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CHAPTER 16.7-2	NA	003 02/25/10																	
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REMARKS: PLEASE REFER TO THE ATTACHED MEMO FOR FILING INSTRUCTIONS.

J R MORRIS
VICE PRESIDENT
CATAWBA NUCLEAR STATION

BY:

B ALDRIDGE CN01SA BA/RBE

A001
NRR

DUKE ENERGY CORPORATION
Catawba Nuclear Station
4800 Concord Rd.
York, SC 29745

February 23, 2010

Re: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date: 11/23/09

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE THESE PAGES	INSERT THESE PAGES
LIST OF EFFECTIVE SECTIONS	
Pages 1 through 4 Revision 44	Pages 1 through 4 Revision 45
TAB 16.7	
SLC 16.7-2 Revision 2	SLC 16.7-2 Revision 3
SLC 16.7-10 Revision 2	SLC 16.7-10 Revision 3

TAB 16.11

SLC 16.11-7 Revision 3	SLC 16.11-7 Revision 4

If you have any questions concerning the contents of this package update, contact Betty Aldridge at (803)701-3758.

Randy Hart

Randy Hart
Manager, Regulatory Compliance

Attachment

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
TABLE OF CONTENTS	12	06/08/09
16.1	1	08/27/08
16.2	2	08/21/09
16.3	1	08/21/09
16.5-1	1	10/24/06
16.5-2	Deleted	
16.5-3	1	02/20/04
16.5-4	0	10/09/02
16.5-5	1	01/28/10
16.5-6	1	08/21/09
16.5-7	0	10/09/02
16.5-8	2	12/22/08
16.5-9	0	10/24/06
16.5-10	Deleted	
16.6-1	0	10/09/02
16.6-2	Deleted	
16.6-3	1	08/21/09
16.6-4	1	08/21/09
16.6-5	1	08/21/09
16.7-1	1	08/21/09
16.7-2	3	11/23/09
16.7-3	1	08/21/09
16.7-4	2	08/21/09
16.7-5	2	08/21/09

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.7-6	2	08/21/09
16.7-7	1	08/21/09
16.7-8	2	08/21/09
16.7-9	5	08/21/09
16.7-10	3	11/23/09
16.7-11	1	08/21/09
16.7-12	1	08/21/09
16.7-13	2	08/21/09
16.7-14	1	08/21/09
16.7-15	1	08/21/09
16.7-16	0	06/08/09
16.8-1	3	08/21/09
16.8-2	1	10/24/06
16.8-3	1	10/24/06
16.8-4	2	11/05/07
16.8-5	3	08/21/09
16.9-1	5	08/21/09
16.9-2	4	08/21/09
16.9-3	1	08/21/09
16.9-4	3	08/21/09
16.9-5	5	08/21/09
16.9-6	7	08/21/09
16.9-7	4	08/21/09
16.9-8	5	08/21/09

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.9-9	3	08/21/09
16.9-10	5	08/21/09
16.9-11	3	08/21/09
16.9-12	2	08/21/09
16.9-13	3	08/21/09
16.9-14	1	09/25/06
16.9-15	2	08/21/09
16.9-16	2	08/21/09
16.9-17	0	10/09/02
16.9-18	0	10/09/02
16.9-19	2	08/21/09
16.9-20	0	10/09/02
16.9-21	0	10/09/02
16.9-22	1	08/21/09
16.9-23	3	08/21/09
16.9-24	2	10/24/06
16.9-25	2	08/21/09
16.10-1	1	08/21/09
16.10-2	1	10/24/06
16.10-3	1	08/21/09
16.11-1	0	10/09/02
16.11-2	2	08/21/09
16.11-3	0	10/09/02
16.11-4	1	08/21/09

LIST OF EFFECTIVE SECTIONS

SECTION	REVISION NUMBER	REVISION DATE
16.11-5	0	10/09/02
16.11-6	1	06/08/09
16.11-7	4	11/23/09
16.11-8	0	10/09/02
16.11-9	0	10/09/02
16.11-10	1	08/21/09
16.11-11	1	03/20/03
16.11-12	0	10/09/02
16.11-13	0	10/09/02
16.11-14	0	10/09/02
16.11-15	0	10/09/02
16.11-16	0	10/09/02
16.11-17	0	10/09/02
16.11-18	1	08/21/09
16.11-19	0	10/09/02
16.11-20	1	08/21/09
16.11-21	0	10/09/02
16.12-1	0	10/09/02
16.13-1	0	10/09/02
16.13-2	Deleted	
16.13-3	Deleted	
16.13-4	0	10/09/02

16.7 INSTRUMENTATION

16.7-2 Seismic Instrumentation

COMMITMENT The seismic monitoring instrumentation shown in Table 16.7-2-1 shall be FUNCTIONAL.

