Mr. J. A. Scalice
Chief Nuclear Officer
and Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

October 23, 1998

SUBJECT: CORRECTION TO AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-68: POWER RANGE NEUTRON MONITOR UPGRADE WITH IMPLEMENTATION OF AVERAGE POWER RANGE MONITOR AND ROD BLOCK MONITOR TECHNICAL SPECIFICATION IMPROVEMENTS AND MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSES - TECHNICAL SPECIFICATION CHANGE TS-353 (TAC NO. M92505)

Dear Mr. Scalice:

It was brought to our attention that one Technical Specification page and several Bases pages were missing from some of the copies of the subject amendment, dated September 3, 1998. The following pages are enclosed for the benefit of those that did not receive them at that time.

All but one of the enclosed pages changed due to shifting text, however, page B 3.3-69 shows a marginal line to indicate the area of change.

These pages are:
3.3-78
B 3.3-67
B 3.3-69
B 3.3-71
B 3.3-89
B 3.3-124
B 3.3-193

We apologize for any inconvenience this may have caused.

Sincerely,
Original signed by:
Albert W. De Agazio, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-296
Serial No. BFN-98-20

DFO1

Enclosure: As stated

cc w/enclosure: See next page
DISTRIBUTION:

~~Docket File~~	MWaterman	PUBLIC	RFrahm	BFN Rdg.
JZwolinski	FHebdon	ACRS	BClayton	LPlisco, RII
ADeAgazio	OGC	WBeckner, TSB		

DOCUMENT NAME: G:\BFN\92505COR.AMD
To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	PD2-3:PM		PD2-3:LA	E	PD2-3:D	N				
NAME	ADeAgazio		BClayton		FHebdon					
DATE	10/23/98		10/23/98		10/23/98				10/ /98	

OFFICIAL RECORD COPY

200031

Mr. J. A. Scalice
Chief Nuclear Officer
and Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

October 23, 1998

SUBJECT: CORRECTION TO AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-68: POWER RANGE NEUTRON MONITOR UPGRADE WITH IMPLEMENTATION OF AVERAGE POWER RANGE MONITOR AND ROD BLOCK MONITOR TECHNICAL SPECIFICATION IMPROVEMENTS AND MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSES - TECHNICAL SPECIFICATION CHANGE TS-353 (TAC NO. M92505)

Dear Mr. Scalice:

It was brought to our attention that one Technical Specification page and several Bases pages were missing from some of the copies of the subject amendment, dated September 3, 1998. The following pages are enclosed for the benefit of those that did not receive them at that time.

All but one of the enclosed pages changed due to shifting text, however, page B 3.3-69 shows a marginal line to indicate the area of change.

These pages are:
3.3-78
B 3.3-67
B 3.3-69
B 3.3-71
B 3.3-89
B 3.3-124
B 3.3-193

We apologize for any inconvenience this may have caused.

Sincerely,
Original signed by:
Albert W. De Agazio, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-296
Serial No. BFN-98-20

Enclosure: As stated

cc w/enclosure: See next page

DISTRIBUTION:

Docket File	MWaterman	PUBLIC	RFrahm	BFN Rdg.
JZwolinski	FHebdon	ACRS	BClayton	LPlisco, RII
ADeAgazio	OGC	WBeckner, TSB		

DOCUMENT NAME: G:\BFN\92505COR.AMD

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	PD2-3:PM		PD2-3:LA	E	PD2-3:D	N				
NAME	ADeAgazio		BClayton		FHebdon					
DATE	10/23/98		10/23/98		10/23/98				10/ /98	

OFFICIAL RECORD COPY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 23, 1998

Mr. J. A. Scalice
Chief Nuclear Officer
and Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: CORRECTION TO AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-68: POWER RANGE NEUTRON MONITOR UPGRADE WITH IMPLEMENTATION OF AVERAGE POWER RANGE MONITOR AND ROD BLOCK MONITOR TECHNICAL SPECIFICATION IMPROVEMENTS AND MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSES - TECHNICAL SPECIFICATION CHANGE TS-353 (TAC NO. M92505)

Dear Mr. Scalice:

It was brought to our attention that one Technical Specification page and several Bases pages were missing from some of the copies of the subject amendment, dated September 3, 1998. The following pages are enclosed for the benefit of those that did not receive them at that time.

All but one of the enclosed pages changed due to shifting text, however, page B 3.3-69 shows a marginal line to indicate the area of change.

