TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

May 3, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

As a result of discussions between TVA and NRC Region II representatives and of TVA's ongoing review of the Watts Bar unit 1 technical specifications, we have enclosed several additional proposed technical specification changes. Please note that corresponding changes to the Final Safety Analysis Report (FSAR) are also included as appropriate. These changes will be reflected in the next amendment to the FSAR (Amendment 56).

If you have any questions concerning this matter, please get in touch with D. B. Ellis at FTS 858-2681.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer
Nuclear Engineer

Sworn to and subscribed before me
this 3rd day of May 1985.

Paulette D. White
Notary Public

My Commission Expires 8-24-88

Enclosure
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

A001
1/1

ENCLOSURE

Surveillance Requirement 4.8.1.1.2.f

TVA is proposing to delete the requirement to perform these tests during shutdown. The recent NRC-OIE inspection of surveillance instructions identified a potential discrepancy regarding 4.8.1.1.2.f.1. The manufacturer's recommended inspections in most cases can be performed within the constraints of the action statements, and hence, can be performed in any mode. TVA plans to perform many of the inspections during plant operation. To avoid confusion and misinterpretation, TVA recommends that the phrase "during shutdown" be deleted. TVA still intends to perform the other tests list in 4.8.1.1.2.f during refueling outages for the units associated with the diesel generators.

b) A kinematic viscosity at 40°C of greater than ~~or~~ equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification;

c) A flash point equal to or greater than 125°F; and

d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.

2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79 or ASTM-D2622-82.

e. At least once every 31 days by obtaining a sample of fuel oil in accordance with ASTM-D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-78, Method A;

f. At least once per 18 months ~~during Shutdown~~ by:

1) Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service

2) Verifying the generator capability to reject a load of greater than or equal to 600 kW while maintaining voltage (steady state) at 6900 ± 690 volts and frequency at 60 ± 1.2 Hz;

3) Verifying the generator capability to reject a load of 4400 kW without tripping. The generator voltage shall not exceed 7866 volts during and following the load rejection;

4) Simulating a loss-of-offsite power by itself, and:

a) Verifying deenergization of the shutdown boards and load shedding from the shutdown boards, and

b) Verifying the diesel starts on the auto-start signal, energizes the shutdown boards with permanently connected loads within 10 seconds, energizes the auto-connected

Surveillance Requirement 4.8.4.1.b

TVA is proposing a change to surveillance requirement 4.8.4.1.b to clarify that the 60 month preventive maintenance requirement applies only to electrically-operated circuit breakers. This potential for misinterpretation was identified by the recent NRC-OIE inspection of surveillance instructions. This change makes surveillance requirement 4.8.4.1.b identical to 4.8.3.3.b. Molded-case circuit breakers, by virtue of their design, have no periodic preventive maintenance requirements.

SURVEILLANCE REQUIREMENTS (Continued)

c) For each circuit breaker found inoperable during these functional tests, an additional circuit breaker of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2) By selecting and functionally testing a representative sample of at least 10% of each type of electrically-operated circuit breakers. Electrically-operated circuit breakers selected for functional testing shall be selected on a rotating basis. The functional test shall consist of injecting a current input at the specified Setpoint to each selected electrically-operated circuit breaker or trip device and verifying that each electrically-operated circuit breaker or trip device functions as designed. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each device found inoperable during these functional tests, an additional representative sample of at least 10% of the defective type electrically-operated circuit breakers shall also be functionally tested until no more failures are found or all electrically-operated circuit breakers of that type have been functionally tested; and

3) By selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found to be inoperable during these functional tests shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functional tested.*

b. At least once per 60 months by subjecting each electrically operated circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

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*Surveillance requirement 4.8.4.1.a.3 may be suspended until the completion of the NRC generic study, provided the following surveillance requirement is implemented:

A fuse inspection and maintenance program will be maintained to ensure that:

1. The proper size and type of fuse is installed,
2. The fuse shows no signs of deterioration, and
3. The fuse connections are tight and clean.