APPLICABILITY: At all times.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required seismic monitoring instrument(s) non-functional.	A.1 Restore non-functional instrument(s) to FUNCTIONAL status.	30 days
	OR	
	A.2 Prepare and submit a Special Report to the Commission outlining the cause of the malfunction and the plans for restoring the instrument(s) to FUNCTIONAL status.	40 days
B. Accessible seismic monitoring instrument(s) actuated during a seismic event ≥ 0.01 g.	B.1 Restore instrument(s) to FUNCTIONAL status.	Within 24 hours following the seismic event
	AND	
	B.2 Retrieve data from actuated instrument(s) and analyze to determine magnitude of vibratory ground motion.	Within 24 hours following the seismic event
	AND	
		(continued)

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3 Prepare and submit a Special Report to the Commission describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.	10 days

TESTING REQUIREMENTS

----------NOTE----------
Refer to Table 16.7-2-1 to determine which TRs apply for each seismic instrument.

TEST		FREQUENCY
TR 16.7-2-1	----------NOTE---------- CHANNEL CHECK not required for seismic trigger of 1IEEVD 1030 or 1IEEVD 1040. ----------	
	Perform CHANNEL CHECK.	14 days for first 3 months of service after initial system startup AND 31 days thereafter
TR 16.7-2-2	Perform COT.	6 months
TR 16.7-2-3	Perform CHANNEL CALIBRATION.	18 months

Table 16.7-2-1

Seismic Monitoring Instrumentation

INSTRUMENTS AND SENSOR LOCATIONS		MEASUREMENT RANGE	REQUIRED CHANNELS	TESTING REQUIREMENTS
1.	Triaxial Accelerographs			
1.a	1IEEVD 1020 (Remote Sensor A) Unit 1 Containment Base Slab Elev. 553' 0"	-2 g to +2 g	1 (1)	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.b	1IEEVD 1010 (Remote Sensor B) Unit 1 AFW Pump Room Elev. 544' 0"	-2 g to +2 g	1 (1)	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.c	1IEEVD 1000 Control Room Elev. 595' 0"	-2 g to +2 g	1 (1)	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.d	1IEEVD 1030 Unit 1 Containment Bldg. Elev. 652' 0", Azimuth 0°	-2 g to +2 g	1 (1)	TR 16.7-2-2 TR 16.7-2-3
1.e	1IEEVD 1040 Unit 1 Containment Bldg. Elev. 612' 10", Azimuth 0°	-2 g to +2 g	1 (1)	TR 16.7-2-2 TR 16.7-2-3

(1) With reactor control room indication.

BASES

The FUNCTIONALITY of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix A of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Nuclear Power Plant Instrumentation for Earthquakes", Revision 2.

The seismic monitoring instrumentation system records seismic data acquired by five triaxial accelerographs (at locations per Table 16.7-2-1, Items 1.a through 1.e); each accelerograph consists of a solid state recording device (using static random access memory (SDRAM) storage) and an integral micro electro-mechanical sensor (or MEMS accelerometer).

All five accelerographs are connected to the network control center (NCC) 1IEECS 1000 located in the control room (on the 1MC8 back panel, near 1IEEVD 1000). The NCC provides a centralized location for: on-line system monitoring (including continuous self-checking of significant functions and power supply status); data retrieval from each accelerograph; data transfer (download) to the dedicated system computer 1IEECO 9000 for required analysis purposes (i.e., analysis required following a seismic event); system status indications (associated with the NCC and all five accelerographs); date/time synchronization (for each accelerograph); and generation of a common "start recording" trigger command (to all accelerographs) in the event that a trigger acceleration threshold is exceeded. System failures will result in an alarm condition on the NCC and a remote alarm sent to the Unit 1 Operator Aid Computer.

