INSTRUMENTATION

POST-ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.5 The post accident monitoring instrumentation channels shown in Table 3.3.7.5-1 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

a. With one or more post-accident monitoring instrumentation channels inoperable, restore the inoperable channel(s) to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.5 Each of the above required post-accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.5-1.

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TABLE 3.3.7.5-1

POST-ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT		MINIMUM INSTRUMENTS OPERABLE
1.	Reactor Vessel Pressure	2
2.	Reactor Vessel Water Level	2
3.	Suppression Chamber Water Level	2
4.	Suppression Chamber Water Temperature	2
5.	Suppression Chamber Air Temperature	2
6.	Drywell Pressure	2
7.	Drywell Temperature	2
8.	Drywell Oxygen Concentration	2
9.	Drywell Hydrogen Concentration	2
10.	_____	_____
11.	_____	_____
12.	_____	_____

GE-STS

TABLE 4.3.7.5-1

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Reactor Vessel Pressure	M	R
2. Reactor Vessel Water Level	M	R
3. Suppression Chamber Water Level	M	R
4. Suppression Chamber Water Temperature	M	R
5. Suppression Chamber Air Temperature	M	R
6. Primary Containment Pressure	M	R
7. Drywell Temperature	M	R
8. Drywell Oxygen Concentration	NA	R
9. Drywell Hydrogen Concentration	NA	R
10. _____	_____	_____
11. _____	_____	_____
12. _____	_____	_____

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(OR ALTERNATE SYSTEMS AS APPROPRIATE)

PRIMARY CONTAINMENT ATMOSPHERE DILUTION SYSTEM (If less than two hydrogen recombiners available)

LIMITING CONDITION FOR OPERATION

3.6.6.2 The primary containment atmosphere dilution (CAD) system shall be OPERABLE with:

a. An OPERABLE flow path capable of supplying nitrogen to the drywell, and

b. A minimum supply of (4350) gallons of liquid nitrogen.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With the CAD system inoperable, restore the CAD system to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.2 The primary containment atmosphere dilution system shall be demonstrated to be OPERABLE:

a. At least once per 31 days by verifying that:

1. The system contains a minimum of (4350) gallons of liquid nitrogen, and

2. Each valve (manual, power operated or automatic) in the flow path not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months by:

1. Cycling each power operated (excluding automatic) valve in the flow path not testable during plant operation through at least one complete cycle of full travel, and

2. Verifying that each automatic valve in the flow path actuates to its correct position on a _____ isolation test signal.

1595 047

PRIMARY CONTAINMENT HYDROGEN MIXING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.3 Two independent hydrogen mixing systems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With one hydrogen mixing system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.3 Each hydrogen mixing system shall be demonstrated OPERABLE:

a. At least once per 92 days by:

1. Starting the system from the control room,

2. Verifying that the system operates for at least 15 minutes, and

3. Verifying that the system is aligned to receive electrical power from separate OPERABLE emergency buses.

b. At least once per 18 months by verifying a system flow rate of at least _____ cfm.

1595 048

SIMILAR TO PNPS SPECIFICATION 3.7.A.5

PRIMARY CONTAINMENT OXYGEN CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.6.6.4 The primary containment atmosphere oxygen concentration shall be less than 4% by (volume).

APPLICABILITY: OPERATIONAL CONDITION 1*, during the time period:

a. Within 24 hours after THERMAL POWER is greater than 15% of RATED THERMAL POWER, following startup, to

b. Within 24 hours prior to reducing THERMAL POWER to less than 15% of RATED THERMAL POWER preliminary to a scheduled reactor shutdown.

ACTION:

With the oxygen concentration in the primary containment exceeding the limit, be in at least STARTUP within 8 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.4 The oxygen concentration in the primary containment shall be verified to be within the limit within 24 hours after THERMAL POWER is greater than 15% of RATED THERMAL POWER and at least once per 7 days thereafter..

1595 049

*See Special Test Exception 3.10.5.

3/4.10.5 OXYGEN CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.10.5 The provisions of Specification 3.6.6.4 may be suspended during the performance of the Startup Test Program until either the required 100% of RATED THERMAL POWER trip tests have been completed or the reactor has operated for 120 Effective Full Power Days.

APPLICABILITY: OPERATIONAL CONDITION 1.

ACTION

With the requirements of the above specification not satisfied, be in at least STARTUP within 6 hours.

SURVEILLANCE REQUIREMENTS

4.10.5 The Effective Full Power Days of operation shall be verified to be less than 120, by calculation, at least once per 7 days during the Startup Test Program.

1595 050

3/4.3.7.5 POST-ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the post-accident 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.)

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. 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.

3/4.3.7.7 TRAVERSING IN-CORE PROBE SYSTEM

The OPERABILITY of the traversing in-core probe system with the specified minimum complement of equipment ensures that the measurements obtained from use of this equipment accurately represent the spatial neutron flux distribution of the reactor core. The OPERABILITY of this system is demonstrated by irradiating each detector to be used and determining the acceptability of its voltage curve. For the purpose of measuring _____ a full incore flux map is used. Quarter-core flux maps, as defined in _____, may be used and full incore flux maps or symmetric incore thimbles may be used for measuring _____.

3/4.3.7.8 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 provided protection for control room personnel. Upon detection of a high concentration of chlorine, the control room emergency ventilation system will automatically be placed in the (isolation) mode of operation to provide the required protection. (The detection systems required by this specification are consistent with the recommendations of Regulatory Guide 1.95 "Protection of Nuclear Power Plant Control Room Operators against an Accidental Chlorine Release", February 1975.)

3/4.3.7.9 CHLORIDE INTRUSION MONITORS

The chloride intrusion monitors provide adequate warning of any leakage in the condenser or hotwell so that actions can be taken to mitigate the consequences of such intrusion in the reactor coolant system. With only a minimum number of instruments available increased sampling frequency provides adequate information for the same purpose.

3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL

The OPERABILITY of the systems required for the detection and control of hydrogen gas ensures that these systems will be available to maintain the hydrogen concentration within the primary containment below its flammable limit during post-LOCA conditions. Either hydrogen recombiner (or the primary containment atmosphere dilution system) system 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 mixing systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.) (The hydrogen control system is consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA", March 1971.)