Technical Specification Table 3.3-4

In a January 30, 1985 letter to NRC, TVA requested changes to Table 3.3-4 to include allowances provided in the setpoint study which had been previously submitted to NRC. Two additional changes to Table 3.3-4 were not included in the requested changes. First, the allowable values for steam flow-high in item 4.d should be changed as indicated on the attached page. This same change was submitted and approved by NRC for the allowable values for steam flow-high in item 1.f of Table 3.3-4. The same component provides the trip setpoint for item 4.d and 1.f; therefore, the allowable setpoint must be consistent. Second, the allowable value for low-low T avg in item 9.b should be changed as indicated on the attached page. This same change was submitted and approved by NRC for the allowable value for low-low T avg in items 1.f and 4.d of Table 3.3-4. The same component provides the trip setpoint for items 9.b, 4.d, and 1.f; therefore, the allowable setpoint must be consistent.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
3. Containment Isolation (continued)		
c. Containment Ventilation Isolation		
1) Manual Initiation	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints/ Allowable Values.	
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High	$\leq$ 2.81 psig	$\leq$ 3.1 psig
d. Steam Flow in Two Steam Lines--High	$\leq$ A function defined as follows: A Δp corresponding to 40% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 110% of full steam flow at full load	$\leq$ A function defined as follows: A Δp corresponding to ~~44%~~ 44.3% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to ~~111.5%~~ 114.3% of full steam flow at full load
Coincident With		
Either		
T_{avg}--Low-Low	$\geq$ 550°F	$\geq$ 547.3°F
Or		
Steam Line Pressure--Low	$\geq$675 psig	$\geq$ 649 psig

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
8. 6.9 kV Shutdown Board (continued)		
2) Load Shedding a) Nominal Voltage Setpoint	4860 volts	4860 ± 97.2 volts
b) Relay Response Time	0.0 volts with a 5 second time delay	0.0 volts with 5 ± 1 second time delay
b. Degraded Voltage 1) Voltage Sensor	6560 volts	6560 ± 33 volts
2) Diesel Generator Start and Load Shedding Timer	300 seconds	300 ± 30 seconds
3) Safety Injection Degraded Voltage Logic Enable Timer	10 seconds	10 ± 1 seconds
9. Engineered Safety Features Actuation System Interlocks		
a. Pressurizer Pressure, P-11	$\leq$ 1970 psig	$\leq$ 1980 psig
b. Low-Low T_{avg}, P-12, increasing decreasing	$\geq$ 550°F $\leq$ 550°F	$\leq$ 552°F $\geq$ ~~548°F~~ 547.3
c. Reactor Trip, P-4	N.A.	N.A.
d. Steam Generator Water Level, P-14	See Item 5. above for all Steam Generator Water Level-High-High Trip Setpoints and Allowable Values.	

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ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Table 3.3-4

During the recent NRC-OIE inspection of Watts Bar's surveillance instructions, a discrepancy was identified between the installed equipment and containment pressure setpoints. The present setpoints are expressed in gauge pressure. The installed transmitters sense containment pressure relative to the annulus. During normal operation the annulus is maintained at a vacuum of 5 inches water gauge in accordance with technical specification 3.6.1.8. All ventilation connections to the annulus, normal and emergency, pull a vacuum on the annulus area. TVA believes that the annulus will always be at or less than atmospheric pressure. Because of this, the containment pressure setpoint based on the differential pressure transmitter arrangement would always be consistent with or more conservative than the gauge pressure setpoints specified in the technical specifications. TVA believes that the arrangement meets the technical specification requirement which requires that the containment pressure setpoints be less than or equal to the value specified. However, the NRC-OIE inspection team recommended that the technical specifications be revised to reflect the as-built design. As such, TVA proposes that the engineering units for the containment pressure setpoints be changed from gauge pressure to differential pressure.

TABLE 3.3-4

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Safety Injection (Reactor Trip, Turbine Trip, Feedwater Isolation, Control Room Isolation, Start Diesel Generators, Component Cooling Water, and Essential Raw Cooling Water)		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High	≤ 1.54 psig[d]	≤ 1.8 psig[d]
d. Pressurizer Pressure--Low	≥ 1870 psig	≥ 1854 psig
e. Differential Pressure Between Steam Lines--High	≤ 100 psi	≤ 127.6 psi
f. Steam Flow in Two Steam Lines--High	≤ A function defined as follows: A Δp corresponding to 40% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 110% of full steam flow at full load	≤ A function defined as follows: A Δp corresponding to 44.3% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 114.3% of full steam flow at full load
Coincident With		
Either		
T_{avg}--Low-Low	≥ 550°F	≥ 547.3°F
Or		
Steam Line Pressure--Low	≥ 675 psig	≥ 649 psig

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
2. Containment Spray		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High	≤ 2.81 psig [d]	≤ 3.1 psig [d]
3. Containment Isolation		
a. Phase "A" Isolation		
1) Manual Initiation	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints/ Allowable Values.	
b. Phase "B" Isolation		
1) Manual Initiation	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Containment Pressure--High-High	≤ 2.81 psig [d]	≤ 3.1 psig [d]