The two upper containment accelerographs (1IEEVD 1030 and 1IEEVD 1040) were excluded from the CHANNEL CHECK required by TR 16.7-2-1, since they are not used to generate the Operating Basis Earthquake (OBE) exceedance signal (indicated by the Unit 1 control room annunciator system). The other three accelerographs were chosen since they are either: 1) located at the base of a Category 1 structure (1IEEVD 1010 and 1IEEVD 1020), consistent with measurement locations per Regulatory Guide 1.12 guidance; or 2) within the control room area (1IEEVD 1000), to confirm that the seismic event was felt by operators.

REFERENCES

1. 10 CFR Part 100, Appendix A.

2. Regulatory Guide 1.12, "Nuclear Power Plant Instrumentation for Earthquakes", Revision 2, March 1997.

3. Catawba Updated Final Safety Analysis Report, Section 3.7.4, "Seismic Instrumentation Program".

16.7 INSTRUMENTATION

16.7-10 Radiation Monitoring for Plant Operations

COMMITMENT The radiation monitoring instrumentation channels for plant operations shown in Table 16.7-10-1 shall be FUNCTIONAL.

APPLICABILITY: As shown in Table 16.7-10-1.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more radiation monitoring channels Alarm/Trip setpoint for plant operations exceeding the value shown in Table 16.7-10-1.	A.1 Adjust the setpoint to within the limit. OR A.2 Declare the channel non-functional.	4 hours 4 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One Containment Atmosphere – High Gaseous Radioactivity (EMF-39 – Low Range) channel non-functional.	B.1 ----------NOTE---------- In order to utilize Required Action B.1, the following conditions must be satisfied: 1. The affected unit is not in MODES 1, 2, 3, or 4. 2. EMF-36 is FUNCTIONAL and in service for the affected unit. 3. The Reactor Coolant System for the affected unit has been vented. 4. Either the reactor vessel head is in place (bolts are not required), or if it is not in place, either: (a) all irradiated fuel assemblies have been removed from containment, or (b) the lifting of heavy loads over the reactor vessel and the movement of irradiated fuel assemblies within containment have been suspended. ---------- Restore the non-functional channel to FUNCTIONAL status.	12 hours

(continued)

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	OR	
	B.2 ----------NOTE---------- In order to utilize Required Action B.2, the following conditions must be satisfied: 1. The affected unit is not in MODES 1, 2, 3, 4, 5, or 6. 2. EMF-36 is FUNCTIONAL and in service for the affected unit. 3. The reactor vessel head is in place (bolts are not required). ---------- Restore the non-functional channel to FUNCTIONAL status.	30 days

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition B not met. OR Required Action B.1 or B.2 not utilized.	C.1 Close the Containment Purge and Exhaust (VP) valves.	Immediately
D. One Control Room Air Intake – Radiation Level – High Gaseous Radioactivity (EMF-43A & B – Low Range) channel non-functional in one or both control room intakes.	D.1 Initiate action to restore non-functional channel(s) to FUNCTIONAL status. AND D.2 Ensure that one Control Room Area Ventilation System (CRAVS) train is in operation.	Immediately 1 hour
E. One Fuel Storage Pool Area – Criticality – Radiation Level (1EMF-15, 2EMF-4) channel non-functional.	E.1 Provide a portable continuous monitor with the same Alarm Setpoint in the fuel storage pool area. AND E.2.1 Restore non-functional monitor to FUNCTIONAL status. OR E.2.2 Suspend all operations involving fuel movement in the fuel building.	Immediately 30 days 30 days

(continued)

REMEDIAL ACTIONS (continued)

CONDITION		REQUIRED ACTION		COMPLETION TIME
F.	One Fuel Storage Pool Area – High Gaseous Radioactivity (EMF-42) channel non-functional.	F.1	Verify the requirements in Technical Specification 3.7.13, Fuel Handling Ventilation Exhaust System (FHVES), are met.	Immediately
		OR		
		F.2	Suspend all operations involving fuel movement in the fuel building.	Immediately
G.	One Auxiliary Building Ventilation – High Gaseous Radioactivity (EMF-41) channel non-functional.	G.1	Ensure one Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) train is OPERABLE and in operation.	Immediately
H.	One Component Cooling Water System (EMF-46A & B) channel non-functional.	H.1	Collect and analyze grab samples for principal gamma emitters (listed in Table 16.11-1-1, NOTE 3) at a lower limit of detection of no more than 5×10^{-7} μCi/ml.	Once per 12 hours
		AND		
		H.2	Restore non-functional channel to FUNCTIONAL status.	30 days

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. One or more N-16 Leakage Monitor (EMF-71, 72, 73, & 74) channels non-functional.	I.1 Ensure that the Condenser Evacuation System Noble Gas Activity Monitor (EMF-33) is FUNCTIONAL and in operation.	Immediately
	OR	
	I.2 Ensure that Required Actions are met per SLC 16.11-7 if the Condenser Evacuation System Noble Gas Activity Monitor (EMF-33) is non-functional or not in operation.	Immediately

TESTING REQUIREMENTS

----------NOTE----------
Refer to Table 16.7-10-1 to determine which TRs apply for each Radiation Monitoring for Plant Operations channel.

