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April 11, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station, Unit 1
Docket No. 50-413
Proof and Review Technical Specifications

Dear Mr. Denton:

Based on the telephone conversations between Mr. Charles Nichols, of your staff, and representatives of Duke Power Company, attached are our proposed changes to the Catawba Proof and Review Technical Specifications.

Very truly yours,

H. B. Tucker
Hal B. Tucker

RWO/php

Attachment

cc: Mr. James P. O'Reilly
Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
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NRC Resident Inspector
Catawba Nuclear Station

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TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

FUNCTIONAL UNIT	CHANNELS TO TRIP/ALARM	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	ACTION
1. Containment					
a. Containment Atmosphere - High Gaseous Radioactivity (Low Range - EMF-39)	1	1	All	***	26
b. Reactor Coolant System Leakage Detection					
1) Particulate Radioactivity (Low Range - EMF-38)	N.A.	1	1, 2, 3, 4	N.A.	29
2) Gaseous Radioactivity (Low Range - EMF-39)	N.A.	1	1, 2, 3, 4	N.A.	29
2. Fuel Storage Pool Areas					
a. High Gaseous Radioactivity (Low Range - EMF-42)	1	1	**	$1.7E-4$ mCi/m ³ ≤ 0.04	30
b. Criticality-Radiation Level (Fuel Bridge - Low Range - EMF-15)	1	1	*	≤ 15 mR/h	28
3. Control Room					
Air Intake-Radiation Level - Gaseous Radioactivity (Low Range - EMF-43 A & B)	1/intake	2/intake	All	$1.7E-4$ mCi/m ³ ≤ 0.04	27
4. Auxiliary Building Ventilation High Gaseous Radioactivity (Low Range - EMF- 43A & B) 4/	1	1	All	$1.7E-4$ mCi/m ³ ≤ 0.04	31
5. Component Cooling Water System (EMF - 46 A & B)	1	1	1, 2, 3, 4	≤ $1.03E-3$ μ Ci/m ³	32

THIS PAGE OPEN PENDING RECEIPT OF
INFORMATION FROM THE APPLICANT

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TABLE 3.3-6 (Continued)

TABLE NOTATIONS

- * With fuel in the fuel storage pool areas.
- ** With irradiated fuel in the fuel storage pool areas.
- *** Must satisfy the requirements of Specification 3.11.2.1.

ACTION STATEMENTS

- ACTION 26 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge and exhaust valves are maintained closed.
- ACTION 27 - With the number of operable channels one less than the Minimum Channels OPERABLE requirement, within 1 hour isolate the ^{affected} Control Room Ventilation System ~~and initiate operation of the Control Room Ventilation System in the recirculation mode~~ intake from outside air with recirculating flow through the HEPA filters and charcoal adsorbers.
- ACTION 28 - 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 29 - Must satisfy the ACTION requirement for Specification 3.4.6.1.
- ACTION 30 - 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 charcoal adsorbers. Otherwise, suspend all operations involving fuel movement in the fuel building.
- ACTION 31 - With the number of ^{Exhaust} ~~OPERABLE~~ channels less than the Minimum Channels ~~OPERABLE~~ requirement, operation may continue provided the Auxiliary Building Ventilation System is operating and discharging through the HEPA filter and charcoal adsorbers. ^{Filtered}
- ACTION 32 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instruments to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION FOR PLANT
OPERATIONS SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRE</u>
1. Containment				
a. Containment Atmosphere - High Gaseous Radioactivity (Low Range - EMF-39)	S	R	M	All
b. Reactor Coolant System Leakage Detection (Low Range - EMF-38 and Low Range - EMF-39)	S	R	M	1, 2, 3, 4
2. Fuel Storage Pool Areas				
a. High Gaseous Radioactivity (Low Range - EMF-42)	S	R	M	**
b. Criticality-Radiation Level (Fuel Bridge - Low Range - EMF-15)	S	R	M	*
3. Control Room				
Air Intake Radiation Level - High Gaseous Radioactivity - (Low Range - EMF-43 A & B)	S	R	M	All
4. Auxiliary Building Ventilation				
High Gaseous Radioactivity (Low Range - EMF-41 42)	S	R	M	All

TABLE NOTATIONS

* With fuel in the fuel storage pool area.

