TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

| FUNCTIONAL UNIT | TOTAL NO. OF CHANNELS | CHANNELS TO TRIP | MINIMUM CHANNELS OPERABLE | APPLICABLE MODES | ACTION |
|---|---|---|---|---|---|
| 3. CONTAINMENT ISOLATION | | | | | |
| a. Phase "A" Isolation | | | | | |
| 1) Manual | 2 | 1 | 2 | 1,2,3,4 | 18 |
| 2) From Safety Injection Automatic Actuation Logic | 2 | 1 | 2 | 1,2,3,4 | 13 |
| b. Phase "B" Isolation | | | | | |
| 1) Manual | 2 | 2 | 2 | 1,2,3,4 | 18 |
| 2) Automatic Actuation Logic | 2 | 1 | 2 | 1,2,3,4 | 13 |
| 3) Containment Pressure-High-High | 4 | 2 | 3 | 1,2,3 | 16 |
| c. Purge and Exhaust Isolation | | | | | |
| 1) Manual | 2 | 1 | 2 | 1,2,3,4 | 17 |
| 2) Containment Radioactivity-High Train A | 3 | 1 | 2 | 1,2,3,4 | 17 |
| 3) Containment Radioactivity-High Train B | 3 | 1 | 2 | 1,2,3,4 | 17 |

## 3/4.3.3 MONITORING INSTRUMENTATION

### RADIATION MONITORING INSTRUMENTATION

### LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their High alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel High alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

### SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

## TABLE 3.3-6

## RADIATION MONITORING INSTRUMENTATION

| OPERATION MODE/INSTRUMENT | MINIMUM CHANNELS OPERABLE | HIGH ALARM/TRIP SETPOINT | MEASUREMENT RANGE | ACTION |
|---|---|---|---|---|
| 1. MODES 1,2,3, & 4* | | | | |
| a. AREA MONITOR | | | | |
| i. Upper Containment | 1 | $\leq$ 5 x channel reading | $10^{-1}$ to $10^{4}$ mR/hr | 19 |
| b. PROCESS MONITORS | | | | |
| i. Particulate | 1 | $\leq$10 x channel reading | $1.5x10^{-4}$ to 1.5 uCi | 20 |
| ii. Noble Gas | 1 | $\leq$10 x channel reading | $10^{-7}$ to $10^{-2}$ uCi/cc | 20 |
| 2. MODE 6 | | | | |
| a. TRAIN A | any 2/3 Channels | | | 22 |
| i. Containment Area Radiation Channel-VRS-1101 | | $\leq$5 x channel reading | $10^{-1}$ to $10^{4}$ mR/hr | |
| ii. Particulate Channel-ERS-1301 | | Not to exceed App.B T.S. 2.1.3 | $1.5x10^{-4}$ to 1.5 uCi | |
| iii. Noble Gas Channel-ERS-1305 | | Not to exceed App.B T.S. 2.1.3 | $10^{-7}$ to $10^{-2}$ uCi/cc | |
| b. TRAIN B | any 2/3 Channels | | | 22 |
| i. Containment Area Radiation Channel-VRS-1201 | | Same as 2.a | Same as 2.a | |
| ii. Particulate Channel-ERS-1401 | | Same as 2.a | Same as 2.a | |
| iii. Noble Gas Channel ERS-1405 | | Same as 2.a | Same as 2.a | |
| 3. ** | | | | |
| a. Spent Fuel Storage | 1 | $\leq$15 mR/hr | $10^{-1}$ to $10^{4}$ mR/hr | |

* Comply with Mode 6 requirements if Containment Purge System is to be placed in service.
** With fuel in storage pool or building.

TABLE 3.3-6 (Continued)
TABLE NOTATION

ACTION 19 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| OPERATING MODE/INSTRUMENT | CHANNEL CHECK | CHANNEL CALIBRATION | CHANNEL FUNCTIONAL TEST | MODES FOR WHICH SURVEILLANCE IS REQUIRED |
|---|---|---|---|---|
| 1. MODES 1, 2, 3, & 4 | | | | |
| a. AREA MONITOR | | | | |
| i. Upper Containment | S | R | M | 1, 2, 3 & 4 |
| b. PROCESS MONITORS | | | | |
| i. Particulate | S | R | M | 1, 2, 3 & 4 |
| ii. Noble Gas | S | R | M | 1, 2, 3 & 4 |
| 2. MODE 6 | | | | |
| a. TRAIN A | | | | |
| i. Containment Area Radiation Channel | S | R | M | 6 |
| ii. Particulate Channel | S | R | M | 6 |
| iii. Noble Gas Channel | S | R | M | 6 |
| b. TRAIN B | | | | |
| i. Containment Area Radiation Channel | S | R | M | 6 |
| ii. Particulate Channel | S | R | M | 6 |
| iii. Noble Gas Channel | S | R | M | 6 |
| 3. * | | | | |
| a. SPENT FUEL STORAGE | S | R | M | * |

* With fuel in the storage pool or building.