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
3. Containment Isolation (continued)		
c. Containment Ventilation Isolation		
1) Manual Initiation	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints/ Allowable Values.	
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High	$\leq$ 2.81 psig[d]	$\leq$ 3.1 psig[d]
d. Steam Flow in Two Steam Lines--High	$\leq$ A function defined as follows: A Δp corresponding to 40% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 110% of full steam flow at full load	$\leq$ A function defined as follows: A Δp corresponding to 44% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 111.5% of full steam flow at full load
Coincident With		
Either		
T_{avg}--Low-Low	$\geq$ 550°F	$\geq$ 547.3°F
Or		
Steam Line Pressure--Low	$\geq$675 psig	$\geq$ 649 psig

Main Control Room Temperature - Technical Specification 3.7.13, 3.7.7

Due to the plant specific design of the Watts Bar Control Room Emergency Ventilation System, it is inappropriate to have a surveillance requirement associated with an upper temperature limit. This temperature limit is already covered under specification 3.7.13, AREA TEMPERATURE MONITORING. The emergency ventilation system performs its safety function of pressurizing the MCR and filtering incoming air without the chiller packages functioning. Surveillance requirement 4.7.7 states that "Each Control Room Emergency Ventilation System shall be demonstrated OPERABLE:

A. At least once per 12 hours, by verifying that the control room air temperature is less than or equal to 104°F;"

As discussed above, the MCR air temperature does not affect or reflect the operability of the emergency ventilation system at Watts Bar. Thus, we request this surveillance requirement be deleted.

As discussed in our April 9, 1985 submittal to NRC, TVA is investigating the appropriateness of the 104°F temperature limit on the MCR ambient air. Based on discussions with Westinghouse, the equipment in the MCR they supplied has a 120°F rating for an eight hour period and a 105°F continuous rating. TVA-procured equipment has a 120°F continuous rating. Based on a maximum expected temperature rise of 15°F inside the MCR cabinets, we believe a 90°F (105°F - 15°F) ambient air temperature limit is appropriate. Technical Specification table 3.7-4 has been marked up to reflect this. It should be noted that the equipment specifications are consistent with the action statements: Action statement A requires an analysis be performed to demonstrate operability when the temperature limit is exceeded for more than eight hours (i.e., when you exceed the eight hours at 105°F on the equipment); Action statement B is a four-hour action statement associated with exceeding 30°F above the temperature limit (i.e., exceeding the eight-hour limit of 120°F).

Additionally, due to problems encountered at the McGuire Nuclear Plant with certain equipment malfunctioning at elevated air temperatures, TVA will add the Auxiliary Instrumentation Room temperature limit to technical specification 3.7-4. The type electronic equipment which failed at McGuire is located in the Auxiliary Instrumentation Room at Watts Bar.

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3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent Control Room Emergency Ventilation Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one Control Room Emergency Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Emergency Ventilation System in the recirculation mode; and

b. With both Control Room Emergency Ventilation Systems inoperable, or with the OPERABLE Control Room Emergency Ventilation System, required to be in the recirculation mode by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.7 Each Control Room Emergency Ventilation System shall be demonstrated OPERABLE:

Delete { ~~a. At least once per 12 hours, by verifying that the control room air temperature is less than or equal to 104°F;~~

b. At least once per 31 days on a STAGGERED TEST BASIS, by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the humidity of the recirculation air at less than 70%;

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3/4.7.13 AREA TEMPERATURE MONITORING

LIMITING CONDITION FOR OPERATION

3.7.13 The temperature limit of each area given in Table 3.7-4 shall not be exceeded for more than 8 hours or by more than 30°F.

APPLICABILITY: Whenever the affected equipment in an affected area is required to be OPERABLE.

ACTION:

a. With one or more areas exceeding the temperature limit(s) given in Table 3.7-4 for more than 8 hours, prepare and submit a Special Report to the Commission within 30 days, pursuant to Specification 6.9.2, that provides a record of the cumulative time and the amount by which the temperature in the affected area(s) exceeded the limit(s) and an analysis to demonstrate the continued OPERABILITY of the affected equipment.

b. With one or more areas exceeding the temperature limit(s) given in Table 3.7-4 by more than 30°F, prepare and submit a Special Report as required by ACTION a. above and within 4 hours either restore the area(s) to within the temperature limit(s) or declare the affected equipment in the affected area(s) inoperable.

