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SELECTED LICENSEE COMMITMENTS**

Page 3 of 6

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| CHAPTER 16.7-10 | NA | ---- 10/11/01 | CADM-03 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V1 | V10 | V1 | 91 |
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| CHAPTER 16.11-7 | NA | ---- 10/11/01 | | | | | | | | | | | | | | | | | |

REMARKS: PLEASE REFER TO ATTACHED MEMO FOR FILING INSTRUCTIONS.

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VICE PRESIDENT
CATAWBA NUCLEAR SITE

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October 17, 2001

RE: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date 10/11/01

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

REMOVE

INSERT

LIST OF EFFECTIVE PAGES

Pages 2 & 7

Pages 2 & 7

TAB 16.7

Chapter 16.7-10, pages 1-8
dated 09/13/01

Chapter 16.7-10, pages 1-8
dated 10/11/01

Chapter 16.7-11, pages 1-2
dated 02/24/01

Chapter 16.7-11, pages 1-2
dated 10/11/01

TAB 16.11

Chapter 16.11-7, pages 1-11
dated 09/13/01

Chapter 16.11-7, pages 1-11
dated 10/11/01

If you have any questions concerning the contents of this package update, contact Toni Pasour at (803) 831-3566.

Gary D. Gilbert
Regulatory Compliance Manager

Attachments

**CATAWBA NUCLEAR STATION
SELECTED LICENSEE COMMITMENTS MANUAL**

List of Effective Pages

Tab 16.6

| | |
|--------------------|----------|
| 16.6-1 Page 1 of 1 | 01/16/99 |
| 16.6-2 Page 1 of 2 | Deleted |
| 16.6-2 Page 2 of 2 | Deleted |
| 16.6-3 Page 1 of 2 | 01/16/99 |
| 16.6-3 Page 2 of 2 | 01/16/99 |
| 16.6-4 Page 1 of 2 | 08/02/01 |
| 16.6-4 Page 2 of 2 | 08/02/01 |
| 16.6-5 Page 1 of 2 | 09/11/00 |
| 16.6-5 Page 2 of 2 | 09/11/00 |

Tab 16.7

| | |
|---------------------|----------|
| 16.7-1 Page 1 of 2 | 05/04/98 |
| 16.7-1 Page 2 of 2 | 05/04/98 |
| 16.7-2 Page 1 of 4 | 01/16/99 |
| 16.7-2 Page 2 of 4 | 01/16/99 |
| 16.7-2 Page 3 of 4 | 01/16/99 |
| 16.7-2 Page 4 of 4 | 01/16/99 |
| 16.7-3 Page 1 of 5 | 03/13/01 |
| 16.7-3 Page 2 of 5 | 03/13/01 |
| 16.7-3 Page 3 of 5 | 03/13/01 |
| 16.7-3 Page 4 of 5 | 03/13/01 |
| 16.7-3 Page 5 of 5 | 03/13/01 |
| 16.7-4 Page 1 of 2 | 09/20/99 |
| 16.7-4 Page 2 of 2 | 09/20/99 |
| 16.7-5 Page 1 of 2 | 06/10/99 |
| 16.7-5 Page 2 of 2 | 05/04/98 |
| 16.7-6 Page 1 of 2 | 01/16/99 |
| 16.7-6 Page 2 of 2 | 01/16/99 |
| 16.7-7 Page 1 of 2 | 05/05/99 |
| 16.7-7 Page 2 of 2 | 01/16/99 |
| 16.7-8 Page 1 of 4 | 05/15/01 |
| 16.7-8 Page 2 of 4 | 05/15/01 |
| 16.7-8 Page 3 of 4 | 05/15/01 |
| 16.7-8 Page 4 of 4 | 05/15/01 |
| 16.7-9 Page 1 of 4 | 05/15/01 |
| 16.7-9 Page 2 of 4 | 05/15/01 |
| 16.7-9 Page 3 of 4 | 05/15/01 |
| 16.7-9 Page 4 of 4 | 05/15/01 |
| 16.7-10 Page 1 of 8 | 10/11/01 |
| 16.7-10 Page 2 of 8 | 10/11/01 |
| 16.7-10 Page 3 of 8 | 10/11/01 |
| 16.7-10 Page 4 of 8 | 10/11/01 |
| 16.7-10 Page 5 of 8 | 10/11/01 |
| 16.7-10 Page 6 of 8 | 10/11/01 |
| 16.7-10 Page 7 of 8 | 10/11/01 |
| 16.7-10 Page 8 of 8 | 10/11/01 |
| 16.7-11 Page 1 of 2 | 10/11/01 |
| 16.7-11 Page 2 of 2 | 10/11/01 |
| 16.7-12 Page 1 of 2 | 01/16/99 |
| 16.7-12 Page 2 of 2 | 01/16/99 |