TEST	FREQUENCY
TR 16.7-10-1 Perform CHANNEL CHECK.	12 hours
TR 16.7-10-2 Perform CHANNEL OPERATIONAL TEST.	9 months
TR 16.7-10-3 Perform CHANNEL CALIBRATION.	18 months

Table 16.7-10-1

Radiation Monitoring Instrumentation for Plant Operations

MONITOR	APPLICABLE MODES	REQUIRED CHANNELS	ALARM/TRIP SETPOINT	TESTING REQUIREMENTS
1. Containment Atmosphere – High Gaseous Radioactivity (EMF-39 – Low Range)	At all times	1	Note (a)	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
2. Fuel Storage Pool Areas – High Gaseous Radioactivity (EMF-42)	With irradiated fuel in the fuel storage pool areas	1	$\leq 1.7 \times 10^{-4}$ µCi/ml	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
3. Fuel Storage Pool Areas – Criticality – Radiation Level (Fuel Bridge – 1EMF-15, 2EMF-4)	With fuel in the fuel storage pool areas	1	$\leq$ 15 mR/h	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
4. Control Room Air Intake – Radiation Level – High Gaseous Radioactivity (EMF-43A & B – Low Range)	At all times	2 (1/intake)	$\leq 1.7 \times 10^{-4}$ µCi/ml	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
5. Auxiliary Building Ventilation – High Gaseous Radioactivity (EMF-41)	1, 2, 3, 4	1	$\leq 1.7 \times 10^{-4}$ µCi/ml	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
6. Component Cooling Water System (EMF-46A & B)	At all times	1[b]	$\leq 1 \times 10^{-3}$ µCi/ml	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3
7. N-16 Leakage Monitor (EMF-71, 72, 73, & 74)	1 (40-100% reactor power)	4 (1/steamline)	Note (c)	TR 16.7-10-1 TR 16.7-10-2 TR 16.7-10-3

Table 16.7-10-1 Notes

(a) When venting or purging from containment to the atmosphere, the trip setpoint shall not exceed the equivalent limits of SLC 16.11-6 in accordance with the methodology and parameters in the ODCM. When not venting or purging in Modes 5 or 6, the alarm setpoint concentration (μCi/ml) shall be such that the actual submersion dose rate would not exceed 5 mR/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.

(b) For EMF-46A & B: The EMF monitor associated with the operating Component Cooling Water System train shall be FUNCTIONAL. This requirement is based on the existence of an interlock which blocks the EMF loss of flow alarm from being received in the control room when the associated train pump motor(s) are not running.

(c) The setpoint is as required by the primary to secondary leak rate monitoring program.

BASES

The FUNCTIONALITY of the radiation monitoring instrumentation for plant operations ensures that: (1) the associated action will be initiated when the radiation level monitored by each channel or combination thereof reaches its setpoint, (2) the specified coincidence logic is maintained, and (3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance. The radiation monitors for plant operations senses radiation levels in selected plant systems and locations and determines whether or not predetermined limits are being exceeded. The radiation monitors send actuation signals to initiate alarms or automatic isolation action and actuation of emergency exhaust or ventilation systems. Some of the final actuations are dependent on plant condition in addition to the actuation signals from the radiation monitors.

Operation of the Component Cooling Water System (KC) Train A with the Train A Radiation Monitoring System (EMF) monitor non-functional and relying on the Train B EMF monitor for detection of radioactivity is not permissible. Likewise, operation of the KC Train B with the Train B EMF monitor non-functional and relying on the Train A EMF monitor for detection of radioactivity is not permissible. This is due to the interlock between the EMF monitor low-flow alarm and the operation of the KC pump motors on the same train. The EMF monitor in the operating KC pump train must be FUNCTIONAL, or the compensatory measures taken as specified.