** With irradiated fuel in the fuel storage pool areas.

5. Component Cooling Water System
(EMF 46 A & B)

S

R

M

1,2,3,4

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TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATIONMINIMUM
CHANNELS
OPERABLEACTIONINSTRUMENT

1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release

a. Waste Liquid Discharge Monitor (Low Range - EMF-49)

1

35

b. Turbine Building Sump Monitor (Low Range - EMF-31)

1

~~38~~ 37c. ~~Steam Generator Water Sample Monitor (Low Range - EMF-34)~~

1

38

~~2. Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release~~~~a. Nuclear Service Water System Effluent Line (EMF 45 ASD, H&L)~~~~1~~~~35~~~~b. Component Cooling Water System Effluent Line (EMF 46 ASD)~~~~1~~~~35~~

2. Continuous Composite Samplers and Sampler Flow Monitor Conventional Waste Water Treatment Line

1

~~38~~ 37

3. Flow Rate Measurement Devices

a. Waste Liquid Effluent Line

1

~~37~~ 36

b. Conventional Waste Water Treatment Line

1

~~37~~ 36

c. Low Pressure Service Water Minimum Flow Interlock

1

~~37~~ 36

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TABLE 3.3-12 (Continued)

ACTION STATEMENTS

ACTION 35 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 14 days provided that prior to initiating a release:

- a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and
- b. At least two technically qualified members of the facility staff independently verify:
 1. The discharge line valving, and
 2. The manual portion of the computer input for the release rate calculations performed on the computer, or the entire release rate calculations if such calculations are performed manually.

Otherwise, suspend release of radioactive effluents via this pathway.

~~ACTION 36 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway 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} microcurie/ml.~~

³⁶
ACTION ~~36~~ - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated in place may be used to estimate flow.

³⁷
ACTION ~~37~~ - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for radioactivity at a lower limit of detection of no more than 10^{-7} microcurie/ml:

- a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microcurie/gram DOSE EQUIVALENT I-131, or
- b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microcurie/gram DOSE EQUIVALENT I-131.

ACTION 38- INSERT FROM NEXT PAGE

Dev./Station

Unit

File No.

Subject

INSERT FOR TABLE 3.3-12

By

Date

Sheet No.

of

Problem No.

Checked By

Date

TABLE 3.3-12

ACTION STATEMENTS

ACTION 38 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE

requirement, effluent releases via the atmospheric vent valve (off-normal mode) may continue for up to 30 days provided grab samples of the steam generator water are analyzed for radioactivity at a lower limit of detection of no more than 10^{-7} microcurie/ml:

a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microcurie/gm

DOSE EQUIVALENT I-131, or

b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microcurie/gram DOSE EQUIVALENT I-131.

TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release				
a. Waste Liquid Discharge Monitor (Low Range - EMF-49)	D	P	R(1) ²	Q(1)
b. Turbine Building Sump Monitor (Low Range - EMF-31)	D	M	R(1) ²	Q(1)
c. Steam Generator Water Sample Monitor (EMF-34)	D	M	R(2)	Q(1)
2. Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release				
a. Nuclear Service Water System Effluent Line (EMF 45 A&B, H&L)	D	M	R(3)	Q(2)
b. Component Cooling Water System Effluent Line (EMF 46 A&B)	D	M	R(3)	Q(2)
2. 3 Continuous Composite Samplers and Sampler Flow Monitor				
Conventional Waste Water Treatment Line	D	N.A.	R	N.A.
3. 4 Flow Rate Measurement Devices				
a. Waste Liquid Effluent Line	D(1) ³	N.A.	R	N.A.
b. Conventional Waste Water Treatment	D(1) ³	N.A.	R	N.A.
c. Low Pressure Service Water Minimum Flow Interlock	D(1) ³	A.	R	Q

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TABLE 4.3-8 (Continued)

TABLE NOTATIONS

(1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occur if any of the following conditions exist:

- a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or
- b. Circuit failure (Alarm only), or
- c. Instrument indicates a downscale failure (Alarm only).

