2.1 SAFETY LIMITS

REACTOR CORE

2.1.1 The combination of THERMAL POWER, pressurizer pressure, and the highest operating loop coolant temperature (T_{avg}) shall not exceed the limits shown in Figures 2.1-1~~, and 2.1-2 for 4 and 3 loop operation, respectively.~~

APPLICABILITY: MODES 1 and 2.

ACTION:

Whenever the point defined by the combination of the highest operating loop average temperature and THERMAL POWER has exceeded the appropriate pressurizer pressure line, be in HOT STANDBY within 1 hour.

REACTOR COOLANT SYSTEM PRESSURE

2.1.2 The Reactor Coolant System pressure shall not exceed 2735 psig.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1 and 2

Whenever the Reactor Coolant System pressure has exceeded 2735 psig, be in HOT STANDBY with the Reactor Coolant System pressure within its limit within 1 hour.

MODES 3, 4 and 5

Whenever the Reactor Coolant System pressure has exceeded 2735 psig, reduce the Reactor Coolant System pressure to within its limit within 5 minutes.

Figure 2.1-2 Reactor Core
Safety Limit - Three Loops in Operation

This page left blank pending NRC
approval of three loop operation

This page deleted

REACTIVITY CONTROL SYSTEMS

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6 The control banks shall be limited in physical insertion as shown in Figure 3.1-1~~ and 3.1-2~~.

APPLICABILITY: MODES 1* and 2*#.

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, either:

a. Restore the control banks to within the limits within two hours, or

b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the group position using the above figures, or

c. Be in HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions at least once per 4 hours.

*See Special Test Exceptions 3.10.2 and 3.10.3.

#With K_{eff} greater than or equal to 1.0.

Figure 3.1-2 left blank pending NRC approval of three loop operation

This page deleted.

TABLE 3.2-1

DNB PARAMETERS

PARAMETER	LIMITS	
	4 Loops In Operation	~~3 Loops in Operation**~~
Reactor Coolant System T_{avg}	$\leq$ 583°F	
Pressurizer Pressure	$\geq$ 2220 psia*	

* Limit not applicable during either a THERMAL POWER ramp in excess of 5% RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% RATED THERMAL POWER, physics test, or performance of surveillance requirement 4.1.1.3.b.

~~**Limits pending NRC approval of 3 loop operation.~~

March 29, 1982
Amendment No. 71

MAR 25 1988 Amendment No. 74

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2, and *	1
2. Power Range, Neutron Flux	4	2	3	1, 2	2#
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2#
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2#
5. Intermediate Range, Neutron Flux	2	1	2	1, 2, and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2##, and *	4
B. Shutdown	2	0	1	3, 4 and 5	5
7. Overtemperature Delta T					
Four Loop Operation	4	2	3	1, 2	6#
~~Three Loop Operation~~	~~4~~	~~1**~~	~~3~~	~~1, 2~~	~~9~~
8. Overpower Delta T					
Four Loop Operation	4	2	3	1, 2	6#
~~Three Loop Operation~~	~~4~~	~~1**~~	~~3~~	~~1, 2~~	~~9~~
9. Pressurizer Pressure-Low	4	2	3	1, 2	6#
10. Pressurizer Pressure--High	4	2	3	1, 2	6#
11. Pressurizer Water Level--High	3	2	2	1, 2	7#

TABLE 3.3-3

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. SAFETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION					
a. Manual Initiation	2	1	2	1, 2, 3, 4	20
b. Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15
c. Containment Pressure-High	3	2	2	1, 2, 3	16*
d. Pressurizer Pressure - Low	3	2	2	1, 2, 3#	16*
e. Differential Pressure Between Steam Lines - High				1, 2, 3	
Four Loops Operating	3/steam line	2/steam line any steam line	2/steam line		16*
~~Three Loops Operating~~	~~3/operating steam line~~	~~1###/steam line, any operating steam line~~	~~2/operating steam line~~		~~17~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
f. Steam Flow in Two Steam Lines-High				1, 2, 3##	
Four Loops Operating	2/steam line	1/steam line any 2 steam lines	1/steam line		16*
~~Three Loops Operating~~	~~2/operating steam line~~	~~1###/any operating steam line~~	~~1/operating steam line~~		~~17~~
COINCIDENT WITH EITHER T_{avg}--Low-Low				1, 2, 3##	
Four Loops Operating	1 T_{avg}/loop	2 T_{avg} any loops	1 T_{avg} any 3 loops		16*
Three Loops Operating	1 T_{avg}/ operating loops	1### T_{avg} in any operating loops	1 T_{avg} in any two operating loops		17
OR, COINCIDENT WITH Steam Line Pressure-Low				1, 2, 3##	
Four Loops Operating	1 pressure/ loop	2 pressures any loops	1 pressure any 3 loops		16*
~~Three Loops Operating~~	~~1 pressure/ operating loop~~	~~1### pressure in any operating loop~~	~~1 pressure in any 2 operating loops~~		~~17~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
c. Containment Ventilation Isolation					
1) Manual	2	1	2	1, 2, 3, 4	19
2) Automatic Isolation Logic	2	1	2	1, 2, 3, 4	15
3) Containment Gas Monitor Radioactivity-High	2	1	1	1, 2, 3, 4	19
4) Containment Purge Air Exhaust Monitor Radioactivity-High	2	1	1	1, 2, 3, 4	19
5) Containment Particulate Activity High	2	1	1	1, 2, 3, 4	19
4. STEAM LINE ISOLATION					
a. Manual	1/steam line	1/steam line	1/operating steam line	1, 2, 3	25
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23
c. Containment Pressure--High-High	4	2	3	1, 2, 3	18
d. Steam Flow in Two Steam Lines--High				1, 2, 3	
Four Loops Operating	2/steam line	1/steam line any 2 steam lines	1/steam line		16*
~~Three Loops Operating~~	~~2/operating steam line~~	~~1### /any operating steam line~~	~~1/operating steam line~~		~~17~~

