

ATTACHMENT 4

ANO-1 TECHNICAL SPECIFICATION
PAGES AS AMENDED

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3.14 HYDROGEN RECOMBINERS

Applicability

Applies to the operating status of the hydrogen recombiner systems.

Objective

To ensure that the hydrogen recombiner systems will perform within acceptable levels of efficiency and reliability.

Specification

- 3.14.1 Two independent hydrogen recombiner systems shall be operable whenever reactor building integrity is required.
- 3.14.2 With one hydrogen recombiner system inoperable, restore the inoperable system to operable status within 30 days or the reactor shall be placed in the hot shutdown condition within the next 6 hours.
- 3.14.3 Hydrogen concentration instruments shall be operable.
- 3.14.4 With one of two hydrogen concentration instruments inoperable, restore the inoperable analyzer to OPERABLE status within 30 days or be in at least hot shutdown within the next 6 hours.

Bases

The hydrogen recombiner systems are designed to operate as necessary to limit the hydrogen concentration in the reactor building following a Loss of Coolant Accident.

The system is composed of two redundant 100% capacity Internal Electrical Hydrogen Recombiners, manufactured by Westinghouse.

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4.12 HYDROGEN RECOMBINERS SURVEILLANCE

Applicability

Applies to the surveillance of the hydrogen recombiner systems.

Objective

To verify an acceptable level of efficiency and operability of the hydrogen recombiner systems.

Specification

- 4.12.1 Each hydrogen recombiner system shall be demonstrated OPERABLE:
- a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes. Upon reaching 700°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 60 KW.
 - b. At least once per 18 months by:
 1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,
 2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and
 3. Verifying the integrity of the heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.
- 4.12.2 Hydrogen concentration instruments shall be calibrated once every 18 months with proper consideration to moisture effect.

Bases

The OPERABILITY of the recombiners for the control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the

expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water, and 3) corrosion of metals within containment. The hydrogen recombiner systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following LOCA", Rev. 2, November, 1978.

APPENDIX 5
PAGE CHANGE DATA

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

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