**CATAWBA NUCLEAR STATION
SELECTED LICENSEE COMMITMENTS MANUAL**

List of Effective Pages

Tab 16.11 (continued)

| | |
|------------------------|----------|
| 16.11-7 Page 1 of 11 | 10/11/01 |
| 16.11-7 Page 2 of 11 | 10/11/01 |
| 16.11-7 Page 3 of 11 | 10/11/01 |
| 16.11-7 Page 4 of 11 | 10/11/01 |
| 16.11-7 Page 5 of 11 | 10/11/01 |
| 16.11-7 Page 6 of 11 | 10/11/01 |
| 16.11-7 Page 7 of 11 | 10/11/01 |
| 16.11-7 Page 8 of 11 | 10/11/01 |
| 16.11-7 Page 9 of 11 | 10/11/01 |
| 16.11-7 Page 10 of 11 | 10/11/01 |
| 16.11-7 Page 11 of 11 | 10/11/01 |
| 16.11-8 Page 1 of 2 | 01/16/99 |
| 16.11-8 Page 2 of 2 | 01/16/99 |
| 16.11-9 Page 1 of 2 | 01/16/99 |
| 16.11-9 Page 2 of 2 | 01/16/99 |
| 16.11-10 Page 1 of 2 | 01/16/99 |
| 16.11-10 Page 2 of 2 | 01/16/99 |
| 16.11-11 Page 1 of 2 | 01/16/99 |
| 16.11-11 Page 2 of 2 | 01/16/99 |
| 16.11-12 Page 1 of 2 | 01/16/99 |
| 16.11-12 Page 2 of 2 | 01/16/99 |
| 16.11-13 Page 1 of 14 | 01/16/99 |
| 16.11-13 Page 2 of 14 | 01/16/99 |
| 16.11-13 Page 3 of 14 | 01/16/99 |
| 16.11-13 Page 4 of 14 | 01/16/99 |
| 16.11-13 Page 5 of 14 | 01/16/99 |
| 16.11-13 Page 6 of 14 | 01/16/99 |
| 16.11-13 Page 7 of 14 | 01/16/99 |
| 16.11-13 Page 8 of 14 | 01/16/99 |
| 16.11-13 Page 9 of 14 | 01/16/99 |
| 16.11-13 Page 10 of 14 | 01/16/99 |
| 16.11-13 Page 11 of 14 | 01/16/99 |
| 16.11-13 Page 12 of 14 | 01/16/99 |
| 16.11-13 Page 13 of 14 | 01/16/99 |
| 16.11-13 Page 14 of 14 | 01/16/99 |
| 16.11-14 Page 1 of 2 | 01/16/99 |
| 16.11-14 Page 2 of 2 | 01/16/99 |
| 16.11-15 Page 1 of 1 | 01/16/99 |
| 16.11-16 Page 1 of 4 | 01/16/99 |
| 16.11-16 Page 2 of 4 | 03/11/99 |
| 16.11-16 Page 3 of 4 | 01/16/99 |
| 16.11-16 Page 4 of 4 | 01/16/99 |
| 16.11-17 Page 1 of 2 | 01/16/99 |
| 16.11-17 Page 2 of 2 | 01/16/99 |
| 16.11-18 Page 1 of 2 | 01/16/99 |

16.7 **INSTRUMENTATION**

16.7-10 **RADIATION MONITORING FOR PLANT OPERATIONS**

COMMITMENT:

The radiation monitoring instrumentation channels for plant operations shown in Table 16.7-10A shall be OPERABLE with their Alarm/Trip Setpoints within the specified limits.

APPLICABILITY:

As shown in Table 16.7-10A

REMEDIAL ACTION:

- a. With a radiation monitoring channel Alarm/Trip Setpoint for plant operations exceeding the value shown in table 16.7-10A, adjust the Setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels for plant operations inoperable, take the REMEDIAL ACTION shown in Table 16.7-10A.

