



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

August 15, 2007

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

SUBJECT: BROWNS FERRY NUCLEAR PLANT - NRC EMERGENCY PREPAREDNESS  
INSPECTION REPORT 05000259/2007501, 05000260/2007501 AND  
05000296/2007501

Dear Mr. Campbell:

On July 27, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Browns Ferry Nuclear Plant. The enclosed inspection report documents the inspection results, which were discussed on July 27, 2007, with Mr. R. Jones, General Manager Site Operations, 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, 50-296  
License Nos. DPR-33, DPR-52, DPR-68

Enclosure: NRC Inspection Report No. 05000259/2007501, 05000260/2007501 AND  
05000296/2007501 w/Attachment: Supplemental Information  
cc w/encl: See page 2

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

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Enclosure: NRC Inspection Report No. 05000259/2007501, 05000260/2007501 AND  
05000296/2007501 w/Attachment: Supplemental Information

cc w/encl:

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NAME	RBALDWIN	CSTANCIL	LMILLER	BBONSER	T. Liu
DATE	8/13/2007	8/7/2007	8/13/2007	8/15/2007	8/ 15 /2007
E-MAIL COPY?	YES      NO	YES      NO	YES      NO	YES      NO	YES      NO

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Letter to: Mr. William R. Campbell

Dated: August 15, 2007

Subject: BROWNS FERRY NUCLEAR PLANT - NRC EMERGENCY PREPAREDNESS  
INSPECTION REPORT 05000259/2007501, 05000260/2007501 AND  
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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: 05000259/2007-501, 05000260/2007-501, and 05000296/2007-501

Licensee: Tennessee Valley Authority (TVA)

Facility: Browns Ferry Nuclear Plant

Location: 10833 Shaw Road  
Athens, AL 35611

Dates: July 23 - 27, 2007

Inspectors: L. Miller, Senior Emergency Preparedness Inspector  
R. Baldwin, Senior Reactor Engineer  
C. Stancil, Resident Inspector

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000259/2007501, 05000260/2007501 AND 05000296/2007501; 07/23/2007-07/27/2007;  
Browns Ferry Nuclear Plant ; Exercise Evaluation

The report covered an announced inspection by two emergency preparedness inspectors and one resident inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Emergency Preparedness

No findings of significance were identified.

B. Licensee-Identified Violations.

None

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## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation

##### a. Inspection Scope

Prior to the inspection activity, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14). This inspection activity represents one sample on a biennial cycle.

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise conducted on July 25, 2007, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards (RSPSs) in 10 CFR 50.47 (b)(4), (5), (9), and (10), which address emergency classification, offsite notification, radiological assessment, and protective action recommendations, respectively.
- The overall adequacy of the licensee's emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities" and Emergency Plan commitments. The facilities assessed were the Control Room simulator, Technical Support Center (TSC), Operations Support Center (OSC) and Emergency Operations Facility (EOF).
- Other performance areas besides the RSPS, such as the emergency response organization's (ERO) recognition of abnormal plant conditions, command and control, intra- and inter-facility communications, prioritization of mitigation activities, utilization of repair and field monitoring teams, interface with offsite agencies, and the overall implementation of the emergency plan and its implementing procedures.
- Past performance issues from NRC inspection reports and Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) exercise reports to determine effectiveness of corrective actions as demonstrated during this exercise to ensure compliance with 10 CFR 50.47(b)(14).
- The post-exercise critique process and the presentation to the licensee's senior management conducted on July 26, 2007, to evaluate the licensee's self-assessment of its ERO performance during the exercise and to ensure compliance with 10 CFR 50 Appendix E.IV.F.2.g.

The inspectors reviewed various documents which are listed in the Attachment to this report.

Enclosure



b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Revisions 84 and 85 of Radiological Emergency Plan were implemented based on the licensee's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspector conducted a review of the Plan changes to evaluate for potential decreases in effectiveness of the Plan. This review was not documented in a Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

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 related requirements contained in 10 CFR 50.54(q) and Appendix E to 10 CFR Part 50 were used as reference criteria. This inspection activity represents one sample on an annual cycle.

