

Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print  
INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 AXIAL FLUX DIFFERENCE.....	3/4 2-1
3/4.2.2 HEAT FLUX HOT CHANNEL FACTOR.....	3/4 2-4
3/4.2.3 NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....	3/4 2-8
3/4.2.4 QUADRANT POWER TILT RATIO.....	3/4 2-11
3/4.2.5 DNB PARAMETERS.....	3/4 2-14
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-15
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring.....	3/4 3-38
Movable Incore Detectors.....	3/4 3-42
Seismic Monitoring Instrumentation.....	3/4 3-43
Meteorological Instrumentation.....	3/4 3-46
Remote Shutdown Instrumentation....	3/4 3-49
<del>Chlorine Detection Systems (Deleted)</del> .....	3/4 3-52
High Energy Line Break Sensors.....	3/4 3-53
Accident Monitoring Instrumentation.....	3/4 3-56
<del>Fire Detection Instrumentation (Deleted)</del> .....	3/4 3-59
<del>Radioactive Liquid Effluent Monitoring (Deleted)</del> .....	3/4 3-61
Radioactive Gaseous Effluent Monitoring.....	3/4 3-66
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-72

Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print  
INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

~~3.3.3.6~~ — Two chlorine detectors with their alarm/trip setpoints adjusted to actuate at a chlorine concentration of less than or equal to 5 ppm, shall be OPERABLE.

APPLICABILITY: — MODES 1, 2, 3, and 4.

ACTION:

- ~~a.~~ — With one chlorine detector inoperable, restore the inoperable detector to OPERABLE status within 7 days or, within the next 6 hours, initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.
- ~~b.~~ — With both chlorine detectors inoperable, within 1 hour, initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.
- ~~c.~~ — The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

~~4.3.3.6~~ — Each chlorine detector shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least one per 12 hours, a CHANNEL FUNCTION TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

*This specification deleted.*

Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print

## INSTRUMENTATION

### BASES

#### 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 is 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 generally consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Program," 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 Criteria 19 of 10 CFR 50.

#### 3/4.3.3.6 CHLORINE DETECTION SYSTEMS

***This specification deleted.***

~~—— The OPERABILITY of the chlorine detection system ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release. This capability is required to protect control room personnel and is consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," February 1975.~~

#### 3/4.3.3.7 HIGH ENERGY LINE BREAK ISOLATION SENSORS

The high energy line break isolation sensors are designed to mitigate the consequences of the discharge of steam and/or water to the affected room and other lines and systems contained therein. In addition, the sensors will initiate signals that will alert the operator to bring the plant to a shutdown condition.

## INDEX

### LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 AXIAL FLUX DIFFERENCE.....	3/4 2-1
3/4.2.2 HEAT FLUX HOT CHANNEL FACTOR.....	3/4 2-4
3/4.2.3 NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....	3/4 2-8
3/4.2.4 QUADRANT POWER TILT RATIO.....	3/4 2-11
3/4.2.5 DNB PARAMETERS.....	3/4 2-14
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-15
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring.....	3/4 3-38
Movable Incore Detectors.....	3/4 3-42
Seismic Monitoring Instrumentation.....	3/4 3-43
Meteorological Instrumentation.....	3/4 3-46
Remote Shutdown Instrumentation.....	3/4 3-49
<del>Chlorine Detection Systems (Deleted)</del> .....	3/4 3-52
High Energy Line Break Sensors.....	3/4 3-53
Accident Monitoring Instrumentation.....	3/4 3-56
<del>Fire Detection Instrumentation (Deleted)</del> .....	3/4 3-59
<del>Radioactive Liquid Effluent Monitoring (Deleted)</del> .....	3/4 3-61
Radioactive Gaseous Effluent Monitoring.....	3/4 3-66
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-72

INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

This specification deleted.

## INSTRUMENTATION

### BASES

---

#### 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 is 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 generally consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Program," 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 Criteria 19 of 10 CFR 50.

#### 3/4.3.3.6 CHLORINE DETECTION SYSTEMS

This specification deleted. |

#### 3/4.3.3.7 HIGH ENERGY LINE BREAK ISOLATION SENSORS

The high energy line break isolation sensors are designed to mitigate the consequences of the discharge of steam and/or water to the affected room and other lines and systems contained therein. In addition, the sensors will initiate signals that will alert the operator to bring the plant to a shutdown condition.

Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print  
INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.2	POWER DISTRIBUTION LIMITS
3/4.2.1	AXIAL FLUX DIFFERENCE.....3/4 2-1
3/4.2.2	HEAT FLUX HOT CHANNEL FACTOR.....3/4 2-4
3/4.2.3	NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....3/4 2-8
3/4.2.4	QUADRANT POWER TILT RATIO.....3/4 2-11
3/4.2.5	DNB PARAMETERS.....3/4 2-14
3/4.3	INSTRUMENTATION
3/4.3.1	REACTOR TRIP SYSTEM INSTRUMENTATION.....3/4 3-1
3/4.3.2	ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....3/4 3-15
3/4.3.3	MONITORING INSTRUMENTATION
	Radiation Monitoring.....3/4 3-38
	Movable Incore Detectors.....3/4 3-42
	Seismic Monitoring Instrumentation.....3/4 3-43
	Meteorological Instrumentation.....3/4 3-46
	Remote Shutdown Instrumentation.....3/4 3-49
	<del>Chlorine Detection Systems (Deleted)</del> .....3/4 3-52
	High Energy Line Break Sensors.....3/4 3-53
	Accident Monitoring Instrumentation.....3/4 3-56
	<del>Fire Detection Instrumentation (Deleted)</del> .....3/4 3-59
	<del>Radioactive Liquid Effluent Monitoring (Deleted)</del> .....3/4 3-61
	Radioactive Gaseous Effluent Monitoring.....3/4 3-66
3/4.3.4	TURBINE OVERSPEED PROTECTION.....3/4 3-72

Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print  
INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

~~3.3.3.6 Two chlorine detectors with their alarm/trip setpoints adjusted to actuate at a chlorine concentration of less than or equal to 5 ppm, shall be OPERABLE.~~

~~APPLICABILITY: MODES 1, 2, 3, and 4.~~

ACTION:

- ~~a. With one chlorine detector inoperable, restore the inoperable detector to OPERABLE status within 7 days or, within the next 6 hours, initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.~~
- ~~b. With both chlorine detectors inoperable, within 1 hour, initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.~~
- ~~c. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

~~4.3.3.6 Each chlorine detector shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTION TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.~~

*This specification deleted.*



Changes Marked with ~~Strike Through~~ or **BOLD ITALICIZED** Print

## INSTRUMENTATION

### BASES

#### 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 is 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 generally consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Program," 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 Criteria 19 of 10 CFR 50.

#### 3/4.3.3.6 CHLORINE DETECTION SYSTEMS

*This specification deleted.*

~~The OPERABILITY of the chlorine detection system ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release. This capability is required to protect control room personnel and is consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," February 1975.~~

#### 3/4.3.3.7 HIGH ENERGY LINE BREAK ISOLATION SENSORS

The high energy line break isolation sensors are designed to mitigate the consequences of the discharge of steam and/or water to the affected room and other lines and systems contained therein. In addition, the sensors will initiate signals that will alert the operator to bring the plant to a shutdown condition.

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2</u>	<u>POWER DISTRIBUTION LIMITS</u>
3/4.2.1	AXIAL FLUX DIFFERENCE.....3/4 2-1
3/4.2.2	HEAT FLUX HOT CHANNEL FACTOR.....3/4 2-4
3/4.2.3	NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....3/4 2-8
3/4.2.4	QUADRANT POWER TILT RATIO.....3/4 2-11
3/4.2.5	DNB PARAMETERS.....3/4 2-14
<u>3/4.3</u>	<u>INSTRUMENTATION</u>
3/4.3.1	REACTOR TRIP SYSTEM INSTRUMENTATION.....3/4 3-1
3/4.3.2	ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....3/4 3-15
3/4.3.3	MONITORING INSTRUMENTATION
	Radiation Monitoring.....3/4 3-38
	Movable Incore Detectors.....3/4 3-42
	Seismic Monitoring Instrumentation.....3/4 3-43
	Meteorological Instrumentation.....3/4 3-46
	Remote Shutdown Instrumentation.....3/4 3-49
	<del>Chlorine Detection Systems</del> (Deleted).....3/4 3-52
	High Energy Line Break Sensors.....3/4 3-53
	Accident Monitoring Instrumentation.....3/4 3-56
	<del>Fire Detection Instrumentation</del> (Deleted).....3/4 3-59
	<del>Radioactive Liquid Effluent Monitoring</del> (Deleted).....3/4 3-61
	Radioactive Gaseous Effluent Monitoring.....3/4 3-66
3/4.3.4	TURBINE OVERSPEED PROTECTION.....3/4 3-72

INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

This specification deleted.

## INSTRUMENTATION

### BASES

---

#### 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 is 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 generally consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Program," 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 Criteria 19 of 10 CFR 50.

#### 3/4.3.3.6 CHLORINE DETECTION SYSTEMS

This specification deleted

#### 3/4.3.3.7 HIGH ENERGY LINE BREAK ISOLATION SENSORS

The high energy line break isolation sensors are designed to mitigate the consequences of the discharge of steam and/or water to the affected room and other lines and systems contained therein. In addition, the sensors will initiate signals that will alert the operator to bring the plant to a shutdown condition.