TESTING REQUIREMENTS:

Each radiation monitoring instrumentation channel for plant operations shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 16.7-10B.

REFERENCES:

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

BASES:

The OPERABILITY 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

BASES (con't)

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 inoperable 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 inoperable 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 OPERABLE, or the compensatory measures taken as specified on Table 16.7-10A, Remedial Action H.

TABLE 16.7-10A
RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

| <u>FUNCTIONAL UNIT</u> | <u>CHANNELS TO TRIP/ALARM</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ALARM/TRIP SETPOINT</u> | <u>REMEDIAL ACTION</u> |
|--|--------------------------------------|---|--------------------------------|---|-------------------------------|
| 1. Containment Atmosphere – High Gaseous Radioactivity (Low Range – EMF-39) | 1 | 1 | At all times | *** | C |
| 2. Fuel Storage Pool Areas | | | | | |
| a. High Gaseous Radioactivity (Low Range – EMF-42) | 1 | 1 | ** | $\leq 1.7 \times 10^{-4} \mu\text{Ci/ml}$ | F |
| b. Criticality-Radiation Level (Fuel Bridge – Low Range – 1EMF-15, 2EMF-4) | 1 | 1 | * | $\leq 15 \text{ mR/h}$ | E |
| 3. Control Room Air Intake-Radiation Level – High Gaseous Radioactivity (Low Range – EMF-43 A & B) | 1/intake | 2 (1/intake) | At all times | $\leq 1.7 \times 10^{-4} \mu\text{Ci/ml}$ | D |
| 4. Auxiliary Building Ventilation High Gaseous Radioactivity (Low Range – EMF-41) | 1 | 1 | 1, 2, 3, 4 | $\leq 1.7 \times 10^{-4} \mu\text{Ci/ml}$ | G |

TABLE 16.7-10A

| <u>FUNCTIONAL UNIT</u> | <u>CHANNELS TO TRIP/ALARM</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ALARM/TRIP SETPOINT</u> | <u>REMEDIAL ACTION</u> |
|--|--------------------------------------|---|--------------------------------|---|-------------------------------|
| 5. Component Cooling Water System (EMF-46 A & B) | 1**** | 1**** | At all times | $\leq 1 \times 10^{-3} \mu\text{Ci/ml}$ | H |
| 6. N-16 Leakage Monitor (EMF-71, 72, 73, & 74) | 1 | 4 | 1 (40-100% Reactor Power) | 5 gpd# | I |

TABLE 16.7-10A

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 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 ($\mu\text{Ci/ml}$) 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.
- **** For EMF-46A and -46B: The EMF monitor associated with the operating Component Cooling Water System Train shall be OPERABLE. 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.
- # The 5 gallon per day (gpd) setpoint is the primary-to-secondary leakage flow that, if exceeded, requires increased primary-to-secondary leakage monitoring.

REMEDIAL ACTION STATEMENTS

ACTION C - With less than the Minimum Channels OPERABLE requirement, operation may continue with EMF-39 inoperable for up to 12 hours with the affected unit below MODE 4, provided the following conditions are satisfied:

- (a) EMF-36 for the affected unit is OPERABLE and in service,
- (b) The Reactor Coolant System for the affected unit has been vented, and
- (c) If the reactor vessel head is not in place (bolts not required), one of the following two conditions shall be met:
 - (c1) All irradiated fuel assemblies have been removed from the containment structure, or
 - (c2) The lifting of heavy loads over the reactor vessel and the movement of irradiated fuel assemblies within containment have been suspended.

Otherwise, maintain the Containment Purge and Exhaust (VP) valves closed.

TABLE 16.7-10A

REMEDIAL ACTION STATEMENTS (con't)

- ACTION D - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of one train of the Control Room Area Ventilation System (CRAVS) with flow through the HEPA filters and activated carbon adsorbers.
- ACTION E - 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 F - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided one train of the Fuel Handling Ventilation Exhaust System (FHVES) is OPERABLE and in operation discharging through the HEPA filters and activated carbon adsorbers. Otherwise, suspend all operations involving fuel movement in the fuel building.
- ACTION G - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided one train of the Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) is OPERABLE and in operation discharging through the HEPA filter and activated carbon adsorbers.
- ACTION H - 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 principal gamma emitters (listed in Table 16.11-1, Table Notation (3)) at a lower limit of detection of no more than 5×10^{-7} $\mu\text{Ci/ml}$.
- ACTION I - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, ensure that:
- (a) the Condenser Evacuation System Noble Gas Activity Monitor (Low Range – EMF-33) is OPERABLE and in operation, or
 - (b) REMEDIAL ACTIONS are in place per SLC 16.11-7, Table 16.11-5, Item 2, ACTION H.

