

CONTROL BLOCK (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 NCMG|S|2|00-000000-000|411111|

01 REPORT SOURCE L|05000370|080383|090283|

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES

02 During performance of the "Containment Pressure Control Functional Test", an alarm
03 module (relay K-1) associated with containment pressure control system (CPCS) Train
04 A was found out of calibration. During investigation of the incident it was deter-
05 mined that relay K-2 which had inadvertently not been checked during the previous
06 testing was also out of calibration. This violates T.S.3.3.2 and 3.6.5.6 which is
07 reportable per T.S.6.9.1.11(a) and similar to RO-369/83-30 and 370/83-19. Analysis
08 indicates the incorrect setpoints would have minimal effect of the plants response
09 to an accident, and redundant CPCS Train B was operable. Health and safety of the
public were unaffected.

09 I|B|X|Z|I|N|S|T|R|U|Y|Z|
17 LER/RO REPORT NUMBER 83
21 EVENT YEAR 83
23 SEQUENTIAL REPORT NO. 038
24 OCCURRENCE CODE /
25 REPORT TYPE L
26 REVISION NO. 0
27 ACTION TAKEN E
28 FUTURE ACTION H
29 EFFECT ON PLANT Z
30 SHUTDOWN METHOD Z
31 HOURS 0000
32 ATTACHMENT SUBMITTED Y
33 NPRD-4 FORM SUB. N
34 PRIME COMP. SUPPLIER L
35 COMPONENT MANUFACTURER X9999

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS

10 The incorrect setpoints are attributed to setpoint drift. However, the setpoints
11 may have been set incorrectly previous to August 3, 1983. The modules (R.I.S.
12 Model ET-1215) have been fairly stable in the CPCS application. Not initially
13 checking the K-2 relay is attributed to personnel error and procedural inadequacy.
14 The module was recalibrated. Procedures were revised and personnel will be counseled.

15 X|030|Modes 5 and 1|B|Routine Surveillance

16 Z|Z|NA|NA

17 0|0|0|Z|NA

18 0|0|0|NA

19 Z|NA

20 N|NA

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September 2, 1983

83 SEP 19 9:54

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street NW, Suite 2900
Atlanta, Georgia 30303

Subject: McGuire Nuclear Station Unit 2
Docket No. 50-370
LER/RO-370/83-38

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-370/83-38. This report concerns T.S. 3.3.2, "The Engineered Safety Features Actuation System Instrumentation Channels and Interlocks Shown in Table 3.3-3 Shall be Operable with their Trip Setpoints Set Consistent With the Values Shown in the Trip Setpoint Column of Table 3.3-4...", and T.S. 3.6.5.6, "Two Independent Containment Air Return and Hydrogen Skimmer Systems Shall be Operable." This incident was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H. B. Tucker

Hal B. Tucker

PBN:jfw
Attachment

cc: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

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DUKE POWER COMPANY
MCGUIRE NUCLEAR STATION
REPORTABLE OCCURRENCE REPORT NO. 370/83-38

REPORT DATE: September 2, 1983

FACILITY: McGuire Unit 2, Cornelius, NC

IDENTIFICATION: Containment Pressure Instrument That Allows the Containment Air Return Fan and Hydrogen Skimmer Fan to Start was Found Out of Calibration

DESCRIPTION: During performance of periodic test "Containment Pressure Control Functional Test" on August 3, 1983 the alarm module associated with Containment Pressure Control System (CPCS) loop 2MNSLP5390 was found out of calibration. This loop provides a permissive interlock to allow the 2A Containment Air Return Fan and Hydrogen Skimmer Fan to start when Containment pressure exceeds atmospheric pressure by 0.25 psi. This system is required operable in modes 1, 2, 3, and 4 by Technical Specification 3.6.5.6. The loop was declared inoperable under Technical Specification 3.3.2 (Table 3.3-4, Functional Unit #6). This was done to prevent the unit, which was in Mode 5, from passing into a mode requiring the containment air return system. The module is assumed to have been out of calibration during previous Mode 1 operation. The setpoint of the alarm modules (NSRL5390) K-1 relay, which provides the interlock to the Containment Air Return Fan, was corrected and the system returned to service the same day.

During the investigation of this incident it was discovered that the K-2 relay on the subject alarm module had not been checked during the August 3 testing. The setpoints on both relays were rechecked the same afternoon, August 11, 1983, and relay K-2 was found out of calibration.

These incidents are attributed to Component Malfunction because the setpoints of the two relays might have changed since the previous calibration. However, the setpoints could have been set incorrectly previous to August 3. The failure of the technicians to check relay K-2 is attributed to personnel error.

Unit 2 has operated in Mode 1 at power levels up to 30% while the K-2 setpoint was incorrect.

EVALUATION: Each transmitter in the CPCS supplies a signal to a single alarm module. Alarm modules have two output relays, K-1 and K-2. There are four transmitters and alarm modules per train, or eight possible outputs available for permissive interlocks. