

December 14, 1987

Docket Nos.: 50-413
and 50-414

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Issuance of Amendment No. 37 to Facility Operating License NPF-35
and Amendment No. 29 to Facility Operating License NPF-52 - Catawba
Nuclear Station, Units 1 and 2 (TACS 60974/60975)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 37 to Facility Operating License NPF-35 and Amendment No. 29 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications in response to your application dated March 7, 1986, and supplemented June 12 and July 1, 1987.

The amendments modify the Technical Specifications primarily to eliminate typographical errors, provide additional clarification, and improve consistency. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 37 to Facility Operating License NPF-35 and Amendment No. 29 to Facility Operating License NPF-52 is enclosed.

Notice of issuance of amendments will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

LSI

Kahtan N. Jabbour, Project Manager
Project Directorate II-3
Division of Reactor Projects I/II

Enclosures:

1. Amendment No. 37 to NPF-35
2. Amendment No. 29 to NPF-52
3. Safety Evaluation

cc w/enclosures: See next page

KNT fo/
PDII-3/DRPI/II
Duncan Duncan/mac
11/17/87

KNT
PDII-3/DRPI/II
KJabbour
11/17/87

KNT
PDII-3/DRPI/II *KJABBOUR*
L Crocker, Acting PD
12/03/87

8712220189 871214
PDR ADOCK 05000413
P PDR

Mr. H. B. Tucker
Duke Power Company

Catawba Nuclear Station

cc:

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

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. 37
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 March 7, 1986, and supplemented June 12 and July 1, 1987, 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, as amended, 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 attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-35 is hereby amended to read as follows:

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PDR ADDCK 05000413
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 37, are hereby incorporated into the license. The licensee 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

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Kahtan N. Jabbour, Acting PD
Project Directorate II-3
Division of Reactor Projects I/II

Attachment:
Technical Specification Changes

Date of Issuance: December 14, 1987

KNJP
PDII-3/DRPI/II
JMD MDuncan/mac
11/17/87

KNJ
PDII-3/DRPI/II
KJabbour
11/17/87

OK. Subject to addition to FR notice. KNJ
OGC-BETH
S H Lewis
11/25/87
PDII-3/DRPI/II
KJabbour, Acting PD
12/3/87



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

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. 29
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 March 7, 1986, and supplemented June 12 and July 1, 1987, 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, as amended, 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 attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 29, are hereby incorporated into the license. The licensee 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

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Kahtan N. Jabbour, Acting Director
Project Directorate II-3
Division of Reactor Projects I/II

Attachment:
Technical Specification
Changes

Date of Issuance:

KNJ for
PDII-3/DRPI/II
MDuncan/mac
11/17/87

KNJ
PDII-3/DRPI/II
KJabbour
11/17/87

*ANZ. Subject to addition
FR notice.*
OGC-Bethesda
JH Lewis
11/25/87
KNJ
PDII-3/DRPI/II
KJabbour, Acting PD
12/3/87

ATTACHMENT TO LICENSE AMENDMENT NO. 37

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 29

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. The corresponding overleaf pages are also provided to maintain document completeness.

<u>Amended</u> <u>Page</u>	<u>Overleaf</u> <u>Page</u>
1-6	1-5
2-6	--
3/4 1-14	3/4 1-13
3/4 3-24	3/4 3-23
3/4 3-26	3/4 3-25
3/4 3-53	--
3/4 3-70	--
3/4 4-20	--
3/4 4-21	3/4 4-22
3/4 6-14	3/4 6-13
3/4 6-15	3/4 6-16
3/4 6-17	3/4 6-18
3/4 6-28	3/4 6-27
3/4 6-36	3/4 6-35
3/4 7-14	3/4 7-13
3/4 7-15	
3/4 7-16	
3/4 7-17	--
3/4 7-18	--
3/4 9-4	3/4 9-3
3/4 9-5	--
3/4 9-6	--
3/4 9-14	3/4 9-13
3/4 9-15	--
3/4 11-3	3/4 11-4
3/4 11-8	3/4 11-7
3/4 11-11	3/4 11-12
3/4 12-2	3/4 12-1
3/4 12-11	3/4 12-12
B3/4 6-3	B3/4 6-4
B3/4 9-1	--
B3/4 9-3	--
6-5	--

DEFINITIONS

RATED THERMAL POWER

1.25 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3411 Mwt.

REACTOR BUILDING INTEGRITY

1.26 REACTOR BUILDING INTEGRITY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed,
- b. The Annulus Ventilation System is OPERABLE, and
- c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

REACTOR TRIP SYSTEM RESPONSE TIME

1.27 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its Trip Setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

1.28 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

SHUTDOWN MARGIN

1.29 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

SITE BOUNDARY

1.30 The SITE BOUNDARY shall be that line beyond which the land is neither owned, nor leased, nor otherwise controlled by licensee.

SLAVE RELAY TEST

1.31 A SLAVE RELAY TEST shall be the energization of each slave relay and verification of OPERABILITY of each relay. The SLAVE RELAY TEST shall include a continuity check, as a minimum, of associated testable actuation devices.

SOLIDIFICATION

1.32 SOLIDIFICATION shall be the conversion of wet wastes into a form that meets shipping and burial ground requirements.

DEFINITIONS

SOURCE CHECK

1.33 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

STAGGERED TEST BASIS

1.34 A STAGGERED TEST BASIS shall consist of:

- a. A test schedule for n systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into n equal subintervals, and
- b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

THERMAL POWER

1.35 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

TRIP ACTUATING DEVICE OPERATIONAL TEST

1.36 A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required Setpoint within the required accuracy.

UNIDENTIFIED LEAKAGE

1.37 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE.

UNRESTRICTED AREA

1.38 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

VENTILATION EXHAUST TREATMENT SYSTEM

1.39 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through activated carbon adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Features (ESF) Atmospheric Cleanup Systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

TABLE 2.2-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
18. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6	N.A.	N.A.	N.A.	$\geq 1 \times 10^{-10}$ amps	$\geq 6 \times 10^{-11}$ amps
b. Low Power Reactor Trips Block, P-7					
1) P-10 input	N.A.	N.A.	N.A.	$\leq 10\%$ of RTP*	$\leq 12.2\%$ of RTP*
2) P-13 input	N.A.	N.A.	N.A.	$< 10\%$ RTP* Turbine Impulse Pressure Equivalent	$< 12.2\%$ RTP* Turbine Impulse Pressure Equivalent
c. Power Range Neutron Flux, P-8	N.A.	N.A.	N.A.	$\leq 48\%$ of RTP*	$\leq 50.2\%$ of RTP*
d. Power Range Neutron Flux, P-9	N.A.	N.A.	N.A.	$\leq 69\%$ of RTP*	$\leq 70\%$ of RTP*
e. Power Range Neutron Flux, P-10	N.A.	N.A.	N.A.	$\geq 10\%$ of RTP*	$\geq 7.8\%$ of RTP*
f. Power Range Neutron Flux, Not P-10	N.A.	N.A.	N.A.	$\leq 10\%$ of RTP*	$\leq 12.2\%$ of RTP*
g. Turbine Impulse Chamber Pressure, P-13	N.A.	N.A.	N.A.	$< 10\%$ RTP* Turbine Impulse Pressure Equivalent	$< 12.2\%$ RTP* Turbine Impulse Pressure Equivalent
19. Reactor Trip Breakers	N.A.	N.A.	N.A.	N.A.	N.A.
20. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	N.A.

*RTP = RATED THERMAL POWER

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

4.1.2.6 Each borated water source shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 - 1) Verifying the boron concentration in the water,
 - 2) Verifying the contained borated water volume of the water source, and
 - 3) Verifying the Boric Acid Storage System solution temperature when it is the source of borated water.
- b. At least once per 24 hours by verifying the refueling water storage tank temperature when the outside air temperature is either less than 70°F or greater than 100°F.

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full-length shutdown and control rods shall be OPERABLE and positioned within ± 12 steps (indicated position) of their group step counter demand position.

APPLICABILITY: MODES 1* and 2*.

ACTION:

- a. With one or more full-length rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.
- b. With more than one full-length rod misaligned from the group step counter demand position by more than ± 12 steps (indicated position), be in HOT STANDBY within 6 hours.
- c. With one full-length rod trippable but inoperable due to causes other than addressed by ACTION a., above, or misaligned from its group step counter demand height by more than ± 12 steps (indicated position), POWER OPERATION may continue provided that within 1 hour:
 1. The rod is restored to OPERABLE status within the above alignment requirements, or
 2. The rod is declared inoperable and the remainder of the rods in the group with the inoperable rod are aligned to within ± 12 steps of the inoperable rod while maintaining the rod sequence and insertion limits of Figure 3.1-1a or Figure 3.1.1b, as applicable. The THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation, or
 3. The rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that:
 - a) A reevaluation of each accident analysis of Table 3.1-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents remain valid for the duration of operation under these conditions;
 - b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours;

*See Special Test Exceptions Specifications 3.10.2 and 3.10.3.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
14. Nuclear Service Water Operation (Continued)					
c. Loss-of-Offsite Power	3	2	2	1,2,3	15*
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	2	1	2	1,2,3,4	21
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	15*
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	21

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
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	21
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

CATAMBA - UNIT 1 & 2

3/4 3-24

Amendment No. 37 (Unit 1)
Amendment No. 29 (Unit 2)

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.

*The provisions of Specification 3.0.4 are not applicable.

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 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 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 2 hours for surveillance testing 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 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.

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

- 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, 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.
- 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.

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

- * With fuel in the fuel storage pool areas.
- ** With irradiated fuel in the fuel storage pool areas.
- *** When venting or purging from containment to the atmosphere, the trip setpoint shall not exceed the equivalent limits of Specification 3.11.2.1 in accordance with the methodology and parameters in the ODCM. When not venting or purging in Modes 5 or 6, the alarm setpoint concentration ($\mu\text{Ci/ml}$) shall be such that the actual submersion dose rate would not exceed 5mR/hr without alarm. When not venting or purging in Modes 1 through 4 the alarm setpoint shall be no more than 3 times the containment atmosphere activity as indicated by the radiation monitor.

ACTION STATEMENTS

- ACTION 30 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge and exhaust valves are maintained closed.
- ACTION 31 - With the number of operable channels one less than the Minimum Channels OPERABLE requirement, within 1 hour isolate the affected Control Room Ventilation System intake from outside air with flow through the HEPA filters and activated carbon adsorbers.
- ACTION 32 - With less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel storage pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel building.
- ACTION 33 - Must satisfy the ACTION requirement for Specification 3.4.6.1.
- ACTION 34 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Fuel Handling Ventilation Exhaust System is operating and discharging through the HEPA filters and activated carbon adsorbers. Otherwise, suspend all operations involving fuel movement in the fuel building.
- ACTION 35 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Auxiliary Building Filtered Exhaust System is operating and discharging through the HEPA filter and activated carbon adsorbers.
- ACTION 36 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided that, at least once per 12 hours, grab samples are collected and analyzed for radioactivity (gross gamma) at a lower limit of detection of no more than 10^{-7} $\mu\text{Ci/ml}$.

INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.3.3.7 Two independent Chlorine Detection Systems, with their Alarm/Trip Setpoints adjusted to actuate at a chlorine concentration of less than or equal to 5 ppm, shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

- a. With one Chlorine Detection System inoperable, restore the inoperable system to OPERABLE status within 7 days or within the next 6 hours initiate and maintain operation of the Control Room Area Ventilation System with flow through the HEPA filters and activated carbon adsorbers.
- b. With both Chlorine Detection Systems inoperable, within 1 hour initiate and maintain operation of the Control Room Area Ventilation System with flow through the HEPA filters and activated carbon adsorbers.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

- 4.3.3.7 Each Chlorine Detection System shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

- 3.4.6.2 Reactor Coolant System leakage shall be limited to:
- a. No PRESSURE BOUNDARY LEAKAGE,
 - b. 1 gpm UNIDENTIFIED LEAKAGE,
 - c. 1 gpm total reactor-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,
 - d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System,
 - e. 40 gpm CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and
 - f. 1 gpm leakage at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.

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

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere gaseous or particulate radioactivity monitor at least once per 12 hours;
- b. Monitoring the containment floor and equipment sumps inventory and discharge at least once per 12 hours;
- c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is 2235 ± 20 psig at least once per 31 days. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4;
- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours; and
- e. Monitoring the reactor head flange leakoff at least once per 24 hours.

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit:

- a. At least once per 18 months,
- b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months,
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve, and
- d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>
NI59	Accumulator Discharge
NI60	Accumulator Discharge
NI70	Accumulator Discharge
NI71	Accumulator Discharge
NI81	Accumulator Discharge
NI82	Accumulator Discharge
NI93	Accumulator Discharge
NI94	Accumulator Discharge
NI124	Safety Injection (Hot Leg)
NI125	Residual Heat Removal (Hot Leg)
NI126	Safety Injection (Hot Leg)
NI128	Safety Injection (Hot Leg)
NI129	Residual Heat Removal (Hot Leg)
NI134	Safety Injection (Hot Leg)
NI156	Safety Injection (Hot Leg)
NI157	Safety Injection (Hot Leg)
NI159	Safety Injection (Hot Leg)
NI160	Safety Injection (Hot Leg)
NI165	Safety Injection/Residual Heat Removal (Cold Leg)
NI167	Safety Injection/Residual Heat Removal (Cold Leg)
NI169	Safety Injection/Residual Heat Removal (Cold Leg)
NI171	Safety Injection/Residual Heat Removal (Cold Leg)
NI175	Safety Injection/Residual Heat Removal (Cold Leg)
NI176	Safety Injection/Residual Heat Removal (Cold Leg)
NI180	Safety Injection/Residual Heat Removal (Cold Leg)
NI181	Safety Injection/Residual Heat Removal (Cold Leg)
NI248	Upper Head Injection
NI249	Upper Head Injection
NI250	Upper Head Injection
NI251	Upper Head Injection
NI252	Upper Head Injection
NI253	Upper Head Injection

CONTAINMENT SYSTEMS

REACTOR BUILDING STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.7 The structural integrity of the reactor building shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.7.

