TABLE 3.2.2
(Cont'd)

HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION INSTRUMENTATION

Minimum Number of Operable Instrument Channels per Trip System	Trip Function	Trip Level Setting	Required ACTION When Minimum Conditions For Operation Are Not Satisfied
2 per set of 4 (Notes 11,12)	High Steam Line Space Temperature (TS-23-(101-104)(B-D))	$\leq$212°F	Note 3
1 (Notes 11,12)	High Steam Line d/p (Steam Line Break) (DPIS-23-76/77)	$\leq$195 inches of water	Note 3
4 (Notes 5,11,13)	Low HPCI Steam Supply Pressure (PS-23-68(A-D))	$\geq$70 psig	Note 3
2 (Notes 11,12)	Main Steam Line Tunnel Temperature (TS-23-(101-104)A)	$\leq$212°F	Note 3
1 (Notes 11,12)	Time Delay (23A-K48) (23A-K49)	$\leq$35 minutes	Note 3
1	Trip System Logic	--	Note 3

TABLE 3.2.2
(Cont'd)

REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION INSTRUMENTATION

Minimum Number of Operable Instrument Channels per Trip System	Trip Function	Trip Level Setting	Required ACTION When Minimum Conditions For Operation Are Not Satisfied
2 (Notes 11,12)	Main Steam Line Tunnel Temperature (TS-13-(79-82)A)	≤212°F	Note 3
1 (Notes 11,12)	Time Delay (13A-K41) (13A-K42)	≤35 minutes	Note 3
2 per set of 4 (Notes 11,12)	High Steam Line Space Temperature (TS-13-(79-82)(B,C,D))	≤212°F	Note 3
1 (Notes 11,12)	High Steam Line d/p (Steam Line Break)(DPIS-13-83/84)	≤195 inches of water	Note 3
4 (Notes 5,11,13)	Low Steam Supply Pressure (PS-13-87(A-D))	≥50 psig	Note 3
1	Trip System Logic	--	Note 3
1 (Notes 11,12)	Time Delay (13A-K7) (13A-K31)	3≤ t ≤7 seconds	Note 3

TABLE 3.2.2 NOTES (Cont'd)

13. Whenever the High Pressure Cooling Injection System and Reactor Core Isolation Cooling System are required to be operable in accordance with Specification 3.5, the low steam supply pressure automatic isolation trip system shall be operable, except as provided below:

    A. With the automatic isolation trip function not maintained, restore isolation capability in 1 hour or take the ACTION required by Table 3.2.2.

    B. With one or more required channels inoperable, place the inoperable channel(s) in the tripped condition within 24 hours or take the ACTION required by Table 3.2.2.

BASES: 3.2 (Cont'd)

control and/or bypass valves to open, resulting in a rapid depressurization and cooldown of the reactor vessel. The 800 psig trip setpoint limits the depressurization such that no excessive vessel thermal stress occurs as a result of a pressure regulator malfunction. This setpoint was selected far enough below normal main steam line pressures to avoid spurious primary containment isolations.

Low condenser vacuum has been added as a trip of the Group 1 isolation valves to prevent release of radioactive gases from the primary coolant through condenser. The setpoint of 12 inches of mercury absolute was selected to provide sufficient margin to assure retention capability in the condenser when gas flow is stopped and sufficient margin below normal operating values.

The HPCI and/or RCIC high flow and temperature instrumentation is provided to detect a break in the HPCI and/or RCIC piping. The HPCI and RCIC steam supply pressure instrumentation is provided to isolate the systems when pressure may be too low to continue operation. These isolations are for equipment protection. However, they also provide a diverse signal to indicate a possible system break. These instruments are included in Technical Specifications because of the potential for possible system initiation failure if not properly tested. Tripping of this instrumentation results in actuation of HPCI and/or RCIC isolation valves, i.e., Group 6 valves. A time delay has been incorporated into the RCIC steam flow trip logic to prevent the system from inadvertently isolating due to pressure spikes which may occur on startup. The trip settings are such that core uncovering is prevented and fission product release is within limits.

The instrumentation which initiates ECCS action is arranged in a dual channel system. Permanently installed circuits and equipment may be used to trip instrument channels. In the nonfail safe systems which require energizing the circuitry, tripping an instrument channel may take the form of providing the required relay function by use of permanently installed circuits. This is accomplished in some cases by closing logic circuits with the aid of the permanently installed test jacks or other circuitry which would be installed for this purpose.

The trip logic for the nuclear instrumentation control rod block logic is 1 out of n; i.e., any trip on one of the six APRMs, six IRMs or four SRMs will result in a rod block. The minimum instrument channel requirements for the IRMs may be reduced by one for a short period of time to allow for maintenance, testing or calibration. The RBM is credited in the Continuous Rod Withdrawal During Power Range Operation transient for preventing excessive control rod withdrawal before the fuel cladding integrity safety limit (MCPR) or the fuel rod mechanical overpower limits are exceeded. The RBM upper limit is clamped to provide protection at greater than 100% rated core flow. The clamped value is cycle specific; therefore, it is located in the Core Operating Limits Report.

For single recirculation loop operation, the RBM trip setting is reduced in accordance with the analysis presented in NEDO-30060, February 1983. This adjustment accounts for the difference between the single loop and two loop drive flow at the same core flow, and ensures that the margin of safety is not reduced during single loop operation.

The purpose of the APRM rod block function is to avoid conditions that would require Reactor Protection System action if allowed to proceed. The APRM upscale rod block alarm setting is selected to initiate a rod block before the APRM high neutron flux scram setting is reached. The APRM upscale rod block trip setpoint is varied as a function of reactor recirculation flow. The slope of the rod block trip response curve with recirculation flow is adjustable to allow tracking of the required trip setpoint with