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SLC Manual Revision to 16.11-2 and 16.11-7

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Remove and Insert

Replace the following page(s) of Catawba Nuclear Station Selected Licensee Commitments (SLC) Manual with the attached revised page(s). The revised page(s) are identified by Section number and contains marginal lines indicating the areas of change.

REMOVE THESE PAGES

INSERT THESE PAGES

LIST OF EFFECTIVE SECTIONS

Pages 1-5
Revision 105

Pages 1-5
Revision 106

TAB 16.11

16.11-2, Pages 1-9
Revision 7

16.11-2, Pages 1-9
Revision 8

16.11-7, Pages 1-16
Revision 13

16.11-7, Pages 1-16
Revision 14

If you have any questions concerning the contents of this Catawba Nuclear Station Selected Licensee Commitments (SLC) Manual update, please contact Nicole Edwards (704)382-6669.

16.11 RADIOLOGICAL EFFLUENTS CONTROLS

16.11-2 Radioactive Liquid Effluent Monitoring Instrumentation

COMMITMENT The Radioactive Liquid Effluent Monitoring Instrumentation channels shown in Table 16.11-2-1 shall be FUNCTIONAL with their Alarm/Trip Setpoints set to ensure that the limits of SLC 16.11-1 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: Condition Applicability is as shown in Table 16.11-2-1.

REMEDIAL ACTIONS

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

Radioactive Liquid Effluent Monitoring Instrumentation
16.11-2

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Radioactive Liquid Effluent Monitoring Instrumentation channel(s) Alarm/Trip Setpoint less conservative than required.	A.1 Suspend the release of radioactive liquid effluents monitored by the affected channel(s).	Immediately
	<u>OR</u>	
	A.2 Declare the channel(s) non-functional.	Immediately
B. One or more Radioactive Liquid Effluent Monitoring Instrumentation channel(s) non-functional.	B.1 Enter the applicable Conditions and Required Actions specified in Table 16.11-2-1 for the channel(s).	Immediately
	<u>AND</u>	
	B.2.1 Restore channel to FUNCTIONAL status.	14 Days (*Note 1)
	<u>OR</u>	
	B.2.2 Restore channel to FUNCTIONAL status.	30 Days (*Note 1)

*Note 1 – Required Action B.2.1 Applies to Instruments 1.a and 1.c ONLY. (continued)
 Required Action B.2.2 Applies to the remainder of required Instruments listed in Table 16.11-2-1.

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One channel non-functional.	C.1.1 Analyze two independent samples per Testing Requirement 16.11-1-1. <u>AND</u>	Prior to initiating a release
	C.1.2 Perform independent verification of the discharge line valving. <u>AND</u>	Prior to initiating a release
	C.1.3.1 Perform independent verification of manual portion of the computer input for release rate calculations performed by computer. <u>OR</u>	Prior to initiating a release
	C.1.3.2 Perform independent verification of entire calculations for release rate calculations performed manually. <u>OR</u>	Prior to initiating a release
	C.2 Suspend release of radioactive effluents via this pathway.	Immediately

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One flow rate measurement device channel non-functional.</p>	<p>D.1 -----NOTE----- Pump performance curves generated in place may be used to estimate flow. ----- Estimate the flow rate of the release.</p>	<p>Once per 4 hours during releases</p>
<p>E. One channel non-functional.</p>	<p>E.1 Perform an analysis of grab samples for radioactivity at a lower limit of detection of 10^{-7} microCurie/ml.</p>	<p>Once per 12 hours during releases when secondary specific activity is > 0.01 microCurie/gm DOSE EQUIVALENT I-131 <u>AND</u> Once per 24 hours during releases when secondary specific activity is ≤ 0.01 microCurie/gm DOSE EQUIVALENT I-131</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One channel non-functional.	F.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} microCurie/ml.	Once per 12 hours
G. Required Action and associated Completion Time of Condition B not met.	G.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 16.11-2-1 to determine which TRs apply for each Radioactive Liquid Effluent Monitoring Instrumentation channel.