SURVEILLANCE REQUIREMENTS

4.7.13 The temperature in each of the areas given in Table 3.7-4 shall be determined to be within its limit at least once per 12 hours.

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TABLE 3.7-4

AREA TEMPERATURE MONITORING

	AREA	TEMPERATURE LIMIT (°F)
1.	Aux Bldg el 722 next to 480V Sd Bd transformer 1A2-A.	≤ 104
2.	Aux Bldg el 722 next to 480V Sd Bd transformer 1B1-B.	≤ 104
3.	Aux Bldg el 772 next to 480V Rx MOV Bd 1A2-A.	≤ 104
4.	Aux Bldg el 772 across from spare 125V vital battery charger 1-S.	≤ 104
5.	Aux Bldg el 772 next to 480V Rx MOV Bd 2A2-A.	≤ 104
6.	Aux Bldg el 772 next to 480V Sd Bd transformer 2A2-A.	≤ 104
7.	Aux Bldg el 772 next to 480V Sd Bd transformer 2B2-B.	≤ 104
8.	Aux Bldg el 772 next to 480V Rx MOV Bd 2B2-B.	≤ 104
9.	Aux Bldg el 772 U1 Mech Equip Room B.	≤ 104
10.	Sd Bd room el 757 U1 behind stairs S-A3.	≤ 104
11.	Sd Bd room el 757 U2 behind stairs S-A13.	≤ 104
12.	Refueling floor el 757 U1 beside Aux boration makeup tk.	≤ 104
13.	Aux Bldg el 737 U1 outside supply fan room.	≤ 104
14.	Aux Bldg el 713 U1 across from AFW pumps.	≤ 104
15.	Aux Bldg el 692 U1 outside AFW pump room door.	≤ 104
16.	Aux Bldg el 692 U2 near boric acid concentrate filter vault.	≤ 104
17.	Aux Bldg el 676 next to 0-L-629.	≤ 104
18.	Add Equip Bldg U1 el 729 between UHI accumulators.	≥ 75 ≤ 85
19.	Main Control Room south wall.	≤ ~~104~~ 90
20.	Main Control Room across from 1-M-9.	≤ ~~104~~ 90
21.	D/G Bldg el 742 2B-B D/G room on wall by battery charger.	≤ 120
22.	D/G Bldg el 760.5 next to 480V diesel Aux Bd 2B1-B.	≤ 120
23.	IPS el 741 next to 1A-A ERCW-MCC transformer and board.	≤ 120
24.	IPS el 741 in B train ERCW pump room.	≤ 120
25.	IPS el 741 next to 2A-A ERCW-MCC transformer and board.	≤ 120
26.	Computer room el 708 center of room.	≥ 65 ≤ 75
27.	North steam valve vault room U1 Morgan Temp Recorder.	≥ 80
28.	South steam valve vault room U1 Morgan Temp Recorder.	≥ 80
29.	D/G Bldg el 742 1A-A D/G Room near D/G set	≥ 65
30.	D/G Bldg el 742 1B-B D/G Room near D/G set	≥ 65
31.	D/G Bldg el 742 2A-A D/G Room near D/G set	≥ 65
32.	D/G Bldg el 742 2B-B D/G Room near D/G set	≥ 65
Add → 33.	Aux. Instrument Room Elev 708	≤ 90

Abnormal excursions of short duration up to 104°F may occur without adverse effects on the equipment

9.4.1.3 Safety Evaluation

The control building air-conditioning systems are engineered safety features (ESF). Each pair of full-capacity (one redundant) water chillers and each redundant set of air handling units are served from separate trains of the emergency power system and from coordinated separate loops of the essential raw cooling water system. The failure modes and effects analysis presented in Table 9.4-7 verifies the capability of the system to maintain acceptable environmental conditions within the Control Building during any mode of system operation following any single active failure. 24 28

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All main control room equipment will operate normally with any ambient temperature in the range of 50°F to 104°F. At temperatures above 104°F, failure rates for this control room equipment may tend to rise somewhat and some instrumentation inaccuracies may arise. The full-capacity air-conditioning system redundancy discussed above, however, reduces the probability of overtemperature operations to acceptably small values. Loss of ventilation problems are discussed further in Section 3.11.4.