~~(2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exist:~~

~~a. Instrument indicates measured levels above the Alarm Setpoint, or~~

~~b. Circuit failure, or~~

~~c. Instrument indicates a downscale failure.~~

(2) (3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(3) (4) CHANNEL CHECK shall consist of verifying indication of flow during periods of release. CHANNEL CHECK shall be made at least once per 24 hours on days on which continuous, periodic, or batch releases are made.

TABLE 3.3-13

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. WASTE GAS HOLDUP SYSTEM			
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-50 Low Range EMF-36)	1	**	45
b. Effluent System Flow Rate Measuring Device	1	**	46
2. WASTE GAS HOLDUP SYSTEM Explosive Gas Monitoring System			
a. Hydrogen Monitors (Recombiner Outlet)	1-1/recombiner	**	51
b. Oxygen Monitors (Recombiner Outlet)	2-1/recombiner	**	49
3. Condenser Evacuation System Noble Gas Activity Monitor (EMF-33)	1	1, 2, 3, 4	47
4. Vent System			
a. Noble Gas Activity Monitor (Low Range - EMF-36)	1	*	47
b. Iodine Sampler (EMF-37)	1	*	50
c. Particulate Sampler (EMF-35)	1	*	50
d. Flow Rate Monitor	1	*	46
e. Sampler Flow Rate Monitor	1	*	46

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TABLE 3.3-13 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
5. Containment Purge System			
Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-39, Low Range - EMF-38)	1	*H	48
6. Containment Air Release and Addition System - Providing Alarm and Automatic Termination of Release (Low Range - EMF-38)	1	*H	45
39 Noble Gas Activity Monitor -			

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TABLE 3.3-13 (Continued)

TABLE NOTATIONS

- * At all times [^]except when the isolation valve is closed and locked,
- ** During WASTE GAS HOLDUP SYSTEM operation.

~~During gaseous effluent release~~

ACTION STATEMENTS

ACTION 45 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the tank(s) may be released to the environment for up to 14 days provided that prior to initiating the release:

a. Vent System noble gas activity monitor providing alarm and automatic termination of release (Low Range EMF-36) has a minimum of 1 channel OPERABLE, or

- b. At least two independent samples of the tank's contents are analyzed, and
- c. At least two technically qualified members of the facility staff independently verify:
 1. The discharge valve lineup, and
 2. The manual portion of the computer input for the release rate calculations performed on the computer, or the entire release rate calculations if such calculations are performed manually.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 46 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours.

ACTION 47 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.

ACTION 48 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, immediately suspend PURGING of radioactive effluents via this pathway.

ACTION 49 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue ~~provided grab samples are taken and analyzed at least once per 24 hours. With both channels inoperable, operation may continue provided grab samples are taken and analyzed at least once per 4 hours during degassing operations and at least once per 24 hours during other operations.~~ [^]for up to 14 days. With two channels inoperable, be in at least HOT STANDBY within 6 hours.

TABLE 3.3-13 (Continued)

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TABLE NOTATIONS

- ACTION 50 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via the affected pathway may continue for up to 30 days provided samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.
- ACTION 51 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, suspend oxygen supply to the recombiner. ~~With two channels inoperable, be in at least HOT STANDBY within 8 hours.~~

TABLE 4.3-9

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1. WASTE GAS HOLDUP SYSTEM					
a. Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-50 EMF-36)	P	P	R(3)	Q(1)	*//
b. Effluent System Flow Rate Measuring Device	P	N.A.	R	Q N.A.	*//
2. WASTE GAS HOLDUP SYSTEM Explosive Gas Monitoring System					
a. Hydrogen Monitor (Recombiner Outlet)	D	N.A.	Q(4)	M	**
b. Oxygen Monitors (Recombiner Outlet)	D	N.A.	Q(5)	M	**
3. Condenser Evacuation System					
Noble Gas Activity Monitor (Low Range - EMF-33)	D	M	R(3)	Q(2)	1, 2, 3, 4
4. Vent System					
a. Noble Gas Activity Monitor (Low Range - EMF-36)	D	M	R(3)	Q(2)	*
b. Iodine Sampler (EMF-37)	W	N.A.	N.A.	N.A.	*

