July 19, 1994

Docket Nos. 50-413
and 50-414

Mr. David L. Rehn
Vice President, Catawba Site
Duke Power Company
4800 Concord Road
York, South Carolina 29745

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NRC/Local PDRs
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S.Varga
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OGC O-15 B18
D.Hagan T-4 A43
G.Hill(4) T-5 C3
C.Grimes O-11 F23
ACRS(10) P-135
PA O-17 F2
OC/LFDCB T-9 E10
E.Merschoff, RII

Dear Mr. Rehn:

SUBJECT: ISSUANCE OF AMENDMENTS - CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TAC NOS. M85804 AND M85805)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 122 to Facility Operating License NPF-35 and Amendment No. 116 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated January 25, 1993, as amended by letter dated May 12, 1993.

The amendments revise the TS to allow longer surveillance test intervals and allowed outage times for the reactor protection system and the engineered safety features actuation system.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:
Robert E. Martin, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 122 to NPF-35
2. Amendment No. 116 to NPF-52
3. Safety Evaluation

cc w/enclosures:
See next page

***SEE PREVIOUS CONCURRENCES**

OFFICE	PDII-3/LA	PDII-3/PM	OGC*	HICB/BC*	PDII-3/D
NAME	L. BERRY	R. MARTIN	R.BACHMANN	J. WERMIEL	H. BERKOW for
DATE	7/12/94	7/12/94	6/30/94	6/28/94	7/14/94

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

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Vice President, Catawba Site
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Sincerely,

Robert E. Martin

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Office of Nuclear Reactor Regulation

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See next page

Mr. David L. Rehn
Duke Power Company

Catawba Nuclear Station

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

DUKE POWER COMPANY

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

SALUDA RIVER ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 122
License No. NPF-35

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the Catawba Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-35 filed by the Duke Power Company, acting for itself, North Carolina Electric Membership Corporation and Saluda River Electric Cooperative, Inc. (licensees), dated January 25, 1993, as amended by letter dated May 12, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-35 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 122 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Kalta N. Talbom for

Herbert N. Berkow, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: July 19, 1994

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

DUKE POWER COMPANY

NORTH CAROLINA MUNICIPAL POWER AGENCY NO. 1

PIEDMONT MUNICIPAL POWER AGENCY

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 116
License No. NPF-52

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the Catawba Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-52 filed by the Duke Power Company, acting for itself, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (licensees), dated January 25, 1993, as amended by letter dated May 12, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 116 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Kahe N. Jabbour for

Herbert N. Berkow, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: July 19, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 122

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 116

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages	Insert Pages
3/4 3-1	3/4 3-1
3/4 3-2	3/4 3-2
3/4 3-3	3/4 3-3
3/4 3-4	3/4 3-4
3/4 3-5	3/4 3-5
3/4 3-6	3/4 3-6
3/4 3-9	3/4 3-9
3/4 3-10	3/4 3-10
3/4 3-11	3/4 3-11
3/4 3-12	3/4 3-12
3/4 3-14	3/4 3-14
3/4 3-18	3/4 3-18
3/4 3-19	3/4 3-19
3/4 3-21	3/4 3-21
3/4 3-22	3/4 3-22
3/4 3-23	3/4 3-23
3/4 3-24	3/4 3-24
3/4 3-25	3/4 3-25
3/4 3-26	3/4 3-26
3/4 3-26a	3/4 3-26a
3/4 3-42	3/4 3-42
3/4 3-43	3/4 3-43
3/4 3-44	3/4 3-44
3/4 3-45	3/4 3-45
3/4 3-46	3/4 3-46
3/4 3-47	3/4 3-47
3/4 3-50	3/4 3-50
B 3/4 3-1	B 3/4 3-1

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the Reactor Trip System instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each Reactor Trip System instrumentation channel and interlock and the automatic trip logic shall be demonstrated OPERABLE by the performance of the Reactor Trip System Instrumentation Surveillance Requirements specified in Table 4.3-1.

4.3.1.2 The REACTOR TRIP SYSTEM RESPONSE TIME of each Reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1. The response time of RTDs associated with the Reactor Trip System shall be demonstrated to be within their limits at least once per 18 months.

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTURMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2	1
	2	1	2	3*, 4*, 5*	10
2. Power Range, Neutron Flux					
a. High Setpoint	4	2	3	1, 2	2
b. Low Setpoint	4	2	3	1###, 2	2
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2
4. Intermediate Range, Neutron Flux	2	1	2	1###, 2	3
5. Source Range, Neutron Flux					
a. Startup	2	1	2	2##	4
b. Shutdown	2	1	2	3*, 4*, 5*	10
6. Overtemperature ΔT Four Loop Operation	4	2	3	1, 2	6
7. Overpower ΔT Four Loop Operation	4	2	3	1, 2	6
8. Pressurizer Pressure-Low	4	2	3	1	6

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
9. Pressurizer Pressure-High	4	2	3	1, 2	6
10. Pressurizer Water Level-High	3	2	2	1	6
11. Reactor Coolant Flow-Low					
a. Single Loop (Above P-8)	3/loop	2/loop in any operating loop	2/loop in each operating loop	1	6
b. Two Loops (Above P-7 and below P-8)	3/loop	2/loop in two operating loops	2/loop each operating loop	1	6
12. Steam Generator Water Level--Low-Low	4/stm gen	2/stm gen in any operating stm gen	3/stm gen each operating stm gen	1, 2	6
13. Undervoltage-Reactor Coolant Pumps (Above P-7)	4-1/bus	2	3	1	6
14. Underfrequency-Reactor Coolant Pumps (Above P-7)	4-1/bus	2	3	1	6
15. Turbine Trip					
a. Stop Valve EH Pressure - Low	4	2	3	1####	6
b. Turbine Stop Valve Closure	4	4	1	1####	11
16. Safety Injection Input from ESF	2	1	2	1, 2	7

