



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

John A. Scalice
Site Vice President, Watts Bar Nuclear Plant

AUG 05 1996

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

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No. 50-390

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 FACILITY OPERATING LICENSE
NPF-90 - LICENSEE EVENT REPORT (LER) 50-390/96021 - COMPONENTS OF
BOTH TRAINS OF SAFETY-RELATED HEATING, VENTILATING, AND AIR
CONDITIONING TEMPORARILY OUT OF SERVICE BY SITE PROCEDURES DURING
TRAIN SWAP-OVER

The purpose of this letter is to provide the subject LER. This report details occasions on which Site Operating Instructions (SOIs) inadvertently rendered components of both trains of safety-related heating, ventilating, and air conditioning temporarily out of service during train swap-over.

If you should have any questions, please contact P. L. Pace at (423) 365-1824.

Sincerely,


J. A. Scalice

Enclosure
cc: See page 2

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PDR ADOCK 05000390
S PDR

Handwritten notes:
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U.S. Nuclear Regulatory Commission

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AUG 0 5 1996

cc (Enclosure):

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Region II
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Atlanta, Georgia 30323

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-8 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20003.

| | | | |
|---|--|-------------------------------|--------------------|
| FACILITY NAME (1) Watts Bar Nuclear Plant - Unit 1 | | DOCKET NUMBER (2) 05000390 | PAGE (3) 1 OF 5 |
|---|--|-------------------------------|--------------------|

TITLE (4)
COMPONENTS OF BOTH TRAINS OF CONTROL BUILDING SAFETY-RELATED HVAC MADE TEMPORARILY INOPERABLE BY SITE INSTRUCTIONS DURING CHANGEOVER FROM ONE TRAIN TO THE OTHER

| EVENT DATE (6) | | | LER NUMBER (8) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|---------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 7 | 5 | 96 | 96 | 021 | 00 | 08 | 05 | 96 | WATTS BAR NUCLEAR PLANT | 05000 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|--|---------------------------|----------------|-------------------|---------------|------------------|-----------------|----------------|------------------|-------------------|------------------|-------|-------------------|---------------|-----------------|-------|--------------------|-------------|--|---------------------------|-------------------|-------------|------------------|---------------------|
| OPERATING MODE (9) 1 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) | | | | | | | | | | | | | | | | | | | | | | | | |
| POWER LEVEL (10) 100 | <table border="1"> <tr> <td>20.2201(b)</td> <td>20.2203(a)(2)(v)</td> <td>50.73(a)(2)(i)</td> <td>50.73(a)(2)(viii)</td> </tr> <tr> <td>20.2203(a)(1)</td> <td>20.2203(a)(3)(i)</td> <td>50.73(a)(2)(ii)</td> <td>50.73(a)(2)(x)</td> </tr> <tr> <td>20.2203(a)(2)(i)</td> <td>20.2203(a)(3)(ii)</td> <td>50.73(a)(2)(iii)</td> <td>73.71</td> </tr> <tr> <td>20.2203(a)(2)(ii)</td> <td>20.2203(a)(4)</td> <td>50.73(a)(2)(iv)</td> <td>OTHER</td> </tr> <tr> <td>20.2203(a)(2)(iii)</td> <td>50.36(c)(1)</td> <td><input checked="" type="checkbox"/> 50.73(a)(2)(v)</td> <td>Specify in Abstract below</td> </tr> <tr> <td>20.2203(a)(2)(iv)</td> <td>50.36(c)(2)</td> <td>50.73(a)(2)(vii)</td> <td>or in NRC Form 366A</td> </tr> </table> | 20.2201(b) | 20.2203(a)(2)(v) | 50.73(a)(2)(i) | 50.73(a)(2)(viii) | 20.2203(a)(1) | 20.2203(a)(3)(i) | 50.73(a)(2)(ii) | 50.73(a)(2)(x) | 20.2203(a)(2)(i) | 20.2203(a)(3)(ii) | 50.73(a)(2)(iii) | 73.71 | 20.2203(a)(2)(ii) | 20.2203(a)(4) | 50.73(a)(2)(iv) | OTHER | 20.2203(a)(2)(iii) | 50.36(c)(1) | <input checked="" type="checkbox"/> 50.73(a)(2)(v) | Specify in Abstract below | 20.2203(a)(2)(iv) | 50.36(c)(2) | 50.73(a)(2)(vii) | or in NRC Form 366A |
| 20.2201(b) | 20.2203(a)(2)(v) | 50.73(a)(2)(i) | 50.73(a)(2)(viii) | | | | | | | | | | | | | | | | | | | | | | |
| 20.2203(a)(1) | 20.2203(a)(3)(i) | 50.73(a)(2)(ii) | 50.73(a)(2)(x) | | | | | | | | | | | | | | | | | | | | | | |
| 20.2203(a)(2)(i) | 20.2203(a)(3)(ii) | 50.73(a)(2)(iii) | 73.71 | | | | | | | | | | | | | | | | | | | | | | |
| 20.2203(a)(2)(ii) | 20.2203(a)(4) | 50.73(a)(2)(iv) | OTHER | | | | | | | | | | | | | | | | | | | | | | |
| 20.2203(a)(2)(iii) | 50.36(c)(1) | <input checked="" type="checkbox"/> 50.73(a)(2)(v) | Specify in Abstract below | | | | | | | | | | | | | | | | | | | | | | |
| 20.2203(a)(2)(iv) | 50.36(c)(2) | 50.73(a)(2)(vii) | or in NRC Form 366A | | | | | | | | | | | | | | | | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|--|
| NAME Walt Lewellyn, Compliance Licensing Engineer | TELEPHONE NUMBER (Include Area Code) (423)-365-1812 |
|--|--|

