TABLE 3.2.6

POST-ACCIDENT INSTRUMENTATION

Minimum Number of Operable Instrument Channels (Note 8)	Parameter	Type of Indication	Instrument Range
2	Drywell Atmospheric Temperature (Notes 1 and 3)	Recorder #TR-16-19-45 (Blue)	0-350°F
		Meter #TI-16-19-30B	0-350°F
2	Containment Pressure (Notes 1 and 3)	Meter #PI-16-19-12A	(-15) -(+260) psig
		Meter #PI-16-19-12B	(-15) -(+260) psig
2	Torus Pressure (Notes 1 and 3)	Meter #PI-16-19-36A	(-15) -(+65) psig
		Meter #PI-16-19-36B	(-15) -(+65) psig
2	Torus Water Level (Notes 1 and 3)	Meter #LI-16-19-12A	0-25 ft.
		Meter #LI-16-19-12B	0-25 ft.
2	Torus Water Temperature (Notes 1 and 3)	Meter #TI-16-19-33A	0-250°F
		Meter #TI-16-19-33C	0-250°F
2	Reactor Pressure (Notes 1 and 3)	Meter #PI-2-3-56A	0-1500 psig
		Meter #PI-2-3-56B	0-1500 psig
2	Reactor Vessel Water Level (Notes 1 and 3)	Meter #LI-2-3-91A	(-200)-0-(+200)"H_2O
		Meter #LI-2-3-91B	(-200)-0-(+200)"H_2O
2	Torus Air Temperature (Notes 1 and 3)	Recorder #TR-16-19-45 (Red)	0-350°F
		Meter #TI-16-19-41	50-300°F
2/valve	Safety/Relief Valve Position From Pressure Switches (Notes 1 and 3)	Lights RV-2-71(A-D) From PS-2-71-(1-3)(A-D)	Closed - Open

TABLE 3.2.6
(Cont'd)

POST-ACCIDENT INSTRUMENTATION

Minimum Number of Operable Instrument Channels (Note 8)	Parameter	Type of Indication	Instrument Range
1/valve	Safety Valve Position From Acoustic Monitor (Note 5)	Meter ZI-2-1A/B	Closed - Open
2	Containment Hydrogen/Oxygen Monitor (Notes 1 and 3)	Recorder SR-VG-6A (SI) Recorder SR-VG-6B (SII)	0-30% hydrogen 0-25% oxygen
2	Containment High-Range Radiation Monitor (Note 6)	Meter RM-16-19-1A/B	1 R/hr-10^7 R/hr
1	Stack Noble Gas Effluent (Note 7)	Meter RM-17-155	0.1 - 10^7 mR/hr

TABLE 3.2.6 NOTES

Note 1 - Within 30 days following the loss of one indication, restore the inoperable channel to an operable status or a special report to the Commission must be prepared and submitted within the subsequent 14 days, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to operable status.

Note 2 - Deleted.

Note 3 - Within 7 days following the loss of both indications, restore at least one required channel to an operable status or place the reactor in a hot shutdown condition within the following 12 hours.

Note 4 - Deleted.

Note 5 - From and after the date that safety valve position from the acoustic monitor is unavailable, reactor operation may continue for 30 days provided safety valve position can be determined by monitoring safety valve discharge temperature and primary containment pressure. If after 30 days the inoperable channel has not been returned to an operable status, a special report to the Commission must be prepared and submitted within the subsequent 14 days, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to operable status.

If one or both parameters are not available (i.e., safety valve discharge temperature and primary containment pressure indication) with one or more safety valve position indications from the acoustic monitor unavailable, continued reactor operation is permissible during the next seven days. In this condition, if both secondary parameters are not restored to an operable status within seven days, the reactor shall be placed in a hot shutdown condition within the following 12 hours.

Note 6 - Within 30 days following the loss of one indication, or seven days following the loss of both indications, restore the inoperable channel(s) to an operable status or a special report to the Commission must be prepared and submitted within the subsequent 14 days, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to operable status.

Note 7 - From and after the date that this parameter is unavailable by Control Room indication, within 72 hours ensure that local sampling capability is available. If the Control Room indication is not restored within 7 days, prepare and submit a special report to the NRC within 14 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to operable status.

Note 8 - When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions for Operation and required action notes may be delayed for up to 6 hours.

BASES: 3.2 (Cont'd)

Specification 3.2.G requires that the post-accident monitoring (PAM) instrumentation of Table 3.2.6 be operable during reactor power operation. PAM instrumentation is not required to be operable during shutdown and refueling conditions when the likelihood of an event that would require PAM instrumentation is extremely low. The primary purpose of the PAM instrumentation is to display plant variables that provide information required by the control room operators during accident situations. This information provides the necessary support for the operator to take the manual actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis accidents. The operability of the PAM instrumentation ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status and behavior 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 and Environs Conditions During and Following an Accident."