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

ACTION:

With the structural integrity of the reactor building not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.7 The structural integrity of the reactor building shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the reactor building and verifying no apparent changes in appearance of the concrete surfaces or other abnormal degradation. Any abnormal degradation of the reactor building detected during the above required inspections shall be reported to the Commission within 15 days as a Special Report pursuant to Specification 6.9.2.

CONTAINMENT SYSTEMS

ANNULUS VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.8 Two independent Annulus Ventilation Systems shall be OPERABLE.

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

ACTION:

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

SURVEILLANCE REQUIREMENTS

4.6.1.8 Each Annulus Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the pre-heaters operating;
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 9000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and
 - 3) Verifying a system flow rate of 9000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. After every 720 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;
- d. At least once per 18 months by:
 - 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 9000 cfm \pm 10%;
 - 2) Verifying that the system starts automatically on any Phase "A" Isolation test signal,**
 - 3) Verifying that the filter cooling electric motor-operated bypass valves can be manually opened,
 - 4) Verifying that each system produces a negative pressure of greater than or equal to 0.5 inch Water Gauge in the annulus within 1 minute after a start signal, and
 - 5) Verifying that the pre-heaters dissipate 45 ± 6.7 kW.
- e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 9000 cfm \pm 10%; and
- f. After each complete or partial replacement of an activated carbon adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 9000 cfm \pm 10%.

**This surveillance need not be performed until prior to entering HOT SHUTDOWN following the Unit 1 first refueling.

CONTAINMENT SYSTEMS

CONTAINMENT PURGE SYSTEMS

LIMITING CONDITION FOR OPERATION

3.6.1.9 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

- a. Each containment purge supply and/or exhaust isolation valve for the lower compartment and the upper compartment (24-inch), instrument room (12-inch), and the Hydrogen Purge System (4-inch) shall be sealed closed, and
- b. The Containment Air Release and Addition System (4-inch) isolation valve(s) may be open for up to 2000 hours during a calendar year.

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

ACTION:

- a. With any containment purge supply and/or exhaust isolation valve for the lower compartment and the upper compartment, or instrument room, or Hydrogen Purge System open or not sealed closed, close and/or seal closed that valve or isolate the penetrations(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the Containment Air Release and Addition System isolation valve(s) open for more than 2000 hours during a calendar year, close the open valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.
- c. With a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate in excess of the limits of Specifications 4.6.1.9.3 and/or 4.6.1.9.4, restore the inoperable valve(s) to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 Each containment purge supply and/or exhaust isolation valves for the lower compartment and the upper containment, or instrument room, or Hydrogen Purge System shall be verified to be sealed closed at least once per 31 days.

4.6.1.9.2 The cumulative time that the Containment Air Release and Addition System has been open during a calendar year shall be determined at least once per 7 days.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.9.3 At least once per 6 months on a STAGGERED TEST BASIS, the inboard and outboard valves with resilient material seals in each sealed closed containment purge supply and exhaust penetration for the lower compartment and the upper compartment, or instrument room, or Hydrogen Purge System shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than $0.05 L_a$ when pressurized to P_a .

4.6.1.9.4 At least once per 3 months the Containment Air Release and Addition System valves with resilient material seals shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than $0.01 L_a$ when pressurized to P_a .

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the refueling water storage tank and transferring suction to the containment sump.

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

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2 Each Containment Spray System shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;
- b. By verifying, that on recirculation flow, each pump develops a differential pressure of greater than or equal to 185 psid when tested pursuant to Specification 4.0.5;
- c. At least once per 18 months during shutdown,** by:
 - 1) Verifying that each automatic valve in the flow path actuates to its correct position on a Phase "B" Isolation test signal, and
 - 2) Verifying that each spray pump starts automatically on a Phase "B" Isolation test signal.
 - 3) Verifying that each spray pump is prevented from starting by the Containment Pressure Control System when the containment atmosphere pressure is less than or equal to 0.25 psid, and is allowed to start at greater than or equal to 0.45 psid relative to the outside atmosphere,

**This surveillance need not be performed until prior to entering HOT SHUTDOWN following the Unit 1 first refueling.

TABLE 3.6-2a (Continued)

UNTI 1 CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>MAXIMUM ISOLATION TIME (s)</u>
2. Phase "B" Isolation (Continued)		
RN-437B	Supply to NC Pumps and LCVU Supply Outside Containment Isolation	<60
RN-484A	Return from NC Pumps and LCVU Return Inside Containment Isolation	<60
RN-487B	Return from NC Pumps and LCVU Return Outside Containment Isolation	<60
RN-404B	Supply to Upper Containment Supply Ventilation Units Containment Isolation (Outside)	<10
RN-429A	Return from Upper Containment Ventilation Units Containment Isolation (Inside)	<10
RN-432B	Return from Upper Containment Ventilation Units Containment Isolation (Outside)	<10
VI-77B	Instrument Air Containment Outside Isolation	<10
SM-1 #	Main Steam 1D Isolation	<5
SM-3 #	Main Steam 1C Isolation	<5
SM-5 #	Main Steam 1B Isolation	<5
SM-7 #	Main Steam 1A Isolation	<5
SM-9 #	Main Steam 1D Isolation Bypass Ctrl.	<5
SM-10 #	Main Steam 1C Isolation Bypass Ctrl.	<5
SM-11 #	Main Steam 1B Isolation Bypass Ctrl.	<5
SM-12 #	Main Steam 1A Isolation Bypass Ctrl.	<5
SV-19 #	Main Steam 1A PORV	<5
SV-13 #	Main Steam 1B PORV	<5
SV-7 #	Main Steam 1C PORV	<5
SV-1 #	Main Steam 1D PORV	<5
WL-867A**	Containment Vent Unit Drains Inside Containment Isolation	<10
WL-869B**	Containment Vent Unit Drains Outside Containment Isolation	<10

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TABLE 3.6-2a (Continued)

CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>MAXIMUM ISOLATION TIME (s)</u>
3. Manual		
NC-141	NC Pump H ₂ Drain Tank Pump Discharge	N.A.
NC-142	NC Pump H ₂ Drain Tank Pump Discharge	N.A.
NI-3	Boron Injection Tank Line to Cold Legs	N.A.
FW-11	Refueling Water Pump Suction	N.A.
FW-13	Refueling Water Pump Suction	N.A.
CF-91#	Feedwater 1A	N.A.
CF-93#	Feedwater 1B	N.A.
CF-95#	Feedwater 1C	N.A.
CF-97#	Feedwater 1D	N.A.
CA-121#	Aux. Feedwater 1A	N.A.
BW-1#	Aux. Feedwater 1A	N.A.
CA-120#	Aux. Feedwater 1B	N.A.
BW-26#	Aux. Feedwater 1B	N.A.
CA-119#	Aux. Feedwater 1C	N.A.
BW-17#	Aux. Feedwater 1C	N.A.
CA-118#	Aux. Feedwater 1D	N.A.
BW-10#	Aux. Feedwater 1D	N.A.
SM-16#	Main Steam 1A	N.A.
SM-73#*	Main Steam 1A	N.A.
SM-105#	Main Steam 1A	N.A.
SM-121#	Main Steam 1A	N.A.
SM-143#	Main Steam 1A	N.A.
SM-72#*	Main Steam 1B	N.A.
SM-104#	Main Steam 1B	N.A.
SM-120#	Main Steam 1B	N.A.
SM-142#	Main Steam 1B	N.A.
SA-1#	Main Steam 1B	N.A.
SM-17#	Main Steam 1B	N.A.
SM-18#	Main Steam 1C	N.A.
SM-71#*	Main Steam 1C	N.A.

