**ATTACHMENT 1**

Proposed Changes to DPR-19

Technical Specifications

| 3.2 LIMITING CONDITION FOR OPERATION (CONT'D) | 4.2 SURVEILLANCE REQUIREMENTS (CONT'D) |
|---|---|
| inoperability was not corrected in a timely manner. This is in lieu of an LER. | |
| 4. In the event a limiting condition for operation and associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specifications, provide a 30-day written report to the NRC pursuant to Specification 6.6.B.2., and no changes are required in the operational condition of the plant, and this does not prevent the plant from entry into an operational mode. | |
| G. Radioactive Gaseous Effluent Instrumentation | G. Radioactive Gaseous Effluent Instrumentation |
| 1. The effluent monitoring instrumentation shown in Table 3.2.5 shall be operable with alarm/trip setpoints set to ensure that the limits of specification 3.8.A are not exceeded. The alarm/trip setpoints shall be determined in accordance with the ODCM. | Each radioactive gaseous radiation monitoring instrument in Table 4.2.3 shall be demonstrated operable by performance of the given source check, instrument check, calibration, and functional test operations at the frequency shown in Table 4.2.3. |
| 2. With a radioactive gaseous effluent monitoring instrument alarm/trip setpoint less conservative | |

TABLE 3.2.5

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

| Minimum No. of Operable Channels (1) | Total No. of Channels | Parameter | Action (2) |
|---|---|---|---|
| 1 | 2 | Off-Gas Radiation Activity Monitor | D |
| 1 | 3 | Main Chimney Noble Gas SPING/GE Low Range Activity Monitor | A |
| 1 | 1 | Main Chimney SPING Noble Gas Monitors Mid, Hi Range | A |
| 1 | 1 | Main Chimney Iodine Sampler | C |
| 1 | 1 | Main Chimney Particulate Sampler | C |
| 1 | 1 | Main Chimney Flow Rate Monitor | B |
| 1 | 1 | Main Chimney Sampler Flow Rate Monitor | B |
| 1 | 2 | Reactor Building Vent Exhaust Duct Radiation Monitor | E |
| 1 | 1 | Reactor Building Vent SPING Noble Gas Monitor Low, Mid, High Range | F |
| 1 | 1 | Reactor Building Vent Flow Rate Monitor | B |
| 1 | 1 | Reactor Building Vent Sampler Flow Rate Monitor | B |
| 1 | 1 | Reactor Building Vent Iodine Sampler | C |
| 1 | 1 | Reactor Building Vent Particulate Sampler | C |

Notes:
(See Next Page)

TABLE 3.2.5 (Notes)

1. For Off-Gas Radiation Monitors, applicable during SJAE operation. For other instrumentation, applicable at all times.

2. Action A: With the number of operable channels less than the minimum requirement, effluent releases via this pathway may continue provided grab samples are taken at least once per 8 hour shift and these samples are analyzed within 24 hours.

   Action B: With the number of operable channels less than the minimum required, effluent releases via this pathway may continue provided that the flow rate is estimated at least once per 4 hours.

   Action C: With less than the minimum channels operable, effluent releases via this pathway may continue provided samples are continuously collected with auxiliary sampling equipment, as required in Table 4.8.-1.

   Action D: With less than the minimum channels operable, gases from the main condenser off gas system may be released to the environment for up to 72 hours provided the off gas system is not bypassed and at least one chimney monitor is operable; otherwise, be in hot standby in 12 hours.

   Action E: With less than the minimum channels operable, immediately suspend release of radioactive effluents via this pathway.

   Action F: With less than the minimum channels operable, effluent releases via this pathway may continue provided that the minimum number of operable channels or the Reactor Building Vent Exhaust Duct Radiation Monitor are operable.

