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IE Information Notice 79-25

REACTOR TRIPS AT TURKEY POINT UNITS 3 AND 4

Background

On August 3, Turkey Point Units 3 and 4 tripped while operating at full power. A voltage spike on a second protection channel caused Unit 4 to trip during surveillance testing on the reactor protection system. This resulted in a loss of offsite power and subsequent shedding of non-essential loads. Unit 3 tripped as the result of high coolant pressure caused by a turbine runback.

Discussion

While performing a periodic test on channel "C" of the T-Average and Delta T Protection Channels, a spurious signal on channel "A" completed a 2 out of 3 trip logic: tripping Unit 4. This resulted in a loss of offsite power condition for Unit 4. At this time, the Unit 4 startup transformer was out of service due to performance of periodic maintenance. This condition caused the initiation of the emergency diesel generator load sequencer which resulted in the shedding of non-vital loads. Among the non-vital loads shed, were those on Motor Control Center (MCC) "D" which is common to both units. Since the Rod Position Indication System for both units is powered by the non-vital portion of MCC-D, a turbine runback on Unit 3 was initiated upon loss of rod position indication. This resulted in a reactor trip on high pressurizer pressure. At the time, neither of the two pressurizer spray valves was available. One was considered inoperable prior to the transient and the other, temporarily powered by the non-vital portion of MCCD, had become unavailable earlier as a consequence of the Unit 4 trip.

A subsequent review disclosed inadequacies in the administrative controls over the correction of operational problems exhibited by spray valve PCV-3-455B. The original Hagan controller for spray valve PCV-3-455B had been disconnected and was replaced by another manual controller which was plugged into the valve control circuit and which had been taped to the top of a console in the main control room. The actual installation of the manual controller was not performed under established guidelines. Additionally, no temporary procedure had been issued to ensure consistent understanding between shifts of the operational control of this unusual component configuration.

Thus, failure to establish guidelines and procedures resulted in unnecessary challenges to the reactor protection system. The subsequent transient resulted in needless thermal stress cycles on the reactor coolant system and its components. If plant procedures had been followed, or if the Rod Position Indication System had been a vital load this transient would have been prevented.

All holders of operating licenses or construction permits should ensure that temporary procedures for plant changes and modifications are established and followed as required.

LISTING OF IE INFORMATION NOTICES ISSUED IN LAST SIX MONTHS

Information Notice No.	Subject	Date Issued	Issued To
79-05	Use of Improper Materials in Safety-Related Components	3/21/79	All power reactor facilities with an OL or CP
79-06	Stress Analysis of Safety-Related Piping	3/23/79	All Holders of Reactor OL or CP
79-07	Rupture of Radwaste Tanks	3/26/79	All power reactor facilities with an OL or CP
79-08	Interconnection of Contaminated Systems with Service Air Systems Used As the Source of Breathing Air	3/28/79	All power reactor facilities with an OL and Pu Processing fuel facilities
79-09	Spill of Radioactively Contaminated Resin	3/30/79	All power reactor facilities with an OL
79-10	Nonconforming Pipe Support Struts	4/16/79	All power reactor facilities with a CP
79-11	Lower Reactor Vessel Head Insulation Support Problem	5/7/79	All holders of Reactor OLs and CPs
79-12	Attempted Damage to New Fuel Assemblies	5/11/79	All Fuel Facilities Research Reactors, and Power Reactors with an OL or CP
79-13	Indication of Low Water Level in the Oyster Creek Reactor	5/29/79	All Holders of Reactor OLs and CPs
79-14	NRC Position of Electrical Cable Support Systems	6/11/79	All Power Reactor Facilities with a CP
79-15	Deficient Procedures	6/7/79	All Holders of Reactor OLs and CPs

LISTING OF IE INFORMATION NOTICES
ISSUED IN 1979

Information Notice No.	Subject	Date Issued	Issued To
79-16	Nuclear Incident at Three Mile Island	6/22/79	All Research Reactors and Test Reactors with OLs
79-17	Source Holder Assembly Damage Damage From Misfit Between Assembly and Reactor Upper Grid Plate	6/20/79	All Holders of Reactor OLs and CPs
79-18	Skylab Reentry	7/5/79	All Holders of Reactor OLs
79-19	Pipe Cracks In Stagnant Borated Water Systems At PWR Plants	7/17/79	All Holders of Reactor OLs and CPs
79-20	NRC Enforcement Policy NRC Licensed Individuals	8/10/79	All Holders of Reactor OLs and CPs and Production Licensees with Licensed Operators
79-21	Transportation and Commercial Burial of Radioactive Material	9/7/79	All power and research reactors with OL's
79-22	Qualification of Control Systems	9/14/79	All power reactor facilities with operating licenses and construction permits.
79-23	Emergency Diesel Generator Lube Oil Coolers	9/25/79	All power reactor facilities holding OLs and CPs
79-24	Overpressurization Of Containment Of A PWR Plant After A Main Stream Line Break	10/01/79	All power reactor facilities with a OL or CP