TEST	FREQUENCY
TR 16.11-2-1 Perform CHANNEL CHECK.	24 hours
TR 16.11-2-2 -----NOTE----- The CHANNEL CHECK shall consist of verifying indication of flow. ----- Perform CHANNEL CHECK.	24 hours during periods of release
TR 16.11-2-3 Perform SOURCE CHECK.	Prior to each release
TR 16.11-2-4 Perform SOURCE CHECK.	31 days
TR 16.11-2-5 Perform COT.	182 days
TR 16.11-2-6 -----NOTE----- For Instrument 1, the COT shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation (for EMF-57, 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: <ul style="list-style-type: none"> 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
<p>TR 16.11-2-7 -----NOTE----- For Instrument 1, 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.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>18 months</p>

Radioactive Liquid Effluent Monitoring Instrumentation
16.11-2

Table 16.11-2-1
Radioactive Liquid Effluent Monitoring Instrumentation

	REQUIRED CHANNELS	CONDITIONS	APPLICABILITY	TESTING REQUIREMENTS
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release				
1.a Waste Liquid Discharge Monitor (EMF-49 – Low Range)	1 per station	<u>A, B, G</u> C	<u>At all times</u> (Note 1)	TR 16.11-2-1 TR 16.11-2-3 TR 16.11-2-6 TR 16.11-2-7
1.b Turbine Building Sump Monitor (EMF-31)	1	<u>A, B, G</u> E	<u>At all times</u> (Note 1)	TR 16.11-2-1 TR 16.11-2-4 TR 16.11-2-6 TR 16.11-2-7
1.c Monitor Tank Building Liquid Discharge Monitor (EMF-57 – Low Range)	1 per station	<u>A, B, G</u> C	<u>At all times</u> (Note 1)	TR 16.11-2-1 TR 16.11-2-3 TR 16.11-2-6 TR 16.11-2-7
2. Continuous Composite Samplers and Sampler Flow Monitor				
2.a Conventional Waste Water Treatment Line (no alarm/trip function)	1 per station	<u>B, G</u> E	<u>At all times</u> (Note 1)	TR 16.11-2-2 TR 16.11-2-7
3. Flow Rate Measurement Devices				
3.a Waste Liquid Effluent Line (no alarm/trip function)	1 per station	<u>B, G</u> D	<u>At all times</u> (Note 1)	TR 16.11-2-2 TR 16.11-2-7
3.b Conventional Waste Water Treatment Line (no alarm/trip function)	1 per station	<u>B, G</u> D	<u>At all times</u> (Note 1)	TR 16.11-2-2 TR 16.11-2-7
3.c Low Pressure Service Water Minimum Flow Interlock	1 per station	<u>B, G</u> D	<u>At all times</u> (Note 1)	TR 16.11-2-2 TR 16.11-2-5 TR 16.11-2-7
3.d Monitor Tank Building Waste Liquid Effluent Line (no alarm/trip function)	1 per station	<u>B, G</u> D	<u>At all times</u> (Note 1)	TR 16.11-2-2 TR 16.11-2-7
4. Radioactivity Monitors Providing Alarm				
4.a Service Water Monitor on Containment Spray Heat Exchanger (EMF-45 A & B – Low Range)	1 per heat exchanger	<u>A, B, G</u> F	<u>At all times</u> (Note 1)	TR 16.11-2-1 TR 16.11-2-4 TR 16.11-2-6 TR 16.11-2-7

Note 1: At all times, unless effluent pathway is mechanically isolated such that a release to the environment is not possible.

BASES

The Radioactive Liquid Effluent Monitoring Instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid 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.

Regarding Note 1 of Table 16.11-2-1, isolation of the effluent pathway is to be by mechanical means (e.g., valve closure). Electrical or pneumatic isolation is not required, unless the isolation is designed to receive an automatic signal to open.

REFERENCES

1. Catawba Offsite Dose Calculation Manual.
2. 10 CFR Part 20.
3. 10 CFR Part 50, Appendix A.

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: Conditions B and K are applicable at all times. All other Conditions are applicable as shown in Table 16.11-7-1.