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Amendment No. 37 (Unit 1)
Amendment No. 29 (Unit 2)

TABLE 3.6-2b (Continued)

UNIT 2 CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>MAXIMUM ISOLATION TIME (s)</u>
2.	Phase "B" Isolation (Continued)	
RN-437B	Supply to NC Pumps and LCVU Supply Outside Containment Isolation	<60
RN-484A	Return from NC Pumps and LCVU Return Inside Containment Isolation	<60
RN-487B	Return from NC Pumps and LCVU Return Outside Containment Isolation	<60
RN-404B	Supply to Upper Containment Supply Ventilation Units Containment Isolation (Outside)	<10
RN-429A	Return from Upper Containment Ventilation Units Containment Isolation (Inside)	<10
RN-432B	Return from Upper Containment Ventilation Units Containment Isolation (Outside)	<10
VI-77B	Instrument Air Containment Outside Isolation	<10
SM-1 #	Main Steam 2D Isolation	<5
SM-3 #	Main Steam 2C Isolation	<5
SM-5 #	Main Steam 2B Isolation	<5
SM-7 #	Main Steam 2A Isolation	<5
SM-9 #	Main Steam 2D Isolation Bypass Ctrl.	<5
SM-10 #	Main Steam 2C Isolation Bypass Ctrl.	<5
SM-11 #	Main Steam 2B Isolation Bypass Ctrl.	<5
SM-12 #	Main Steam 2A Isolation Bypass Ctrl.	<5
SV-19 #	Main Steam 2A PORV	<5
SV-13 #	Main Steam 2B PORV	<5
SV-7 #	Main Steam 2C PORV	<5
SV-1 #	Main Steam 2D PORV	<5
WL-867A**	Containment Vent Unit Drains Inside Containment Isolation	<10
WL-869B**	Containment Vent Unit Drains Outside Containment Isolation	<10

TABLE 3.6-2b (Continued)

UNIT 2 CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>MAXIMUM ISOLATION TIME (s)</u>
3. Manual		
NC-141	NC Pump H ₂ Drain Tank Pump Discharge	N. A.
NC-142	NC Pump H ₂ Drain Tank Pump Discharge	N. A.
NI-3	Boron Injection Tank Line to Cold Legs	N. A.
FW-11	Refueling Water Pump Suction	N. A.
FW-13	Refueling Water Pump Suction	N. A.
CF-91#	Feedwater 2A	N. A.
CF-93#	Feedwater 2B	N. A.
CF-95#	Feedwater 2C	N. A.
CF-97#	Feedwater 2D	N. A.
CF-121#	Aux. Feedwater 2A	N. A.
BW-1#	Aux. Feedwater 2A	N. A.
CA-120#	Aux. Feedwater 2B	N. A.
BW-26#	Aux. Feedwater 2B	N. A.
CA-119#	Aux. Feedwater 2C	N. A.
BW-17#	Aux. Feedwater 2C	N. A.
CA-118#	Aux. Feedwater 2D	N. A.
BW-10#	Aux. Feedwater 2D	N. A.
SM-16#	Main Steam 2A	N. A.
SM-73#	Main Steam 2A	N. A.
SM-105#	Main Steam 2A	N. A.
SM-121#	Main Steam 2A	N. A.
SM-143#	Main Steam 2A	N. A.
SM-72# *	Main Steam 2B	N. A.
SM-104#	Main Steam 2B	N. A.
SM-120#	Main Steam 2B	N. A.
SM-142#	Main Steam 2B	N. A.
SA-1#	Main Steam 2B	N. A.
SM-17#	Main Steam 2B	N. A.
SM-18#	Main Steam 2C	N. A.
SM-71#*	Main Steam 2C	N. A.

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Amendment No. 37 (Unit 1)
Amendment No. 29 (Unit 1)

PLANT SYSTEMS

3/4.7.5 STANDBY NUCLEAR SERVICE WATER POND

LIMITING CONDITION FOR OPERATION

- 3.7.5 The standby nuclear service water pond (SNSWP) shall be OPERABLE with:
- a. A minimum water level at or above elevation 570 feet Mean Sea Level, USGS datum, and
 - b. An average water temperature of less than or equal to 86.5°F at elevation 540 feet in the SNSWP intake structure.

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

ACTION: (Units 1 and 2)

With the requirements of the above specification not satisfied, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.7.5 The SNSWP shall be determined OPERABLE:
- a. At least once per 24 hours by verifying the water level to be within its limit,
 - b. At least once per 24 hours during the months of July, August, and September by verifying the water temperature to be within its limit, and
 - c. At least once per 12 months by visually inspecting the SNSWP dam and verifying no abnormal degradation, erosion, or excessive seepage.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM AREA VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Area Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES

ACTION: (Units 1 and 2)

MODES 1, 2, 3 and 4:

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

MODES 5 and 6:

- a. With one Control Room Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Area Ventilation System with flow through the HEPA filters and activated carbon adsorbers.
- b. With both Control Room Area Ventilation Systems inoperable, or with the OPERABLE Control Room Area Ventilation System, required to be operating by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Area Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 90°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revisions 2, March 1978, and the system flow rate is 6000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and
 - 3) Verifying a system flow rate of 6000 cfm + 10% during system operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;
- e. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 6000 cfm \pm 10%;
 - 2) Verifying that on a High Radiation-Air Intake, or Smoke Density-High test signal, the system automatically isolates the affected intake from outside air with recirculating flow through the HEPA filters and activated carbon adsorber banks;
 - 3) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge relative to adjacent areas at less than or equal to pressurization flow of 4000 cfm to the control room during system operation;
 - 4) Verifying that the heaters dissipate 25 \pm 2.5 kW, and

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 5) Verifying that on a High Chlorine/Toxic Gas test signal, the system automatically isolates the affected intake from outside air with recirculating flow through the HEPA filters and activated carbon adsorbers banks within 10 seconds (plus air travel time between the detectors and the isolation dampers).
- f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 6000 cfm \pm 10%; and
- g. After each complete or partial replacement of an activated carbon adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 6000 cfm \pm 10%.

PLANT SYSTEMS

3/4.7.7 AUXILIARY BUILDING FILTERED EXHAUST SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent trains of the Auxiliary Building Filtered Exhaust System shall be OPERABLE.