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. One of the containment atmosphere particulate radioactivity monitoring channels (ERS-1301 or ERS-1401),

b. The containment sump level and flow monitoring system, and

c. Either the containment humidity monitor or one of the containment atmosphere gaseous radioactivity monitoring channels (ERS-1305 or ERS-1405).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactivity monitoring channels are inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Purge and Exhaust isolation system shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTION:

With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS by verifying that Containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation signal from each of the Containment radiation instrumentation monitors.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

| FUNCTIONAL UNIT | TOTAL NO. OF CHANNELS | CHANNELS TO TRIP | MINIMUM CHANNELS OPERABLE | APPLICABLE MODES | ACTION |
|---|---|---|---|---|---|
| 3. CONTAINMENT ISOLATION | | | | | |
| a. Phase "A" Isolation | | | | | |
| 1) Manual | 2 | 1 | 2 | 1,2,3,4 | 18 |
| 2) From Safety Injection Automatic Actuation Logic | 2 | 1 | 2 | 1,2,3,4 | 13 |
| b. Phase "B" Isolation | | | | | |
| 1) Manual | 2 | 2 | 2 | 1,2,3,4 | 18 |
| 2) Automatic Actuation Logic | 2 | 1 | 2 | 1,2,3,4 | 13 |
| 3) Containment Pressure-High-High | 4 | 2 | 3 | 1,2,3 | 16 |
| c. Purge and Exhaust Isolation | | | | | |
| 1) Manual | 2 | 1 | 2 | 1,2,3,4 | 17 |
| 2) Containment Radioactivity-High Train A | 3 | 1 | 2 | 1,2,3,4 | 17 |
| 3) Containment Radioactivity-High Train B | 3 | 1 | 2 | 1,2,3,4 | 17 |

## 3/4.3.3 MONITORING INSTRUMENTATION

### RADIATION MONITORING INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their High alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel High alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

| OPERATION MODE/INSTRUMENT | MINIMUM CHANNELS OPERABLE | HIGH ALARM/TRIP SETPOINT | MEASUREMENT RANGE | ACTION |
|---|---|---|---|---|
| 1. MODES 1,2,3, & 4* | | | | |
| a. AREA MONITOR | | | | |
| i. Upper Containment | 1 | $\leq$ 5 x channel reading | $10^{-1}$ to $10^{4}$ mR/hr | 19 |
| b. PROCESS MONITORS | | | | |
| i. Particulate | 1 | $\leq$10 x channel reading | $1.5 \times 10^{-4}$ to 1.5 uCi | 20 |
| ii. Noble Gas | 1 | $\leq$10 x channel reading | $10^{-7}$ to $10^{-2}$ uCi/cc | 20 |
| 2. MODE 6 | | | | |
| a. TRAIN A | any 2/3 Channels | | | 22 |
| i. Containment Area Radiation Channel-VRS-1101 | | $\leq$5 x channel reading | $10^{-1}$ to $10^{4}$ mR/hr | |
| ii. Particulate Channel-ERS-1301 | | Not to exceed App.B T.S. 2.1.3 | $1.5 \times 10^{-4}$ to 1.5 uCi | |
| iii. Noble Gas Channel-ERS-1305 | | Not to exceed App.B T.S. 2.1.3 | $10^{-7}$ to $10^{-2}$ uCi/cc | |
| b. TRAIN B | any 2/3 Channels | | | 22 |
| i. Containment Area Radiation Channel-VRS-1201 | | Same as 2.a | Same as 2.a | |
| ii. Particulate Channel-ERS-1401 | | Same as 2.a | Same as 2.a | |
| iii. Noble Gas Channel ERS-1405 | | Same as 2.a | Same as 2.a | |
| 3. ** | | | | |
| a. Spent Fuel Storage | 1 | $\leq$15 mR/hr | $10^{-1}$ to $10^{4}$ mR/hr | |

* Comply with Mode 6 requirements if Containment Purge System is to be placed in service.
** With fuel in storage pool or building.

TABLE 3.3-6 (Continued)
TABLE NOTATION

ACTION 19 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| OPERATING MODE/INSTRUMENT | CHANNEL CHECK | CHANNEL CALIBRATION | CHANNEL FUNCTIONAL TEST | MODES FOR WHICH SURVEILLANCE IS REQUIRED |
|---|---|---|---|---|
| 1. MODES 1, 2, 3, & 4 | | | | |
| a. AREA MONITOR | | | | |
| i. Upper Containment | S | R | M | 1, 2, 3 & 4 |
| b. PROCESS MONITORS | | | | |
| i. Particulate | S | R | M | 1, 2, 3 & 4 |
| ii. Noble Gas | S | R | M | 1, 2, 3 & 4 |
| 2. MODE 6 | | | | |
| a. TRAIN A | | | | |
| i. Containment Area Radiation Channel | S | R | M | 6 |
| ii. Particulate Channel | S | R | M | 6 |
| iii. Noble Gas Channel | S | R | M | 6 |
| b. TRAIN B | | | | |
| i. Containment Area Radiation Channel | S | R | M | 6 |
| ii. Particulate Channel | S | R | M | 6 |
| iii. Noble Gas Channel | S | R | M | 6 |
| 3. * | | | | |
| a. SPENT FUEL STORAGE | S | R | M | * |

* With fuel in the storage pool or building.

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. One of the containment atmosphere particulate radioactivity monitoring channels (ERS-1301 or ERS-1401),

b. The containment sump level and flow monitoring system, and

c. Either the containment humidity monitor or one of the containment atmosphere gaseous radioactivity monitoring channels (ERS-1305 or ERS-1405).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactivity monitoring channels are inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Purge and Exhaust isolation system shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTION:

With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS by verifying that Containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation signal from each of the Containment radiation instrumentation monitors.