



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23185  
ATLANTA, GEORGIA 30303-8931

June 26, 2008

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

**SUBJECT: BROWNS FERRY NUCLEAR POWER PLANT UNITS 1, 2, AND 3 - NRC  
EMERGENCY PREPAREDNESS INSPECTION REPORT 05000259/2008501,  
05000260/2008501, and 05000296/2008501**

Dear Mr. Campbell:

On June 6, 2008, the U. S. Nuclear Regulatory Commission (NRC) completed an Emergency Preparedness inspection at Browns Ferry Nuclear Power Plant. The enclosed inspection report documents the inspection results, which were discussed on June 6, 2008, with Mr. R. West and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 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/**

Brian R. Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

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

Enclosure: NRC Inspection Report No. 05000259/2008501, 05000260/2008501, and  
05000296/2008501 W/Attachment: Supplemental Information

(cc w/encl: See- Page 3)

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(cc w/encl: See- Page 3)

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE

ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_

OFFICE	RII: DRS	RII:DRP	RII:DRS				
SIGNATURE	/RA/	LGarner /RA/ for	/RA/				
NAME	L. Miller	R. Musser	B. Bonser				
DATE	06/17/2008	06/25/2008	06/20/2008				
E-MAIL COPY?	YES      NO	YES      NO	YES      NO	YES      NO	YES      NO	YES      NO	YES      NO

cc w/encl:

Ashok S. Bhatnagar  
Senior Vice President  
Nuclear Generation Development and  
Construction  
Tennessee Valley Authority  
Electronic Mail Distribution

William R. Campbell, Jr.  
Chief Nuclear Officer and Executive Vice  
President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

(Vacant)  
Vice President  
Nuclear Support  
Tennessee Valley Authority  
3R Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

R. G. (Rusty) West  
Site Vice President  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
Electronic Mail Distribution

D. Tony Langley  
Manager  
Licensing and Industry Affairs  
Tennessee Valley Authority  
Electronic Mail Distribution

John C. Fornicola  
General Manager  
Nuclear Assurance  
Tennessee Valley Authority  
Electronic Mail Distribution

General Counsel  
Tennessee Valley Authority  
Electronic Mail Distribution

Larry E. Nicholson  
General Manager  
Licensing and Performance Improvement  
Tennessee Valley Authority  
Electronic Mail Distribution

Michael A. Purcell  
Senior Manager  
Nuclear Licensing  
Tennessee Valley Authority  
Electronic Mail Distribution

H. Rick Rogers  
Vice President  
Nuclear Engineering and Projects  
Tennessee Valley Authority  
Electronic Mail Distribution

Beth A. Wetzel  
Manager  
Corporate Licensing and Industry Affairs  
Tennessee Valley Authority  
Electronic Mail Distribution

Senior Resident Inspector  
Tennessee Valley Authority  
Browns Ferry Nuclear Plant  
U.S. NRC  
10833 Shaw Road  
Athens, AL 35611-6970

Chairman  
Limestone County Commission  
310 West Washington Street  
Athens, AL 35611

Dr. D. E. Williamson  
State Health Officer  
Alabama Dept. of Public Health  
434 Monroe Street  
Suite 1552  
P.O. Box 303017  
Montgomery, AL 36130-1701

Kirksey E. Whatley  
Director  
Office of Radiation Control  
Alabama Dept. of Public Health  
Electronic Mail Distribution

TVA

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Letter to William R. Campbell, Jr. from Brian Bonser dated June 26, 2008

SUBJECT: BROWNS FERRY NUCLEAR PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000259/2008, 05000260/2008 AND 05000296/2008

Distribution w/encl:

E. Brown, NRR (PM - BF 2, 3)

L. Raghavan, NRR

RIDSNRRDIRS

PUBLIC

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-259, 50-260, and 50-296

License Nos: DPR-33, DPR-52, DPR-68

Report Nos: 05000259/2008, 05000260/2008 and 05000296/2008

Licensee: Tennessee Valley Authority

Facility: Browns Ferry Nuclear Plant, Units 1, 2, and 3

Location: Athens, AL

Dates: June 2-6, 2008

Inspector: Lee Miller, Senior Emergency Preparedness Inspector

Approved by: Brian R. Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

Enclosure

## SUMMARY OF FINDINGS

IR 05000259/2008501, 05000260/2008501, and 05000296/2008501; 06/01/2008 - 6/06/2008; Browns Ferry Nuclear Power Plant; Baseline Inspection.

