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Docket Nos. 50-259  
and 50-260

MARCH 14 1980

Mr. Hugh G. Parris  
Manager of Power  
Tennessee Valley Authority  
500 A Chestnut Street, Tower II  
Chattanooga, Tennessee 37401

Dear Mr. Parris:

On February 25, 1980, we issued Amendment Nos. 59 and 54 to Facility Licenses Nos. DPR-33 and DPR-52 for the Browns Ferry Nuclear Plant, Units Nos. 1 and 2. On March 7, 1980, your staff advised us of a typographical error on page 160 of the Technical Specifications for Unit 1 in an equation that was not being changed by Amendment 59. Also, we noted that overleaf page 158 included with Amendment 54 was not current; the correct page is enclosed.

Sincerely,  
Original Signed by  
T. A. Ippolito

Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Enclosures:  
Pages 159/160 (Unit 1)  
Pages 157/158 (Unit 2)

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SEARCH NAME #	RClark	TATippolito			
DATE #	3/12/80	3/13/80			

Mr. Hugh G. Parris  
Tennessee Valley Authority

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cc:

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Crystal Mall #2  
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**3.5.H Maintenance of Filled Discharge Pipe**

The suction of the RCIC and HPCI pumps shall be aligned to the condensate storage tank, and the pressure suppression chamber head tank shall normally be aligned to serve the discharge piping of the RHR and CS pumps. The condensate head tank may be used to serve the RHR and CS discharge piping if the PSC head tank is unavailable. The pressure indicators on the discharge of the RHR and CS pumps shall indicate not less than listed below.

P1-75-20	48 psig
P1-75-46	48 psig
P1-74-51	48 psig
P1-74-65	48 psig

**I. Average Planar Linear Heat Generation Rate**

During steady state power operation, the Maximum Average Planar Heat Generation Rate (MAPLHGR) for each type of fuel as a function of average planar exposure shall not exceed the limiting value shown in Tables 3.5.I-1, 2, 3, 4, 5, 6, 7. If at any time during operation it is determined by normal surveillance that the limiting value for APLHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

**J. Linear Heat Generation Rate (LHGR)**

During steady state power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation:

**4.5.H Maintenance of Filled Discharge Pipe**

1. Every month prior to the testing of the RHRs (LPCI and Containment Spray) and core spray systems, the discharge piping of these systems shall be vented from the high point and water flow determined.
2. Following any period where the LPCI or core spray systems have not been required to be operable, the discharge piping of the inoperable system shall be vented from the high point prior to the return of the system to service.
3. Whenever the HPCI or RCIC system is lined up to take suction from the condensate storage tank, the discharge piping of the HPCI and RCIC shall be vented from the high point of the system and water flow observed on a monthly basis.
4. When the RHRs and the CSS are required to be operable, the pressure indicators which monitor the discharge lines shall be monitored daily and the pressure recorded.

**I. Maximum Average Planar Linear Heat Generation Rate (MAPLHGR)**

The MAPLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at  $\geq 25\%$  rated thermal power.

**J. Linear Heat Generation Rate (LHGR)**

The LHGR as a function of core height shall be checked daily during reactor operation at  $\geq 25\%$  rated thermal power.

$$\text{LHGR}_{\max} \leq \text{LHGR}_d [1 - (\Delta P/P)_{\max} (L/LT)]$$

LHGR = Design LHGR = 18.5 kW/ft for 7x7 fuel  
d

=13.4 kW/ for 8x8 fuel  
8x8R and P8x8R fuel

( $\Delta P/P$ ) = Maximum power spiking penalty

= 0.026 for 7x7 fuel

= 0.022 for 8x8, 8x8R and P8x8R fuel

\*  
LT = Total core length = 12.0 ft for 7x7  
and 8x8 fuel

= 12.5 ft for 8x8R & P8x8R fuel

L = Axial position above bottom of core

If at any time during operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

K. Minimum Critical Power Ratio (MCPR)

From BOC to EOC-2000 MWD/T

the MCPR operating limit for BFNP 1 cycle 4 is 1.23 for 7x7 fuel, 1.24 for 8x8 fuel, and 1.25 for 8x8R and P8x8R fuel. These limits apply to steady state power operation at rated power and flow. For core flows other than rated the MCPR shall be greater than the above limits times  $K_f$ .  $K_f$  is the value shown in Figure 3.5.2. From EOC-2000 to EOC the MCPR limits will be 1.23, 1.27, and 1.28 for 7x7, 8x8 and 8x8R/P8x8R respectively. If at any time during operation it is determined by normal surveillance that the limiting value for MCPR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the steady MCPR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours, surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

L. Reporting Requirements

If any of the limiting values identified in Specifications 3.5.I, J, or K are exceeded and the specified action is taken, the event shall be logged and reported in a 30-day written report.

\* 12.5 feet for 8x8R fuel

K. Minimum Critical Power Ratio (MCPR)

MCPR shall be determined daily during reactor power operation at 25% rated thermal power and following any change in power level or distribution that would cause operation with a limiting control rod pattern as described in the bases for Specification 3.3.

3.5.F Reactor Core Isolation Cooling

2. If the RCICS is inoperable, the reactor may remain in operation for a period not to exceed 7 days if the HPCIS is operable during such time.
3. If specifications 3.5.F.1 or 3.5.F.2 are not met, an orderly shutdown shall be initiated and the reactor shall be depressurized to less than 122 psig within 24 hours.

G. Automatic Depressurization System (ADS)

1. Four of the six valves of the Automatic Depressurization System shall be operable:
  - (1) prior to a startup from a Cold Condition, or,
  - (2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 105 psig, except as specified in 3.5.G.2 and 3.5.G.3 below.
2. If three of the six ADS valves are known to be incapable of automatic operation, the reactor may remain in operation for a period not to exceed 7 days, provided the HPCI system is operable. (Note that the pressure relief function of these valves is assured by section 3.6.D of these specifications and that this specification only applies to the ADS function.) If more than three of the six ADS valves are known to be incapable of automatic operation, an immediate orderly shutdown shall be initiated, with the reactor in a hot shutdown condition in 6 hours and in a cold shutdown condition in the following 18 hours.

4.5.F Reactor Core Isolation Cooling

2. When it is determined that the RCICS is inoperable, the HPCIS shall be demonstrated to be operable immediately and weekly thereafter.

G. Automatic Depressurization System (ADS)

1. During each operating cycle the following tests shall be performed on the ADS:
  - a. A simulated automatic actuation test shall be performed prior to startup after each refueling outage. Manual surveillance of the relief valves is covered, in 4.6.D.2.
2. When it is determined that more than two of the ADS valves are incapable of automatic operation, the HPCIS shall be demonstrated to be operable immediately and daily thereafter as long as Specification 3.5.G.2 applies.

3.6 Automatic Depressurization System (ADS)

3. If specifications 3.5.G.1 and 3.5.G.2 cannot be met, an orderly shutdown will be initiated and the reactor vessel pressure shall be reduced to 105 psig or less within 24 hours.

II. Maintenance of Filled Discharge Pipe

Whenever the core spray systems, LPCI, HPCI, or RCIC are required to be operable, the discharge piping from the pump discharge of these systems to the last block valve shall be filled.

4.5.C Automatic Depressurization System (ADS)H. Maintenance of Filled Discharge Pipe

The following surveillance requirements shall be adhered to to assure that the discharge piping of the core spray systems, LPCI, HPCI, and RCIC are filled: