

INDEX

LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 PLANAR RADIAL PEAKING FACTORS.....	3/4 2-3
3/4.2.3 AZIMUTHAL POWER TILT.....	3/4 2-4
3/4.2.4 DNBR MARGIN.....	3/4 2-6
3/4.2.5 RCS FLOW RATE.....	3/4 2-10
3/4.2.6 REACTOR COOLANT COLD LEG TEMPERATURE.....	3/4 2-11
3/4.2.7 AXIAL SHAPE INDEX.....	3/4 2-12
3/4.2.8 PRESSURIZER PRESSURE.....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-13
3/4.3.3 MONITORING INSTRUMENTATION	
RADIATION MONITORING INSTRUMENTATION.....	3/4 3-28
INCORE DETECTORS.....	3/4 3-34
SEISMIC INSTRUMENTATION.....	3/4 3-35
METEOROLOGICAL INSTRUMENTATION.....	3/4 3-38
REMOTE SHUTDOWN INSTRUMENTATION.....	3/4 3-41
ACCIDENT MONITORING INSTRUMENTATION.....	3/4 3-44
CHEMICAL DETECTION SYSTEMS.....	3/4 3-47
LOOSE-PART DETECTION INSTRUMENTATION.....	3/4 3-54
EXPLOSIVE GAS MONITORING INSTRUMENTATION.....	3/4 3-60
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-68

9309200210 930916
PDR ADDCK 05000382
P PDR

INSTRUMENTATION

INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE with:

- a. At least 75% of all incore detector locations, and
- b. A minimum of two quadrant symmetric incore detector locations per core quadrant.

An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of four OPERABLE rhodium detectors.

APPLICABILITY: When the incore detection system is used for monitoring:

- a. AZIMUTHAL POWER TILT,
- b. Radial Peaking Factors,
- c. Local Power Density,
- d. DNB Margin.

ACTION:

- a. With the incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

- a. By performance of a CHANNEL CHECK within 24 hours prior to its use and at least once per 7 days thereafter when required for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin:
- b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The neutron detectors shall be calibrated prior to installation in the reactor core.

INSTRUMENTATION

BASES

individual channels; (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

3/4.3.3.2 INCORE DETECTORS

The OPERABILITY of the incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core.

3/4.3.3.3 SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4. METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50.

NPF-38-141

ATTACHMENT B

INDEX

LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 PLANAR RADIAL PEAKING FACTORS.....	3/4 2-3
3/4.2.3 AZIMUTHAL POWER TILT.....	3/4 2-4
3/4.2.4 DNBR MARGIN.....	3/4 2-6
3/4.2.5 RCS FLOW RATE.....	3/4 2-10
3/4.2.6 REACTOR COOLANT COLD LEG TEMPERATURE.....	3/4 2-11
3/4.2.7 AXIAL SHAPE INDEX.....	3/4 2-12
3/4.2.8 PRESSURIZER PRESSURE.....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-13
3/4.3.3 MONITORING INSTRUMENTATION	
RADIATION MONITORING INSTRUMENTATION.....	3/4 3-28
DELETE — INCORE DETECTORS.....	3/4 3-34
SEISMIC INSTRUMENTATION.....	3/4 3-35
METEOROLOGICAL INSTRUMENTATION.....	3/4 3-38
REMOTE SHUTDOWN INSTRUMENTATION.....	3/4 3-41
ACCIDENT MONITORING INSTRUMENTATION.....	3/4 3-44
CHEMICAL DETECTION SYSTEMS.....	3/4 3-47
LOOSE-PART DETECTION INSTRUMENTATION.....	3/4 3-54
EXPLOSIVE GAS MONITORING INSTRUMENTATION.....	3/4 3-60
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-68

~~INSTRUMENTATION~~

~~INCORE DETECTORS~~

~~LIMITING CONDITION FOR OPERATION~~

~~3.3.3.2 The incore detection system shall be OPERABLE with:~~

- ~~a- At least 75% of all incore detector locations, and~~
- ~~b- A minimum of two quadrant symmetric incore detector locations per core quadrant.~~

~~An OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of four OPERABLE rhodium detectors.~~

~~APPLICABILITY : When the incore detection system is used for monitoring:~~

- ~~a- AZIMUTHAL POWER TILT,~~
- ~~b- Radial Peaking Factors,~~
- ~~c- Local Power Density,~~
- ~~d- DNB Margin.~~

~~ACTION :~~

- ~~a- With the incore detection system inoperable do not use the system for the above applicable monitoring or calibration functions.~~
- ~~b- The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

~~SURVEILLANCE REQUIREMENTS~~

~~4.3.3.2 The incore detection system shall be demonstrated OPERABLE:~~

- ~~a- By performance of a CHANNEL CHECK within 24 hours prior to its use and at least once per 7 days thereafter when required for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin.~~
- ~~b- At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The neutron detectors shall be calibrated prior to installation in the reactor core.~~

This page has been deleted.

INSTRUMENTATION

BASES

individual channels; (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," December 1980 and NUREG-D737, "Clarification of TMI Action Plan Requirements," November 1980.

3/4.3.3.2 This section has been deleted.

~~The OPERABILITY of the incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core.~~

3/4.3.3.3 SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HQT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50.