The report covered an announced inspection by one emergency preparedness inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None

Enclosure



## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP2 Alert and Notification System Testing

##### a. Inspection Scope

The inspector evaluated the adequacy of licensee's methods for testing the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, "Alert and Notification System Evaluation." The applicable planning standard 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, was also used as a reference.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the alert and notification system on an biennial basis.

##### b. Findings

No findings of significance were identified.

#### 1EP3 Emergency Response Organization Augmentation

##### a. Inspection Scope

The inspector reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection were reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, "Emergency Response Organization Staffing and Augmentation System." The applicable planning standard, 10 CFR 50.47(b)(2) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

Enclosure

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector's review of revisions to the emergency plan, implementing procedures, and Emergency Action Level (EAL) changes was performed to determine that changes had not decreased the effectiveness of the plan. The inspector evaluated the associated 10 CFR 50.54(q) reviews associated with non-administrative emergency plan, implementing procedures, and EAL changes. The inspector reviewed Tennessee Valley Authority Nuclear Radiological Emergency Plan revision 87, including appendix A: Browns Ferry Nuclear Plant, and changes to the implementing procedures from June 1, 2007 to June 1, 2008.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, "Emergency Action Level and Emergency Plan Changes." The applicable planning standard, 10 CFR 50.47(b) (4) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the EAL and emergency plan changes on an annual basis.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues and to determine if repeat problems were occurring. The facility's self-assessments and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their EP program. In addition, the inspector reviewed licensee's self-assessments and audits to assess the completeness and effectiveness of all emergency preparedness related corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, "Correction of Emergency Preparedness Weaknesses." The applicable planning standard, 10 CFR 50.47(b)(14) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

The inspector reviewed various documents which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the correction of emergency preparedness weaknesses on a biennial basis.

Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

Cornerstone: Emergency Preparedness

The inspector sampled licensee submittals for three Performance Indicators (PI) listed below. For each of the submittals reviewed, the inspector reviewed the period from March 31, 2007 through March 31, 2008. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, were used to verify the basis in reporting for each data element.

- Emergency Response Organization Drill/Exercise Performance (DEP)
- Emergency Response Organization Readiness (ERO)
- Alert and Notification System Reliability (ANS)

The inspectors reviewed portions of the raw PI data developed from monthly performance indicator reports and discussed the methods for compiling and reporting the PIs with cognizant emergency preparedness personnel. The inspector also independently screened drill and exercise opportunity evaluations, drill participation reports, and drill evaluations. Selected reported values were calculated to verify their accuracy. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data was correctly reflected in the report. Reviewed documents are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

On June 6, 2008, the lead inspector presented the inspection results to Mr. R. West and other members of his staff. The inspector confirmed that proprietary information was not provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

R. West	Site Vice President
S. Douglas	Plant General Manager
T. Elms	Assistant Plant Manager
M. Palmer	Assistant Plant Manager
L. Hughes	Operations
T. Brumfield	Quality Assurance Manager
B. Marks	Emergency Services - Corporate
T. Feltman	Emergency Preparedness
R. Waldrep	Emergency Preparedness
S. Austin	Site Licensing

LIST OF DOCUMENTS REVIEWED

Section 1EP2 Alert and Notification System Testing

Procedures and Documentation

EPFS-9, Inspection, Service, and Maintenance of the Prompt Notification System (PNS) at Browns Ferry, Sequoyah, and Watts Bar Nuclear Plants, Rev. 2

Records and Data

Documentation for Siren and Tone Alert Radio maintenance, June 2006 - March 2008

Section 1EP3 Emergency Response Organization Augmentation

Procedures

EPIL -14, Facilitation of the Prompt Notification System and Pager Tests, Rev. 12  
TRN-30, Radiological Emergency Preparedness Training, Rev. 14  
EPIL-4, Emergency Plan Exercises and Preparedness Drills, Rev. 33

Records and Data

Orange Team Emergency Preparedness Unannounced Staffing Drill, December 11, 2007

Corrective Actions - Problem Evaluation Report (PER)

146375, Evaluate the process for documenting the EP augmentation/staffing program