Initiation of the Containment Purge Exhaust System (CPES) with EMF-39 non-functional is not permissible. The basis for Required Actions B.1 and B.2 is to allow the continued operation of the CPES with EMF-39 initially FUNCTIONAL. Continued operation of the CPES is contingent upon the ability of the affected unit to meet the requirements as noted in Required Actions B.1 and B.2.

REFERENCES

1. Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.

16.11 RADIOLOGICAL EFFLUENTS CONTROLS

16.11-7 Radioactive Gaseous Effluent Monitoring Instrumentation

COMMITMENT The Radioactive Gaseous Effluent Monitoring Instrumentation channels shown in Table 16.11-7-1 shall be FUNCTIONAL with their Alarm/Trip Setpoints set to ensure that the limits of SLC 16.11-6 are not exceeded.

AND

The Alarm/Trip Setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: As shown in Table 16.11-7-1.

REMEDIAL ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Radioactive Gaseous Effluent Monitoring Instrumentation channel(s) Alarm/Trip Setpoint less conservative than required.	A.1 Suspend the release of radioactive gaseous effluents monitored by the affected channel(s).	Immediately
	OR	
	A.2 Declare the channel(s) non-functional.	Immediately
B. One or more Radioactive Gaseous Effluent Monitoring Instrumentation channel(s) non-functional.	B.1 Enter the applicable Conditions and Required Actions specified in Table 16.11-7-1 for the channel(s).	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One channel non-functional.	C.1 Verify that EMF-36 (Low Range) is FUNCTIONAL.	Prior to initiating a release
	OR	
	C.2.1 Analyze two independent samples of the tank's contents.	Prior to initiating a release
	AND	
	C.2.2 Perform independent verification of the discharge line valving.	Prior to initiating a release
	AND	
	C.2.3.1 Perform independent verification of manual portion of the computer input for release rate calculations performed by computer.	Prior to initiating a release
	OR	
	C.2.3.2 Perform independent verification of entire calculations for release rate calculations performed manually.	Prior to initiating a release
	AND	
	C.2.4 Restore channel to FUNCTIONAL status.	14 days
	OR	
	C.3 Suspend release of radioactive effluents via this pathway.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more flow rate measurement device channel(s) non-functional.	D.1 Estimate the flow rate of the release.	Once per 4 hours during releases
	AND	
	D.2 Restore channel to FUNCTIONAL status.	30 days
E. One or more Noble Gas Activity Monitor channel(s) non-functional.	E.1 Obtain grab samples from effluent pathway.	Once per 12 hours during releases
	AND	
	E.2 Perform an analysis of grab samples for radioactivity.	Within 24 hours of obtaining the sample
	AND	
	E.3 Restore channel to FUNCTIONAL status.	30 days

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Noble Gas Activity Monitor (EMF-39 – Low Range) providing automatic termination of release non-functional.	F.1 ----------NOTE---------- In order to utilize Required Action F.1, the following conditions must be satisfied: 1. The affected unit is not in MODES 1, 2, 3, or 4. 2. EMF-36 is FUNCTIONAL and in service for the affected unit. 3. The Reactor Coolant System for the affected unit has been vented. 4. Either the reactor vessel head is in place (bolts are not required), or if it is not in place, either: (a) all irradiated fuel assemblies have been removed from containment, or (b) the lifting of heavy loads over the reactor vessel and the movement of irradiated fuel assemblies within containment have been suspended. ---------- Restore the non-functional channel to FUNCTIONAL status.	12 hours

(continued)

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. (continued)	OR	
	F.2.1 Provide a portable Continuous Air Monitor (CAM) on the operating deck of containment.	Immediately
	AND	
	F.2.2 ----------NOTE---------- In order to utilize Required Action F.2, the following conditions must be satisfied: 1. The affected unit is not in MODES 1, 2, 3, 4, 5, or 6. 2. EMF-36 is FUNCTIONAL and in service for the affected unit. 3. The reactor vessel head is in place (bolts are not required). ---------- Restore the non-functional channel to FUNCTIONAL status.	30 days
G. Required Action and associated Completion Time of Condition F not met. OR Required Action F.1 or F.2.1 and F.2.2 not utilized.	G.1 Suspend PURGING of radioactive effluents via this pathway.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. One or more sampler channel(s) non-functional.	H.1 Perform sampling with auxiliary sampling equipment as required by Table 16.11-6-1.	Continuously
	AND	
	H.2 Restore channel to FUNCTIONAL status.	30 days
I. One Condenser Evacuation System Noble Gas Activity Monitor (EMF-33) channel non-functional.	I.1 ----------NOTE---------- Applicable to effluent releases via the Condenser Steam Air Ejector (ZJ) System. ----------	
	Obtain grab samples from effluent pathway.	Once per 12 hours during releases
	AND	
	I.2 ----------NOTE---------- Applicable to effluent releases via the Condenser Steam Air Ejector (ZJ) System. ----------	
	Perform an analysis of grab samples for radioactivity.	Within 24 hours of obtaining the sample
	AND	