REMEDIAL ACTIONS

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

Radioactive Gaseous Effluent Monitoring Instrumentation
16.11-7

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more Radioactive Gaseous Effluent Monitoring Instrumentation channel(s) Alarm/Trip Setpoint less conservative than required.</p>	<p>A.1 Suspend the release of radioactive gaseous effluents monitored by the affected channel(s).</p>	Immediately
	<p style="text-align: center;"><u>OR</u></p> <p>A.2 Declare the channel(s) non-functional.</p>	Immediately
<p>B. One or more Radioactive Gaseous Effluent Monitoring Instrumentation channel(s) non-functional.</p>	<p>B.1 Enter the applicable Conditions and Required Actions specified in Table 16.11-7-1 for the channel(s).</p>	Immediately
	<p style="text-align: center;"><u>AND</u></p> <p>B.2.1 Restore channel to FUNCTIONAL status.</p>	14 Days (*Note 1)
	<p style="text-align: center;"><u>OR</u></p> <p>B.2.2 Restore channel to FUNCTIONAL status.</p>	30 Days (*Note 1)

*Note 1 – Required Action B.2.1 applies to Instrument 1.a ONLY. (continued)
 Required Action B.2.2 applies to Instruments 1.b, 2, 3.a, 3.c, 3.d, 3.e, 5, 6.a, and 6.b listed in Table 16.11-7-1.

REMEDIAL ACTIONS (continued)

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

(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
E. One or more Noble Gas Activity Monitor channel(s) non-functional.	<p style="text-align: center;">-----NOTE-----</p> <p>IF 0EMF41 is NON-FUNCTIONAL AND either 1EMF36 OR 2EMF36 is NON-FUNCTIONAL, perform SLC 16.7-10, Required Action G.2</p> <p>-----</p> <p>E.1 Obtain grab samples from effluent pathway.</p> <p>AND</p> <p>E.2 Perform an analysis of grab samples for radioactivity.</p>	<p>Once per 12 hours during releases</p> <p>Within 24 hours of obtaining the sample</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>F. Noble Gas Activity Monitor (EMF-39 – Low Range) providing automatic termination of release via the Containment Purge Exhaust System (CPES) non-functional.</p>	<p>F.1 -----NOTE----- In order to utilize Required Action F.1, the following conditions must be satisfied:</p> <ol style="list-style-type: none"> 1. The affected unit is in MODES 5 or 6. 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, the lifting of heavy loads over the reactor vessel and the movement of irradiated fuel assemblies within containment have been suspended. <p>-----</p> <p>Restore the non-functional channel to FUNCTIONAL status.</p>	<p>12 hours</p>
<p>G. Required Action and associated Completion Time of Condition F not met.</p> <p><u>OR</u></p> <p>Required Action F.1 not utilized.</p>	<p>G.1 Suspend PURGING of radioactive effluents via this pathway.</p>	<p>Immediately</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>H. One or more sampler channel(s) non-functional.</p>	<p>H.1 Perform sampling with auxiliary sampling equipment as required by Table 16.11-6-1.</p>	<p>Continuously</p>
<p>I. One Condenser Evacuation System Noble Gas Activity Monitor (EMF-33) channel non-functional.</p>	<p>I.1 -----NOTE----- Applicable to effluent releases via the Condenser Steam Air Ejector (ZJ) System. -----</p> <p>Obtain grab samples from effluent pathway.</p> <p><u>AND</u></p> <p>I.2 -----NOTE----- Applicable to effluent releases via the Condenser Steam Air Ejector (ZJ) System. -----</p> <p>Perform an analysis of grab samples for radioactivity.</p> <p><u>AND</u></p>	<p>Once per 12 hours during releases</p> <p>Within 24 hours of obtaining the sample</p> <p style="text-align: right;">(continued)</p>