In most cases, Table 3.2.6 requires a minimum of two operable channels to ensure that the operators are provided the information necessary to determine the status of the plant and to bring the plant to, and maintain it in, a safe condition following an accident. For the majority of parameters monitored, when one of the required channels is inoperable, the required inoperable channel must be restored to operable status within 30 days. The 30-day completion time is based on operating experience and takes into account the remaining operable channel (or in the case of a parameter that has only one required channel, an alternate means to monitor the parameter), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

If a PAM instrument channel has not been restored to an operable status within the specified interval, the required action is to prepare a written report to be submitted to the NRC within the following 14 days. This report will detail the corrective actions taken, an evaluation of the cause of the inoperability, proposed restorative actions, and a schedule for returning the inoperable system to service. This action is appropriate in lieu of a shutdown requirement, since alternative actions are identified before loss of functional capability, and given the likelihood of plant conditions that would require information provided by this instrumentation.

For the majority of PAM instrumentation, when two required channels are inoperable (or in the case of a parameter that is monitored by only one channel, the channel and an alternate means are inoperable), one channel (or the required alternate means) should be restored to an operable status within seven days. The completion time of seven days is based on the relatively low probability of an event requiring PAM instrumentation and the normal availability of alternate means to obtain the required information. Where specified, continuous operation with two required channels inoperable (or one channel and the required alternate means inoperable) is not acceptable after seven days. Therefore, restoration of one inoperable channel limits the risk that the PAM function will be in a degraded condition should an accident occur.

BASES: 3.2 (Cont'd)

For the majority of PAM instrumentation in Table 3.2.6, if two of the required channels (one required channel per valve and alternate means for safety valve position indication) remain inoperable beyond the allowed interval, actions must be taken to place the reactor in a mode or condition in which the limiting condition for operation does not apply. To achieve this status, the reactor must be brought to at least hot shutdown within 12 hours. The allowed completion time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. It is not necessary to bring the reactor to cold shutdown since plant conditions during hot shutdown are such that the likelihood of an accident that would require PAM instrumentation is extremely low.

The Degraded Grid Protective System has been installed to assure that safety-related electrical equipment will not be subjected to sustained degraded voltage. This system incorporates voltage relays on 4160 Volt Emergency Buses 3 and 4 which are set to actuate at the minimum voltage required to prevent damage of safety-related equipment.

If Degraded Grid conditions exist for 10 seconds, either relay will actuate an alarm to alert operators of this condition. Based upon an assessment of these conditions the operator may choose to manually disconnect the off-site power. In addition, if an ESF signal is initiated in conjunction with low voltage below the relay setpoint for 10 seconds, the off-site power will be automatically disconnected.

The Reactor Core Isolation Cooling (RCIC) System provides makeup water to the reactor vessel during shutdown and isolation to supplement or replace the normal makeup sources without the use of the Emergency Core Cooling Systems. The RCIC System is initiated automatically upon receipt of a reactor vessel low-low water level signal. Reactor vessel high water level signal results in shutdown of the RCIC System. However, the system will restart on a subsequent reactor vessel low-low water level signal. The RCIC System is normally lined up to take suction from the condensate storage tank. Suction will automatically switch over from the condensate storage tank to the suppression pool on low condensate storage tank level.

Upon receipt of a LOCA initiation signal, if normal AC power is available, all RHR pumps and both Core Spray pumps start simultaneously with no intentional time delay. If normal AC power is not available, RHR pumps A and D start immediately on restoration of power, RHR pumps B and C start within 3 to 5 seconds of restoration of power and both Core Spray pumps start within 8 to 10 seconds of restoration of power. The purpose of these time delays is to stagger the start of the RHR and Core Spray pumps on the associated Division 1 and Division 2 Buses, thus limiting the starting transients on the 4.16 kV emergency buses. The time delay functions are only necessary when power is being supplied from the standby power sources (EDGs). The time delays remain in the pump start logic at all times as the time delay relay contact is in parallel with the Auxiliary Power Monitor relay contact. Either contact closure will initiate pump start. Thus, the time delays do not affect low pressure ECCS pump operation with normal AC power available. With normal AC power not available, the pump start relays which would have started the B and C RHR pumps and both Core Spray pumps are blocked by the Auxiliary Power Monitor contacts and the pump start time delay relays become the controlling devices.