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TABLE 4.3-9 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
4. Vent System (Continued)					
c. Particulate Sampler (EMF-35)	W	N.A.	N.A.	N.A.	*
d. Flow Rate Monitor	D	N.A.	R	N.A.	*
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*
5. Containment Purge System					
Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-39 Low Range - EMF-36)	D	P	R(3)	Q(1)	*//
6. Containment Air Release and Addition System Providing Alarm and Automatic Termination of Release (Low Range - EMF-28) 139 Noble Gas Activity Monitor -	D	P	R(3)	Q(1)	*//

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TABLE 4.3-9 (Continued)

TABLE NOTATIONS

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- * At all times, *except when the isolation valve is closed and locked.*
** During WASTE GAS HOLDUP SYSTEM operation.

~~During gaseous effluent releases~~

- (1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 - a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or
 - b. Circuit failure (Alarm only), or
 - c. Instrument indicates a downscale failure (Alarm only).
- (2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
 - a. Instrument indicates measured levels above the Alarm Setpoint, or
 - b. Circuit failure, or
 - c. Instrument indicates a downscale failure.
- (3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (4) The CHANNEL CALIBRATION shall include the use of standard gas samples in accordance with the manufacturer's recommendations. In addition, a standard gas sample of nominal four volume percent hydrogen, balance nitrogen, shall be used in the calibration to check linearity of the hydrogen analyzer.
- (5) The CHANNEL CALIBRATION shall include the use of standard gas samples in accordance with the manufacturer's recommendations. In addition, a standard gas sample of nominal four percent oxygen, balance nitrogen, shall be used in the calibration to check linearity of the oxygen analyzer.

TABLE 4.11-2
RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

GASEOUS RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	LOWER LIMIT OF DETECTION (LLD) ⁽¹⁾ ($\mu\text{Ci/ml}$)
1. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters ⁽²⁾	1×10^{-4}
2. Containment Purge	P Each PURGE ⁽³⁾ Grab Sample	P Each PURGE ⁽³⁾	Principal Gamma Emitters ⁽²⁾	1×10^{-4}
		M	H-3 (oxide)	1×10^{-6}
3. Unit Vent	W^{(3),(4)} Grab Sample	W	Principal Gamma Emitters ⁽²⁾	1×10^{-4}
			H-3 (oxide)	1×10^{-6}
4. Containment Air Release and Addition System	D ⁽³⁾ ⁽⁵⁾ Grab Sample	D ⁽³⁾	Principal Gamma Emitters ⁽²⁾	1×10^{-4}
		M	H-3 (oxide)	1×10^{-6}
5. All Release Types as listed in 3. above.	Continuous ⁽⁶⁾	D ⁽⁷⁾ Charcoal Sample	I-131	1×10^{-11}
			I-133	1×10^{-9}
	Continuous ⁽⁶⁾	D ⁽⁷⁾ Particulate Sample	Principal Gamma Emitters ⁽²⁾	1×10^{-10}
	Continuous ⁽⁶⁾	M Composite Particulate Sample	Gross Alpha ⁽⁸⁾	1×10^{-11}
	Continuous ⁽⁶⁾	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}

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TABLE 4.11-2 (Continued)

TABLE NOTATIONS (Continued)

- thermal power stabilization (power level constant at desired power level) after
- (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 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) ~~Tritium grab samples shall be taken at least once per 7 days from the ventilation exhaust from the spent fuel pool area, whenever spent fuel is in the spent fuel pool.~~
 - (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.

Required sampling frequency during gaseous effluent releases via this pathway.