(continued)

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. (continued)	I.3 ----------NOTE---------- Applicable to effluent releases via the Steam Generator Blowdown (BB) System atmospheric vent valve (BB-27) in the off-normal mode. ----------	
	Perform an analysis of grab samples for radioactivity at a lower limit of detection of 10^{-7} microCurie/ml.	Once per 12 hours during releases when secondary specific activity is > 0.01 microCurie/gm DOSE EQUIVALENT I-131 AND Once per 24 hours during releases when secondary specific activity is ≤ 0.01 microCurie/gm DOSE EQUIVALENT I-131
	AND	
	I.4 Restore channel to FUNCTIONAL status.	30 days
J. Noble Gas Activity Monitor (EMF-39 – Low Range) providing automatic termination of release non-functional.	J.1 Verify that EMF-36 is FUNCTIONAL.	Prior to initiating a release
	OR	
	J.2.1 Analyze two independent samples of the containment atmosphere.	Prior to initiating a release
	AND	
		(continued)

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
J. (continued)	J.2.2 Perform independent verification of the discharge line valving.	Prior to initiating a release
	AND	
	J.2.3.1 Perform independent verification of manual portion of the computer input for release rate calculations performed by computer.	Prior to initiating a release
	OR	
	J.2.3.2 Perform independent verification of entire calculations for release rate calculations performed manually.	Prior to initiating a release
	AND	
	J.2.4 ----------NOTE---------- If channel remains or is anticipated to remain non-functional for ≥ 90 days, re-evaluate the configuration of the affected unit in accordance with the applicable portions of 10 CFR 50.59 and 10 CFR 50.65(a)(4) prior to expiration of the 90-day period. ----------	
	Restore channel to FUNCTIONAL status.	30 days

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. Required Action and associated Completion Time of Condition C, D, E, F, H, I, or J not met.	K.1 Explain why the non-functionality was not corrected within the specified Completion Time.	In the next scheduled Radioactive Effluent Release Report pursuant to Technical Specification 5.6.3

TESTING REQUIREMENTS

----------NOTE----------
Refer to Table 16.11-7-1 to determine which TRs apply for each Radioactive Gaseous Effluent Monitoring Instrumentation channel.

TEST	FREQUENCY
TR 16.11-7-1 Perform CHANNEL CHECK.	Prior to each release
TR 16.11-7-2 ----------NOTE---------- For Instruments 1a, 4, and 5, a SOURCE CHECK for these channels shall be the qualitative assessment of channel response when the channel sensor is exposed to a light-emitting diode. ---------- Perform SOURCE CHECK.	Prior to each release
TR 16.11-7-3 Perform CHANNEL CHECK.	12 hours
TR 16.11-7-4 Perform CHANNEL CHECK.	24 hours
TR 16.11-7-5 Perform CHANNEL CHECK.	7 days

(continued)

TESTING REQUIREMENTS (continued)

	TEST	FREQUENCY
TR 16.11-7-6	----------NOTE---------- For Instruments 2 and 3a, a SOURCE CHECK for these channels shall be the qualitative assessment of channel response when the channel sensor is exposed to a light-emitting diode. ---------- Perform SOURCE CHECK.	31 days
TR 16.11-7-7	----------NOTE---------- For Instruments 1a, 2, 3a, 5, and 6a, the COT shall also demonstrate, as applicable, that automatic isolation of this pathway and control room alarm annunciation (for EMF-58, alarm annunciation is in the Monitor Tank Building control room and on the Monitor Tank Building control panel remote annunciator panel) occur if any of the following conditions exist: a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or b. Circuit failure/instrument downscale failure (alarm only) ---------- Perform COT.	9 months
TR 16.11-7-8	----------NOTE---------- For Instrument 4, the COT 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/instrument downscale failure (alarm only) ---------- Perform COT.	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST		FREQUENCY
TR 16.11-7-9	----------NOTE---------- For Instruments 1a, 2, 3a, 4, 5, and 6a, 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. ----------	
	Perform CHANNEL CALIBRATION.	18 months

