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ZERINGUE,O.J. Tennessee Valley Authority
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-013-00:on 910605,tech spec violation ocurred following loss of primary containment.Caused by personnel r. error.Corrective acitions include training for plant personnel & procedure revisions.W/910705 ltr.

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Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609

O. J. "Ike" Zeringue
Vice President, Browns Ferry Operations

July 5, 1991

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Dear Sir:

TVA - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 2 - DOCKET NO. 50-260 - FACILITY OPERATING LICENSE DPR-52 - REPORTABLE OCCURRENCE REPORT BFRO-50-260/91013

The enclosed report provides details concerning a technical specification violation that occurred following the breach of primary containment that occurred when both drywell airlock doors were simultaneously open. This report is submitted in accordance with 10 CFR 50.73(a)(2)(i).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

O. J. Zeringue

Enclosure
cc: see page 2

cc (Enclosure):
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NRC Resident Inspector, BFN

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Browns Ferry Unit 2 | DOCKET NUMBER (2): 0 5 0 0 0 2 6 0 | PAGE (3): 1 OF 0 6

TITLE (4): Technical Specification Violation Following Loss of Primary Containment Caused by Personnel Error

EVENT DAY (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 6	0 5	9 1	9 1	0 1 3	0 0	0 7	0 5	9 1		0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following)(11)

__ 20.402(b)	__ 20.405(c)	__ 50.73(a)(2)(iv)	__ 73.71(b)
__ 20.405(a)(1)(i)	__ 50.36(c)(1)	__ 50.73(a)(2)(v)	__ 73.71(c)
__ 20.405(a)(1)(ii)	__ 50.36(c)(2)	__ 50.73(a)(2)(vii)	__ OTHER (Specify in Abstract below and in Text, NRC Form 366A)
__ 20.405(a)(1)(iii)	X 50.73(a)(2)(i)	__ 50.73(a)(2)(viii)(A)	
__ 20.405(a)(1)(iv)	__ 50.73(a)(2)(ii)	__ 50.73(a)(2)(viii)(B)	
__ 20.405(a)(1)(v)	__ 50.73(a)(2)(iii)	__ 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
Stewart A. Wetzel, Compliance Licensing Engineer	2 0 5 7 2 9 - 2 0 4 8

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14): X YES (If yes, complete EXPECTED SUBMISSION DATE) __ NO

EXPECTED SUBMISSION DATE (15): MONTH 0 8 | DAY 0 5 | YEAR 9 1

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On June 5, 1991 at approximately 0245 a loss of primary containment integrity occurred when both drywell personnel airlock doors were opened. This condition occurred after the interlock which prevents both doors from being simultaneously open was disarmed.

The root cause of this event was personnel error. The individual involved (utility, non-licensed) performed unauthorized work by disarming the interlock on the drywell airlock. A contributing cause of this event was the lack of action taken by those in the direct area when the event took place.

TVA's corrective actions to address the specifics of this event included general and specialized training for plant personnel, procedure revisions to ensure Operations personnel are responsible for the operation of the drywell doors, and personnel corrective action in accordance with TVA policy. In addition, TVA performed an independent review to identify areas in which improvements may be prudent to further enhance maintenance-related activities and to reinforce requisite operational attitudes. This review resulted in additional procedure revisions, guidelines to enhance pre-test briefings and identification of future training upgrades.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT

On June 5, 1991 at approximately 0245 a loss of primary containment integrity occurred when both drywell personnel airlock doors were opened. This condition occurred after the interlock which prevents both doors from being simultaneously open was disarmed.

During the power ascension test program, entries were required to verify proper thermal expansion of primary system piping. This testing was to be performed under Test Instruction (TI) 190, System Thermal Expansion, with reactor coolant system pressure at approximately 150 psig. Mechanical Maintenance craftsmen were designated to operate the drywell airlock doors. These individuals were the assigned and qualified personnel to perform this task.

At approximately 0040 on June 5, 1991 three Mechanical Maintenance craftsmen were dispatched to perform the task of operating the airlock doors to support the thermal expansion testing. After supporting three entries into the drywell to determine the radiological conditions, a brief discussion took place between one of the three maintenance craftsmen and a Radiological Controls technician. Based on this discussion the craftsman understood it was acceptable to defeat the airlock interlock and open both inner and outer doors, providing an unobstructed pathway into the drywell. After defeating the airlock interlock, the craftsman reported his action to his foreman and general foreman. These individuals also did not question this action and failed to notify the Shift Operations Supervisor (SOS).