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 |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
| D | KM | N/A | N/A | N | | | | | |

1 SUPPLEMENTAL REPORT EXPECTED (14)

| | | | | | |
|---|--|-------------------------------|-------|-----|------|
| YES (If yes, complete EXPECTED SUBMISSION DATE). | <input checked="" type="checkbox"/> NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|--|-------------------------------|-------|-----|------|

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On July 5, 1996, with Unit 1 operating in Mode 1 at 100 percent rated thermal power (RTP), Operations personnel were preparing to switch operation from Train A Main Control Room (MCR) heating, ventilating and air condition (HVAC) to the Train B MCR HVAC. Prior to performing the procedure, it was identified that the procedure would make both trains of Control Room Emergency Air Temperature Control Systems (CREATCS) inoperable at the same time for approximately 25 minutes. The evolution was stopped prior to entering this condition. An evaluation indicated that the process of temporarily taking both trains out of service during equipment changeover had occurred several times in the past.

The cause for past occurrences was determined to be technically incorrect procedures. A contributing cause was the failure of Operations personnel and systems engineers to recognize a condition not permitted by plant design and the Technical Specifications.

The corrective action was to revise the incorrect procedure. Recurrence control included personnel training.

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

I. PLANT CONDITIONS

Watts Bar Nuclear Plant Unit 1 was operating in Mode 1 at 100 percent RTP, with the Reactor System temperature and pressure of 588 degrees F and 2244 psi, respectively.

II. DESCRIPTION OF EVENT

A. Event

On July 5, 1996, with Unit 1 operating in Mode 1 at 100 percent rated thermal power (RTP), Operations personnel were preparing to swap-over the operation of MCR Train A to Train B HVAC (Energy Industry Identification System [EIIIS] Code KM/VI CHUs). Prior to performing the procedure, SOI-31.01, "Control Building HVAC System," it was identified that the procedure would make both trains of CREATCS temporarily out of service concurrently for approximately 25 minutes until the swap-over was completed. This would place the unit in Technical Specification (TS) 3.0.3. The evolution was stopped prior to entering this condition.

B. Inoperable Structures, Components, or Systems that Contributed to the Event

The contributors to the event were incorrect procedures and personnel performance. System/component deficiencies were not a factor.

C. Dates and Approximate Times of Major Occurrences

On July 5, 1996, at 12:20 p.m., a report was made to NRC pursuant to 10CFR50.72(b)(2)(iii)(D). This report concerned SOI-31.01 instructions on swapping MCR chillers. The procedure required both HVAC handswitches to be placed in "pull-to-lock" at the same time.