Table 3.2.6
Post Accident Monitoring Instrumentation Requirements

| Minimum Number of Operable Channels (1) | Parameter | Instrument Readout Location Unit 2 | Number Provided | Instrument Range |
|---|---|---|---|---|
| 1 | Reactor Pressure | 902-5 | 1 | 0-1500 psig |
| | | | 2 | 0-1200 psig |
| 1 | Reactor Water Level | 902-3 | 2 | -340 to +60 inches |
| 1 | Torus Water Temperature | 902-37 | 2 | 0-200°F |
| 2 (3) | Torus Water Level Indicator | 902-3 | 1 | -25 to +25 inches |
| | | 902-3 | 1 | -7 to +3 inches (narrow range) |
| | | 902-2 | 2 | 0-30 ft (wide range) |
| | Torus Water Local Sight Glass | | 1 | 18 inch range (narrow range) |
| 1 (4) | Torus Pressure | 902-5 | 1 | -2.45-5 psig |
| 2 | Drywell Pressure | 902-5 | 1 | 0-5 psig |
| | | 902-3 | 1 | 0-75 psig |
| | | 902-3 | 2 | 0-250 psig |
| 2 | Drywell Temperature | 902-21 | 6 | 0-600°F |
| 2 | Neutron Monitoring | 902-5 | 4 | 0.1-$10^6$ CPS |
| 1 (4) | Torus to Drywell Differential Pressure | 902-3 | 2 | 0-3 psid |
| 1 | Drywell Radiation Monitor | 902-55,56 | 2 | 1 to $10^8$ R/hr |
| 2/valve (2) | Main Steam RV Position, Acoustic Monitor | 902-21 | 1 per valve | N/A |
| | Main Steam RV Position, Temperature Monitor | 902-21 | 1 per valve | 0-600°F |
| 2/valve (2) | Main Steam SV Position, Acoustic Monitor | 902-21 | 1 per valve | N/A |
| | Main Steam SV Position, Temperature Monitor | 902-21 | 1 per valve | 0-600°F |
| 1 (5) | Drywell Hydrogen Concentration | 902-55 | 2 | 0-10% |
| | | 902-56 | | |

Notes: (See Next Page)



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TABLE 4.2.3

RADIOACTIVE GASEOUS EFFLUENT MONITORING
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| Instrument | Instrument Check (1)(6) | Calibration (1)(6)(3) | Function Test (1)(4)(2)(6) | Source Check (1) |
|---|---|---|---|---|
| Off-Gas Radiation Activity Monitor | D | R | Q | R |
| Reactor Bldg Vent Particulate and Iodine Sampler | D (4) | N/A | N/A | N/A |
| Reactor Bldg Vent Exhaust Duct Radiation Monitor | D | R | Q | Q |
| Reactor Bldg Vent SPING Noble Gas Monitor Lo, Mid, High Range | D | R | Q | M |
| Main Chimney Noble Gas Activity Monitor | D | R | Q | M |
| Main Chimney SPING Noble Gas Monitor Lo, Mid, High Range | D | R | Q | M |
| Main Chimney Particulate and Iodine Sampler | D (4) | N/A | N/A | N/A |
| Main Chimney Flow Rate Monitor | D | R | Q | N/A |
| Main Chimney Sampler Flow Rate Monitor | D | R | Q (5) | N/A |
| Reactor Bldg Vent Flow Rate Monitor | D | R | Q | N/A |
| Reactor Bldg Sampler Flow Rate Monitor | D | R | Q (5) | N/A |

Notes: (See Next Page)



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Table 4.2.4
Post Accident Monitoring Instrumentation Surveillance Requirements

| Minimum Number of Operable Channels | Parameter | Instrument Readout Location Unit 2 | Calibration | Instrument Check |
|---|---|---|---|---|
| 1 | Reactor Pressure | 902-5 | Once Every 6 Months | Once Per Day |
| 1 | Reactor Water Level | 902-3 | Once Every 6 Months | Once Per Day |
| 1 | Torus Water Temperature | 902-37 | Once Every 12 Months | Once Per Day |
| 2 | Torus Water Level Indicator (Narrow Range) | 902-3 | Once Every 6 Months | Once Per Day |
| | (Sight Glass) | | N/A | None |
| | (Wide Range) | 902-2 | Once Every 12 Months | Once Per 31 Days |
| 1 | Torus Pressure | 902-3,5 | Once Every 3 Months | Once Per Day |
| 1 | Torus to Drywell Differential Pressure | 902-3 | Once Every 6 Months | Once Per Day |
| 2 | Drywell Pressure | | | |
| | (0-5 psig) | 902-5 | Once Every 3 Months | Once Per Day |
| | (0-75 psig) | 902-3 | Once Every 3 Months | Once Per 31 Days |
| | (0-250 psig) | 902-3 | Once Every Refuel | Once Per 31 Days |
| 2 | Drywell Temperature | 902-21 | Once Every Refuel | Once Per Day |
| 2 | Neutron Monitoring | 902-5 | Once Every 3 Months | Once Per Day |
| 1 | Drywell Radiation Monitor | 902-55,56 | Once Every Refuel (2) | Once Per 31 Days |
| 2/Valve | Main Steam RV Position, Temperature Monitor | 902-21 | Once Every Refuel | Once Per 31 Days |
| | Main Steam RV Position, Acoustic Monitor | | (1) | |
| 2/Valve | Main Steam SV Position, Temperature Monitor | 902-21 | Once Every Refuel | Once Per 31 Days |
| | Main Steam SV Position, Acoustic Monitor | | (1) | Once Per 31 Days |
| 1 | Drywell Hydrogen Concentration | 902-55 902-56 | Once Every 3 Months | Once Per 31 Days |

Notes: (See Next Page)



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3.2 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

Venturis are provided in the main steamlines as a means of measuring steam flow and also limiting the loss of mass inventory from the vessel during a steamline break accident. In addition to monitoring steam flow instrumentation is provided which causes a trip of Group 1 isolation valves. The primary function of the instrumentation is to detect a break in the main steamline outside the drywell, thus only Group 1 valves are closed. For the worst case accident, main steamline break outside the drywell, this trip setting of 120% of rated steam flow in conjunction with the flow limiters and main steamline valve closure, limit the mass inventory loss such that fuel is not uncovered, fuel temperatures remain less than 1500 degrees F and release of radioactivity to the environs is well below 10 CFR 100 guidelines. (Ref. Sections 14.2.3.9 and 14.2.3.10 SAR)

Temperature monitoring instrumentation is provided in the main steamline tunnel to detect leaks in this area. Trips are provided to this instrumentation and when exceeded cause closure of Group 1 isolation valves. Its setting of 200°F is low enough to detect leaks of the order of 5 to 10 gpm; thus, it is capable of covering the entire spectrum of breaks. For large breaks, it is a back-up to high steam flow instrumentation discussed above, and for small breaks with the resultant small release of radioactivity, gives isolation before the guidelines of 10 CFR 100 are exceeded.

High radiation monitors in the main steamline tunnel have been provided to detect gross fuel failure. This instrumentation causes closure of Group 1 valves, the only valves required to close for this accident. With the established setting of 3 times full power background for all conditions except for greater than 20% power with hydrogen being injected during which the Main Steamline trip setting is less than or equal to 3 times full power background with hydrogen addition, and main steamline isolation valve closure, fission product release is limited so that 10 CFR 100 guidelines are not exceeded for this accident. (Ref. Section 14.2.1.7 SAR) The performance of the process radiation monitoring system relative to detecting fuel leakage shall be evaluated during the first five years of operation. The conclusions of this evaluation will be reported to the NRC.

Pressure instrumentation is provided which trips when main steamline pressure drops below 850 psig. A trip of this instrumentation results in closure of Group 1 isolation valves. In the "Refuel" and "Startup/Hot Standby" mode this trip function is bypassed. This function is provided to provide protection against a pressure regulator malfunction which would cause the control



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| 3.5 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.5 SURVEILLANCE REQUIREMENT (Cont'd.) |
|---|---|
| vessel, reactor operation is permissible only during the succeeding seven days unless repairs are made and provided that during such time the HPCI Subsystem is operable. | |
| 3. From and after the date that more than one of five relief valves of the automatic pressure relief subsystem is made or found to be inoperable when the reactor is pressurized above 90 psig with irradiated fuel in the reactor vessel, reactor operation is permissible only during the succeeding 24 hours unless repairs are made and provided that during such time the HPCI Subsystem is operable. | 3. When it is determined that more than one relief valve of the automatic pressure relief subsystem is inoperable, the HPCI subsystem shall be demonstrated to be operable immediately. |
| 4. If the requirements of 3.5.D cannot be met, an orderly shutdown shall be initiated and the reactor pressure shall be reduced to 90 psig within 24 hours. | |
| E. Isolation Condenser System | E. Surveillance of the Isolation Condenser System shall be performed as follows: |



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| 3.6 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.6 SURVEILLANCE REQUIREMENT (Cont'd.) |
|---|---|
| 3. If the requirements of 3.6.I.1 and 3.6.I.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in cold shutdown or refuel condition within 36 hours. | 3. When a snubber is deemed inoperable, a review of all pertinent facts shall be conducted to determine the snubber mode of failure and to decide if an engineering evaluation should be performed on the supported system or components. If said evaluation is deemed necessary, it will determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system. |
| 4. If a snubber is determined to be inoperable while the reactor is in the cold shutdown or refuel mode, the snubber shall be made operable or replaced prior to reactor startup. | 4. If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause will be evaluated and, if determined to be a generic deficiency, all snubbers of the same design subject to the same defect shall be functionally tested. |

| 3.7 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.7 SURVEILLANCE REQUIREMENTS (Cont'd.) |
|---|---|
| shall be initiated and the reactor shall be in a cold shutdown condition in the following 24 hours. | |
| B. Standby Gas Treatment System | B. Standby Gas Treatment System |
| 1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1(a) and (b). | 1. At least once per month, initiate from the control room 4000 cfm (plus or minus 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power. |
| a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours | a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperabe for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (plus or minus 10%) flow through the operable circuit of the standby gas treatment system |



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DESIGN FEATURES (Cont'd.)

5.6 Seismic Design

The reactor building and all contained engineered safeguards are designed for the maximum credible earthquake ground motion with an acceleration of 20 per cent of gravity. Dynamic analysis was used to determine the earthquake acceleration, applicable to the various elevations in the reactor building.

**ATTACHMENT 2**

Proposed Changes to DPR-25

Technical Specifications

| 3.2 LIMITING CONDITION FOR OPERATION (CONT'D) | 4.2 SURVEILLANCE REQUIREMENTS (CONT'D) |
|---|---|
| inoperability was not corrected in a timely manner. This is in lieu of an LER. | |
| 4. In the event a limiting condition for operation and associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specifications, provide a 30-day written report to the NRC pursuant to Specification 6.6.B.2., and no changes are required in the operational condition of the plant, and this does not prevent the plant from entry into an operational mode. | |
| G. Radioactive Gaseous Effluent Instrumentation | G. Radioactive Gaseous Effluent Instrumentation |
| 1. The effluent monitoring instrumentation shown in Table 3.2.5 shall be operable with alarm/trip setpoints set to ensure that the limits of specification 3.8.A are not exceeded. The alarm/trip setpoints shall be determined in accordance with the ODCM. | Each radioactive gaseous radiation monitoring instrument in Table 4.2.3 shall be demonstrated operable by performance of the given source check, instrument check, calibration, and functional test operations at the frequency shown in Table 4.2.3. |
| 2. With a radioactive gaseous effluent monitoring instrument alarm/trip setpoint less conservative | |

TABLE 3.2.5
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

| Minimum No. of Operable Channels (1) | Total No. of Channels | Parameter | Action (2) |
|---|---|---|---|
| 1 | 2 | Off-Gas Radiation Activity Monitor | D |
| 1 | 3 | Main Chimney Noble Gas SPING/GE Low Range Activity Monitor | A |
| 1 | 1 | Main Chimney SPING Noble Gas Monitors Mid, Hi Range | A |
| 1 | 1 | Main Chimney Iodine Sampler | C |
| 1 | 1 | Main Chimney Particulate Sampler | C |
| 1 | 1 | Main Chimney Flow Rate Monitor | B |
| 1 | 1 | Main Chimney Sampler Flow Rate Monitor | B |
| 1 | 2 | Reactor Building Vent Exhaust Duct Radiation Monitor | E |
| 1 | 1 | Reactor Building Vent SPING Noble Gas Monitor Low, Mid, High Range | F |
| 1 | 1 | Reactor Building Vent Flow Rate Monitor | B |
| 1 | 1 | Reactor Building Vent Sampler Flow Rate Monitor | B |
| 1 | 1 | Reactor Building Vent Iodine Sampler | C |
| 1 | 1 | Reactor Building Vent Particulate Sampler | C |

Notes:
(See Next Page)

TABLE 3.2.5 (Notes)

1. For Off-Gas Monitors, applicable during SJAE operation. For other instrumentation, applicable at all times.

2. Action A: With the number of operable channels less than the minimum requirement, effluent releases via this pathway may continue provided grab samples are taken at least once per 8 hour shift and these samples are analyzed within 24 hours.

   Action B: With the number of operable channels less than the minimum required, effluent releases via this pathway may continue provided that the flow rate is estimated at least once per 4 hours.

   Action C: With less than the minimum channels operable, effluent releases via this pathway may continue provided samples are continuously collected with auxiliary sampling equipment, as required in Table 4.8.-1.

   Action D: With less than the minimum channels operable, gases from the main condenser off gas system may be released to the environment for up to 72 hours provided the off gas system is not bypassed and at least one chimney monitor is operable; otherwise, be in hot standby in 12 hours.

   Action E: With less than the minimum channels operable, immediately suspend release of radioactive effluents via this pathway.

   Action F: With less than the minimum channels operable, effluent releases via this pathway may continue provided that the minimum number of operable channels or the Reactor Building Vent Exhaust Duct Radiation Monitor are operable.

Table 3.2.6
Post Accident Monitoring Instrumentation Requirements

| Minimum Number of Operable Channels (1) | Parameter | Instrument Readout Location Unit 3 | Number Provided | Instrument Range |
|---|---|---|---|---|
| 1 | Reactor Pressure | 903-5 | 1 | 0-1500 psig |
| | | | 2 | 0-1200 psig |
| 1 | Reactor Water Level | 903-3 | 2 | -340 to +60 inches |
| 1 | Torus Water Temperature | 903-37 | 2 | 0-200°F |
| 2 (3) | Torus Water Level Indicator | 903-3 | 1 | -25 to +25 inches |
| | | 903-3 | 1 | -7 to +3 inches (narrow range) |
| | | 903-2 | 2 | 0-30 ft (wide range) |
| | Torus Water Local Sight Glass | | 1 | 18 inch range (narrow range) |
| 1 (4) | Torus Pressure | 903-5 | 1 | -2.45-5 psig |
| 2 | Drywell Pressure | 903-5 | 1 | 0-5 psig |
| | | 903-3 | 1 | 0-75 psig |
| | | 903-3 | 2 | 0-250 psig |
| 2 | Drywell Temperature | 903-21 | 6 | 0-600°F |
| 2 | Neutron Monitoring | 903-5 | 4 | $0.1-10^6$ CPS |
| 1 (4) | Torus to Drywell Differential Pressure | 903-3 | 2 | 0-3 psid |
| 1 | Drywell Radiation Monitor | 903-55,56 | 2 | 1 to $10^8$ R/hr |
| 2/valve (2) | Main Steam RV Position, Acoustic Monitor | 903-21 | 1 per valve | N/A |
| | Main Steam RV Position, Temperature Monitor | 903-21 | 1 per valve | 0-600°F |
| 2/valve (2) | Main Steam SV Position, Acoustic Monitor | 903-21 | 1 per valve | N/A |
| | Main Steam SV Position, Temperature Monitor | 903-21 | 1 per valve | 0-600°F |
| 1 (5) | Drywell Hydrogen Concentration | 903-55 | 2 | 0-10% |
| | | 903-56 | | |

Notes: (See Next Page)



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TABLE 4.2.3

RADIOACTIVE GASEOUS EFFLUENT MONITORING
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

| Instrument | Instrument Check (1)(6) | Calibration (1)(6)(3) | Function Test (1)(4)(2)(6) | Source Check (1) |
|---|---|---|---|---|
| Off-Gas Radiation Activity Monitor | D | R | Q | R |
| Reactor Bldg Vent Particulate and Iodine Sampler | D (4) | N/A | N/A | N/A |
| Reactor Bldg Vent Exhaust Duct Radiation Monitor | D | R | Q | Q |
| Reactor Bldg Vent SPING Noble Gas Monitor Lo, Mid, High Range | D | R | Q | M |
| Main Chimney Noble Gas Activity Monitor | D | R | Q | M |
| Main Chimney SPING Noble Gas Monitor Lo, Mid, High Range | D | R | Q | M |
| Main Chimney Particulate and Iodine Sampler | D (4) | N/A | N/A | N/A |
| Main Chimney Flow Rate Monitor | D | R | Q | N/A |
| Main Chimney Sampler Flow Rate Monitor | D | R | Q (5) | N/A |
| Reactor Bldg Vent Flow Rate Monitor | D | R | Q | N/A |
| Reactor Bldg Sampler Flow Rate Monitor | D | R | Q (5) | N/A |

Notes:
(See Next Page)