The condition of a breached primary containment remained in place until approximately 0600 on June 5, 1991, when the status of the airlock was questioned and the condition reported to the SOS. Following this notification the SOS took appropriate actions and reestablished primary containment integrity.

At the time of this event Unit 2 was in the startup mode with reactor moderator temperature of 365 degrees Fahrenheit and reactor vessel pressure of 150 psig. No fuel handling or operations over spent fuel were in progress. The loss of primary containment is a violation of Technical Specification 3.7.A.2, which is reportable in accordance with 10 CFR 50.73(a)(2)(i).

ANALYSIS OF EVENT

TVA is performing an assessment of the safety significance of this event. The results of this assessment will be reported in a revision to this LER.

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CAUSE OF EVENT

The root cause of this event was personnel error. The Mechanical Maintenance craftsman (utility, non-licensed) performed unauthorized work by disarming the interlock on the drywell airlock. Prior to this act the craftsman had received no direction from his supervisor or the SOS to perform this task. In addition, the craftsman did not have written authorization allowing him to perform this work. A contributing cause of this event was the lack of action taken by those in the direct area when the event took place.

PREVIOUS SIMILAR EVENTS

There have been no previous occurrences of loss of primary containment integrity.

CORRECTIVE ACTIONS

Corrective actions have been implemented in several areas to address the specifics of this event. The areas and their respective corrective action(s) are provided below.

1. Verbal Communication - Without proper authorization, the maintenance craftsman modified the assigned scope of work. The foreman and general foreman failed to communicate to the SOS the scope change of the work activity after becoming aware of it.

   Corrective Actions - Plant management developed an operating plant philosophy training package and conducted employee training sessions for plant personnel from June 7 through June 12, 1991. These sessions provided final event description; plant personnel responsibilities; SOS responsibility/authority; attitude and response to issues; and specific examples of previous events involving poor foreign material control, failures to perform adequate self-verification and problems associated with configuration control and equipment manipulation.

2. Work Practices - The craftsman defeated the interlocks without proper authorization and work documentation as required by plant procedures.

   Corrective Action - In addition to the training described in item 1 above, TVA has trained maintenance craft and craft supervision on the requirements for the performance and documentation of assigned work. TVA will also provide more in-depth training and will include this type of training in the craft annual requalification certification.

3. Procedure Change Evaluation - Risks and consequences associated with changing the method of defeating interlocks were not adequately reviewed or assessed for applicability during a 1987 revision of the procedure for defeating the interlocks.

Corrective Actions - Operating instructions have been revised to ensure Operations personnel are responsible for operation of the drywell doors. Maintenance instructions for defeating drywell interlocks have been revised to ensure correct drywell airlock door status is indicated in the control room with the interlocks defeated, and to remove responsibility and authority of operation of the drywell airlock from the Maintenance craft. A review of over 2000 plant procedures to ensure that interlock mechanisms are properly controlled has been completed. Based on the results of this review 36 procedures are being revised to improve communications.

4. Managerial Methods - Prior to this event, plant management had met with plant personnel on several occasions to emphasize the importance of recognizing that BFN is becoming an operating plant, including the increased technical specification and operating requirements which would be in effect. Discussions included emphasis on correct job performance (e.g., ensure adequate time is taken; ensure each activity is clearly understood, if not, stop; if equipment failures occur, ensure proper actions are taken to determine root cause; self-checking). Several in-house assessments, including independent reviews (e.g., Operational Readiness Review, Senior Management Assessment) were conducted to assess the readiness of personnel to resume operations. While significant improvements were noted, management recognized that continuous, sustained emphasis and actual operating performance would be necessary to obtain desired levels of excellence. Frequent management assessments of performance were planned during initial operations.

   Corrective Actions - Training as discussed in item 1 above was given to plant personnel. Site Quality Assurance (QA) performed surveys to determine the effectiveness of this training. Based on these surveys, additional training was provided in the maintenance area. In addition, the site Training department has enhanced its program on the requirements of the plant's safety barriers and the responsibility to maintain their effectiveness.