TABLE 16.7-10B
RADIATION MONITORING INSTRUMENTATION FOR PLANT
OPERATIONS TESTING REQUIREMENTS

| <u>FUNCTIONAL UNIT</u> | <u>CHANNEL CHECK</u> | <u>CHANNEL CALIBRATION</u> | <u>CHANNEL OPERATIONAL TEST</u> | <u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u> |
|--|----------------------|----------------------------|---------------------------------|---|
| 1. Containment Atmosphere – High Gaseous Radioactivity (Low Range – EMF-39) | 12 hours | 18 months | 92 days | 1, 2, 3, 4, 5, 6; During movement of irradiated fuel assemblies in containment; During CORE ALTERATIONS |
| 2. Fuel Storage Pool Areas | | | | |
| a. High Gaseous Radioactivity (Low Range – EMF-42) | 12 hours | 18 months | 92 days | ** |
| b. Criticality-Radiation Level (Fuel Bridge – Low Range – 1EMF-15, 2EMF-4) | 12 hours | 18 months | 92 days | * |
| 3. Control Room Air Intake Radiation Level – High Gaseous Radioactivity – (Low Range – EMF-43 A & B) | 12 hours | 18 months | 92 days | At all times |
| 4. Auxiliary Building Ventilation High Gaseous Radioactivity (Low Range – EMF-41) | 12 hours | 18 months | 92 days | 1, 2, 3, 4 |
| 5. Component Cooling Water System (EMF-46 A & B) | 12 hours | 18 months | 92 days | At all times |

TABLE 16.7-10B

| <u>FUNCTIONAL UNIT</u> | <u>CHANNEL CHECK</u> | <u>CHANNEL CALIBRATION</u> | <u>CHANNEL OPERATIONAL TEST</u> | <u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u> |
|---|-----------------------------|-----------------------------------|--|--|
| 6. N-16 Leakage Monitor (EMF-71, 72, 73, & 74) | 12 hours | 18 months | 92 days | 1 (40-100% Reactor Power) |

TABLE 16.7-10B

TABLE NOTATIONS

- * With fuel in the fuel storage pool area.
- ** With Irradiated fuel in the fuel storage pool areas.

16.7 INSTRUMENTATION

16.7-11 POSITION INDICATION SYSTEM – SHUTDOWN

COMMITMENT:

One digital rod position indicator (excluding demand position indication) shall be OPERABLE and capable of determining the control rod position within ± 12 steps for each shutdown or control rod not fully inserted.

APPLICABILITY:

MODES 3*, 4*, and 5*.

REMEDIAL ACTION:

With less than the above required position indicator(s) OPERABLE, immediately open the Reactor Trip system breakers.**

TESTING REQUIREMENTS:

The position indication system shall be demonstrated OPERABLE after each removal of the reactor head by:

1. Performing a power supply calibration of the digital rod position indicators, and
2. Performing a functional test of the digital rod position indicators.

REFERENCES:

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

BASES:

OPERABILITY of the Digital Rod Position Indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits of the Technical Specifications.

* With the Reactor Trip System breakers in the closed position.

** Once the reactor trip breakers have been opened, alternate methods may be used to ensure there is no possibility of rod motion. These methods are pulling fuses or sliding links in the rod control cabinets, tagging open the MG set feeder breakers from LXC and LXD, or tagging open the MG set output breakers. After one of these alternate methods is used, the reactor trip breakers may be reclosed if desired.

BASES: (continued)

As long as all shutdown and control rods are fully inserted, digital rod position indication is not required to be OPERABLE.