These pages are:
3.3-78
B 3.3-67
B 3.3-69
B 3.3-71
B 3.3-89
B 3.3-124
B 3.3-193

We apologize for any inconvenience this may have caused.

Sincerely,

Albert W. De Agazio, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-296
Serial No. BFN-98-20

Enclosure: As stated

cc w/enclosure: See next page

Mr. J. A. Scalice
Tennessee Valley Authority

BROWNS FERRY NUCLEAR PLANT

cc:
Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Jack A. Bailey, Vice President
Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. C. M. Crane, Site Vice President
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL 35609

General Counsel
Tennessee Valley Authority
ET 10H
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Raul R. Baron, General Manager
Nuclear Assurance
Tennessee Valley Authority
5M Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Karl W. Singer, Plant Manager
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL 35609

Mr. Mark J. Burzynski, Managar
Nuclear Licensing
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Timothy E. Abney, Manager
Licensing and Industry Affairs
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Decatur, AL 35609

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
61 Forsyth Street, SW., Suite 23T85
Atlanta, GA 30303-3415

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Browns Ferry Nuclear Plant
l0833 Shaw Road
Athens, AL 35611

State Health Officer
Alabama Dept. of Public Health
434 Monroe Street
Montgomery, AL 36130-170l

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

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.3.8.2.1	Perform CHANNEL FUNCTIONAL TEST.	184 days
SR 3.3.8.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds. b. Undervoltage ≥ 108.5 V, with time delay set to ≤ 4 seconds. c. Underfrequency ≥ 56 Hz, with time delay set to ≤ 4 seconds.	184 days
SR 3.3.8.2.3	Perform a system functional test.	18 months

BASES

ACTIONS

C.1, C.2.1.1, C.2.1.2, and C.2.2 (continued)

accordance with the restrictions imposed by Required Action C.2.2. Required Action C.2.2 allows for the RWM Function to be performed manually and requires a double check of compliance with the prescribed rod sequence by a second licensed operator (Reactor Operator or Senior Reactor Operator) or other qualified member of the technical staff (e.g., a qualified shift technical advisor or reactor engineer).

The RWM may be bypassed under these conditions to allow continued operations. In addition, Required Actions of LCO 3.1.3 and LCO 3.1.6 may require bypassing the RWM, during which time the RWM must be considered inoperable with Condition C entered and its Required Actions taken.

D.1

With the RWM inoperable during a reactor shutdown, the operator is still capable of enforcing the prescribed control rod sequence. Required Action D.1 allows for the RWM Function to be performed manually and requires a double check of compliance with the prescribed rod sequence by a second licensed operator (Reactor Operator or Senior Reactor Operator) or other qualified member of the technical staff. The RWM may be bypassed under these conditions to allow the reactor shutdown to continue.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 9) assumption of the average time required to perform a channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that a control rod block will be initiated when necessary.

SR 3.3.2.1.1

A CHANNEL FUNCTIONAL TEST is performed for each RBM channel to ensure that the entire channel will perform the intended function. It includes the Reactor Manual Control System input.

Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology. The Frequency of 184 days is based on reliability analyses (Ref. 11).

SR 3.3.2.1.2 and SR 3.3.2.1.3

A CHANNEL FUNCTIONAL TEST is performed for the RWM to ensure that the entire system will perform the intended function. The CHANNEL FUNCTIONAL TEST for the RWM is performed by attempting to withdraw a control rod not in compliance with the prescribed sequence and verifying a control rod block occurs. This test is performed as soon as possible after the applicable conditions are entered. As noted in the SRs, SR 3.3.2.1.2 is not required to be performed until 1 hour after

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.2.1.5

The RWM is automatically bypassed when power is above a specified value. The power level is determined from feedwater flow and steam flow signals. The automatic bypass setpoint must be verified periodically to be > 10% RTP. If the RWM low power setpoint is nonconservative, then the RWM is considered inoperable. Alternately, the low power setpoint channel can be placed in the conservative condition (nonbypass). If placed in the nonbypassed condition, the SR is met and the RWM is not considered inoperable. The Frequency is based on the trip setpoint methodology utilized for the low power setpoint channel.

SR 3.3.2.1.6

A CHANNEL FUNCTIONAL TEST is performed for the Reactor Mode Switch - Shutdown Position Function to ensure that the entire channel will perform the intended function. The CHANNEL FUNCTIONAL TEST for the Reactor Mode Switch - Shutdown Position Function is performed by attempting to withdraw any control rod with the reactor mode switch in the shutdown position and verifying a control rod block occurs.