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTURMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
17. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6	2	1	2	2##	8
b. Low Power Reactor Trips Block, P-7					
P-10 Input	4	2	3	1	8
or					
P-13 Input	2	1	2	1	8
c. Power Range Neutron Flux, P-8	4	2	3	1	8
d. Power Range Neutron Flux, P-9	4	2	3	1	8
e. Power Range Neutron Flux, P-10	4	2	3	1	8
f. Power Range Neutron Flux, Not P-10	4	3	4	1, 2	8
g. Turbine Impulse Chamber Pressure, P-13	2	1	2	1	8
18. Reactor Trip Breakers	2	1	2	1, 2	9, 12
	2	1	2	3*, 4*, 5*	10
19. Automatic Trip and Interlock Logic	2	1	2	1, 2	7
	2	1	2	3*, 4*, 5*	10
20. Reactor Trip Bypass Breakers	N.A.	N.A.	N.A.	1,2,3*,4*,5*	13

TABLE 3.3-1 (Continued)

TABLE NOTATIONS

*Only if the Reactor Trip System breakers happen to be in the closed position and the Control Rod Drive System is capable of rod withdrawal.
##Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.
###Below the P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.
####Above the P-9 (Reactor Trip on Turbine Trip Interlock) Setpoint.

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 6 hours,

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1, and

c. Either, THERMAL POWER is restricted to less than or equal to 75% of RATED THERMAL POWER and the Power Range Neutron Flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours per Specification 4.2.4.2.

ACTION 3 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint; or

b. Above the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint but below 10% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 10% of RATED THERMAL POWER.

TABLE NOTATIONS (Continued)

ACTION 4 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, suspend all operations involving positive reactivity changes.

ACTION 5 - Delete

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 6 hours, and

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1.

ACTION 7 - With the number of OPERABLE channels one less than the minimum channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.

ACTION 8 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive status light(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.

ACTION 10 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers within the next hour.

ACTION 11 - With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the inoperable channels are placed in the tripped condition within 6 hours.

ACTION 12 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and apply ACTION 9. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status. With the breaker bypassed, apply ACTION 9.

ACTION 13 - With any reactor trip bypass breaker inoperable, restore the bypass breaker to OPERABLE status prior to placing it in service.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	N.A.	R(14)	N.A	1, 2, 3*, 4*,5*
2. Power Range, Neutron Flux						
a. High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	Q	N.A.	N.A	1, 2
b. Low Setpoint	S	R(4)	S/U(1)	N.A.	N.A	1###, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(4)	Q	N.A.	N.A	1, 2
4. Intermediate Range, Neutron Flux	S	R(4, 5)	S/U(1)	N.A.	N.A	1###, 2
5. Source Range, Neutron Flux	S	R(4, 5)	S/U(1),Q(9)	N.A.	N.A	2##, 3, 4, 5
6. Overtemperature ΔT	S	R	Q	N.A.	N.A	1, 2
7. Overpower ΔT	S	R	Q	N.A.	N.A	1, 2
8. Pressurizer Pressure-Low	S	R	Q	N.A.	N.A	1
9. Pressurizer Pressure-High	S	R	Q	N.A.	N.A	1, 2
10. Pressurizer Water Level-High	S	R	Q	N.A.	N.A	1
11. Reactor Coolant Flow-Low	S	R	Q	N.A.	N.A	1

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
12. Steam Generator Water Level-Low-Low	S	R(13)	Q	N.A.	N.A	1, 2
13. Undervoltage - Reactor Coolant Pumps	N.A.	R	N.A.	Q	N.A	1
14. Underfrequency - Reactor Coolant Pumps	N.A.	R	N.A.	Q	N.A	1
15. Turbine Trip						
a. Stop Valve EH Pressure - Low	N.A.	R	N.A.	S/U(1, 10)	N.A	1#
b. Turbine Stop Valve Closure	N.A.	R	N.A.	S/U(1, 10)	N.A	1#
16. Safety Injection Input from ESF	N.A.	N.A.	N.A.	R	N.A	1, 2
17. Reactor Trip System Interlocks						
a. Intermediate Range Neutron Flux, P-6	N.A.	R(4)	R	N.A.	N.A	2##
b. Power Range Neutron Flux, P-8	N.A.	R(4)	R	N.A.	N.A	1
c. Low Power Range Neutron Flux, P-9	N.A.	R(4)	R	N.A.	N.A	1

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
17. Reactor Trip System Interlocks (Continued)						
d. Power Range Neutron Flux, P-10	N.A.	R(4)	R	N.A.	N.A	1
e. Power Range Neutron Flux, Not P-10	N.A.	R(4)	R	N.A.	N.A	1, 2
f. Turbine Impulse Chamber Pressure, P-13	N.A.	R	R	N.A.	N.A	1
18. Reactor Trip Breaker	N.A.	N.A.	N.A.	M(7, 11)	N.A	1, 2, 3*, 4*, 5*
19. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	M(7)	1, 2, 3*, 4*, 5*
20. Reactor Trip Bypass Breakers	N.A.	N.A.	N.A.	M(7,15)R(16)	N.A	1, 2, 3*, 4*, 5

TABLE 4.3-1 (Continued)

TABLE NOTATIONS

* Only if the Reactor Trip System breakers happen to be closed and the Control Rod Drive System is capable of rod withdrawal.

\# Above P-9 (Reactor Trip on Turbine Trip Interlock) Setpoint.

\## Below P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.

\### Below P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.

(1) If not performed in previous 31 days.

(2) Comparison of calorimetric to excore power indication above 15% of RATED THERMAL POWER. Adjust excore channel gains consistent with calorimetric power if absolute difference is greater than 2%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.

(3) Single point comparison of incore to excore axial flux difference above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to 3%. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.

(4) Neutron detectors may be excluded from CHANNEL CALIBRATION.

(5) Detector plateau curves shall be obtained, evaluated and compared to manufacturer's data. For the Intermediate Range and Power Range Neutron Flux channels the provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.

(6) Incore - Excore Calibration, above 75% of RATED THERMAL POWER. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.

(7) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.

(8) Deleted.

(9) Quarterly surveillance in MODES 3*, 4*, and 5* shall also include verification that permissives P-6 and P-10 are in their required state for existing plant conditions by observation of the permissive status light.

(10) Setpoint verification is not applicable.

(11) The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include independent verification of the operability of the Undervoltage and Shunt trips.

(12) Deleted

(13) For Unit 1, CHANNEL CALIBRATION shall ensure that the filter time constant associated with Steam Generator Water Level Low-Low is adjusted to a value less than or equal to 1.5 seconds.

(14) The TRIP ACTUATING DEVICE OPERATIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by performance of the Engineered Safety Features Actuation System Instrumentation Surveillance Requirements specified in Table 4.3-2.

4.3.2.2 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
4. Steam Line Isolation (Continued)					
e. Steam Line Pressure - Negative Rate-High	3/steam line	2/steam line in any steam line	2/steam line	3##	15
5. Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2	21
b. Steam Generator Water Level-High-High (P-14)	4/stm. gen.	2/stm. gen. in any operating stm. gen.	3/stm. gen. in each operating stm. gen.	1, 2	19
c. T_{avg}-Low (P-4 Interlock)	4	2	3	1, 2	19
d. Doghouse Water Level-High	2/doghouse	1/doghouse in any doghouse	2/doghouse	1, 2	27
e. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
6. Turbine Trip					
a. Manual Initiation	1	1	1	1,2	25
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2	21

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. Turbine Trip (Continued)					
c. Steam Generator Water Level-High-High (P-14)	4/stm. gen.	2/stm. gen. in any operating stm. gen.	3/stm. gen. in each operating stm. gen.	1,2	19
d. Trip of All Main Feedwater Pumps	2/pump	1/pump	1/pump	1,2#	25
e. Reactor Trip (P-4)	2	1	2	1,2,3	22
f. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
7. Containment Pressure Control System					
a. Start Permissive	4/train	2/train	3/train	1, 2, 3, 4	16b
b. Termination	4/train	2/train	3/train	1, 2, 3, 4	16b
8. Auxiliary Feedwater					
a. Manual Initiation	1/train	1/train	1/train	1, 2, 3	26
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	21

TABLE 3.3-3 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
8. Auxiliary Feedwater (Continued)					
g. Auxiliary Feedwater Suction Pressure-Low					
1) CAPS 5220, 5221, 5222	3/pump	2/pump	2/pump	1, 2, 3	15a
2) CAPS 5230, 5231, 5232	3/pump	2/pump	2/pump	1, 2, 3	15a
9. Containment Sump Recirculation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	14
b. Refueling Water Storage Tank Level-Low	4	2	3	1, 2, 3, 4	16a
Coincident With Safety Injection requirements.	See Item 1. above for all Safety Injection initiating functions and				
10. Loss of Power					
a. 4 kV Bus Undervoltage-Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	15
b. 4 kV Bus Undervoltage-Grid Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	15
11. Control Room Area Ventilation Operation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	All	24

TABLE 3.3-3 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
11. Control Room Area Ventilation Operation (Continued)					
b. Loss-of-Offsite Power	3	2	2	1, 2, 3	15a
c. Safety Injection	See Item 1. above for all Safety Injections initiating functions and requirements.				
12. Containment Air Return and Hydrogen Skimmer Operation					
a. Manual Initiation	2	1	2	1,2,3,4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2,3,4	14a
c. Containment Pressure-High-High	4	2	3	1,2,3	16
13. Annulus Ventilation Operation					
a. Manual Initiation	2	1	2	1,2,3,4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2,3,4	14a
c. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
14. Nuclear Service Water Operation					
a. Manual Initiation	2	1	2	1,2,3,4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2,3,4	21a

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
14. Nuclear Service Water Operation (Continued)					
c. Loss-of-Offsite Power	3	2	2	1,2,3	15a
d. Containment Spray	See Item 2. above for all Containment Spray initiating functions and requirements.				
e. Phase "B" Isolation	See Item 3.b. above for all Phase "B" Isolation initiating functions and requirements.				
f. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
g. Suction Transfer-Low Pit Level (Units 1 and 2)					
2 Out of 3 Logic	3/pit	2/pit (either pit)	2/pit	1,2,3,4	29
15. Emergency Diesel Generator Operation (Diesel Building Ventilation Operation, Nuclear Service Water Operation)					
a. Manual Initiation	2	1	2	1,2,3,4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2,3,4	21
c. Loss-of-Offsite Power	3	2	2	1,2,3,4	15a
d. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
16. Auxiliary Building Filtered Exhaust Operation					
a. Manual Initiation	2	1	2	1,2,3,4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1,2,3,4	21a

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
16. Auxiliary Building Filtered Exhaust Operation (Continued)					
c. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
17. Diesel Building Ventilation Operation					
a. Manual Initiation	2	1	2	1, 2, 3, 4	18
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	21a
c. Emergency Diesel Generator Operation	See Item 15. above for all Emergency Diesel Generator Operation initiating functions and requirements.				
18. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	20
b. Pressurizer Pressure, not P-11	3	2	2	1, 2, 3	20
c. Low-Low T_{avg}, P-12	4	2	3	1, 2, 3	20
d. Reactor Trip, P-4	2	2	2	1, 2, 3	22
e. Steam Generator Water Level, P-14	4/stm. gen.	2/stm. gen. in any operating stm. gen.	3/stm. gen. in each operating stm. gen.	1, 2, 3	20

TABLE 3.3-3 (Continued)

TABLE NOTATIONS

#Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) setpoint.

##Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam line pressure is not blocked.

ACTION STATEMENTS

ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 14a - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 6 hours.

ACTION 15a - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 16 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.

ACTION 16a - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

TABLE NOTATIONS (Continued)

ACTION 16b - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour, and

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 17 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.

ACTION 18 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 6 hours, and

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 20 - With less than the Minimum Channels OPERABLE, within 1 hour determine by observation of the associated permissive status light(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 21 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 21a - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 22 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

TABLE 3.3-3 (Continued)

TABLE NOTATIONS (Continued)

ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.4.

ACTION 24 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours, or initiate and maintain operation of the Control Room Area Ventilation System with flow through the HEPA filters and activated carbon adsorbers.

ACTION 25 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours.

ACTION 26 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

ACTION 27 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 28 - Deleted.

ACTION 29 - With the number of OPERABLE channels less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided one of the following applicable conditions is satisfied:

a. With one channel inoperable, place the inoperable channel in the tripped condition within 4 hours and ensure the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1; or

b. With less than the Minimum Number of Channels OPERABLE align the Nuclear Service Water System for Standby Nuclear Service Water Pond recirculation within 4 hours, or be in at least HOT STANDBY within the next 6 hours, at least HOT SHUTDOWN within the following 6 hours, and at least COLD SHUTDOWN within the subsequent 24 hours.

TABLE 4.3-2

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Safety Injection (Reactor Trip, Phase "A" Isolation, Feedwater Isolation, Control Room Area Ventilation Operation, Auxiliary Feedwater-Motor-Driven Pump, Purge and Exhaust Isolation, Annulus Ventilation Operation, Auxiliary Building Filtered Exhaust Operation, Emergency Diesel Generators Operation, Component Cooling Water, Turbine Trip, and Nuclear Service Water Operation)								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
c. Containment Pressure-High	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
d. Pressurizer Pressure-Low	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
e. Steam Line Pressure-Low	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
2. Containment Spray								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
2. Containment Spray (Continued)								
c. Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
3. Containment Isolation								
a. Phase "A" Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
b. Phase "B" Isolation (Nuclear Service Water Operation)								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
c. Purge and Exhaust Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3, 4

TABLE 4.3-2 (Continued)

ENGINEER SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. Containment Isolation (Continued)								
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
4. Steam Line Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A	N.A	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
d. Steam Line Pressure-Low	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
e. Steam Line Pressure-Negative Rate-High	S	R	Q	N.A.	N.A.	N.A	N.A.	3
5. Feedwater Isolation								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
5. Feedwater Isolation (Continued)								
b. Steam Generator Water Level-High-High (P-14)	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2
c. T_{avg}-Low (P-4 Interlock)	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2
d. Doghouse Water Level-High	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
e. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
6. Turbine Trip								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2
c. Steam Generator Water Level-High-High (P-14)	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2
d. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
e. Reactor Trip (P-4)	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
f. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
7. Containment Pressure Control System								
a. Start Permissive	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Termination	S	R	M	N.A.	N.A	N.A.	N.A.	1, 2, 3, 4

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
8. Auxiliary Feedwater								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Steam Generator Water Level-Low-Low	S	R	Q	N.A.	N.A.	N.	N.A	1, 2, 3
d. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
e. Loss-of-Offsite Power	N.A.	R	N.A.	M(3)	N.A.	N.A	N.A	1, 2, 3
f. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A	1, 2
g. Auxiliary Feedwater Suction Pressure-Low	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3
9. Containment Sump Recirculation								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
b. Refueling Water Storage Tank Level - Low Coincident With Safety Injection	S	R	M	N.A.	N.A.	N.A	N.A.	1, 2, 3, 4
	See Item 1. above for all Safety Injection Surveillance Requirements.							

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
10. Loss of Power								
a. 4 kV Bus N.A. Undervoltage-Loss of Voltage	R	N.A.	M (2)	N.A.	N.A	N.A.		1, 2, 3, 4
b. 4 kV Bus Undervoltage-Grid Degraded Voltage	N.A.	R	N.A.	M (2)	N.A.	N.A	N.A.	1, 2, 3, 4
11. Control Room Area Ventilation Operation								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	All
b. Loss-of-Offsite Power	N.A.	R	N.A.	R	N.A.	N.A	N.A.	1, 2, 3
c. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
12. Containment Air Return and Hydrogen Skimmer Operation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
c. Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A	N.A.	1, 2, 3
13. Annulus Ventilation Operation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A	N.A.	1, 2, 3, 4

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODE FOR WHICH SURVEILLANCE IS REQUIRED
17. Diesel Building Ventilation Operation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3,
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
c. Emergency Diesel Generator Operation	See Item 15. above for all Emergency Diesel Generator Operation Surveillance Requirements.							
18. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure P-11	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Pressurizer Pressure, not P-11	N.A.	R	Q	N.A.	N.A.	N.A.	N.A	1, 2, 3
c. Low-Low T_{avg}, P-12	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
e. Steam Generator Water Level, P-14	S	R	Q	N.A.	M(1)	M(1)	Q	1, 2, 3

TABLE NOTATIONS

(1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
(2) Monthly testing shall consist of voltage sensor relay testing excluding actuation of load shedding diesel start, and time - delay timers.
(3) Monthly testing shall consist of relay testing excluding final actuation of the pumps or valves.
(4) Deleted.
(5) Surveillance Requirements must be met on common (shared) portions of the Nuclear Service Water System when either unit is in MODE 1, 2, 3, or 4. Surveillance Requirements must be met on unit-specific portions of the Nuclear Service Water System only when the unit is in MODE 1, 2, 3, or 4.