Gray code (A & B data from the data cabinets in containment) is sent to the DRPI equipment in the control room. The gray code is processed by the DRPI equipment and the rod position is displayed on the control board. The gray code is also sent from the DRPI equipment to the Operator Aid Computer (OAC), where it is processed by the OAC and the rod position is displayed on the OAC. The processing of the gray code by the DRPI equipment and the OAC are completely independent. Therefore, both the DRPI display and the OAC DRPI indication are considered valid indications of control rod position.

16.11 RADIOLOGICAL EFFLUENTS CONTROLS

16.11-7 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

COMMITMENT

The radioactive gaseous effluent monitoring instrumentation channels shown in Table 16.11-5 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of SLC 16.11-6 are not exceeded. The Alarm/Trip Setpoints of these channels meeting SLC 16.11-6 shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY:

As shown in Table 16.11-5.

REMEDIAL ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable.

- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 16.11-5. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION, or explain in the next Radioactive Effluent Release Report pursuant to Technical Specification 5.6.3 why this inoperability was not corrected within the time specified.

TESTING REQUIREMENTS:

Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 16.11-6.

REFERENCES:

1. Catawba Offsite Dose Calculation Manual

2. 10 CFR Part 20

BASES:

The radioactive gaseous effluent 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 OPERABILITY 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.

TABLE 16.11-5 (Page 1 of 5)

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) | 1 per station | * | C |
| b. Effluent System Flow Rate Measuring Device | 1 per station | * | D |
| 2. Condenser Evacuation System Noble Gas Activity Monitor (Low Range – EMF-33) | 1 | 1,2,3,4,# | H |
| 3. Vent System | | | |
| a. Noble Gas Activity Monitor (Low Range – EMF-36) | 1 | ** | E |
| b. Iodine Sampler (EMF-37) | 1 | ** | G |
| c. Particulate Sampler (EMF-35) | 1 | ** | G |
| d. Unit Vent Stack Flow Rate Meter (no alarm/trip function) | 1 | ** | D |
| e. Unit Vent Radiation Monitor Flow Meter | 1 | ** | G |

TABLE 16.11-5 (Page 2 of 5)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

| <u>Instrument</u> | <u>Minimum Channels Operable</u> | <u>Applicability</u> | <u>Action</u> |
|--|---|---------------------------------------|----------------------|
| 4. Containment Purge System | | | |
| Noble Gas Activity Monitor – Providing Alarm and Automatic Termination of Release (Low Range – EMF-39) | 1 | At all times outside of modes 1,2,3,4 | F |
| 5. Containment Air Release and Addition System | | | |
| Noble Gas Activity Monitor – Providing Alarm (Low Range – EMF-39) | 1 | 1, 2, 3, 4, 5, 6 | I |
| 6. Monitor Tank Building HVAC | | | |
| a. Noble Gas Activity Monitor – Providing Alarm (EMF-58) | 1 per station | ** | E |
| b. Monitor Tank Building Effluent Flow Rate Measuring Device | 1 per station | ** | D |

TABLE 16.11-5 (Page 3 of 5)

TABLE NOTATIONS

- * At all times except when the isolation valve is closed and locked.
- ** At all times.
- # Apply Action Hb in Modes 5 and 6

ACTION STATEMENTS

ACTION C - With the number of channels OPERABLE less than required 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 either:

- a. Vent system noble gas activity monitor providing alarm and automatic termination of release (Low Range – EMF-36) has at least one channel OPERABLE; or,
- b. At least two independent samples of the tank's contents are analyzed, and 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 D - 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 E - 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

TABLE 16.11-5 (Page 4 of 5)

TABLE NOTATIONS

are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.

ACTION F - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation may continue with EMF-39 inoperable for up to 12 hours with the affected unit below MODE 4, provided the following conditions are satisfied:

- (a) EMF-36 for the affected unit is OPERABLE and in service,
- (b) The Reactor Coolant System for the affected unit has been vented, and
- (c) If the reactor vessel head is not in place (bolts not required), one of the following two conditions shall be met:
 - (c1) All irradiated fuel assemblies have been removed from the containment structure, or
 - (c2) The lifting of heavy loads over the reactor vessel and the movement of irradiated fuel assemblies within containment have been suspended.

Otherwise, immediately suspend PURGING of radioactive effluents via this pathway.

ACTION G - 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 16.11-4.