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>I. (continued)</p>	<p>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.</p>	<p>Once per 12 hours during releases when secondary specific activity is > 0.01 microCurie/gm DOSE EQUIVALENT I-131 <u>AND</u> Once per 24 hours during releases when secondary specific activity is ≤ 0.01 microCurie/gm DOSE EQUIVALENT I-131</p>
<p>J. Noble Gas Activity Monitor (EMF-39 – Low Range) providing automatic termination of release via the Containment Air Release and Addition System non-functional.</p>	<p>J.1 Verify that EMF-36 is FUNCTIONAL. <u>OR</u> J.2.1 Analyze two independent samples of the containment atmosphere. <u>AND</u></p>	<p>Prior to initiating a release Prior to initiating a release <p style="text-align: right;">(continued)</p></p>

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>J. (continued)</p>	<p>J.2.2 Perform independent verification of the discharge line valving.</p> <p><u>AND</u></p> <p>J.2.3.1 Perform independent verification of manual portion of the computer input for release rate calculations performed by computer.</p> <p><u>OR</u></p> <p>J.2.3.2 Perform independent verification of entire calculations for release rate calculations performed manually.</p>	<p>Prior to initiating a release</p> <p>Prior to initiating a release</p> <p>Prior to initiating a release</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. Required Action and associated Completion Time of Condition B or F 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
<p>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.</p> <p>-----</p> <p>Perform SOURCE CHECK.</p>	31 days
<p>TR 16.11-7-7 -----NOTE----- For Instruments 1a, 3a, 3c, 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:</p> <p>a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or</p> <p>b. Circuit failure/instrument downscale failure (alarm only)</p> <p>-----</p> <p>Perform COT.</p>	18 months
<p>TR 16.11-7-8 -----NOTE----- For Instruments 2 and 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:</p> <p>a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or</p> <p>b. Circuit failure/instrument downscale failure (alarm only)</p> <p>-----</p> <p>Perform COT.</p>	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
<p>TR 16.11-7-9 -----NOTE----- For Instruments 1a, 2, 3a, 3c, 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.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>18 months</p>

Radioactive Gaseous Effluent Monitoring Instrumentation
16.11-7

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	B, K A, C	At all times (Note 3)	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	B, K D	At all times (Note 3)	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	B, K A, I	At all times (Note 4)	TR 16.11-7-3 TR 16.11-7-6 TR 16.11-7-8 TR 16.11-7-9
3. Vent System				
3.a Noble Gas Activity Monitor (EMF-36 – Low Range)	1	A, B, 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 Deleted.				
3.c Particulate Sampler (EMF-35)	1	B, K A, H	At all times (Note 2)	TR 16.11-7-4 TR 16.11-7-6 TR 16.11-7-7 TR 16.11-7-9
3.d Unit Vent Stack Flow Rate Meter (no alarm/trip function)	1	B, K D	At all times (Note 2)	TR 16.11-7-4 TR 16.11-7-9
3.e Unit Vent Radiation Monitor Flow Meter	1	B, K E	At all times (Note 2)	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	5, 6	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	<u>B, K</u> A, J	<u>At all times</u> 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	<u>B, K</u> A, E	<u>At all times</u> (Note 2)	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	<u>B, K</u> D	<u>At all times</u> (Note 2)	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.

Note 2: Applicable at all times, unless the effluent pathway is mechanically isolated; thus, a release to the environment is not possible.

Note 3: Applicable at all times, unless the effluent pathway is mechanically isolated; thus, a release to the environment is not possible. Utilization of this note requires the pathway be isolated by locked close valve.

Note 4: When air ejectors are in operation, apply Required Action I.3 when air ejectors are NOT in operation.

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 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. Conservative Alarm/Trip Setpoints may be used during a release provided they are less than or equal to the setpoints determined by the methodology and parameters of the ODCM. 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} $\mu\text{Ci/cc}$ are measurable.

Regarding Notes 2 and 3 of Table 16.11-7-1, isolation of the effluent pathway is to be by mechanical means (e.g., valve closure). Electrical or pneumatic isolation is not required, unless the isolation is designed to receive an automatic signal to open. For EMF-50 Low Range only, isolation of the effluent pathway is only considered complete if isolated by a locked closed valve.

In MODES 5 and 6, initiation of the Containment Purge Exhaust System (CPES) with EMF-39 non-functional is not permissible. The basis for Required Action F.1 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 Action F.1.