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

ACTION:

With one train of the Auxiliary Building Filtered Exhaust System inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.7 Each train of the Auxiliary Building Filtered Exhaust System shall be demonstrated OPERABLE:

- a. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the same by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 30,000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 3) Verifying a system flow rate of 30,000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%;
 - d. At least once per 18 months by:
 - 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators of less than 8 inches Water Gauge while operating the system at a flow rate of 30,000 cfm \pm 10%;
 - 2) Verifying that the system starts on a Safety Injection test signal, and directs its exhaust flow through the HEPA filters and activated carbon adsorbers,**
 - 3) Verifying that the system maintains the ECCS pump room at a negative pressure relative to adjacent areas,
 - 4) Verifying that the filter cooling bypass valves can be manually opened, and
 - 5) Verifying that the heaters dissipate 40 \pm 4 kW.
 - e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 30,000 cfm \pm 10%; and
 - f. After each complete or partial replacement of an activated carbon adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 30,000 cfm \pm 10%.

**This surveillance need not be performed until prior to entering HOT SHUTDOWN following the Unit 1 first refueling.

REFUELING OPERATIONS

3/4.9.3 DECAY TIME

LIMITING CONDITION FOR OPERATION

3.9.3 The reactor shall be subcritical for at least 72 hours.

APPLICABILITY: During movement of irradiated fuel in the reactor vessel.

ACTION:

With the reactor subcritical for less than 72 hours, suspend all operations involving movement of irradiated fuel in the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.9.3 The reactor shall be determined to have been subcritical for at least 72 hours by verification of the date and time of subcriticality prior to movement of irradiated fuel in the reactor vessel.

REFUELING OPERATIONS

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

- a. The equipment hatch closed and held in place by a minimum of four bolts,
- b. A minimum of one door in each airlock is closed, and
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:
 - 1) Closed by an isolation valve, blind flange, or manual valve, or
 - 2) Exhausting through an OPERABLE Reactor Building Containment Purge System HEPA filters and activated carbon adsorbers.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Each of the above required containment building penetrations shall be determined to be either in its closed/isolated condition or exhausting through an OPERABLE Reactor Building Containment Purge System with the capability of being automatically isolated upon heater failure within 72 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

- a. Verifying the penetrations are in their closed/isolated condition, or
- b. Verifying the upper and lower containment purge supply and exhaust valves close upon a High Relative Humidity test signal.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

4.9.4.2 The Reactor Building Containment Purge System shall be demonstrated OPERABLE:

- a. At least once per 31 days by initiating flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedures guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 25,000 cfm \pm 10% (both exhaust fans operating);
 - 2) Verifying within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 6%; and
 - 3) Verifying a system flow rate of 25,000 cfm \pm 10% (both exhaust fans operating) during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 6%;
- d. At least once per 18 months by:
 - 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and prefilters is less than 8 inches Water Gauge while operating the system at a flow rate of 25,000 cfm \pm 10% (both exhaust fans operating); and

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying that the filter train duct heater dissipates 120 ± 12 kW.
 - e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of $25,000 \text{ cfm} \pm 10\%$ (both exhaust fans operating); and
 - f. After each complete or partial replacement of an activated carbon adsorber bank, by verifying that the cleanup system bank satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of $25,000 \text{ cfm} \pm 10\%$ (both exhaust fans operating).

REFUELING OPERATIONS

3/4.9.10 WATER LEVEL-STORAGE POOL

LIMITING CONDITION FOR OPERATION

3.9.10 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: Whenever irradiated fuel assemblies are in the storage pool.

ACTION:

- a. With the requirements of the above specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore the water level to within its limit within 4 hours.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.10 The water level in the storage pool shall be determined to be at least its minimum required depth at least once per 7 days when irradiated fuel assemblies are in the fuel storage pool.

REFUELING OPERATIONS

3/4.9.11 FUEL HANDLING VENTILATION EXHAUST SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.11 At least one train of the Fuel Handling Ventilation Exhaust System shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

- a. With both trains of the Fuel Handling Ventilation Exhaust System inoperable, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until the Fuel Handling Ventilation Exhaust System is restored to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11.1 One train of the Fuel Handling Ventilation Exhaust System shall be determined to be operating and discharging through the HEPA filter and activated carbon adsorbers at least once per 12 hours whenever irradiated fuel is being moved in the storage pool and during crane operation with loads over the storage pool.

4.9.11.2 Both trains of the Fuel Handling Ventilation Exhaust System shall be demonstrated OPERABLE:

- a. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 16,565 cfm \pm 10%;

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Positions C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and
 - 3) Verifying a system flow rate of $16,565 \text{ cfm} \pm 10\%$ during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of activated carbon adsorber operation in any train by verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%.
- d. At least once per 18 months for each train by:
- 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of $16,565 \text{ cfm} \pm 10\%$.
 - 2) Verifying that the system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to $\frac{1}{4}$ inch Water Gauge relative to the outside atmosphere during system operation,
 - 3) Verifying that the filter cooling bypass valves can be manually opened, and
 - 4) Verifying that the heaters dissipate $80 \pm 8 \text{ kW}$.
- e. After each complete or partial replacement of a HEPA filter bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of $16,565 \text{ cfm} \pm 10\%$; and
- f. After each complete or partial replacement of an activated carbon adsorber bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of $16,565 \text{ cfm} \pm 10\%$.

TABLE 4.11-1 (Continued)

TABLE NOTATIONS

(1) The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD = the "a priori" lower limit of detection (microCurie per unit mass or volume),

s_b = the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (counts per minute),

E = the counting efficiency (counts per disintegration),

V = the sample size (units of mass or volume),

2.22×10^6 = the number of disintegrations per minute per microCurie,

Y = the fractional radiochemical yield, when applicable,

λ = the radioactive decay constant for the particular radionuclide (sec^{-1}), and

Δt = the elapsed time between the midpoint of sample collection and the time of counting (sec).

Typical values of E, V, Y, and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

(2) A batch release is the discharge of liquid wastes of a discrete volume. Prior to sampling for analyses, each batch shall be isolated, and then thoroughly mixed to assure representative sampling.

TABLE 4.11-1 (Continued)

TABLE NOTATIONS (Continued)

- (3) The principal gamma emitters for which the LLD specification applies include the following radionuclides: Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137 and Ce-141. The LLD for Ce-144 is 5×10^{-6} $\mu\text{Ci/ml}$. This list does not mean that only these nuclides are to be considered. Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semiannual Radioactive Effluent Release Report pursuant to Specification 6.9.1.7 in the format outlined in Regulatory Guide 1.21, Appendix B, Revision 1, June 1974.
- (4) A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged and in which the method of sampling employed results in a specimen that is representative of the liquids released.
- (5) A continuous release is the discharge of liquid wastes of a nondiscrete volume, e.g., from a volume of a system that has an input flow during the continuous release.
- (6) To be representative of the quantities and concentrations of radioactive materials in liquid effluents, samples shall be collected continuously in proportion to the rate of flow of the effluent stream. Prior to analyses, all samples taken for the composite shall be thoroughly mixed in order for the composite sample to be representative of the effluent release.

