THREE MILE ISLAND NUCLEAR STATION
UNIT #2 ABNORMAL PROCEDURE 2203-1.6
NUCLEAR SERVICE CLOSED COOLING WATER FAILURE

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THREE MILE ISLAND NUCLEAR STATION

UNIT #2 ABNORMAL PROCEDURE 2203-1.6

NUCLEAR SERVICE CLOSED COOLING WATER FAILURE

1.0 SYMPTOMS

1.1 Low Nuclear Service Pump Suction Pressure Alarm.

1.2 Nuclear Service Pump Trip Alarms.

1.3 Low Nuclear Services Surge Tank Level Alarm.

1.4 Decreasing Nuclear Service Pump Suction or Discharge Header Pressure.

1.5 Nuclear Service Cooler Discharge Temperature High Alarm.

2.0 IMMEDIATE ACTION

2.1 Automatic Action

2.1.1 Standby Nuclear Service Pump will start automatically if running pump trips.

2.1.2 Nuclear Services Closed Cooling Water Head Tank level control will modulate valve DW-V50 to maintain proper level in the head tank.

2.1.3 Operating make-up pump will trip on loss of cooling water. Standby make-up pump will not start (non-ES only).

2.1.4 Instrument air compressor(s) will trip on reaching high discharge air temperature.

2.1.5 BS-P1A&/or B will trip on low cooling flow if running and 30 psig ES signal is not actuated.

2.2 Manual Action

2.2.1 Verify that the standby Nuclear Services Closed Cooling Pump has started if an operating pump has tripped. If not, manually start the standby pump.

2.2.2 If the Nuclear Services Closed Cooling Water Head Tank has alarmed low, verify that make-up valve DW-V50 is open to increase tank level. If not, open manual bypass valve DW-V53. Check Demin Water Tank level and that DW-P-1A/B are running.

2.2.3 Attempt to locate and isolate source of leakage.

3.0 FOLLOWUP ACTION

CAUTION: The Reactor Coolant and Make-up Pump have the following temperature limitations. If these limits are reached, pumps should be shut down. Loss of Reactor Coolant Pumps will necessitate natural circulation.

	R. C. PUMP	MAKEUP PUMP
Thrust Bearing Temp, °F Computer Point	200	180 MU-P-1A - 352 MU-P-1B - 353 MU-P-1C - 354
Stator Temp, °F Computer Point	302 (150°C) RC-P-1A - 1670 RC-P-2A - 1672 RC-P-1B - 1673 RC-P-2B - 1671	257 (125°C) MU-P-1A - 1663 MU-P-1B - 1664 MU-P-1C - 1665
Time without cooling water (including coast-down time)	10 Min.	

3.1 If non-isolable leakage exists in excess of normal NSCCW make-up capacity, commence plant shutdown and cooldown, start standby Nuclear Services River Water Pumps and open NSCCW - NSRW crosstie valves NS-V154, NS-V191, NS-V193.

3.2 If leakage exists in Make-up, (MU) Building Spray (BS) or Reactor Building Emergency Cooling Boostar (RR) systems, crosstie with Nuclear Services River Water for cooling per the following valve line-up.

	NS Valves (close)	NR Valves (open)
Building Spray (BS)	NS-V192, 195	NS-V193, 194
Make-Up (MU)	NS-V190, 197	NS-V191, 196
Emergency Boostar (RR)	NS-V155, 156	NS-V154, 157

3.3 When cooling water flow is established, restart a Make-up Pump.