The air cleanup equipment installed to purify air supplied to the Main Control Room habitability zone during emergencies is classified as an ESF air cleanup system. Good general agreement with Regulatory Guide 1.52 standards for air cleanup equipment is achieved. Details on this compliance are given in Table 6.5-4. 52

Each of the control building emergency air cleanup units consists of a bank of HEPA filter cells and a bank of carbon adsorber modules. Test connections and appropriate instrumentation are also provided for each air cleanup unit. For further details, refer to Section 6.4.4.

One control building air-conditioning system filter bank is provided on the air intake on each of the system air handling units. Each filter cell is rated at 45 percent efficiency based on the NBS dust spot method and 2500 nominal-cfm airflow. Each filter cell is rated for an initial resistance of 0.40 inch water gauge when clean, and filtering media should be replaced with new media upon an increase in resistance to 1.0 inch.

For discussions on radioactivity dose levels and detection of airborne contaminants, refer to Sections 12.4 and 12.3.4.

The only heating, ventilating, and air conditioning required in the Control Building in the event of a flood above plant grade is for the El. 755 rooms, including the Main Control Room. The equipment used for this function includes the main control room air handling units, the control building pressurizing fans, and 35

Technical Specification Table 3.8-1

Refer to TVA's letter of certification dated April 9, 1985.

The referenced letter included proposed changes to technical specification Table 3.8-1.

As a result of the review of Table 3.8-1 by the Watts Bar plant quality assurance staff, four changes to TVA's proposed Table 3.8-1 were identified. Attached are marked-up pages showing the following changes:

(1) Entry on Page 3/4 8-37 which was indicated to be deleted should stay.

(2) Insert J should have 12A(-) changed to 12A(+) on the primary device number.

(3) Typographic error corrected on Insert X

(4) Description of backup devices in Insert SS revised to uniquely identify the fuse.

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TABLE 3.8-1 (Continued)

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

PRIMARY DEVICE NUMBER	BACKUP DEVICE NUMBER	LOCATION OF PRIMARY DEVICE	SYSTEM POWERED
5. 125V DC (VI-PWR) (Continued)			
FU-236 -2/B36 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/B36 (-)	125V VI-BATT BDII PNL 4	CNTMT BLDG UPR COMPT AIR MON ISLN VLV ~~9[illegible]~~
FU-236 -2/C5 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C5 (-)	125V VI-BATT BDII PNL 4	INSTR RM COOL UNIT B VLV
FU-236 -2/C6 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C6 (-)	125V VI-BATT BDII PNL 4	INSTR RM COOL UNIT B VLV
FU-236 -2/C7 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C7 (-)	125V VI-BATT BDII PNL 4	CNTMT ANNS DIFF PRESS ISLN VLV
FU-236 -2/C10 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C10 (-)	125V VI-BATT BDII PNL 4	LOCA H_2 CNTMT ISLN VLV
FU-236 -2/C11 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C11 (-)	125V VI-BATT BDII PNL 4	LOCA H_2 CNTMT ISLN VLV
FU-236 -2/C17 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C17 (-)	125V VI-BATT BDII PNL 4	STM GEN BLDN ISLN VLV LP 2
Insert 2 → FU-236 -2/C21	~~52-236~~ 52-236 ~~-312/II~~ -312/II	125V VI-BATT BDII PNL 4	DNSTR EXCESS LTDN HX TO HOT SMPLG RM ISLN VLV
FU-236 -2/C24 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C24 (-)	125V VI-BATT BDII PNL 4	FLOOR CLG GLYCOL INLET ISLN VLV
FU-236 -2/C26 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C26 (-)	125V VI-BATT BDII PNL 4	FLOOR CLG GLYCOL OLET ISLN VLV
FU-236 -2/C34 (+)	~~52-236~~ FU-236 ~~-312/II~~ -2/C34 (-)	125V VI-BATT BDII PNL 4	CNTMT BLDG LWR COMPT AIR MON ISLN VLV