RADIOACTIVE EFFLUENTS

LIQUID HOLDUP TANKS

LIMITING CONDITION FOR OPERATION

3.11.1.4 The quantity of radioactive material contained in each temporary unprotected outdoor tank shall be limited to less than or equal to 10 Curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tank, within 48 hours reduce the tank contents to within the limit, and describe the events leading to this condition in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.7.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.4 The quantity of radioactive material contained in each of the above tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

RADIOACTIVE EFFLUENTS

CHEMICAL TREATMENT PONDS

LIMITING CONDITION FOR OPERATION

3.11.1.5 The quantity of radioactive material contained in each chemical treatment pond shall be limited by the following expression:

$$\frac{264}{V} \cdot \sum_j \frac{A_j}{C_j} < 1.0$$

excluding tritium and dissolved or entrained noble gases,

Where:

- A_j = pond inventory limit for single radionuclide "j", in Curies;
- C_j = 10 CFR Part 20, Appendix B, Table II, Column 2, concentration for single radionuclide "j", microCuries/ml;
- V = design volume of liquid and slurry in the pond, in gallons; and
- 264 = conversion unit, microCuries/Curie per milliliter/gallon.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above listed ponds exceeding the above limit, immediately suspend all additions of radioactive material to the pond and initiate corrective action to reduce the contents to within the limit.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.5 The quantity of radioactive material contained in each batch of resin/water slurry to be transferred to the chemical treatment ponds shall be determined to be within the above limit by analyzing a representative sample of the batch to be transferred to the chemical treatment ponds and shall be limited by the expression:

$$\sum_j \frac{c_j}{C_j} < 0.006$$

Where:

- c_j = radioactive resin/water slurry concentration for radionuclide "j" entering the UNRESTRICTED AREA chemical treatment ponds, in microCuries/milliliter; and
- C_j = 10 CFR Part 20, Appendix B, Table II, Column 2, concentration for single radionuclide "j", in microCuries/milliliter.

TABLE 4.11-2 (Continued)

TABLE NOTATIONS

- (1) The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD = the "a priori" lower limit of detection (microCurie per unit mass or volume),

s_b = the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate. (counts per minute),

E = the counting efficiency (counts per disintegration),

V = the sample size (units of mass or volume),

2.22×10^6 = the number of disintegrations per minute per microCurie,

Y = the fractional radiochemical yield, when applicable,

λ = the radioactive decay constant for the particular radionuclide (sec^{-1}), and

Δt = the elapsed time between the midpoint of sample collection and the time of counting (sec).

Typical values of E, V, Y, and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement.

TABLE 4.11-2 (Continued)

TABLE NOTATIONS (Continued)

- (2) The principal gamma emitters for which the LLD specification applies include the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 in noble gas releases and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, I-131, Cs-134, Cs-137, and Ce-141 in Iodine and particulate releases. The LLD for Ce-144 is 5×10^{-9} $\mu\text{Ci/ml}$. This list does not mean that only these nuclides are to be considered. Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semiannual Radioactive Effluent Release Report pursuant to Specification 6.9.1.7 in the format outlined in Regulatory Guide 1.21, Appendix B, Revision 1, June 1974.
- (3) Sampling and analysis shall also be performed following shutdown, startup, or a THERMAL POWER stabilization (power level constant at desired power level) after a THERMAL POWER change exceeding 15% of RATED THERMAL POWER within a 1-hour period, for at least one of the three gaseous release types with this notation.
- (4) Tritium grab samples shall be taken at least once per 24 hours when the refueling canal is flooded.
- (5) Required sampling and analysis frequency during effluent release via this pathway.
- (6) The ratio of the sample flow volume to the sampled stream flow volume shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2, and 3.11.2.3.
- (7) Samples shall be changed at least once per 24 hours and analyses shall be completed within 48 hours after changing, or after removal from sampler.
- (8) The composite filter(s) will be analyzed for alpha activity by analyzing one filter per week to ensure that at least four filters are analyzed per collection period.

3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.1 MONITORING PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.1 The Radiological Environmental Monitoring Program shall be conducted as specified in Table 3.12-1.

APPLICABILITY: At all times.

ACTION:

- a. With the Radiological Environmental Monitoring Program not being conducted as specified in Table 3.12-1, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report required by Specification 6.9.1.6, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.
- b. With the level of radioactivity as the result of plant effluents in an environmental sampling medium at a specified location exceeding the reporting levels of Table 3.12-2 when averaged over any calendar quarter, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose* to a MEMBER OF THE PUBLIC is less than the calendar year limits of Specification 3.11.1.2, 3.11.2.2, or 3.11.2.3. When more than one of the radionuclides in Table 3.12-2 are detected in the sampling medium, this report shall be submitted if:

$$\frac{\text{concentration (1)}}{\text{reporting level (1)}} + \frac{\text{concentration (2)}}{\text{reporting level (2)}} + \dots \geq 1.0$$

When radionuclides other than those in Table 3.12-2 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose* to A MEMBER OF THE PUBLIC from all radionuclides is equal to or greater than the calendar year limits of Specification 3.11.1.2, 3.11.2.2, or 3.11.2.3. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Operating Report required by Specification 6.9.1.6.

*The methodology and parameters used to estimate the potential annual dose to a MEMBER OF THE PUBLIC shall be indicated in this report.

RADIOLOGICAL ENVIRONMENTAL MONITORING

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

- c. With milk or fresh leafy vegetation samples unavailable from one or more of the sample locations required by Table 3.12-1, identify specific locations for obtaining replacement samples and add them within 30 days to the Radiological Environmental Monitoring Program given in the ODCM. The specific locations from which samples were unavailable may then be deleted from the monitoring program. Pursuant to Specification 6.14, submit in the next Semiannual Radioactive Effluent Release Report documentation for a change in the ODCM including a revised figure(s) and table for the ODCM reflecting the new location(s) with supporting information identifying the cause of the unavailability of samples and justifying the selection of the new location(s) for obtaining samples.
- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.1 The radiological environmental monitoring samples shall be collected pursuant to Table 3.12-1 from the specific locations given in the table and figure(s) in the ODCM, and shall be analyzed pursuant to the requirements of Table 3.12-1 and the detection capabilities required by Table 4.12-1.

TABLE 4.12-1 (Continued)

TABLE NOTATIONS

- (1) This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6.
- (2) Required detection capabilities for thermoluminescent dosimeters used for environmental measurements shall be in accordance with the recommendations of Regulatory Guide 4.13.
- (3) The LLD is defined, for purposes of these specifications, as the smallest concentrations of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 s_b}{E \cdot V \cdot 2.22 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD = the "a priori" lower limit of detection (picoCuries per unit mass or volume),

s_b = the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (counts per minute),

E = the counting efficiency (counts per disintegration),

V = the sample size (units of mass or volume),

2.22 = the number of disintegrations per minute per picoCurie,

Y = the fractional radiochemical yield, when applicable,

λ = the radioactive decay constant for the particular radionuclide (sec^{-1}), and

Δt = the elapsed time between environmental collection, or end of the sample collection period, and time of counting (sec).

Typical values of E, V, Y and Δt should be used in the calculation.

TABLE 4.12-1 (Continued)

TABLE NOTATIONS (Continued)

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidable small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6.

- (4) LLD for drinking water samples. If no drinking water pathway exists, the LLD of gamma isotopic analysis may be used.