~~MAR 25 1982~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
COINCIDENT WITH EITHER T_{avg} --Low-Low Four Loops Operating	1 T_{avg}/loop	2 T_{avg} any loop	1 T_{avg} any 3 loops	1, 2, 3	16*
~~Three Loops Operating~~	~~1 T_{avg}/operating loop~~	~~1### T_{avg} in any operating loop~~	~~1 T_{avg} in any two operating loop~~		~~17~~
OR, COINCIDENT WITH Steam Line Pressure-Low				1, 2, 3	
Four Loops Operating	1 pressure/loop	2 pressures any loops	1 pressure any 3 loops		16*
~~Three Loops Operating~~	~~1 pressure/operating loop~~	~~1### pressure in any operating loop~~	~~1 pressure in any 2 operating loops~~		~~17~~
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water Level--High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	16*

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMITS

REACTOR CORE

2.1.1 The combination of THERMAL POWER, pressurizer pressure, and the highest operating loop coolant temperature (T_{avg}) shall not exceed the limits shown in Figures 2.1-1 and 2.1-2~~, for 4 and 3 loop operation, respectively.~~

APPLICABILITY: MODES 1 and 2.

ACTION:

Whenever the point defined by the combination of the highest operating loop average temperature and THERMAL POWER has exceeded the appropriate pressurizer pressure line, be in HOT STANDBY within 1 hour.

REACTOR COOLANT SYSTEM PRESSURE

2.1.2 The Reactor Coolant System pressure shall not exceed 2735 psig.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1 and 2

Whe er the Reactor Coolant System pressure has exceeded 2735 psig, be in Hot STANDBY with the Reactor Coolant System pressure within its limit within 1 hour.

MODES 3, 4 and 5

Whenever the Reactor Coolant System pressure has exceeded 2735 psig, reduce the Reactor Coolant System pressure to within its limit within 5 minutes.

FIGURE 2.1-2 Reactor Core Safety Limit

Three Loops in Operation

This page left blank pending NRC approval three loop operation

This page deleted.

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6 The control banks shall be limited in physical insertion as shown in Figure 3.1-1~~, and 3.1-2.~~

APPLICABILITY: MODES 1* and 2*#.

ACTION:
With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, either:

a. Restore the control banks to within the limits within two hours, or

b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the group position using the above figures, or

c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions at least once per 4 hours.

*See Special Test Exceptions 3.10.2 and 3.10.3.
#With K_{eff} greater than or equal to 1.0.

Figure 3.1-2 left blank pending
NRC approval of three loops operation

This page deleted.

TABLE 3.2-1

DNB PARAMETERS

PARAMETER	LIMITS	
	4 Loops In Operation	~~3 Loops In Operation~~
Reactor Coolant System T_{avg}	$\leq$ 583°F	~~**~~
Pressurizer Pressure	$\geq$ 2220 psia*	~~**~~

* Limit not applicable during either a THERMAL POWER ramp in excess of 5% of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% of RATED THERMAL POWER, physics test, or performance of surveillance requirement 4.1.1.3.b.

~~** Limits pending NRC approval of 3 loop operation.~~

~~R25~~

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2, and *	1
2. Power Range, Neutron Flux	4	2	3	1, 2	2#
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2#
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2#
5. Intermediate Range, Neutron Flux	2	1	2	1, 2, and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2##, and *	4
B. Shutdown	2	0	1	3, 4 and 5	5
7. Overtemperature ΔT					
Four Loop Operation	4	2	3	1, 2	6#
~~Three Loop Operation~~	~~4~~	~~1**~~	~~3~~	~~1, 2~~	~~9~~
8. Overpower ΔT					
Four Loop Operation	4	2	3	1, 2	6#
~~Three Loop Operation~~	~~4~~	~~1**~~	~~3~~	~~1, 2~~	~~9~~
9. Pressurizer Pressure-Low	4	2	3	1, 2	6#
10. Pressurizer Pressure--High	4	2	3	1, 2	6#
11. Pressurizer Water Level--High	3	2	2	1, 2	7#