5. Inappropriate Personnel Action - The personnel involved performed unauthorized work in violation of plant procedures.

   Corrective Action - The personnel involved have received personnel corrective action in accordance with TVA policy.

In addition, TVA management performed an independent review of the event to identify areas in which improvements may be prudent to further enhance maintenance-related activities and to reinforce requisite operational attitudes. This review resulted in the development of the comprehensive set of improvements listed below.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

1. Procedure Revision - The plant instruction governing work request control, Site Director's Standard Practice (SDSP) 7.6, Maintenance Management System, contained adequate controls to ensure operations notifications and authorization prior to commencing work. The procedure has, however, been enhanced to improve the process for notifying Operations of the status of in-progress work. Specifically, it has been revised to ensure that if during performance of a work order (WO) any significant delays (over four hours) and scope changes occur, the SOS and unit operator are notified. The work planner's guide has also been revised to reflect this enhancement. In addition, for work that affects certain critical systems, a "red sheet" must be filled out and inserted in the front of the work package as a flag to alert craftsmen of potential adverse impacts on plant operations.

2. Shift Turnovers - To ensure proper attendance and information exchange during SOS turnover meetings, General Operating Instruction 300-1, Attachment A, SOS Turnover Checklist, was revised to clearly identify the individuals scheduled to attend the shift turnover. The turnover checklist was also revised to include a listing of power ascension tests that would be carried over into the oncoming shift. Also, the checklist now requires the listing of prejob briefings to ensure the oncoming shift receives a briefing on the work activities/test activities in progress.

3. QA Review - The site QA organization performed a review of all open WOs. No WOs were identified where Operations notifications were not being made. The review revealed that 12 of the WOs required minor changes or improvements in the way Operations notifications were being provided, and 14 WOs were unnecessary and needed to be closed or canceled. TVA determined that no problems would have resulted from execution of these work orders. The remaining WOs were found to have adequate scope and work controls. QA also independently reviewed over 700 of the procedures discussed previously in Item 3, Procedure Change Evaluation.

4. Pretest Briefings - To enhance the conduct of job briefings, guidelines have been issued to test directors to reemphasize compliance with procedural requirements for conducting briefings for power ascension testing. These guidelines require that pretest briefings be held on the shift during which the test is performed; that personnel directly or indirectly involved in performance of the test be present at the briefings; and that the test director conduct two pretest briefings: one prior to the test crew assuming shift duties (a general test overview, usually at the Operations shift turnover meeting) and a second prior to commencing the test (a detailed briefing). Briefings will ensure the test crew understand the test criteria, expected plant responses, and required actions.

5. Task Qualification Training - To ensure that required job performance criteria have been addressed, TVA reviewed the task qualification process and found it to be satisfactory. In addition, QA will monitor the implementation of this program on an ongoing basis to evaluate the adequacy and effectiveness of the program.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

6. Power Ascension Test Review - To ensure that support activities are completely specified and documented, TVA reviewed the power ascension tests. Nineteen tests were reviewed; seven of which were improved.

7. Shift Technical Advisor (STA) Training - TVA reviewed the current STA training program, which includes senior reactor operator qualification, and found it adequately covers primary containment requirements. Interviews with individual STAs found them knowledgeable of these requirements.

8. Foreman Qualification Evaluation - TVA is developing a continuing supervisory training program which foremen will attend.

9. Access Levels - To ensure that only individuals requiring access to plant areas obtain the applicable access level, TVA reviewed access levels of site personnel and changed the level of 108 individuals.

10. Review of Critical Activities - To ensure proper control by Operations, TVA reviewed other critical activities, such as those related to fire protection, radiation monitors, and high radiation doors. No deficiencies were identified.

11. Secondary Containment Interlocks - To preclude a similar event from occurring on BFN's secondary containment airlocks, TVA checked secondary containment interlocks and verified proper functionality.

12. Maintenance Management Structure - To ensure that BFN has an optimum Maintenance management organization, TVA will evaluate the existing two-level Maintenance supervisory structure.

TVA's June 13, 1991 letter from D. A. Nauman to S. D. Ebneter previously committed to perform these corrective actions.

COMMITMENTS

TVA will perform an assessment of the safety significance of this event. The results of this assessment will be reported in a revision to this licensee event report. This revision should be submitted by August 5, 1991.