This entry should stay in

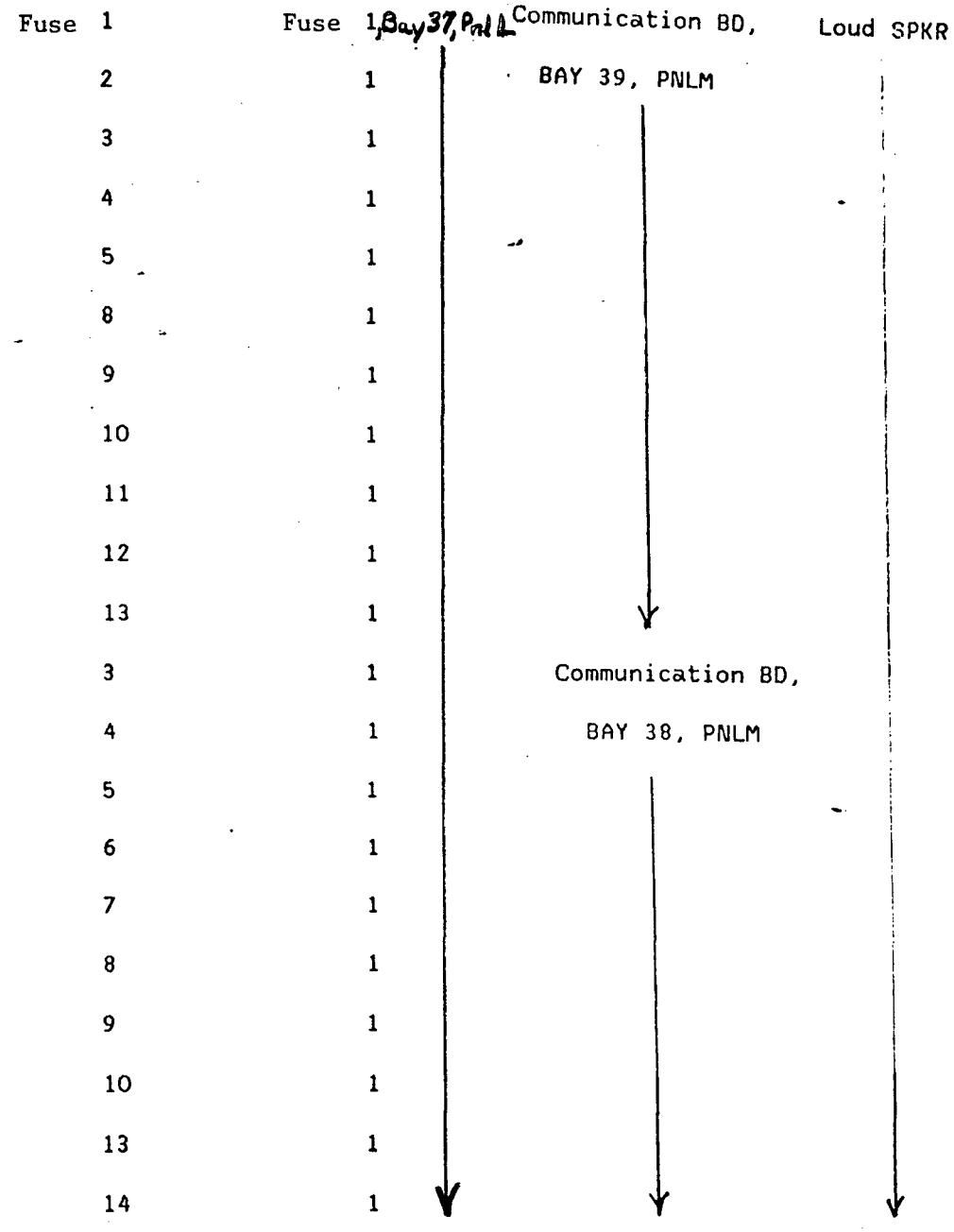
(J)

FU-212 -B27/11A(+)	FU-212 -B27/11A(-)	480 V SHUT DN BD 1B2-B	CRD MECH CLR FAN 1D-B/1
FU-212 -B27/12N(+)	FU-212 -B27/12N(-)		
FU-212 -B27/12A(+)	FU-212 -B27/12A(-)		

(X)

FU-236 -1/D42(+)	FU-236 -1/D42(-)	125V VI-BATT BD 1 PNL 4	RHR SPLY TEST LINE VLV
FU-236 -1/D45(+)	FU-236 -1/D45(-)		RHR SPLY TEST LINE VLV
FU-236 -1/E2(+)	FU-236 -1/E2(-)		RCP 3 SEAL RTN FL CONT
FU-236 -1/E7(+)	FU-236 -1/E7(-)		SIS ACCUM TK 1 OTLT FL ISLN VLV
FU-236 -1/E14(+)	FU-236 -1/E14(-)		NO.1 SEAL BYP FL CNTL VLV
FU-236 -1/E17(+)	FU-236 -1/E17(-)		RCP 1 SEAL RTN FL CONT
FU-236 -1/E20(+)	FU-236 -1/E20(-)		RCS PRESS RLF TK VT VLV
FU-236 ~~VLV~~ -1/E21(+)	FU-236 -1/E21(-)		RCS PRESS RLF TK VT
FU-236 -1/E23(+)	FU-236 -1/E23(-)		SIS ACCUM TK 3 FILL VLV
FU-236 -1/E24(+)	FU-236 -1/E24(-)		SIS ACCUM TK 1 FILL VLV
FU-236 -1/E30(+)	FU-236 -1/E30(-)		SIS ACCUM TK 1 N_2 MKUP VLV
FU-236 -1/E32(+)	FU-236 -1/E32(-)		SIS ACCUM TK 1 OTLT CK VLV ISLN VLV