TABLE 3.3-3

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. SAFETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION					
a. Manual Initiation	2	1	2	1, 2, 3, 4	20
b. Automatic Actuation Logic	2	1	2	1, 2, 3, 4	15
c. Containment Pressure-High	3	2	2	1, 2, 3	16*
d. Pressurizer Pressure - Low	3	2	2	1, 2, 3#	16*
e. Differential Pressure Between Steam Lines - High				1, 2, 3	
Four Loops Operating	3/steam line	2/steam line any steam line	2/steam line		16*
~~Three Loops Operating~~	~~3/operating steam line~~	~~1### /steam line, any operating steam line~~	~~2/operating steam line~~		~~17~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
f. Steam Flow in Two Steam Lines-High				1, 2, 3##	
Four Loops Operating	2/steam line	1/steam line any 2 steam lines	1/steam line		16*
~~Three Loops Operating~~	~~2/operating steam line~~	~~1###/any operating steam line~~	~~1/operating steam line~~		~~17~~
COINCIDENT WITH EITHER T_{avg}--Low-Low				1, 2, 3##	
Four Loops Operating	1 T_{avg}/loop	2 T_{avg} any loops	1 T_{avg} any 3 loops		16*
~~Three Loops Operating~~	~~1 T_{avg}/ operating loop~~	~~1### T_{avg} in any operating loop~~	~~1 T_{avg} in any two operating loops~~		~~17~~
OR, COINCIDENT WITH Steam Line Pressure-Low				1, 2, 3##	
Four Loops Operating	1 pressure/ loop	2 pressures any loops	1 pressure any 3 loops		16*
~~Three Loops Operating~~	~~1 pressure/ operating loop~~	~~1### pressure in any operating loop~~	~~1 pressure in any 2 operating loops~~		~~17~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
c. Containment Ventilation Isolation					
1) Manual	2	1	2	1, 2, 3, 4	19
2) Automatic Isolation Logic	2	1	2	1, 2, 3, 4	15
3) Containment Gas Monitor Radioactivity-High	2	1	1	1, 2, 3, 4	19
4) Containment Purge Air Exhaust Monitor Radioactivity-High	2	1	1	1, 2, 3, 4	19
5) Containment Particulate Activity High	2	1	1	1, 2, 3, 4	19
4. STEAM LINE ISOLATION					
a. Manual	1/steam line	1/steam line	1/operating steam line	1, 2, 3	25
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23
c. Containment Pressure--High-High	4	2	3	1, 2, 3	18
d. Steam Flow in Two Steam Lines--High				1, 2, 3	
Four Loops Operating	2/steam line	1/steam line any 2 steam lines	1/steam line		16*
~~Three Loops Operating~~	~~2/operating steam line~~	~~1### /any operating steam line~~	~~1/operating steam line~~		~~17~~

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
COINCIDENT WITH EITHER T_{avg} --Low-Low				1, 2, 3	
Four Loops Operating	1 T_{avg}/loop	2 T_{avg} any loop	1 T_{avg} any 3 loops		16*
~~Three Loops Operating~~	~~1 T_{avg}/operating loop~~	~~1 ### T_{avg} in any operating loop~~	~~1 T_{avg} in any two operating loop~~		~~17~~
OR, COINCIDENT WITH Steam Line Pressure-Low				1, 2, 3	
Four Loops Operating	1 pressure/loop	2 pressures any loops	1 pressure any 3 loops		16*
~~Three Loops Operating~~	~~1 pressure/operating loop~~	~~1 ### pressure in any operating loop~~	~~1 pressure in any 2 operating loops~~		~~17~~
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water Level--High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	16*

ENCLOSURE 2
JUSTIFICATION FOR PROPOSED CHANGE IN
TECHNICAL SPECIFICATIONS FOR UNITS 1 AND 2
SEQUOYAH NUCLEAR PLANT
(TVA SQN TS 64)

This proposed change deletes all the references to three-loop power operations. When the technical specifications were originally issued to TVA, NRC left in place all the references to three-loop operation. TVA has no plans to pursue approval of the three-loop operation at Sequoyah. Additionally, this change is being requested to eliminate the possibility of these technical specification requirements being inappropriately applied, resulting in an NRC violation. This change is administrative in nature and as documented in the attached significant hazards consideration determination, no significant hazards considerations are involved.

SIGNIFICANT HAZARDS CONSIDERATIONS

1. Is the probability of an occurrence or the consequences of an accident previously evaluated in the safety analysis report significantly increased?

   No. This change is administrative only and removes unused and unnecessary information from the technical specifications.

2. Is the possibility for an accident of a new or different type than evaluated previously in the safety analysis report created?

   No. See number 1 above.

3. Is the margin of safety significantly reduced?

   No. See number 1 above.