3/4.3.1 and 3/4.3.2 REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

The OPERABILITY of the Reactor Trip System and the Engineered Safety Features Actuation System instrumentation and interlocks ensures that: (1) the associated ACTION and/or Reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its Setpoint, (2) the specified coincidence logic and sufficient redundancy is maintained to permit a channel to be out-of-service for testing and maintenance, consistent with maintaining an appropriate level of reliability of the Reactor Protection and Engineered Safety Features instrumentation and (3) sufficient system functional capability is available from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy, and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the safety analyses. The Surveillance Requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with WCAP-10271, "Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System," and supplements to that report. Surveillance intervals and out of service times were determined based on maintaining an appropriate level of reliability of the Reactor Protection System and Engineered Safety Features instrumentation. The NRC Safety Evaluation Reports for the WCAP-10271 series were provided in letters dated February 21, 1985 from C. O. Thomas (NRC) to J. J. Sheppard (WOG), February 22, 1989 from C. E. Rossi (NRC) to R. A. Newton (WOG), and April 30, 1990 from C. E. Rossi (NRC) to G. T. Goering (WOG). From these reports, additional conditions are required to support the WCAP, including: (1) common cause evaluation for failure in the channels changed to the quarterly test frequency and additional testing for plausible common cause failures, (2) installed hardware capabilities for testing in the bypass mode, and (3) provisions for demonstrating appropriate adjustments for instrument setpoint methodology to offset the drift anticipated as a result of a less frequent surveillance.

The Engineered Safety Features Actuation System Instrumentation Trip Setpoints specified in Table 3.3-4 are the nominal values at which the bistables are set for each functional unit. A Setpoint is considered to be adjusted consistent with the nominal value when the "as measured" Setpoint is within the band allowed for calibration accuracy.

To accommodate the instrument drift assumed to occur between operational tests and the accuracy to which Setpoints can be measured and calibrated. Allowable Values for the Setpoints have been specified in Table 3.3-4. Operation with Setpoints less conservative than the Trip Setpoint but within the Allowable Value is acceptable since an allowance has been made in the safety analysis to accommodate this error.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NPF-35

AND AMENDMENT NO. 116 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated January 25, 1993, as supplemented May 12, 1993, Duke Power Company, et al. (the licensee), submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would allow longer surveillance test intervals (STIs) and allowed outage times (AOTs) for the reactor protection system (RPS or RTS, interchangeably) and engineered safety features actuation system (ESFAS) instrumentation.

2.0 EVALUATION

The licensee's application is based on a series of reports submitted by the Westinghouse Owner's Group (WOG) and the associated NRC staff safety evaluation reports (SER) as discussed in further detail below. The rationale for these reports, presented in the staff's SER of February 21, 1985, is summarized in this section as follows.

By letter dated February 3, 1983, the WOG submitted WCAP-10271,"Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System," to the NRC for review and approval. The report proposed TS changes governing operability and surveillance testing of the RTS which Westinghouse utilities can request on a plant-specific basis and presented equipment unavailability and risk analyses to support those changes. Also, the WOG requested that the NRC approve the WCAP as providing an acceptable methodology for evaluating and supporting TS revisions and as being generically applicable to operating plants.

In requesting these actions, the WOG noted that operating utilities are becoming increasingly aware of the impact of current test and maintenance requirements on plant operation. Inadvertent reactor trips have occurred during surveillance testing and have resulted in unnecessary plant transients and challenges to protection systems. Additionally, there is a significant manpower commitment associated with the performance and administration of the surveillance program. Much of this manpower could be redirected to other matters to assure safe operation by decreasing the frequency of surveillance while still maintaining a highly reliable Reactor Trip System.

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3.0 PRE-APPROVED REVISIONS AND ASSOCIATED CONDITIONS

The WOG published results of its study and proposals for remedial actions in 1983 in the original WCAP-10271. This document was later revised several times in response to NRC's comments and the current version of WCAP-10271, Supplement 2, Revision 1, was published on May 12, 1987. The staff reviewed all versions of WCAP-10271 including WOG's responses to staff's questions on these submittals. During this review, the NRC staff engaged the services of Brookhaven National Laboratory (BNL) to evaluate the approach used and the analyses performed in the WOG reports. BNL determined the adequacy of WOG's methodology to establish technical bases for unavailability data, reliability calculations, and proposed STI/AOT extensions. After the NRC staff and BNL staff had completed their review, the NRC issued the following reports:

- A safety evaluation on the RTS dated February 21, 1985,
- A letter from H. Denton, NRC, to the WOG, dated July 24, 1985, providing marked-up TS pages and additional guidance regarding the staff's February 21, 1985, safety evaluation,
- A safety evaluation on the ESFAS dated February 22, 1989, and
- A supplemental SER (SSER) dated April 30, 1990.

These SERs approved various TS changes extending STIs, test and maintenance AOTs, and bypass time for instrument channels in the RTS and the ESFAS, and to the logic cabinets for these systems. However, the staff stipulated certain conditions that licensees must meet to include these pre-approved changes in plant-specific TS. The pre-approved changes and associated conditions are addressed below.