The inspector reviewed various documents which are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

Cornerstone: Emergency Preparedness

The inspectors reviewed the licensee's process for developing the data for the three Emergency Preparedness PIs listed below, and examined data reported to the NRC for three calendar quarters from July 1, 2006 to March 31, 2007. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, were used to substantiate the basis in reporting for each data element.

Enclosure

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

The inspectors verified the accuracy of the PI for DEP through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for ANS reliability through review of a sample of the records of periodic system tests.

The inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." This inspection activity represents three samples on an annual cycle.

The inspectors reviewed various documents which are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On July 27, 2007, the lead inspector for the emergency preparedness inspection presented the inspection results to Mr. R. Jones, General Manager Site Operations, and other members of his staff. The inspectors confirmed that proprietary information was not provided or taken during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee personnel

R. Jones, General Manager Site Operations  
J. DeDomenico, Assistant Plant Manager  
T. Elms, Manager - Operations  
T. Feltman, Emergency Preparedness  
B. Marks, Emergency Services - Corporate  
R. Delong, Site Engineering Manager  
J. Wallace, Site Licensing Engineer

### ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened

None

#### Closed

None

#### Discussed

None

### LIST OF DOCUMENTS REVIEWED

#### Section 1EP1: Exercise Evaluation

##### Procedures

EPIP-1, Emergency Classification Procedure, Rev. 40  
EPIP-3, Alert, Rev. 30  
EPIP-4, Site Area Emergency, Rev. 28  
EPIP-5, General Emergency, Rev. 33  
EPIP-6, Activation and Operation of the TSC, Rev. 25  
EPIP-7, Activation and Operation of the OSC, Rev. 24  
EPIP-8, Personnel Accountability and Evacuation, Rev. 25  
EPIP-15, Emergency Exposures, Rev. 8  
CECC EPIP - 19, Post Accident Core Damage Assessment, Rev 13  
CECC EPIP - 1, Central Emergency Control Center (Cecc) Operations, Rev 44

CECC EPIP - 6, Plant Assessment Staff Procedure for Alert, Site Area Emergency, and General Emergency, Rev. 29

#### Records and Data

All TSC logs and data (including classification and notification documentation)

All CECC logs and data (including core damage assessment, Rad release calculations, PARs, notification documentation)

All OSC logs

All Simulator Control Room logs and data (including classification and notification documentation.)

#### Section 1EP4: Emergency Action Level (EAL) and Emergency Plan Changes

##### Plans and Changes packages

Radiological Emergency Plan , Rev. 84 and 85

Change package for Radiological Emergency Plan, Rev. 84 and 85

Change package for EPIP-1, Emergency Classification Procedure, Rev. 41 and 42

Change package for EPIP-13, Dose Assessment, Rev. 13

Change package for EPIP-6, Activation and Operation of the TSC, Rev. 25

Change package for EPIP-7, Activation and Operation of the OSC, Rev. 24

Change package for EPIP-8, Personnel Accountability and Evacuation, Rev. 25

#### Section 4OA1: Performance Indicator (PI) Verification

##### Procedures

EPIL (Emergency Preparedness Instruction Letter) -14, Facilitation of the Prompt Notification System and Pager Tests, Rev. 10

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

##### Records and Data

Reviewed the Siren data from 2<sup>nd</sup> quarter 2006 to 1<sup>st</sup> quarter 2007

Reviewed the ERO data from 2<sup>nd</sup> quarter 2006 to 1<sup>st</sup> quarter 2007

Reviewed the DEP data from 2<sup>nd</sup> quarter 2006 to 1<sup>st</sup> quarter 2007

#### LIST OF ACRONYMS USED

ADAMS	Agency-wide Documents Access and Management System
ANS	Alert and Notification System
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
EAL	Emergency Action Level
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
ERP	Emergency Response Plan

FEMA	Federal Emergency Management Agency
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center