8. 48VDC BDS


Fuse 1
2
3
4
5
8
9
10
11
12
13
3
4
5
6
7
8
9
10
13
14
Fuse 1, Bay 37, Pnl L
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1
Communication BD,
BAY 39, PNLM
Communication BD,
BAY 38, PNLM
Loud SPKR

Surveillance Requirement 4.5.1.1.1.b

The volume indication on the cold leg accumulators has been modified such that 2% of indicated span no longer corresponds to 1.6% of tank volume. To prevent having a technical specification change if the indicator is modified again in the future, the surveillance requirement should be reworded as indicated on the attached marked-up page. The new wording agrees with revision 5 of the Westinghouse Standard Technical Specifications (NUREG-0452).

FINAL DRAFT

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to ~~2% of indicated span~~ 1.0% ~~1.6%~~ of tank volume by verifying the boron concentration of the accumulator solution,

c. At least once per 31 days when the RCS pressure is above 2000 psig by verifying that power to the isolation valve operator is disconnected by verifying the breaker is tagged open, and

d. At least once per 18 months by verifying that each accumulator isolation valve opens automatically under each of the following conditions:

1) When an actual or a simulated RCS pressure signal exceeds the P-11 (Pressurizer Pressure Block of Safety Injection) Setpoint, and

2) Upon receipt of a Safety Injection test signal.

4.5.1.1.2 Each Cold Leg Injection Accumulator System water level and pressure channel shall be demonstrated OPERABLE:

a. At least once per 31 days by the performance of a ANALOG CHANNEL OPERATIONAL TEST, and

b. At least once per 18 months by the performance of a CHANNEL CALIBRATION.

Manual Transfers Between Power Divisions

On April 18, 1985 a conference call was held between TVA and the Power Systems Branch representatives of NRC- NRR to discuss the requirements of section 8.3.1.7 of the safety evaluation report which requires alarm indications for the alternate feeder breakers and transfer switches associated with manual transfers between power divisions. During that conference call, TVA presented justification for not providing alarms on these devices for operation in the alternate position. It is TVA's position that designating the alternate feeder breaker as a normally open breaker and providing verification of breaker position every 7 days is acceptable for the component for which alignment is important. The basis of our justification is that TVA cannot identify any credible circumstances by which the 480V power sources would be paralleled through the transfer switch. The transfer switch is mechanically interlocked to prevent closing the switch in a manner to parallel both feeds. The affected components include the normal and spare vital battery chargers and component cooling water pump C-S. Spent fuel pit pump C-S and the turbine driven auxiliary feedwater pump control power have no designated normal and alternate feeds. The alignment is not critical and, therefore, not included in the periodic surveillances.

Any failure of a battery charger will prompt the operator to go to the charger and determine whether or not failure was the result of loss of 480V power. If the normal 480V power feed is lost, the operator proceeds to the normal feeder breaker to assess the problem. If power can be restored from the normal feeder breaker, it is. If power cannot be restored, the operator either places the spare charger in service aligned to its associated train of power, or he can close the alternate feeder breaker to the normal charger and place the transfer switch to the alternate position. For this second configuration, technical specification 3.8.2.1 as proposed on the attached page would require action within two hours to restore a charger and/or align it to the associated power division. Therefore, it is TVA's position that since both the alternate and normal supplies to the charger will not be energized at the same time during planned operation, it is adequate to verify the breaker positions of the alternate feeder breakers for the chargers on a 7-day interval.