3.1 Pre-Approved Changes

As mentioned above, the NRC staff stipulated certain conditions to be met before the approved TS changes to RTS and ESFAS and to the logic cabinets of these systems could be made in any plant-specific TS. The pre-approved TS changes are described below and the associated conditions are described in section 3.2 of this report.

3.1.1 SER issued on February 21, 1985 (RTS SER)

In this SER, the staff approved the following TS changes relating to RTS analog channels only.

(1) STI for RTS analog channel operational testing may be increased from once a month to once per quarter.

(2) The duration for which an inoperable RTS analog channel may be maintained in an untripped condition may be increased from 1 hour to 6 hours.

(3) The duration for which an inoperable RTS channel may be bypassed to allow testing of another channel in the same function may be increased from 2 hours to 4 hours. Also, the channel test may be done in the bypass mode, leaving the inoperable channel in a tripped condition.

(4) Testing of RTS analog channels in a bypassed condition instead of a tripped condition will be allowed.

3.1.2 SER issued on February 22, 1989 (ESFAS SER)

In this SER, the staff approved the following TS changes relating to ESFAS instruments:

(1) The STIs for the analog channels may be increased from 1 month to 3 months.

(2) The AOTs for testing of analog channels may be increased from 2 hours to 4 hours for both relays and solid state systems.

(3) The AOTs for testing all components may be up to 4 hours in solid state systems.

(4) In relay systems, the AOT for testing of the logic trains and master relays could be increased to 8 hours and for the slave relays to 12 hours.

(5) The AOTs for maintenance on all components may be extended to 12 hours for both relays and solid state systems. All components except the analog channels could be in the bypass mode during maintenance AOT, with an analog channel tripped after spending 6 hours in the bypass mode.

(6) Staggered testing is not required for analog channels in the ESFAS and this requirement may be removed for analog channels in RTS.

3.1.3 Supplemental SER issued on April 30, 1990 (SSER)

The staff's review of the proposed STI/AOT extensions for the logic cabinets and reactor trip breakers for the RTS system was based on its evaluation of Appendix D to the WCAP-10271, Supplement 2, Revision 1. The RTS and ESFAS share some common instrumentation; therefore it was necessary to consider STI/AOT extensions for RTS logic cabinets. The staff's conclusions are given below.

(1) The AOT extensions for the RTS logic cabinets as presented in Appendix D are acceptable. These are 4 hours for testing and 12 hours for maintenance instead of 2 hours and 6 hours, respectively.

(2) The STI/AOT extensions (covered by the ESFAS SER) for ESFAS functions associated with the Safety Injection, Steam Line Isolation, Main Feedwater Isolation, and Auxiliary Feedwater Pump Start Signals are acceptable.

(3) The STI/AOT extensions proposed in Appendix D are not acceptable for reactor trip breakers because the extensions would reduce availability of these breakers.

3.1.4 Letter, H.R. Denton, NRC to L.D. Butterfield, WOG dated July 24, 1985

The letter referenced the NRC staff's SER of February 21, 1985, as discussed in section 3.1.1 of this report. The letter provided pages of the Westinghouse STS marked up to provide an acceptable model for TS revisions to incorporate the changes approved by the NRC's February 21, 1985, SER. It also included notes providing additional clarification of (1) the changes related to WCAP-10271, and (2) other corrections the staff identified.

3.2 Associated Conditions for Approval

3.2.1 For the RTS SER changes

(1) Performance of testing shall be done on a staggered basis. (This condition was later removed by the ESFAS SER.)

(2) Procedures should be implemented to evaluate test-failures for common cause and additional testing should be performed if necessary.

(3) Approval of channel testing (items 3.1.1.(3) and (4) above) in a bypassed condition assumes that the plant design allows such testing without lifting any leads or installing jumpers.

3.2.2 For SSER changes

Acceptance of item 3.1.3.(1) is contingent on including a separate new action statement for modes 1 and 2 for RPS Automatic Trip and Interlock Logic Functional Units. The model Action Statement given below is in the format of Westinghouse Standard Technical Specifications, Revision 4, Table 3.3-1.

> ACTION 12 - With the number of OPERABLE Channels (analog channels and trip logic) one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.

3.2.3 Expeditious Review

In the letters transmitting the ESFAS SER and SSER, the staff indicated that a licensee's request for the proposed changes to the plant-specific TS will be expeditiously reviewed by the staff provided, the licensee:

(1) Confirms the applicability of the generic analyses of WCAP-10271, Supplement 2 Revision 0 and Revision 1 to its plant.

(2) Confirms that any increase in instrument drift as a result of the extended STIs has been properly accounted for in setpoint calculation methodology.

(3) Confirms that the proposed TS changes are consistent with those approved by the staff in the SERs.

4.0 EVALUATION OF PROPOSED REVISIONS

The staff evaluated the licensee's proposed TS changes to verify that they are consistent with pre-approved changes and that the licensee has met all the conditions associated with those changes.

4.1 Reactor Trip System (RTS) Instrumentation

4.1.1 TS Table 3.3-1

(1) TS Table 3.3-1, RTS Instrumentation, Note **

Proposed change: Delete the RTS Table 3.3.1 notation ** which required compliance with the ESFAS specification 3.3.2 for any portion of the channel required to be operable by Specification 3.3.2.

Evaluation: This notation required that RTS instrument channels, for Functional Units 9 (Pressurizer pressure low) and 10 (Pressurizer pressure high), and 12 (SG water level low-low) channels should be tested per surveillance frequency and/or mode as described in Specification 3.3.2 (for ESF instrumentation channels), because these requirements were more restrictive. This was to implement a condition in the RTS SER for those channels that provided input to both the RTS and the ESFAS. Now that the previously approved relaxations for these Catawba RTS channels are being approved for the Catawba ESFAS channels this condition need not apply. Therefore, the ** is removed. This is acceptable.