TR 16.11-7-7 requires the performance of a COT on the applicable Radioactive Gaseous Effluent Radiation Monitors. The test ensures that a signal from the control room module can generate the appropriate alarm and actuations. The required actuations/isolations for a High Radiation condition (i.e., radiation level above its Trip 2 setpoint) are listed below for each monitor.

0EMF-50 - Waste Gas Discharge Monitor
1WG160 closes when EMF-50 detects radiation level above its setpoint.

1/2EMF-36 - Unit Vent Noble Gas Monitor
The following actuations occur when EMF-36 detects radiation level above its setpoint:

1. Containment Air Release and Addition System fans discharge to unit vent valve VQ10 closes.
2. Auxiliary Building unfiltered ventilation exhaust fans A and B stop.
3. Fuel Handling Ventilation Exhaust System (FHVES) exhaust trains align to the filter units.
4. (For 1EMF-36 only) 1WG160 closes.

1/2EMF-35 - Unit Vent Particulate Monitor (Sampler)
The following actuations occur when EMF-35 detects radiation level above its setpoint:

1. Containment Air Release and Addition System fans discharge to unit vent valve VQ10 closes.
2. Auxiliary Building unfiltered ventilation exhaust fans A and B stop.

BASES (continued)

3. Fuel Handling Ventilation Exhaust System (FHVES) exhaust trains align to the filter units.
4. ((For 1EMF-35 only) 1WG160 closes.

1/2EMF-39 - Containment Noble Gas Monitor

The following actuations occur when EMF-39 detects radiation level above its setpoint:

1. Signals are provided to both trains of the Solid State Protection System (SSPS) to initiate a CPES isolation. This is verified by observing that Relays K615 in the SSPS A output cabinet and the SSPS B output cabinet are latched.
2. EMF-39 isolates the CPES without going through the SSPS by stopping CPES supply fans A and B, CPES exhaust fans A and B, and by closing the appropriate valves and dampers.
3. Containment Evacuation Alarm, unless the source range trip is blocked.

0EMF-58

This monitor provides no control function.

TR 16.11-7-8 requires the performance of a COT on the Condensate Steam Air Ejector Exhaust Monitor, 1/2EMF-33 and Containment Noble Gas Monitor, 1/2EMF-39. The test ensures that a signal from the control room module can generate the appropriate alarm and actuations. The required actuations/isolations for a High Radiation condition (i.e., radiation level above its Trip 2 setpoint) are listed below.

1/2EMF-33 - Condensate Steam Air Ejector Exhaust Monitor

The following actuations occur when EMF-33 detects radiation level above its setpoint:

1. Closure of BB27 is required in order to isolate the Blowdown Tank from the environment. Because of plant limitations/restrictions:
 - a. Opening the valve (in order to verify it goes closed on a High Radiation signal) is only possible during outages due to the negative effects on the Blowdown System with the unit at power.
 - b. Testing during innages will be by verification of relay contacts opening in the valve circuit.
2. Closure of BB24, BB65, BB69, and BB73 is required to minimize the amount of potentially contaminated material being delivered to the Blowdown Tank.
3. Closure of NM269, NM270, NM271, and NM272 is required to minimize the amount of potentially contaminated material being delivered to the Conventional Sampling System.
4. Closure of NM267 is required to minimize the amount of potentially contaminated material being delivered to the Condensate Storage Tank by isolating flow through EMF-34.
5. Closure of BB48 is required to minimize the amount of potentially contaminated material being delivered from the Blowdown System discharge to the Turbine Building sump.

BASES (continued)

1/2EMF-39 - Containment Noble Gas Monitor

The following actuations occur when EMF-39 detects radiation level above its setpoint:

1. Signals are provided to both trains of the Solid State Protection System (SSPS) to initiate a Containment Air Release and Addition System isolation. This is verified by observing that relays K615 in the SSPS Train A output cabinet and the SSPS Train B output cabinet are latched.
2. Containment Evacuation Alarm, unless the source range trip is blocked.

REFERENCES

1. Catawba Offsite Dose Calculation Manual.
2. 10 CFR Part 20.
3. AR 02400313, 0EMF-50L Non-Functional.