

INSTRUMENTATION

CHLORINE DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

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3.3.5.5 A chlorine detection system, with one detection subsystem located at the Control Room air intake (1-AT-2977, 2-AT-2977) and one detection subsystem located near the chlorine tank car siding (1-AT-2979, 2-AT-2979), shall be OPERABLE with the alarm/trip setpoint adjusted to actuate at a chlorine concentration of less than or equal to 5 ppm.

APPLICABILITY: OPERATIONAL CONDITIONS 1\*, 2\*, and 3\*.

ACTION:

- a. With one chlorine detector of either or both subsystem(s) inoperable, restore the inoperable detection subsystem to OPERABLE status within 7 days or, within the next 6 hours, isolate the Control Room and operate in the recirculation mode.
- b. With both chlorine detectors of either subsystem inoperable, within one hour isolate the Control Room and operate in the recirculation mode.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.3.5.5 Each of the above required chlorine detection system subsystems shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

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\*With the chlorine tank car within the Exclusion Area.

INSTRUMENTATIONBASESMONITORING INSTRUMENTATION (Continued)3/4.3.5.2 REMOTE SHUTDOWN MONITORING INSTRUMENTATION

The OPERABILITY of the remote shutdown monitoring instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN 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 CFR 50.

3/4.3.5.3 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important 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 Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations."

The suppression chamber water temperature monitoring system performs a dual function. It provides for accident monitoring as recommended by Regulatory Guide 1.97. This system is also designed to meet the acceptance criteria of NUREG-0661, Appendix A in monitoring average suppression chamber water temperature during normal operating conditions. Refer to Sections 3/4.3.5.3 and 3/4.6.2.1 for Limiting Conditions for Operation and Surveillance Requirements pertaining to each function.

3/4.3.5.4 SOURCE RANGE MONITORS

The source range monitors provide the operator with information on the status of the neutron level in the core at very low power levels during start-up. At these power levels, reactivity additions should not be made without this flux level information available to the operator. When the intermediate range monitors are on scale adequate information is available without the SRMs and they can be retracted.

3/4.3.5.5 CHLORINE DETECTION SYSTEM

The OPERABILITY of the chlorine detection system ensures that an accidental chlorine release will be detected promptly and the necessary protective actions will be automatically initiated to provide protection for Control Room personnel. Upon detection of a high concentration of chlorine, the Control Room emergency ventilation system will automatically isolate the Control Room and operation will be initiated in the recirculation mode to provide the required protection. The detection system required by this specification is consistent with the Brunswick Steam Electric Plant's position on NRC TMI ACTION PLAN ITEM III.D.3.4, Control Room Habitability. Regulatory Guide 1.95 "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release" was used as a source of guidance regarding the detection system design.

Enclosure 2  
to NLS-86-015

Proposed Technical Specification Pages  
Brunswick-2

Chlorine Detection System  
(85TSB24)

Summary List of Revisions

Brunswick-2

<u>Page No.</u>	<u>Description</u>
3/4 3-54	Section 3/4.3.5.5 revised to reflect system design and GE BWR/4 STS guidance.
B 3/4 3-3	Revised the wording of Basis 3/4.3.5.5

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ACTION:

- a. With one chlorine detector of either or both subsystem(s) inoperable, restore the inoperable detection subsystem to OPERABLE status within 7 days or, within the next 6 hours, isolate the Control Room and operate in the recirculation mode.
- b. With both chlorine detectors of either subsystem inoperable, within one hour isolate the Control Room and operate in the recirculation mode.
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SURVEILLANCE REQUIREMENTS

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\*With the chlorine tank car within the Exclusion Area.

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3/4.3.5.3 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the post-accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important 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 Conditions During and Following an Accident," December 1975, and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

The suppression chamber water temperature monitoring system performs a dual function. It provides for post-accident monitoring as recommended by Regulatory Guide 1.97. This system is also designed to meet the acceptance criteria of NUREG-0661, Appendix A in monitoring average suppression chamber water temperature during normal operating conditions. Refer to Sections 3/4.3.5.3 and 3/4.6.2.1 for Limiting Conditions for Operation and Surveillance Requirements pertaining to each function.

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The source range monitors provide the operator with information on the status of the neutron level in the core at very low power levels during start-up. At these power levels, reactivity additions should not be made without this flux level information available to the operator. When the intermediate range monitors are on scale, adequate information is available without the SRMs and they can be retracted.

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