As noted in the SR, the Surveillance is not required to be performed until 1 hour after the reactor mode switch is in the shutdown position, since testing of this interlock with the reactor mode switch in any other position cannot be performed without using jumpers, lifted leads, or movable links. This allows entry into MODES 3 and 4 if the 18 month Frequency is not met per SR 3.0.2. The 1 hour allowance is based on operating experience and in consideration of providing a reasonable time in which to complete the SRs.

(continued)

BASES

LCO (continued)

5. Primary Containment Area Radiation (High Range) (RR-90-272 and RR-90-273)

Primary containment area radiation (high range) is provided to monitor the potential of significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. Two high range primary containment area radiation signals are transmitted from separate radiation detectors and are continuously recorded and displayed on two control room recorders. These recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

6. Primary Containment Isolation Valve (PCIV) Position

PCIV position is provided for verification of containment integrity. In the case of PCIV position, the important information is the isolation status of the containment penetration. The LCO requires one channel of valve position indication in the control room to be OPERABLE for each active PCIV in a containment penetration flow path, i.e., two total channels of PCIV position indication for a penetration flow path with two active valves. For containment penetrations with only one active PCIV having control room indication, Note (b) requires a single channel of valve position indication to be OPERABLE. This is sufficient to redundantly verify the isolation status of each isolable penetration via indicated status of the active valve, as applicable, and prior knowledge of passive valve or system boundary status. If a penetration flow path is isolated, position indication for the PCIV(s) in the associated penetration flow path is not needed to determine status. Therefore, the position indication for valves in an isolated penetration flow path is not required to be OPERABLE.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

b. Reactor Steam Dome Pressure - High (PIS-3-204A, PIS-3-204B, PIS-3-204C, and PIS-3-204D)

Excessively high RPV pressure may rupture the RCPB. An increase in the RPV pressure during reactor operation compresses the steam voids and results in a positive reactivity insertion. This increases neutron flux and THERMAL POWER, which could potentially result in fuel failure and overpressurization. The Reactor Steam Dome Pressure - High Function initiates an RPT for transients that result in a pressure increase, counteracting the pressure increase by rapidly reducing core power generation. For the overpressurization event, the RPT aids in the termination of the ATWS event and, along with the safety/relief valves, limits the peak RPV pressure to less than the ASME Section III Code limits.

The Reactor Steam Dome Pressure - High signals are initiated from four pressure transmitters that monitor reactor steam dome pressure. Four channels of Reactor Steam Dome Pressure - High, with two channels in each trip system, are available and are required to be OPERABLE to ensure that no single instrument failure can preclude an ATWS-RPT from this Function on a valid signal. The Reactor Steam Dome Pressure - High Allowable Value is chosen to provide an adequate margin to the ASME Section III Code limits.

(continued)

BASES

BACKGROUND

3, 4. High Pressure Coolant Injection System Isolation and Reactor Core Isolation Cooling System Isolation (continued)

The Steam Supply Line Pressure - Low and Turbine Exhaust Diaphragm Pressure - High Functions for HPCI and RCIC each contain four channels in a single trip system. The Steam Supply Line Pressure - Low channels are arranged in a series of logic parallel pairs to form one-out-of-two taken twice logic. Each HPCI isolation valve receives a single isolation signal from this logic. Each RCIC isolation valve receives an isolation signal from this logic through redundant logic systems. The trip system for the Turbine Exhaust Diaphragm Pressure - High Function contains two trip channels. Each trip channel contains two instrument channels (logic parallel pair). The output relays for the trip channels are arranged in logic systems (redundant logic systems for most isolation valves) such that both trip channels must trip (effectively one-out-of-two taken twice logic for the instrument channels) to cause an isolation.

The HPCI and RCIC Area Temperature - High Functions each contain sixteen channels, four Pump Room Area and twelve Torus Area channels (four channels for each area monitored). Each trip system contains two trip channels; Logic A trip channel 1 (trip channel output relay 23A-K34 for HPCI and 13A-K10 for RCIC) and trip channel 2 (trip channel output relay 23A-K35 for HPCI and 13A-K11 for RCIC) and Logic B trip channel 1 (trip channel output relay 23A-K6 for HPCI and 13A-K30 for RCIC) and trip channel 2 (trip channel output relay 23A-K8 for HPCI and 13A-K31 for RCIC). Each trip channel receives one input from each of the four areas monitored. Any

(continued)