and personnel contamination reports (PCRs) associated with radiological protection deficiencies, PERs and safeguard event reports (SGERs) for security deficiencies, and PERs for emergency preparedness deficiencies to verify that identified problems were not bypassing authorized corrective action programs.

The inspectors reviewed audits and assessments relating to problem identification and resolution. A listing of the specific documents reviewed is included in the Attachment. The inspectors compared the findings and problems identified by the audits and assessments with the findings and observations of the inspectors.

The inspectors reviewed the licensee's evaluation of a sample of operating experience items including reports submitted pursuant to 10 CFR 21, NRC Information Notices and Service Information Letters from the nuclear steam supply system supplier. The reports reviewed are listed in the Attachment.

In addition, the inspectors reviewed a sample of risk significant equipment failures to verify that Maintenance Rule equipment deficiencies were being appropriately entered into the CAP and the Maintenance Rule program. The adequacy of proposed corrective actions, timeliness of a(1) goals, and routine monitoring for these items were reviewed.

(2) Issues and Findings

No findings of significance were identified. Based on a review of the calendar year (CY) 2001 PERs, audits, self-assessments, NRC identified findings, and system walkdowns, the inspectors determined that the licensee was identifying problems at the appropriate level and entering them into the corrective action program. This was supported by the few deficiencies identified by external organizations during the last year that were not already identified by the licensee through Nuclear Assurance audits and self-assessments. The licensee's self-assessments were thorough and self-critical and were consistent with the inspectors' observations. The threshold for documenting conditions adverse to quality was at an acceptable level and the PER process is actively being used by plant personnel.

During the previous Problem Identification and Resolution inspection, performed in January 2001, and documented in NRC Inspection Report 50-259,260,296/00-07, the inspectors identified a minor problem with the licensee addressing PCEs outside of the corrective action program. At that time the licensee initiated PER 01-000847-000 to resolve the issue. The inspectors reviewed PER 01-000847-000 during this inspection and found that the corrective actions taken were not completely effective in resolving the problem. The licensee had developed a new procedure, RCDP-10, Personnel Contamination Monitoring, Revision 0, which provided criteria for initiating a PER. However RCDP-10 did not include criteria for "minor" personnel contamination which is a classification criteria for issuing a PER by Procedure SPP-3.1, Corrective Action Program, Revision 4. Two additional examples of personnel contamination events that had not been entered into the corrective action program were identified during this inspection. PER 01-012958-000 was initiated to document this issue, which continues to remain minor since the problem is a documentation issue that does not have an actual or credible impact on safety.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed the licensee's prioritization and evaluation of NRC violations, audit and self-assessment findings, industry operating experience, and self-identified deficiencies. The operating experience review consisted of a sampling of reports for CY 2001 submitted by the nuclear industry, vendor notices, and regulatory notices including Information Notices and those reports submitted in accordance with 10 CFR 21. The inspectors attended meetings of the Management Review Committee (MRC), which was responsible for assigning the significance of identified issues. Risk significant PERs were reviewed to evaluate the licensee's effort in determining the apparent or root cause of the identified issues.

In addition, the inspectors reviewed a sampling of PERs listed in the Attachment to evaluate the licensee's efforts in: (1) establishing complete and accurate identification of the problem, (2) performing operability and reportability determinations, (3) establishing classification and prioritization of the problem commensurate with its safety

significance, (4) evaluating the adequacy of the apparent cause determination or root cause analysis, and (5) timeliness of corrective actions.

The inspectors also selected a sample of PERs that the licensee had classified as Level D or had documented as "Not Applicable" (N/A) between January 1, 2001, and December 10, 2001. The N/A PERs were further evaluated and discussed with licensee personnel to ensure that the justification was adequate for a PER to be classify as N/A since they are removed from the PER process.

(2) Issues and Findings

No findings of significance were identified. The inspectors determined that the licensee was effective in prioritizing and evaluating issues commensurate with their safety significance. The majority of the 2,050 PERs generated assessed during this review were level C (1,283) and level D (585), with level A being the highest priority and D the lowest. On a daily basis, the MRC reviewed PERs generated, established PER classification, and decided whether apparent cause determination or root cause analysis should be done based on the significance of the issue. In addition, the MRC evaluated each PER for operability and degraded conditions based on NRC Generic Letter 91-18 criteria.

The inspectors reviewed Procedure SPP-3.1, various PERs, and attended several MRC meetings. Based on these reviews and discussions with members of the MRC, the inspectors noted that the conditions reviewed were generally found to be prioritized consistent with the licensee's procedure. Licensee root cause evaluations were effective in identifying root and contributing causes for significant conditions and apparent causes for less significant issues were generally found to be effective.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed selected PERs, work orders (WOs), other corrective action process documents (e.g., SGERs), and licensee audits and assessments to evaluate the effectiveness of corrective actions. For more significant deficiencies identified in level B PERs, the inspectors reviewed selected corrective actions to ensure appropriate actions were performed. The inspectors performed a review of selected NCVs, an LER, maintenance preventable functional failures and their associated correction actions to determine the licensee's effectiveness of corrective actions. The documents reviewed are listed in the Attachment.

(2) Issues and Findings

No findings of significance were identified. The inspectors determined that corrective actions were appropriately focused to correct the problem of significant conditions adverse to quality. Corrective actions developed and implemented for plant equipment problems were generally effective in correcting the equipment deficiencies.

d. Assessment of Safety Conscious Work Environment

(1) Inspection Scope

The inspectors held discussions with plant personnel at various levels to assess the willingness to report problems, and attitudes toward maintaining safety margins. In addition the inspectors attended MRC meetings to develop insights into management's expectations for identifying and resolving problems.