Table 16.11-7-1

Radioactive Gaseous Effluent Monitoring Instrumentation (page 1 of 2)

INSTRUMENT	REQUIRED CHANNELS	CONDITIONS	APPLICABLE MODES	TESTING REQUIREMENTS
1. Waste Gas Holdup System				
1.a Noble Gas Activity Monitor – Providing Alarm and Automatic Termination of Release (EMF-50 – Low Range)	1 per station	A, C, K	At all times except when the isolation valve is closed and locked	TR 16.11-7-1 TR 16.11-7-2 TR 16.11-7-7 TR 16.11-7-9
1.b Effluent System Flow Rate Measuring Device	1 per station	D, K	At all times except when the isolation valve is closed and locked	TR 16.11-7-1 TR 16.11-7-9
2. Condenser Evacuation System Noble Gas Activity Monitor (EMF-33) (BB-27 is only isolation function required) (Note 1)	1	A, I, K	When air ejectors are in operation (Apply Required Action I.3 when air ejectors are not in operation)	TR 16.11-7-3 TR 16.11-7-6 TR 16.11-7-7 TR 16.11-7-9
3. Vent System				
3.a Noble Gas Activity Monitor (EMF-36 – Low Range)	1	A, E, K	At all times	TR 16.11-7-4 TR 16.11-7-6 TR 16.11-7-7 TR 16.11-7-9
3.b Iodine Sampler Eberline RAP-1 (RDM-PU-VPVP)	1	A, H, K	At all times	TR 16.11-7-5
3.c Particulate Sampler Eberline RAP-1 (RDM-PU-VPVP)	1	A, H, K	At all times	TR 16.11-7-5
3.d Unit Vent Stack Flow Rate Meter (no alarm/trip function)	1	D, K	At all times	TR 16.11-7-4 TR 16.11-7-9
3.e Unit Vent Radiation Monitor Flow Meter	1	E, K	At all times	TR 16.11-7-4 TR 16.11-7-9
4. Containment Purge System Noble Gas Activity Monitor – Providing Alarm and Automatic Termination of Release (EMF-39 – Low Range)	1	A, F, G, K	At all times below MODE 4	TR 16.11-7-2 TR 16.11-7-3 TR 16.11-7-8 TR 16.11-7-9

(continued)

Table 16.11-7-1

Radioactive Gaseous Effluent Monitoring Instrumentation (page 2 of 2)

INSTRUMENT	REQUIRED CHANNELS	CONDITIONS	APPLICABLE MODES	TESTING REQUIREMENTS
5. Containment Air Release and Addition System Noble Gas Activity Monitor – Providing Alarm and Automatic Termination of Release (EMF-39 – Low Range)	1	A, J, K	1, 2, 3, 4, 5, 6	TR 16.11-7-2 TR 16.11-7-3 TR 16.11-7-7 TR 16.11-7-9
6. Monitor Tank Building HVAC				
6.a Noble Gas Activity Monitor – Providing Alarm (EMF-58 – Low Range)	1 per station	A, E, K	At all times	TR 16.11-7-4 TR 16.11-7-6 TR 16.11-7-7 TR 16.11-7-9
6.b Effluent Flow Rate Measuring Device	1 per station	D, K	At all times	TR 16.11-7-4 TR 16.11-7-9

Note 1: The setpoint is as required by the primary to secondary leak rate monitoring program.

BASES

The Radioactive Gaseous Effluent Monitoring Instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the Alarm/Trip will occur prior to exceeding the limits of 10 CFR Part 20. The FUNCTIONALITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50. The sensitivity of any noble gas activity monitor used to show compliance with the gaseous effluent release requirements of SLC 16.11-8 shall be such that concentrations as low as 1×10^{-6} µCi/cc are measurable.

Initiation of the Containment Purge Exhaust System (CPES) with EMF-39 non-functional is not permissible. The basis for Required Actions F.1 and F.2.1 and F.2.2 is to allow the continued operation of the CPES with EMF-39 initially FUNCTIONAL. Continued operation of the CPES is contingent upon the ability of the affected unit to meet the requirements as noted in Required Actions F.1 and F.2.1 and F.2.2.

REFERENCES

1. Catawba Offsite Dose Calculation Manual.

2. 10 CFR Part 20.