TABLE 3.2-H

ACCIDENT MONITORING INSTRUMENTATION

Instrument	Total Number of Channels Provided	Type Indication and Range	Minimum No. Channels Required	Action
Safety/Relief Valve Position Indicator (Primary Detector)	1/Valve(1)	N/A	1/Valve	(2)
Safety/Relief Valve Position Indicator (Backup-Thermocouple)	1/Valve	N/A	0	
Safety Valve Position Indicator (Primary Detector)	1/Valve(1)	N/A	1/Valve	(2)
Safety Valve Position Indicator (Backup-Thermocouple)	1/Valve	N/A	0	
Reactor Coolant, Containment Atmosphere, and Torus Water Post-Accident Sampling	2(each)	N/A	1(each)	(4)(5)
Extended Range Effluent Radiation Monitors:				
a) Reactor Building Exhaust Stack	3	Recorder, Indicator 5×10^{-2} to 10^{5} μCi/cc	1	(6)
b) Turbine Building Exhaust Stack	1	Recorder, Indicator 5×10^{-2} to 10^{5} μCi/cc	1	(6)
c) Offgas Stack	1	Recorder, Indicator 5×10^{-2} to 10^{5} μCi/cc	1	(6)
Drywell/Torus Radiation Monitor	4	Recorder, Indicator 1 to 10^{7} R/hr	2	(6)
Drywell Pressure Monitor	2	Recorder, Indicator 0-225 psig	2	(7)(8)
Drywell Pressure Monitor	2	Recorder, Indicator -5 to +5 psig	2	(7)(8)
Torus Water Level Monitor	2	Recorder, Indicator 0-30 feet	2	(9)(10)
Containment Hydrogen/Oxygen Concentration (3)	2	Recorder, Indicator 0-10% or 0-25% O_2 0-10% or 0-20% H_2 Volume oxygen/hydrogen	2	(11)(12)

NOTES FOR TABLE 3.2-H

(1) Each channel is comprised of three instruments (pressure switches) which are arranged in a "two out of three" logic connected to a relay.

(2) From and after the date that a channel is inoperable, the torus temperature will be monitored at least once per shift to observe any unexplained temperature increase which might be indicative of an open SRV; continued reactor operation is permissible only during the succeeding 30 days, unless such channel is sooner made operable.

(3) Normal condition is with monitor in standby mode.

(4) When the ability to obtain a sample has been lost:

a. Within 7 days confirm a sample can be obtained within 24 hours of the time a decision is made to sample; and

b. Within 90 days, restore the sampling capability.

c. If the requirements of notes 4(a) and 4(b) cannot be met, be in at least a HOT SHUTDOWN Condition within the next 24 hours.

(5) When the ability to analyze a sample has been lost:

a. Within 7 days, confirm that alternative sample analytical support services can be initiated within 24 hours of the time a decision is made to sample; and

b. Within 90 days, restore sample analysis capability.

c. If the requirements of notes 5(a) and 5(b) cannot be met, be in at least a HOT SHUTDOWN Condition within the next 24 hours.

(6) With the number of OPERABLE channels (both indicator and recorder inoperable) less than the Minimum Number Channels Required, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and:

a. either restore the inoperable channel(s) to OPERABLE status within seven (7) days following the event, or

b. prepare and submit a Special Report to the Commission within 14 days following the event describing the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

NOTES FOR TABLE 3.2-H (cont.)

(7) If the number of OPERABLE channels (both indicator and recorder inoperable) is reduced to less than the Minimum Number Channels Required (e.g., reduced to one channel) follow either step (a) or (b) below.

a. Operation may continue for the next thirty (30) days provided at least one (1) channel of instrumentation specified in Table 3.2-F for the identical parameter is OPERABLE[1] or follow step (c) below.

b. Restore the inoperable channel to OPERABLE status within 7 days, should neither channel of instrumentation specified in Table 3.2-F for the identical parameter be OPERABLE, or follow step (c) below.

c. Within the following 12 hours be in at least HOT STANDBY and within the next 24 hours be in COLD SHUTDOWN.