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Table 4.2.4

Post Accident Monitoring Instrumentation Surveillance Requirements

| Minimum Number of Operable Channels | Parameter | Instrument Readout Location Unit 3 | Calibration | Instrument Check |
|---|---|---|---|---|
| 1 | Reactor Pressure | 903-5 | Once Every 6 Months | Once Per Day |
| 1 | Reactor Water Level | 903-3 | Once Every 6 Months | Once Per Day |
| 1 | Torus Water Temperature | 903-37 | Once Every 12 Months | Once Per Day |
| 2 | Torus Water Level Indicator (Narrow Range) | 903-3 | Once Every 6 Months | Once Per Day |
| | (Sight Glass) | | N/A | None |
| | (Wide Range) | 903-2 | Once Every 12 Months | Once Per 31 Days |
| 1 | Torus Pressure | 903-3,5 | Once Every 3 Months | Once Per Day |
| 1 | Torus to Drywell Differential Pressure | 903-3 | Once Every 6 Months | Once Per Day |
| 2 | Drywell Pressure | | | |
| | (0-5 psig) | 903-5 | Once Every 3 Months | Once Per Day |
| | (0-75 psig) | 903-3 | Once Every 3 Months | Once Per 31 Days |
| | (0-250 psig) | 903-3 | Once Every Refuel | Once Per 31 Days |
| 2 | Drywell Temperature | 903-21 | Once Every Refuel | Once Per Day |
| 2 | Neutron Monitoring | 903-5 | Once Every 3 Months | Once Per Day |
| 1 | Drywell Radiation Monitor | 903-55,56 | Once Every Refuel (2) | Once Per 31 Days |
| 2/Valve | Main Steam RV Position, Temperature Monitor | 903-21 | Once Every Refuel | Once Per 31 Days |
| 2/Valve | Main Steam RV Position, Acoustic Monitor | | (1) | |
| 2/Valve | Main Steam SV Position, Temperature Monitor | 903-21 | Once Every Refuel | Once Per 31 Days |
| 2/Valve | Main Steam SV Position, Acoustic Monitor | | (1) | Once Per 31 Days |
| 1 | Drywell Hydrogen Concentration | 903-55 903-56 | Once Every 3 Months | Once Per 31 Days |

Notes: (See Next Page)



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3.2 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

Venturis are provided in the main steamlines as a means of measuring steam flow and also limiting the loss of mass inventory from the vessel during a steamline break accident. In addition to monitoring steam flow instrumentation is provided which causes a trip of Group 1 isolation valves. The primary function of the instrumentation is to detect a break in the main steamline outside the drywell, thus only Group 1 valves are closed. For the worst case accident, main steamline break outside the drywell, this trip setting of 120% of rated steam flow in conjunction with the flow limiters and main steamline valve closure, limit the mass inventory loss such that fuel is not uncovered, fuel temperatures remain less than 1500 degrees F and release of radioactivity to the environs is well below 10 CFR 100 guidelines. (Ref. Sections 14.2.3.9 and 14.2.3.10 SAR)

Temperature monitoring instrumentation is provided in the main steamline tunnel to detect leaks in this area. Trips are provided to this instrumentation and when exceeded cause closure of Group 1 isolation valves. Its setting of 200°F is low enough to detect leaks of the order of 5 to 10 gpm; thus, it is capable of covering the entire spectrum of breaks. For large breaks, it is a back-up to high steam flow instrumentation discussed above, and for small breaks with the resultant small release of radioactivity, gives isolation before the guidelines of 10 CFR 100 are exceeded.

High radiation monitors in the main steamline tunnel have been provided to detect gross fuel failure. This instrumentation causes closure of Group 1 valves, the only valves required to close for this accident. With the established setting of 3 times full power background for all conditions except for greater than 20% power with hydrogen being injected during which the Main Steamline trip setting is less than or equal to 3 times full power background with hydrogen addition, and main steamline isolation valve closure, fission product release is limited so that 10 CFR 100 guidelines are not exceeded for this accident. (Ref. Section 14.2.1.7 SAR) The performance of the process radiation monitoring system relative to detecting fuel leakage shall be evaluated during the first five years of operation. The conclusions of this evaluation will be reported to the NRC.

Pressure instrumentation is provided which trips when main steamline pressure drops below 850 psig. A trip of this instrumentation results in closure of Group 1 isolation valves. In the "Refuel" and "Startup/Hot Standby" mode this trip function is bypassed. This function is provided to provide protection against a pressure regulator malfunction which would cause the control

4.2 SURVEILLANCE REQUIREMENT BASES (Cont'd.)

A more usual case is that the testing is not done independently. If both channels are bypassed and tested at the same time, the result is shown in Curve No. 3. Note that the minimum occurs at about 40,000 hours, much longer than for cases 1 and 2. Also, the minimum is not nearly as low as Case 2 which indicates that this method of testing does not take full advantage of the redundant channel. Bypassing both channels for simultaneous testing should be avoided.

The most likely case would be to stipulate that one channel be bypassed tested and restored, and then immediately following, the second channel be bypassed, tested, and restored. This is shown by Curve No. 4. Note that there is no true minimum. The curve does have a definite knee and very little reduction in system unavailability is achieved by testing at a shorter interval than computed by the equation for a single channel.

The best test procedure of all those examined is to perfectly stagger the tests. That is, if the test interval is four months, test one or the other channel every two months. This is shown in Curve No. 5. The difference between Cases 4 and 5 is negligible. There may be other arguments, however, that more strongly support the perfectly staggered tests, including reductions in human error.