Component cooling water pump C-S is normally aligned to 480V shutdown board 2B2-B. The alternate feeder breaker will be maintained open. This will be verified on a 7-day interval in accordance with proposed techncial specification 3.7.3 If component cooling water pump C-S is aligned to the alternate feed, the action statement for technical specification 3.7.3 would allow 72 hours to restore two independent component cooling water trains. Therefore, it is TVA's position that since both the alternate and the normal supplies to the charger will not be energized at the same time during power operation, it is adequate to verify the breaker position of the alternate feeder breaker to the pump on a 7-day interval.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

FINAL DRAFT

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum the following D.C. electrical sources shall be OPERABLE:

a. 125-Volt Battery Bank No. I, and ~~its associated~~ a full-capacity charger aligned to the associated power division

b. 125-Volt Battery Bank No. II, and ~~its associated~~ a full-capacity charger aligned to the associated power division

c. 125-Volt Battery Bank No. III, and ~~its associated~~ a full-capacity charger ~~and~~ aligned to the associated power division, and

d. 125-Volt Battery Bank No. IV, and ~~its associated~~ a full-capacity charger aligned to the associated power division.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one of the required battery banks and/or full-capacity chargers inoperable, restore the inoperable battery bank and/or full-capacity charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1) The parameters in Table 4.8-2 meet the Category A limits, ~~and~~

2) The total battery terminal voltage is greater than or equal to 132 volts on float charge, and

3) The feeder breakers to the chargers associated with the opposite power division are open.

FINAL DRAFT

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two independent component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and

b. At least once per 18 months during shutdown, by verifying that each Component Cooling Water System pump starts automatically on a Safety Injection test signal.

c. At least once per 7 days by verifying that the alternate feeder breaker to the component cooling water C-S pump is open when the C-S pump is required to be OPERABLE.

Do not renumber

kV shutdown board starts the diesel generator and initiates (after an additional 3.5 seconds) logic that trips the normal or alternate feeder breakers, all 6900V loads (except the 480V shutdown board transformers), and the major 480V loads. Table 8.3-2 shows the loads that are automatically stripped. Figures 8.3-6 thru 8.3-13 show the load stripping schematically. When the diesel generator has reached rated speed and voltage, the generator will be automatically connected to the 6.9-kV shutdown board bus. (Refer to Figure 8.3-14.) This return of voltage to the 6.9-kV shutdown bus initiates logic which connects the required loads in sequence. Table 8.3-3 shows the order of applied loads. The standby (onsite) power system's automatic sequencing logic is designed to automatically connect the required loads in proper sequence should the logic receive an accident signal prior to, concurrent with, or following a loss of all nuclear unit and preferred (offsite) power.

There are no automatic transfers of board supplies between redundant power sources. All 480V shutdown boards and all motor control centers have alternate feeders to their respective board buses. Transfers between the normal and alternate feeders are manual. Some manual transfers of loads between power trains are used. These transfers are at the 480V level and involve 10 loads which are tabulated in Table 8.3-10.

All circuit breakers supplying the alternate feeders for the manual transfers in Table 8.3-10 [with the exception of the spent fuel pit pump C-S, the 125V auxiliary feedwater turbine (AFWT) DC manual transfer switch (units 1 and 2), and the 120V AFWT AC manual transfer switch (units 1 and 2)] are normally opened. ~~Closure of the alternate feeder supply circuit breaker and/or transfer of the manual transfer switch to the alternate position is alarmed in the main control room. For the manual transfer switch on the spent fuel pit pump C-S, the 125V auxiliary feedwater turbine (AFWT), DC manual transfer switch (units 1 and 2), and the 120V AFWT AC manual transfer switch (units 1 and 2), the circuit breaker supplying the alternate supply will be maintained in the normally open position.~~ 48

The transfer switches are mechanically interlocked to prevent closing a switch in a manner to parallel both feeds. For the components where alignment is critical (battery chargers and component cooling water pump C-S) the alternate feeder breakers are verified open in accordance with the technical specifications. For the other components (spent fuel pit pump C-S and turbine driven auxiliary feedwater pump control power) alignment is not critical and, therefore, breaker position verification is not required.

A manual means of supplying power to the 480V Auxiliary Building common board (which is not normally supplied power from the diesel generators during a condition where offsite power is lost) is provided. Provisions have been made to manually connect this board to the 480V shutdown boards 1B2-B and 2B2-B. This is shown in Figure 8.3-15. The purpose of these feeders is to provide power to operate the ice condenser refrigeration units, located on the 480V Auxiliary Building common board and glycol pumps, located on the 480V Auxiliary Building MCC B and C, during the unlikely condition of a loss of offsite power that exceeds 2 to 3 days. The two normal bus feeder breakers must be moved from their normal compartments to the compartments which are connected to the 480V shutdown boards 1B2-B and 2B2-B. 48 52

System Instrumentation

Remote instrumentation of the 6.9-kV shutdown boards consist of