CONTAINMENT SYSTEMS

BASES

3/4.6.1.8 ANNULUS VENTILATION SYSTEM

The OPERABILITY of the Annulus Ventilation System ensures that during LOCA conditions, containment vessel leakage into the annulus will be filtered through the HEPA filters and activated carbon adsorber trains prior to discharge to the atmosphere. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. This requirement is necessary to meet the assumptions used in the safety analyses and limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during LOCA conditions. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

3/4.6.1.9 CONTAINMENT PURGE SYSTEMS

The containment purge supply and exhaust isolation valves for the lower compartment and the upper compartment (24-inch), and instrument room (12-inch), and the Hydrogen Purge System (4-inch) are required to be sealed closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA. Maintaining these valves sealed closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System. To provide assurance that these containment valves cannot be inadvertently opened, the valves are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevents power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 4-inch Containment Air Release and Addition System valves since, unlike the lower compartment and the upper compartment, instrument room, and the Hydrogen Purge System valves, these 4-inch valves are capable of closing during a LOCA. Therefore, the SITE BOUNDARY dose guideline values of 10 CFR Part 100 would not be exceeded in the event of an accident during containment purging operation. Operation with the line open will be limited to 2000 hours during a calendar year for the 4-inch valves. The total time the containment purge (vent) system isolation valves may be open during MODES 1, 2, 3, and 4 in a calendar year is a function of anticipated need and operating experience. Only safety-related reasons; e.g., containment pressure control or the reduction of airborne radioactivity to facilitate personnel access for surveillance and maintenance activities, may be used to support the additional time requests.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust valves will provide early indication of resilient material seal degradation and will allow opportunity for repair before gross leakage failures could develop. The $0.60 L_a$ leakage limit of Specification 3.6.1.2b. shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

CONTAINMENT SYSTEMS

BASES

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

The OPERABILITY of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses. However, the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere, and therefore the time requirements for restoring an inoperable Spray System to OPERABLE status have been maintained consistent with those assigned other inoperable ESF equipment.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations Following a LOCA," March 1971.

The OPERABILITY of at least 35 to 36 igniters per train (70 of 72 for both trains) ensures that the Distributed Ignition System will maintain an effective coverage throughout the containment provided the two inoperable ignitors are not on corresponding redundant circuits which provide coverage for the same region. This system of igniters will initiate combustion of any significant amount of hydrogen released after a degraded core accident. This system is to ensure burning in a controlled manner as the hydrogen is released instead of allowing it to be ignited at high concentrations by a random ignition source.

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: (1) the reactor will remain subcritical during CORE ALTERATIONS, and (2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the safety analyses. The value of 0.95 or less for K_{eff} includes a 1% $\Delta k/k$ conservative allowance for uncertainties. Similarly, the boron concentration value of 2000 ppm or greater includes a conservative uncertainty allowance of 50 ppm boron. The locking closed of the required valves during refueling operation precludes the possibility of uncontrolled boron dilution of the filled portion of the Reactor Coolant System. This action prevents flow to the Reactor Coolant System of unborated water by closing flow paths from sources of unborated water.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the Source Range Neutron Flux Monitors and/or the Boron Dilution Mitigation System ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY of the Reactor Building Containment Purge System ensure that a release of radioactive material within containment will be restricted from leakage to the environment or filtered through the HEPA filters and activated carbon adsorbers prior to release to the atmosphere. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE. Operation of the Reactor Building Containment Purge System and the resulting iodine removal capacity are consistent with the assumption of the safety analysis. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

REFUELING OPERATIONS

BASES

3/4.9.9 and 3/4.9.10 WATER LEVEL - REACTOR VESSEL and STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gas activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the safety analysis.

3/4.9.11 FUEL HANDLING VENTILATION EXHAUST SYSTEM

The limitations on the Fuel Handling Ventilation Exhaust System ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and activated carbon adsorber prior to discharge to the atmosphere. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION		
	Both Units in Mode 1, 2, 3 or 4	Both Units in Mode 5 or 6 or Defueled	One Unit in Mode 1, 2, 3 or 4 and One Unit in Mode 5 or 6 Defueled
SS	1	1	1
SRO	1	None##	1
RO	3#	2#	3#
NEO	3#	3#	3#
STA	1	None	1

- SS - Shift Supervisor with a Senior Operator license
- SRO - Individual with a Senior Operator license
- RO - Individual with an Operator license
- NEO - Nuclear Equipment Operator
- STA - Shift Technical Advisor

The Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

During any absence of the Shift Supervisor from the control room while the unit is in MODE 1, 2, 3, or 4, an individual (other than the Shift Technical Advisor*) with a valid Senior Operator license shall be designated to assume the control room command function. During any absence of the Shift Supervisor from the control room while the unit is in MODE 5 or 6, an individual with a valid Senior Operator license or Operator license shall be designated to assume the control room command function.

*On occasion when there is a need for both the Shift Supervisor and the SRO to be absent from the control room, the STA shall be allowed to assume the control room command function and serve as the SRO in the control room provided that: (1) the Shift Supervisor is available to return to the control room within 10 minutes, (2) the assumption of SRO duties by the STA be limited to periods not in excess of 15 minutes duration and a total time not to exceed 1 hour during any shift, and (3) the STA has a Senior Operator license on the unit.

#At least one of the required individuals must be assigned to the designated position for each unit.

##At least one licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling must be present during CORE ALTERATIONS on either unit, who has no other concurrent responsibilities.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 29 TO FACILITY OPERATING LICENSE NPF-52
DUKE POWER COMPANY, ET AL.
DOCKET NOS. 50-413 AND 50-414
CATAWBA NUCLEAR STATION, UNITS 1 AND 2

INTRODUCTION

By letter dated March 7, 1986, and supplemented June 12 and July 1, 1987, Duke Power Company, et al., (the licensee) proposed changes to Catawba Units 1 and 2 Technical Specifications (TSs) to eliminate typographical errors, provide additional clarification, and improve consistency. The licensee's June 12, 1987, letter retracted one change to the Bases for an Engineered Safety Feature (ESF) interlock, P-11.

The licensee's original request, dated March 7, 1986, included a change of the nomenclature "charcoal adsorber" to "carbon adsorber". However, in response to NRC staff concerns regarding conformance to the nomenclature used in the Standard Review Plan (NUREG-0800), the licensee's July 1, 1987, letter proposed to change the words "charcoal adsorber" or "carbon adsorber" to "activated carbon adsorber."

Because the June 12 and July 1, 1987 submittals clarified certain aspects of the original request, the substance of the changes noticed in the Federal Register and the proposed no significant hazards determination were not affected.

EVALUATION

The staff has reviewed the above listed submittals and finds that, with the exception of item 9, all changes proposed by the licensee eliminate typographical errors, provide additional clarification or improve consistency. Item 9 was found to be a technical change.

The following items provide descriptions and justifications of the proposed changes to the current Catawba Units 1 and 2 TSs:

1. Page 1-6, Definition 1.39, Ventilation Exhaust Treatment System, the word "charcoal" is changed to "activated carbon." This is an editorial change.
2. Page 2-6, TS 2.2.1, Table 2.2-1, (a) the words "TOTAL ALLOWANCE" are moved from the third data column to the first data column, and (b) the words "SENSOR ERROR" are moved from the fifth data column to the third data column. These are typographical corrections.