The conclusions to be drawn are these:

1. A 1 out of n system may be treated the same as a single channel in terms of choosing a test interval; and
2. More than one channel should not be bypassed for testing at any one time.

The radiation monitors in the ventilation duct and on the refueling floor which initiate building isolation and standby gas treatment operation are arranged in two 1 out of 2 logic systems. The bases given above for the rod blocks applies here also and were used to arrive at the functional testing frequency.

Based on experience at Dresden Unit 1 with instruments of similar design, a testing interval of once every three months has been found to be adequate.

The automatic pressure relief instrumentation can be considered to be a 1 out of 2 logic system and the discussion above applies also.

The instrumentation which is required for the post accident condition will be tested and calibrated at regularly scheduled intervals. The basis for the calibration and testing of this instrumentation is the same as was discussed above for Protective Instrumentation in Table 4.2.4.



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| 3.5 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.5 SURVEILLANCE REQUIREMENT (Cont'd.) |
|---|---|
| for any reason, reactor operation is permissible only during the succeeding seven days unless it is sooner made operable, provided that during such seven days all active components of both core spray subsystems, the containment cooling subsystem (including 2 LPCI pumps) and the diesel generators required for operation of such components if no external source of power were available shall be operable. | the containment cooling subsystem, shall be demonstrated to be operable immediately and daily thereafter. |
| 6. Containment cooling spray loops are required to be operable when the reactor water temperature is greater than 212°F except that a maximum of one drywell spray loop may be inoperable for thirty days when the reactor water temperature is greater than 212°F. | 6. During each five year period an air test shall be performed on the drywell spray headers and nozzles. |
| 7. If the requirements of 3.5.A cannot be met, an orderly shutdown of the reactor shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours. Subsequently, the reactor may be placed in Refuel, for post maintenance testing of control rod drives only, provided no work is being performed which has the potential to drain the reactor vessel. | |

| 3.5 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.5 SURVEILLANCE REQUIREMENT (Cont'd.) |
|---|---|
| vessel, reactor operation is permissible only during the succeeding seven days unless repairs are made and provided that during such time the HPCI Subsystem is operable. | |
| 3. From and after the date that more than one of five relief valves of the automatic pressure relief subsystem is made or found to be inoperable when the reactor is pressurized above 90 psig with irradiated fuel in the reactor vessel, reactor operation is permissible only during the succeeding 24 hours unless repairs are made and provided that during such time the HPCI Subsystem is operable. | 3. When it is determined that more than one relief valve of the automatic pressure relief subsystem is inoperable, the HPCI subsystem shall be demonstrated to be operable immediately. |
| 4. If the requirements of 3.5.D cannot be met, an orderly shutdown shall be initiated and the reactor pressure shall be reduced to 90 psig within 24 hours. | |
| E. Isolation Condenser System | E. Surveillance of the Isolation Condenser System shall be performed as follows: |

| 3.7 LIMITING CONDITION FOR OPERATION (Cont'd.) | 4.7 SURVEILLANCE REQUIREMENTS (Cont'd.) |
|---|---|
| shall be initiated and the reactor shall be in a cold shutdown condition in the following 24 hours. | |
| B. Standby Gas Treatment System | B. Standby Gas Treatment System |
| 1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1(a) and (b). | 1. At least once per month, initiate from the control room 4000 cfm (plus or minus 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power. |
| a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours | a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperabe for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (plus or minus 10%) flow through the operable circuit of the standby gas treatment system with the circuit |

3.7 LIMITING CONDITION FOR OPERATION BASES (Cont'd.)

standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed.

D. Primary Containment Isolation Valves - Double isolation valves are provided on lines penetrating the primary containment and open to the free space of the containment. Closure of one of the valves in each line would be sufficient to maintain the integrity of the pressure suppression system. Automatic initiation is required to minimize the potential leakage paths from the containment in the event of a loss of coolant accident.

4.7 SURVEILLANCE REQUIREMENT BASES

A. Primary Containment

Because of the large volume and thermal capacity of the suppression pool, the volume and temperature normally changes very slowly and monitoring these parameters daily is sufficient to establish any temperature trends. By requiring the suppression pool temperature to be continually monitored and frequently logged during periods of significant heat addition, the temperature trends will be closely followed so that appropriate action can be taken. The requirement for an external visual examination following any event where potentially high loadings could occur provides assurance that no significant damage was encountered. Particular attention should be focused on structural discontinuities in the vicinity of the relief valve discharge since these are expected to be the points of highest stress.