ACTION H - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

- a. Effluent release via the CSAE System (ZJ) 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, and
- b. Gaseous effluent releases via the BB system atmospheric vent valve (BB27) in the off normal mode may continue for up to 30 days provided grab samples of steam generator water are

TABLE 16.11-5 (Page 5 of 5)

TABLE NOTATIONS

analyzed for radioactivity at a lower limit of detection of no more than 1E-7 microCurie/ml:

1. 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
2. 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 I - With the number of channels OPERABLE less than the Minimum Channels OPERABLE requirement, containment releases to the environment through this pathway may continue 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 at least one channel OPERABLE; or,
- b. At least two independent samples of the containment atmosphere are analyzed, and at least two technically qualified members of the facility 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.

Restore the inoperable instrumentation to OPERABLE status within 30 days, or explain in the next Radioactive Effluent Release Report, pursuant to Technical Specification 5.6.3, why this inoperability was not corrected within the time specified.

If the instrumentation remains, or is anticipated to remain, inoperable for 90 days or longer, re-evaluate the configuration of the affected unit in accordance with the applicable portions of 10CFR50.59 and 10CFR50.65(a)(4), prior to expiration of the 90 days.

TABLE 16.11-6 (Page 1 of 4)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| <u>Instrument</u> | <u>Channel Check</u> | <u>Source Check</u> | <u>Channel Calibration</u> | <u>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) | P | P(4) | R(3) | Q(1) | * |
| b. Effluent System Flow Rate Measuring Device | P | N.A. | R | N.A. | * |
| 2. Condenser Evacuation System | | | | | |
| Noble Gas Activity Monitor (Low Range – EMF-33) (BB27 is only isolation function required) | D | M(4) | R(3) | Q(1) | 1,2,3,4 |
| 3. Vent System | | | | | |
| a. Noble Gas Activity Monitor (Low Range – EMF-36) | D | M(4) | R(3) | Q(2) | ** |
| b. Iodine Sampler (EMF-37) | W | N.A. | N.A. | N.A. | ** |
| c. Particulate Sampler (EMF-35) | W | N.A. | N.A. | N.A. | ** |

TABLE 16.11-6 (Page 2 of 4)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| <u>Instrument</u> | <u>Channel Check</u> | <u>Source Check</u> | <u>Channel Calibration</u> | <u>Channel Operational Test</u> | <u>Modes For Which Surveillance Is Required</u> |
|--|-----------------------------|----------------------------|-----------------------------------|--|--|
| d. Unit Vent Stack Flow Rate Meter (no alarm/trip function) | D | N.A. | R | N.A. | ** |
| e. Unit Vent Radiation Monitor Flow Meter | D | N.A. | R | N.A. | ** |
| 4. Containment Purge System | | | | | |
| Noble Gas activity Monitor – Providing Alarm and Automatic Termination of Release (Low Range – EMF-39) | S | P(4) | R(3) | R(1) | During movement of irradiated fuel assemblies in containment; During CORE ALTERATIONS |
| 5. Containment Air Release and Addition System | | | | | |
| Noble Gas Activity Monitor – Providing Alarm (Low Range – EMF-39) | S | P(4) | R(3) | Q(1) | 1, 2, 3, 4, 5, 6 |

TABLE 16.11-6 (Page 3 of 4)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| <u>Instrument</u> | <u>Channel Check</u> | <u>Source Check</u> | <u>Channel Calibration</u> | <u>Channel Operational Test</u> | <u>Modes For Which Surveillance Is Required</u> |
|--|-----------------------------|----------------------------|-----------------------------------|--|--|
| 6. Monitor Tank Building HVAC | | | | | |
| a. Noble Gas Activity Monitor – Providing Alarm (EMF-58) | D | M | R(3) | Q(2) | ** |
| b. Discharge Flow Instrumentation | D | N.A. | R | N.A. | ** |

TABLE 16.11-6 (Page 4 of 4)

TABLE NOTATIONS

- * At all times except when the isolation valve is closed and locked.
- ** At all times.

1. For noble gas activity monitors providing automatic termination of release, the CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occur if any of the following conditions exists:
 - a. Instrument indicates measured levels above the Alarm/Trip Setpoint; or,
 - b. Circuit failure/Instrument downscale failure (Alarm only)
2. The 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/Instrument 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. 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.

[#] For EMF-58, the alarm annunciation is in the Monitor Tank Building Control Room and on the MTB Control Panel Remote Annunciator Panel.