(2) Issues and Findings

No findings of significance were identified. The inspectors concluded that plant personnel were knowledgeable in areas of the corrective action program and administrative programs used to identify problems and initiate corrective actions to ensure problem resolution. In addition, the inspectors determined, based on information collected from the discussions, that plant personnel felt free to identify concerns to their supervisors and management.

4OA6 Management Meetings

The inspectors presented the inspection results to Mr. Ashok Bhatnagar, Site Vice President, and other members of licensee management at the conclusion of the inspection on December 21, 2001.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

A. Bhatnagar, Site Vice President
T. Abney, Licensing Manager
S. Armstrong, Performance Analysis Manager
L. Clardy, Site Quality Manager
R. Coleman, Radcon Manager
T. Niessen, Site Support Manager
L. Parvin, Performance Analysis
M. Scaggs, Assistant Plant Manager
J. Wallace, Site Licensing Engineer
E.Rose, Performance Analysis Engineer

ITEMS OPENED/CLOSED

None

LIST OF DOCUMENTS REVIEWED

Problem Evaluation Reports

PER NO.	Level	PER NO.	Level	PER NO.	Level
01-000172-000	C	01-000830-000	D	01-000900-000	B
01-006220-000	C	01-000847-000	C	01-001684-000	N/A
01-000838-000	C	01-000850-000	C	01-002133-000	D
01-006904-000	C	01-000854-000	C	01-002302-000	B
01-001062-000	C	01-002232-000	B	01-002327-000	D
01-009601-000	C	01-003220-000	C	01-002366-000	D
01-004272-000	C	01-003563-000	D	01-002497-000	D
01-009935-000	C	01-005313-000	C	01-002509-000	D
01-010051-000	C	01-006911-000	B	01-002768-000	C
01-009456-000	C	01-007574-000	C	01-002799-000	C
01-010441-000	C	01-010276-000	C	01-003461-000	D
01-002972-000	D	01-010309-000	C	01-003496-000	C
01-000128-000	B	01-010660-000	N/A	01-003638-000	D
01-002972-000	B	01-000083-000	C	01-003649-000	N/A
01-000222-000	C	01-000190-000	D	01-003849-000	D
01-000401-000	C	01-000202-000	C	01-003862-000	D
01-000708-000	D	01-000457-000	N/A	01-003922-000	C
01-000717-000	C	01-000703-000	D	01-003992-000	D

Attachment

01-003993-000	D	01-006735-000	N/A	01-005281-000	C
01-004062-000	B	01-006736-000	C	01-005390-000	N/A
01-004081-000	D	01-006765-000	N/A	01-005512-000	N/A
01-004113-000	C	01-006875-000	D	01-005528-000	D
01-004699-000	D	01-006883-000	D	01-005542-000	D
01-005022-000	B	01-007026-000	C	01-005918-000	C
01-005142-000	D	01-007659-000	N/A	01-006066-000	B
01-005223-000	C	01-007696-000	B	01-006071-000	C
01-005273-000	D	01-008976-000	D	01-006468-000	C
		01-010113-000	D	01-006717-000	C
		01-010259-000	D		
		01-010787-000	D		

Work Orders

01-000020-000
01-000050-000
01-000581-000
01-002678-000
01-013013-000

Previously Identified NRC Findings

PER NO.	Level
01-003454-000	B
01-010639-000	C
01-002088-000	C
00-006682-000	B

LERs

50-260/2001-001-00

NCVs

50-260,296/2001-03-01
50-260,296/2000-06-01
50-260,296/2000-03-02

Audits, Assessments and Trending Analysis

Corporate NA Assessment Report - NA-CH-00-002, Corrective Action Program dated 10/20/00

Self Assessment Report - BFN-P&A -01-104, CAP Program/Implementation dated 9/14/01
Self Assessment Report - BFN-M&M-01-006, Conduct of Maintenance - WANO Effectiveness of Corrective Actions dated 7/30/01
Self Assessment Report - BFN-OPS-01-008, Operations Procedures dated 9/14/01
BFN Self Assessment Committee Meeting Minutes dated 10/29/01 and 11/26/01
Trending Report - BFN-Analysis of Radchem Performance dated 8/1/00 Thru 1/31/01
Trending Report - BFN-Analysis of Engineering Performance dated10/1/00 Thru 3/31/01
Trending Report - BFN-Analysis of Operations Performance dated12/1/00 Thru 5/31/01
BFN - CAP Program Bi-Monthly PER Status Report dated 12/10/01
BFN - CAP Program Monthly Report and Summary dated 10/01/01
BFN - CAP Program Monthly Report and Summary dated 11/27/01

Operating Experience Issue Documents

NRC Information Notice 2001-14, Problems with Incorrectly-Installed Swing-Check Valves
NRC Event Number 37788, 10 CFR Part 21 Notification Refurbished Woodward EGB Governor Actuators
General Electric Service Information Letter Number 635, Reactor Core Isolation Cooling System Water Hammer

Procedures

SPP-3.1, Corrective Action Program, Revision 4
SPP-1.6, TVAN Self-Assessment Program, Revision 5
NADP-1, Conduct of Quailty Assessment and Inspection, Revision 9
NADP-2, Audits, Revision 6
NEDP-12, Equipment Failure Trending, Revision 2