(2) TS Table 3.3-1, RTS Logic Cabinets

Proposed Change: Add new ACTION 7 as specified in the previous section 3.2.2(1), to allow 6 hours to restore an inoperable channel to operable status before requiring shutdown to HOT STANDBY within the next 6 hours and to allow bypass of a channel for up to 4 hours for surveillance testing, provided the other channel is operable. Make this new ACTION statement applicable to Functional Units 19 (Automatic Trip and Interlock Logic), and make it applicable to Functional Unit 16 (Safety Injection Input from ESF) rather than ACTION 9.

Evaluation: The previously applicable ACTION 9 requires the plant "to be in at least HOT STANDBY within 6 hours, however, one channel may be bypassed for up to 2 hours for surveillance test provided the other channel is operable."

The new ACTION 7 allows 6 hours to restore the inoperable channel before requiring shutdown to HOT STANDBY within the next 6 hours, and allows

bypassing one channel up to 4 hours, instead of 2 hours, for surveillance testing.

The above change is acceptable because it is consistent with pre-approved change as described in sections 3.1.2 and 3.2.2 of this evaluation.

4.1.2 Surveillance Test Interval (STI) For RTS

(1) Proposed Change and Evaluation: TS 4.3.1.2 is modified by deletion of a footnote (*) which refers to testing required before the Unit 2 first refueling. Since this milestone has been passed this footnote is extraneous and may be deleted.

(2) TS 4.3.1.1, Table 4.3-1, Functional Units 2.a, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14

Proposed Change: Revise the analog channel operational test entries and the reactor coolant pump trip actuating device operational test entries to increase the STI from monthly to quarterly for all the above functional units generically approved for such change by the NRC via WCAP-10271 and revise the associated Table 4.3-1 Notations (1), (8) and (9).

Evaluation: The STI for these RTS instruments per existing TS Table 4.3-1 requirement is monthly. The revision to the Table 4.3-1 changes the STI for these instruments from monthly to quarterly. This change is acceptable because it is consistent with the pre-approved changes described in sections 3.1.1 and 3.1.4 of this evaluation.

(3) TS 4.3.1.1, Table 4.3-1, Functional Units 2.b, 4, 17.a, b, c, d, e, f

Proposed Change: Revise the analog channel operational test entries to increase the STI from monthly to startup (S/U) or refueling (R) and delete functional unit 17.b, Low Power Reactor Trips Block, P-7, for the above functional units.

Evaluation: The STI for these functional units has been monthly. These changes are acceptable because they are consistent with the pre-approved changes described in section 3.1.4 of this evaluation.

4.2 Engineered Safety Features Actuation System (ESFAS) Instrumentation

4.2.1 TS Table 3.3-3

(1) Functional Units 1.c, 1.e, 4.d, 4.e, 8.e, 10.a, 10.b

Proposed Change: Revise ACTION 15, which required that an inoperable channel be placed in the tripped condition within 1 hour, to require an inoperable channel to be placed in the tripped condition within 6 hours.

Add ACTION 15a for functional units 8g, 11b, 14c, and 15c. This ACTION continues the requirements of the previously numbered ACTION 15 for functional

unit parameters that were not included in the WCAP analysis. Thus there is no change in the required ACTION for these functional units. This is acceptable.

Evaluation: For ESFAS functional units 1c (containment pressure high), 1e (steam line pressure low), 4d (steam line pressure low) and 4e (steam line pressure-negative rate high), 8e (Loss of offsite power - Start Motor-Driven Pumps and Turbine-Driven Pump), 10a (4 KV Bus Undervoltage - Loss of Voltage), 10b (4 KV Bus Undervoltage - Grid Degraded Voltage) in a condition with the number of operable channels one less than the total number of channels, the existing ACTION 15 allows operation to proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST, provided the inoperable channel is placed in the tripped position within 1 hour.

The revised ACTION 15 extends the time for the inoperable channel to be placed in the tripped condition from 1 to 6 hours.

The above change is acceptable because it is consistent with the pre-approved change as described in sections 3.1.2.(5).of this evaluation.

(2) AUTOMATIC ACTUATION LOGIC and ACTUATION RELAYS (ACTIONS 14, and 21)

Proposed Change: Revise ACTIONS 14 and 21 to include an additional provision to allow 6 hours to restore an inoperable channel to operable status before requiring shutdown to HOT STANDBY within the next 6 hours and to increase the allowed bypassed time from 2 to 4 hours for surveillance testing.

Add ACTION 14a for functional units 12b (containment air return and hydrogen skimmer) and 13b (annulus ventilation operation). This ACTION continues the requirements of the previously numbered ACTION 14 for functional unit parameters that were not included in the WCAP analysis. Thus, there is no change in the required ACTION for these functional units. This is acceptable.

Evaluation: With the number of OPERABLE channels one less than the allowed minimum operable channels, the existing ACTION statements 14 and 21 require the plant to be in HOT STANDBY within 6 hours, however, one channel may be bypassed up to 2 hours for surveillance testing provided the other channel is operable.

The revised ACTION statements allow 6 hours to restore an inoperable channel before requiring shutdown to HOT STANDBY within the next 6 hours and increases the allowed bypassed time from 2 hours to 4 hours for surveillance testing.

The above change is acceptable because it is consistent with the pre-approved change as described in section 3.1.2 of this evaluation.