(8) If the number of OPERABLE channels (both indicator and recorder inoperable) is reduced to zero (e.g., no channels available) restore the inoperable channel(s) to OPERABLE status within 48 hours or within the following 12 hours be in at least HOT STANDBY and within the next 24 hours be in COLD SHUTDOWN.

(9) If the number of OPERABLE channels (both indicator and recorder inoperable) is reduced to less than the Minimum Number Channels Required (e.g., reduced to one channel) follow either step (a) or (b) below.

a. Operation may continue for the next thirty (30) days provided at least one torus water level channel and one containment water level channel is available.[2] If these conditions cannot be met, follow step (b) below.

b. Operation may continue for the next 7 days if one torus water level channel is available and there are no other containment water level channels available. If these conditions cannot be met, follow step (c) below.

c. Within the following 12 hours be in at least HOT STANDBY and within the next 24 hours be in COLD SHUTDOWN.

(10) If the number of OPERABLE channels (both indicator and recorder inoperable) is reduced to zero (e.g., no channels available) restore at least one channel to OPERABLE status within 48 hours or within the following 12 hours be in at least HOT STANDBY and within the next 24 hours be in COLD SHUTDOWN.

(11) If the number of OPERABLE channels (both indicator and recorder inoperable) is less than the Minimum Number Channels Required (e.g., reduced to one channel) follow either step (a) or (b) below.

a. Within 30 days, increase the number of OPERABLE channels to the Minimum Number Channels Required or follow step (c) below.

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[1]The instruments in Table 3.2-F which measure the identical parameters are the -10 to 90 psig drywell pressure monitors.
[2]The containment water level monitors provide indication from 0 to 100 feet.

NOTES FOR TABLE 3.2-H (cont.)

b. Within 30 days, and at least once every 7 days thereafter, demonstrate the ability to obtain and analyze containment samples for hydrogen and oxygen or follow step (c) below. If this sampling is done, but the number of OPERABLE channels is not increased to the Minimum Number Channels Required within 60 days from the time of initial loss, follow step (c) below.

c. Within the following 12 hours have the reactor in at least HOT STANDBY and within the next 24 hours have the reactor in COLD SHUTDOWN.

(12) If the number of OPERABLE channels (both indicator and recorder inoperable) is reduced to zero (e.g., no channels available) follow either step (a) or step (b) below.

a. Restore at least one channel to OPERABLE status within 7 days or follow step (c) below.

b. Within 7 days, and at least every other day thereafter, demonstrate the ability to obtain and analyze containment samples for hydrogen and oxygen or follow step (c) below. If this sampling is done, but the number of OPERABLE channels is not increased to the Minimum Number Channels Required within 14 days from the time of initial loss, follow step (c) below.

c. Within the following 12 hours be in at least HOT STANDBY and within the next 24 hours be in COLD SHUTDOWN.

Surveillance tests other than a monthly functional check of the bus power monitors for the RHR, Core Spray, ADS, HPCI and RCIC trip systems are not required since they serve as annunciators for complete loss of power and do not monitor reduction of voltage. The subject functional check consists of opening the appropriate circuit breakers and observing the loss of power annunciator activation.

The accident monitoring instrumentation listed in Table 3.2-H were specifically added to comply with the requirements of NUREG-0737 and Generic Letter 83-36. The instrumentation listed is designed to provide plant status for accidents that exceed the design basis accidents discussed in Chapter 15 of the DAEC UFSAR.

Footnote 9 of Table 3.2-H deviates from the guidance of Generic Letter 83-36 as continued operation for 30 days (instead of 7 days as recommended in the generic letter) is allowed with one of two torus water level monitor (TWLM) channels inoperable. Continued operation is justified by the following considerations:

1) Redundancy is available in that at least one channel of the containment water level monitor (CWLM) instrumentation must be available. Since the CWLM envelopes the span measured by the TWLM, the torus water level can be monitored by the CWLM system.

2) The CWLMs meet the same design criteria as the TWLMs, e.g, the CWLMs are redundant Class 1E, Seismic Category 1, seismically qualified to IEEE 344-1975, environmentally qualified (sensors only) to IEEE 323-1974 for the transmitter locations, and meet the single failure criteria of IEEE-279, such that any single component failure will not disable both redundant CWLM channels. The CWLM system met the safety-grade criteria in effect at the time it was installed.