The interiors of the drywell and suppression chamber are painted to prevent rusting. The inspection of the paint during each major refueling outage, approximately once per year, assures the paint is intact. Experience with this type of paint at fossil fueled generating stations indicates that the inspection interval is adequate.

DESIGN FEATURES (Cont'd)

5.6 Seismic Design

The reactor building and all contained engineered safeguards are designed for the maximum credible earthquake ground motion with an acceleration of 20 per cent of gravity. Dynamic analysis was used to determine the earthquake acceleration, applicable to the various elevations in the reactor building.



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ATTACHMENT 3

## Summary of Changes

A number of changes have been identified in the Technical Specifications due to changes in the Unit (2 or 3), sentence structure or miscellaneous changes as indicated below.

1) Unit 2, Page 3/4.2-15, Table 3.2.5. The first entry should read "Off-Gas Radiation Activity Monitor" instead of SJAE Radiation Activity Monitor.

2) Unit 2, Page 3/4.2-16, Table 3.2.5 (Notes). Note #1 change SJAE to "Off-Gas Radiation".

3) Unit 2, Page 3/4.2-17, Table 3.2.6. Third entry concerning Torus Water Temperature; change 902-4 to "902-37" due to Modification 12-2(3)-82-8.

4) Unit 2, Page 3/4.2-24, Table 4.2.3. First entry change SJAE to "Off-Gas".

5) Unit 2, Page 3/4.2-26, Table 4.2.4. Third entry concerning Torus Water Temperature; change 902-4 to "902-37".

6) Unit 2, Page 3/4.2-30, Page 3.2. Second paragraph, last line, change 10CFR to "10CFR 100".

7) Unit 2, Page 3/4.5-9. LCO number 3, add the word "is" after the word subsystem in the sixth line.

8) Unit 2, Page 3/4.6-18. Surveillance #3, delete one of the "is's" in the first/second line.

9) Unit 2, Page 3/4.7-19. LCO at top of page, second line, correct spelling - rector should be "reactor".

10) Unit 2, Page 5-2. Remove 5.0 at top of page. Confusing to the reader with 5.6 directly under.

11) Unit 3, Page 3/4.2-15, Table 3.2.5. The first entry should read "Off-Gas Radiation Activity Monitor" instead of SJAE Radiation Activity Monitor.

12) Unit 3, Page 3/4.2-16, Table 3.2.5 (Notes). Note #1 change SJAE to "Off-Gas Radiation".

13) Unit 3, Page 3/4.2-17, Table 3.2.6. Third entry concerning Torus Water Temperature; change 903-4 to "903-37" due to Modification 12-2(3)-82-8.

14) Unit 3, Page 3/4.2-4, Table 4.2.3. First entry changed SJAE to "Off-Gas".

15) Unit 3, Page 3/4.2-26, Table 4.2.4. Third entry concerning Torus Water Temperature; change 903-4 to "903-37".

16) Unit 3, Page 3/4.2-30, Page 3.2. Second paragraph, last line, change 10CFR to "10CFR 100".

17) Unit 3, Page B 3/4.2-36. Add the word "not" in first sentence before the word "done". This would make the sentence consistent with Unit 2.

In the second paragraph, combine the first two sentences with a "comma" and the word "and". Remove the word "will" following the word channel. This would make the sentence consistent with Unit 2.

18) Unit 3, Page 3/4.5-4. LCO #7 in the first sentence, delete the words "either 3.5.G shall be compiled with or". This would make the sentence consistent with Unit 2.

It appears that sometime around 1974 (amendment 4 or change 19 or change 22) changes were made which caused 3.5.G to be deleted. However, this reference was left in due to a clerical error.

Add the following sentence:

> "Subsequently, the reactor may be placed in Refuel, for post maintenance testing of control rod drives only, provided no work is being performed which has the potential to drain the reactor-vessel."

19) Unit 3, Page 3/4.5-9. LCO number 3, add the word "is" after the word "subsystem" in the sixth line.

20) Unit 3, Page 3/4.7-9. LCO at top of page, second line, correct spelling - rector should be "reactor".

21) Unit 3, Page 5-2. Remove 5.0 at top of page. Confusing to the reader with 5.6 directly under.

22) Unit 3, Page B 3/4.7-40, Paragraph 4.7.A. Remove the "dash" from the words "suppres-ion" and "fre-quency".

23) Unit 2 & 3, Page 3/4.2-5, Paragraph 4.2.G. Correct the last "Table" reference from 4.3.2 to 4.2.3.

**ATTACHMENT 4**

Supporting Information For Change No. 18

(CRD Testing with Low Pressure
Cooling Systems Inoperable)