3. Page 3/4 1-14, TS 3.1.3.1, Action C.2, the word "pursuance" is changed to "pursuant." This is an editorial correction.
4. Page 3/4 3-24, TS 3.3.2, Table 3.3-3, Functional Unit 16, the word "Ventilation" is deleted. This is a typographical correction.
5. Page 3/4 3-26, TS 3.3.2, Table 3.3-3, Action Statement 24, the word "activated" is added. This is an editorial change.
6. Page 3/4 3-53, TS 3.3.3.1, Table 3.3-6, Action Statements 31, 34 and 35, the word "activated" is added. These are editorial changes.
7. Page 3/4 3-70, TS 3.3.3.7, Actions a. and b., the word "charcoal" is changed to "activated carbon." These are editorial changes.
8. Page 3/4 4-20, TS 3.4.6.2, Action b., the "*" and associated footnote are deleted. Relief provided by this footnote is no longer applicable. Therefore, its deletion is an editorial correction.
9. Page 3/4 4-21, TS 3.4.6.2, Surveillance Requirement 4.4.6.2.1a., the words "or particulate" are added. This is a technical change that allows the licensee to monitor reactor coolant system (RCS) leakage once per 12 hours by using either the containment atmosphere gaseous monitor or the containment atmosphere particulate monitor to meet this Surveillance Requirement. Either monitor provides an acceptable method of measuring RCS leakage. Therefore, this change is acceptable.
10. Page 3/4 6-14, TS 3.6.1.8, Surveillance Requirement 4.6.1.8, items a., b. and b.2), the word "activated" is added. These are editorial changes.
11. Page 3/4 6-15, TS 3.6.1.8, Surveillance Requirement 4.6.1.8c., d.1), and f., the word "activated" is added. For 4.6.1.8f., the word "a" is changed to "an." These are editorial changes.
12. Page 3/4 6-17, TS 3.6.1.9, Surveillance Requirement 4.6.1.9.3, the word "seals" is added. This is a typographical correction.
13. Page 3/4 6-28, TS 3.6.3, Table 3.6-2a, "SM-1#" is changed to "SA-1#." This is a typographical correction.
14. Page 3/4 6-36, TS 3.6.3, Table 3.6-2b, "SM-1#" is changed to "SA-1#." This is a typographical correction.
15. Page 3/4 7-14, TS 3.7.6, Action a. and Surveillance Requirement 4.7.6b., the word "activated" is added. These are editorial changes.
16. Page 3/4 7-15, TS 3.7.6, Surveillance Requirements 4.7.6c., c.2), d., e.1), and e.2), the word "activated" is added. These are editorial changes.
17. Page 3/4 7-16, TS 3.7.6, Surveillance Requirements 4.7.6.e.5), and g., the word "activated" is added. These are editorial changes.

18. Page 3/4 7-17, TS 3.7.7, Surveillance Requirements 4.7.7a. and b., the word "charcoal" is changed to "activated carbon." For 4.7.7b.2), the word "activated" is added. These are editorial changes.
19. Page 3/4 7-18, TS 3.7.7, Surveillance Requirement 4.7.7c., the word "activated" is added. For 4.7.7d., the word "charcoal" is changed to "activated carbon." For 4.7.7f., the words "a charcoal" are changed to "an activated carbon." These are editorial changes.
20. Page 3/4 8-3, TS 3.8.1.1, Surveillance Requirement 4.1.1.2a.4), the "***" is changed to "*". For 4.1.1.2d., the "*" and its associated footnote are deleted. Relief provided by the footnote is no longer applicable. Footnote designation "***" is changed to "*". These changes were previously approved in Amendments 25 and 15, respectively. Therefore, no action is being taken.
21. Page 3/4 9-4, TS 3.9.4c.2), the word "charcoal" is changed to "activated carbon." This is an editorial change.
22. Page 3/4 9-5, TS 3.9.4, Surveillance Requirements 4.9.4.2a., b., b.2), c., and d.1), the word "activated" is added. These are editorial changes.
23. Page 3/4 9-6, TS 3.9.4, Surveillance Requirement 4.9.4.2f., the word "a" is changed to "an" and the word "activated" is added. These are editorial changes.
24. Page 3/4 9-14, TS 3.9.11, Surveillance Requirements 4.9.11.1, 4.9.11.2a., and b., the word "activated" is added. These are editorial changes.
25. Page 3/4 9-15, TS 3.9.11, Surveillance Requirements 4.9.11.2b.2), 2c., 2d.1), and 2f., the word "activated" is added. For 4.9.11.2f., the word "a" is changed to "an." These are editorial changes.
26. Page 3/4 11-3, TS 3.11.1.1, Table 4.11-1, Table Notations, "" is changed to ".", "s⁻¹" is changed to "sec⁻¹", and "s" is changed to "sec." These are typographical corrections.
27. Page 3/4 11-8, TS 3.11.1.5, Surveillance Requirement 4.11.1.5, the word "and" is added. This is a typographical correction.
28. Page 3/4 11-11, TS 3.11.1.1, Table 4.11-2, Table notation, "s⁻¹" is changed to "sec⁻¹", and "s" is changed to "sec." These are typographical corrections.
29. Page 3/4 12-2, TS 3.12.1, Action c., the word "vegetable" is changed to "vegetation." This is a grammatical correction.
30. Page 3/4 12-11, TS 3.12.1, Table 4.12-1, Table Notations, "s⁻¹" is changed to "sec⁻¹," and "s" is changed to "sec." These are typographical corrections.
31. Page B 3/4 6-3, BASES 3/4.6.1.8, the word "activated" is added. This is an editorial change.

32. Page B 3/4 9-1, BASES 3/4.9.4, the word "charcoal" is changed to "activated carbon." This is an editorial change.
33. Page B 3/4 9-3, BASES 3/4.9.11, the word "activated" is added. This is an editorial change.
34. Page 6-5, TS 6.2.6, Table 6.2-1, footnote*, "8-hours" is deleted. The staff has reviewed and found acceptable the concept of 12 hour control room shifts (Catawba Units 1 and 2 Safety Evaluation Report (NUREG-0954), Supplements 3 and 4). This is considered a clarification and removes ambiguities between the staff's findings and the Catawba TSs.
35. Page 6-18, TS 6.9.1.7, "on" is changed to "of." This change was previously approved in Amendments 10 and 3, respectively. Therefore, no action is being taken.

The staff finds that proposed changes 1 through 35, with the exception of items number 9, 20, and 35, to the Catawba Units 1 and 2 TSs are administrative in that the objectives of the changes are to eliminate typographical errors, make editorial changes, improve consistency or adjust nomenclature. The changes do not affect safety and are, therefore, acceptable.

Item 9, related to Surveillance Requirement 4.4.6.2.1a., allows use of either the containment atmosphere gaseous monitor or the containment atmosphere particulate monitor to determine RCS leakage. Because either monitor provides an acceptable measurement method, this change is acceptable.

Items 20 and 35 were approved in earlier amendments and require no further action.

ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The 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 exposures. The NRC staff has made a determination that the amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). These amendments also relate to changes in recordkeeping, reporting or administrative procedures or requirements. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (51 FR 30565) on August 27, 1986. The Commission consulted with the state of South Carolina. No public comments were received, and the state of South Carolina did not have any comments.

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: December 14, 1987

DATED: December 14, 1987

AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 29 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

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