Enclosure

Section 1EP4 Emergency Action Level and Emergency Plan Changes

Procedures

EPIL-1, Procedures, Maps, and Drawings, Rev. 23  
EPIL-12, EP Quality Related Program, Rev. 4

E-Plan Changes

Change package for EPIP-8, Personnel Accountability and Evacuation, Rev. 20  
Change package for EPIP-13, Dose Assessment, and Rev. 14  
Change package for EPIP-7, Activation and Operation of the Operations Support Center (OSC),  
Rev. 25  
Change package for EPIP-5, General Emergency, and Rev. 37  
Change package for EPIP-4, Site Area Emergency, and Rev. 23  
Change package for EPIP-3, Alert, and Rev. 32  
Change package for EPIP-2, Notification of Unusual Event, and Rev. 29

Section 1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

Procedures

EPIL-5, EP Tracking System Activities Management Oversight System (Amos), Rev. 5  
SPP-1.6, NPG Self-Assessment Program, Rev. 15

Audits and Self-Assessments

Audit Report SSA0603, TVA Nuclear Assurance - Radiological Emergency Preparedness  
Program, October 4, 2006  
BFN-EP-08-SS01, Snapshot Self-assessment Report, February 9, 2008 to March 12, 2008  
BFN-EP-08-SS02, Snapshot Self-assessment Report, March 1, 2008 to March 13, 2008  
BFN-EP-08-SS03, Snapshot Self-assessment Report, March 20, 2008 to March 21, 2008  
BFN-EP-08-SS04, Snapshot Self-assessment Report, March 20, 2008 to March 21, 2008  
BFN-EP-08-SS05, Snapshot Self-assessment Report, March 27, 2008 to March 31, 2008  
BFN-EP-08-SS07, Snapshot Self-assessment Report, April 10, 2008  
BFN-EP-08-SS08, Snapshot Self-assessment Report, April 20, 2008 to April 21, 2008  
Blue Team Emergency Preparedness Severe Accident Management Guidelines (SAMG)  
training drill, October 11, 2007  
Red Team Emergency Preparedness Training Drill, October 31, 2007  
October 2007 Assembly and Accountability Drill, October 2, 2007  
Medical Drill - Decatur General Hospital and Athens/Limestone Emergency Medical Services,  
October 19, 2007  
Medical Drill - Huntsville Hospital and Athens/Limestone Emergency Medical Services,  
December 6, 2007

Corrective Actions - Problem Evaluation Report (PER)

144433, Five EP Self-assessments contained areas for improvement with no PER  
 144850, Emergency Paging System failed to exit from the Main Screen  
 145297, TSC equipment issues identified  
 145317, Technical Instruction (TI)-88, "Procedure for Estimation of the Extent of Core Damage under Accident Conditions"  
 145424, Unsuccessful Drill and Exercise Performance PIs not entered into CAP  
 136474, Shift Manager incorrectly documented a REP classification  
 107211, Conflict in training record retention requirements  
 107267, EP Procedure Discrepancies  
 115470, Movement of REP cabinet resulted in Damaged Detector  
 126899, Missed Performance Indicator during 2007 integrated Training Drill  
 128046, Differences existed between core damage estimates, RCS analysis and EAL bases  
 128047, EOI Training Needs Analysis for Technical Assessment Team  
 128648, REP TSC/OSC Chemistry Guidance on representative PASS Sampling  
 146282, EALs annual review by all local governments not documented  
 146269, Assessment and review of interface between TVA and all local governments not documented

Section 4OA1 Performance Indicator VerificationProcedures

EPIL-15, Emergency Preparedness Performance Indicators, Rev. 11

Records and Data

Documentation of DEP opportunities, April 2007 to April 2008  
 Documentation of ANS tests,  
 Documentation of drill and exercise participation,

Corrective Actions - Problem Evaluation Report (PER)

146326, Incorrect Data in NRC ROP Unit 1 PI Data submittal

LIST OF ACRONYMS

ANS	Alert and Notification System (ANS) Testing
DEP	Emergency Response Organization Drill/Exercise Performance
EAL	Emergency Action Level
EP	Emergency Preparedness
ERO	Emergency Response Organization
NEI	Nuclear Energy Institute
PI	Performance Indicator