(3) ACTION 16, Containment Pressure High-High

Proposed Change: Revise ACTION 16 to increase the time a second containment pressure High-High channel may be bypassed to allow testing of the channel from 2 to 4 hours.

Add a new ACTION 16a for functional unit 9b, RWST Level-low. This ACTION continues the requirements of the previously numbered ACTION 16 for this parameter that was not included in the WCAP analysis. Thus, there is no change in the required ACTION for this functional unit. This is acceptable.

Evaluation: With the number of OPERABLE channels one less than the total number of channels, ACTION 16 of existing TS allows operation to proceed provided the inoperable channel is placed in the bypassed condition and the requirement for the minimum channels operable is met. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

The revision to the action statement allows a channel to be bypassed up to 4 hours, instead of 2 hours for surveillance testing.

The above change is acceptable because it is consistent with the pre-approved changes described in 3.1.2(2) of this evaluation.

(4) ACTION 19 and 16b

Proposed Change: Revise ACTION 19.a to increase the time an inoperable channel may be maintained in an untripped condition from 1 to 6 hours. Revise ACTION 19.b to increase the time an inoperable channel may be bypassed to allow surveillance testing of other channels in the same function from 2 to 4 hours.

Evaluation: With the number of operable channels one less than the total number of channels, ACTION 19 of existing TS allows startup and/or power operation to proceed provided the inoperable channel is placed in the tripped condition within 1 hour and the requirement for the minimum channels operable is met; however, one additional channel may be bypassed up to 2 hours for surveillance testing.

The revision to the action statement allows up to 6 hours, instead of 1 hour, for putting a channel in the tripped condition and allows for up to 4 hours, instead of 2 hours, for one additional channel to be in a bypassed status for surveillance testing.

The above change is acceptable because it is consistent with the pre-approved changes described in section 3.1.2 of this evaluation.

4.2.2 Surveillance Test Interval (STI) For ESFAS

(1) Proposed Change and Evaluation: TS 4.3.2.2 is modified by deletion of a footnote (*) which refers to testing required prior to startup following the Unit 2 first refueling. Since this milestone has been passed this footnote is extraneous and may be deleted.

(2) TS 4.3.2.1, Table 4.3-2, Functional Units 1.c, 1.d, 1.e, 2.c, 3.b.3,4.c, 4.d, 4.e, 5.b, 5.c, 6.c, 8.c,12.c, and 18.a,b,c,e.

Proposed Change: Revise the analog channel operational test entries to increase the STI from monthly to quarterly for all the above functional units generically approved for such change by the NRC via WCAP-10271.

Footnote (4) for functional units 5.d, 6.d and 6.e in Table 4.3-2 allowed a delay in the first time performance of this test for Unit 2 until after the first fuel cycle. With that milestone now completed the note is obsolete and may be removed. This is acceptable.

Evaluation: The STI for these ESF instruments per existing TS Table 4.3-2 requirement is monthly. The revision to the Table 4.3-2 changes the STI for these instruments from monthly to quarterly. This change is acceptable because it is consistent with the pre-approved changes described in section 3.1.2.(1) of this evaluation.

4.3 Other Miscellaneous Changes

TS Table 3.3.3 Item 14.g(1) and the associated Table Notations * and ** and ACTION STATEMENT 28 are deleted now that the purpose they were created for, to facilitate changeover of the nuclear service water swapover logic, has been completed.

These changes are administrative in nature and improve the readability of the TS and are acceptable. The licensee also proposed changes to the TS BASES 3/4.3.1 and 3/4.3.2 to support the STI and AOT changes.

4.4 Verification of Conditions

Through its submittals, the licensee confirmed that it has met the SER conditions as described below.

(1) Condition 3.2.1.(1): Performance of testing on a staggered basis was stipulated by the RTS SER, but was removed by the ESFAS SER. The licensee had not applied for an amendment based on WCAP-10271 to change the RTS STI's before the January 25, 1993 application. Therefore, staggered testing had not been incorporated in the Catawba TS. Therefore, no change is required for the Catawba TS in response to this issue. This is acceptable.

(2) Condition 3.2.1.(2): The licensee stated that station directives, maintenance procedures and guidelines exist for the administration of station equipment reliability programs. Identification of significant or recurring failures in an RTS or ESFAS channel would require a Problem Investigation Report. The licensee's assessment would include but not be limited to evaluations for common cause failure mechanisms and subsequent testing of comparable equipment when deemed necessary. This is acceptable.

(3) Condition 3.2.1.(3): The licensee stated that the Catawba design does not have installed bypass capability within the 7300 Protection and Control System at this time. The licensee has no plans to pursue that portion of the WOG effort which would allow for routine channel testing in the bypass condition. Routine channel testing will continue to be performed in the tripped condition. This is acceptable.

(4) Condition 3.2.3.(1): The generic analyses used in WCAP-10271 and its supplements are applicable to Catawba. The licensee uses the Westinghouse process control system and the Westinghouse solid state protection System for ESFAS and RTS. These systems were specifically modeled in the generic analyses. The licensee states that the RTS and ESFAS functions for which increased surveillance intervals and allowed outage times are being requested are those for which NRC approval has already been granted through issuance of the SERs and supplements for the WCAP-10271 reports. The staff has found this to be the case and this is acceptable.

(5) Condition 3.2.3.(2): The licensee performed a review of the plant's "as found" and "as left" data for the RTS and ESFAS setpoints for a 12 month period and concluded that sufficient margin is present to offset the drift anticipated as a result of quarterly surveillance. The licensee further stated that the allowable margin present in the setpoints is more than adequate to offset any drift observed based upon review of the data. This is acceptable to the staff.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 41501 dated August 4, 1993). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the

public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Martin

Date: July 19, 1994