

ABNORMAL OCCURRENCE 73-11-10 FAILURE OF ONE LOW LOW LEVEL SENSOR

DURING ROUTINE SURVEILLANCE TESTING ON 11-10-73 AT 1509 HOURS, ONE OF TWO INSTRUMENT CHANNELS WAS FOUND TO ACTUATE ABOVE NORMAL SET POINT, BUT WITHIN THE ALLOWABLE RANGE OF TABLE 3.6.2 OF TECHNICAL SPECIFICATIONS. HOWEVER, FOLLOWING A REVIEW ON 10/12/73 - MONDAY - OF THE SURVEILLANCE TESTING, IT WAS NOTED THAT IN THE BASES OF THE TECHNICAL SPECIFICATION, THE INSTRUMENT WAS BEYOND ITS NORMAL DEVIATION. THEREFORE, (AS DEFINED IN TECHNICAL SPECIFICATIONS 1.13d, WE ARE REPORTING AS AN ABNORMAL OCCURRENCE THE FAILURE OF ONE LOW LOW LEVEL SENSOR. TECHNICAL SPECIFICATION 3.6.2 (PROTECTIVE INSTRUMENTATION) STATES: "THE SET POINTS, MINIMUM NUMBER OF TRIP SYSTEMS, AND MINIMUM NUMBER OF INSTRUMENT CHANNELS THAT MUST BE OPERABLE FOR EACH POSITION OF REACTOR MODE SWITCH SHALL BE AS GIVEN IN TABLES 3.6.2a TO 3.6.2j.

PARAMETER	MINIMUM NO. OF TRIPPED OR OPERABLE TRIP SYSTEMS	MINIMUM NO. OF OPERABLE INSTRUMENT CHANNELS PER OPERABLE TRIP SYSTEM	SET POINT	*DEVIATION
LOW LOW REACTOR WATER LEVEL	2	2	<5 ft. below minimum normal water level	+2.6"

THE REACTOR LOW LOW WATER LEVEL SENSORS (2 EACH PER TRIP CHANNEL) WERE ROUTINELY TESTED. RECD WAS FOUND TO ACTUATE AT 4' 9" BELOW MINIMUM NORMAL WATER LEVEL. NORMAL ACTUATION IS 5' 0" BELOW MINIMUM NORMAL ± 2.6 ".

SYSTEM	REQUIRED LOGIC	REMARKS
PRIMARY COOLANT ISOLATION CONTAINMENT ISOLATION EMERGENCY COOLING INITIATION START CORE SPRAY PUMPS	2 SENSORS PER TRIP CHANNEL 1 SENSOR PER TRIP CHANNEL TO INITIATE	WOULD CAUSE REQUIRED FUNCTION AT 5 FT BELOW MIN. NORMAL LEVEL
INITIATES CONTAINMENT SPRAY	2 SENSORS PER CHANNEL (ONE SENSOR PER TRIP CHANNEL TO PARTIALLY INITIATE) ALSO NEED HIGH DRYWELL PRESSURE	WOULD CAUSE REQUIRED FUNCTION AT 5 FT. BELOW MIN. NORMAL LEVEL AND 3.5 PSI

ALL THE SYSTEMS LISTED ABOVE WOULD FUNCTION AT THE REQUIRED SET POINT. THE CHANNEL 12 TRIP WOULD OCCUR AT 4' 9" BELOW MINIMUM NORMAL AND THE CHANNEL 11 TRIP WOULD OCCUR AT 5' BELOW MINIMUM NORMAL (ACTUATING THE PROTECTIVE FUNCTION). BOTH TRIP CHANNELS MUST FUNCTION TO OBTAIN THE PROTECTIVE FUNCTION AND EVEN IF THE 12 TRIP CHANNEL FUNCTION OCCURRED FIRST, THE SYSTEM PROTECTION FUNCTION WOULD NOT OCCUR

UNTIL THE 11 TRIP SYSTEM ACTUATED. TESTING OF ALL SENSORS IN THIS LOGIC SHOWED NORMAL PROTECTIVE FUNCTION WOULD BE INITIATED AT THE DESIRED LEVEL (5' BELOW MINIMUM NORMAL). THE INSTRUMENT, RE02D, WAS RECALIBRATED AND VERIFIED TO OPERATE AT THE 5' BELOW MINIMUM NORMAL SET POINT.

BASED ON THE ABOVE, NO UNDUE SAFETY HAZARD WAS PRESENTED TO THE GENERAL PUBLIC NOR WOULD ANY SYSTEM REQUIRED TO FUNCTION FAIL TO FUNCTION PROPERLY AT ITS REQUIRED SET POINT.

* THE DEVIATIONS ARE FOUND IN THE BASES OF THE TECHNICAL SPECIFICATION 3.6.2 AND ARE NOT PART OF THE TABLE.

P. ALLISTER BURT
GENERAL SUPERINTENDENT
NUCLEAR GENERATION
NINE MILE POINT NUCLEAR STATION

MEMO ROUTE SLIP		See me about this. Note and return.	For concurrence. For signature.	For action. For information.
Form AEC-93 (Rev. May 14, 1947) AECM 0240				
TO (Name and unit)	INITIALS	REMARKS		
RO:Chief FS&EB		AO-73-11-10 NIAGARA MOHAWK - NINE MILE POINT		
RO:HQ (5)	DATE	DN-50-220		
RO Files ✓				
Central Mail & Files				
TO (Name and unit)	INITIALS	REMARKS		
Regulatory Standards	(3)	The above AO is forwarded for information.		
Directorate of	DATE	Distribution will be made by this office to the		
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	DATE			
FROM (Name and unit)	REMARKS			
<i>E. J. Brunner</i>				
E. J. Brunner				
RO:I				
PHONE NO.	DATE			
8-337-1246	11/13/73			

USE OTHER SIDE FOR ADDITIONAL REMARKS

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