D. Other Systems or Secondary Functions Affected

As a result of an extent of condition review, an evaluation identified that this swap-over had been performed 13 times since fuel load, and, in addition, a similar problem was identified in that both trains of Electrical Board Room HVAC had been placed out of service during train swap-over on 17 occasions since initial fuel load. Further evaluation identified that SOI-30.07, "Shutdown Board Rooms HVAC EI 757 & 772," had been performed 19 times since initial fuel load, causing both trains of the Shutdown Board Room HVAC to be out of service during train swap-over.

E. Method of Discovery

The procedural problem was discovered by operators questioning the procedure prior to performance.

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

F. Operator Actions

Operations personnel discontinued the performance of SOI-31.01 until corrections were made.

G. Automatic and Manual Safety System Response

There were no automatic or manual safety system responses due to this condition.

III. CAUSE OF EVENT

The cause of past occurrences was determined to be technically incorrect site instructions. In addition, some Operations personnel and systems engineers did not recognize that the site instructions were allowing configurations that would render both trains of safety-related HVAC temporarily out of service at the same time.

IV. ANALYSIS OF EVENT - ASSESSMENT OF SAFETY CONSEQUENCES

A. Evaluation of Plant Systems/Components

Since the cause did not involve component deficiencies or malfunctions, no systems/components analysis is required.

B. Evaluation of Personnel Performance

Operations personnel and systems engineers failed to recognize a condition not permitted by plant design and the Technical Specifications.

C. Safety Significance

The MCR HVAC system is designed to maintain acceptable temperatures in the MCR Habitability Zone on Elevation 755. This includes the MCR, Relay Room, Technical Support Center, and Mechanical Equipment Room.

The Electrical Board Room HVAC system is designed to maintain acceptable temperatures in Elevations 692 and 708 of the Control Building. This includes the Auxiliary Instrument Room, Computer Room, Security Secondary Alarm Station, Mechanical Equipment Room, Battery Room and Battery Board Rooms.

The Shutdown Board Room HVAC system is designed to maintain acceptable temperatures in the 6.9 KV Shutdown Board Rooms, 489V Shutdown Board Rooms, Vital Battery Board Rooms and Auxiliary Control Room.

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These safety-related HVAC systems are designed to maintain the temperatures in the areas they serve for personnel access and habitability, and for the protection and reliable operation of plant controls and equipment during normal, accident and postaccident recovery conditions.

If any one of these safety-related HVAC systems were left unattended for an extended period of time during the swap-over process, there would be a loss of both trains, causing it to be unable to perform their safety functions. These systems were, however, actively being attended by the Operations personnel during the swap-over process. Because of this, it is unlikely that the equipment would be left unattended during the swap-over of the equipment, since the Operations personnel have a responsibility to follow through on the completion of the procedures.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

The immediate corrective action was to discontinue the Train A HVAC swap-out to the Train B HVAC until the site instructions were corrected.

SOI-31.01 was revised to change trains without placing both trains of the equipment temporarily out of service.

B. Corrective Actions to Prevent Recurrence

Sixteen SOIs were targeted and reviewed because the procedures are used to swap trains. No additional operability concerns beyond those stated in this report were identified.

In addition to the immediate corrective action to revise SOI-31.01 for MCR HVAC, SOI-31.01 was also revised to cover the similar situation for the Electrical Board Room HVAC, and SOI-30.07 was revised to correct the methodology for swapping trains of Shutdown Board Room HVAC.

Training will be provided to non-clerical Operations personnel and systems engineers concerning "mindset and ingrained work practices." This training will specifically address the issue of procedural inoperability and the Technical Specifications requirements of such actions.

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VI. ADDITIONAL INFORMATION

A. Failed Components

1. Safety Train Inoperability

Both trains of the CREATCS had been rendered temporarily out of service during the past occurrences due to the procedure being technically wrong. There were no component failures.

2. Component/System Failure Information

a. Method of Discovery of Each Component or System Failure:

N/A

b. Failure Mode, Mechanism, and Effect of Each Failed Component:

N/A

c. Root Cause of Failure:

N/A for component failure.

d. For Failed Components With Multiple Functions, List of Systems or Secondary Functions Affected:

N/A

e. Manufacturer and Model Number of Each Failed Component:

N/A

B. Previous Similar Events

There were no previous similar events identified other than the occurrences described above.

VII. COMMITMENTS

The training provided to non-clerical Operations personnel and systems engineers will be completed by September 15, 1996.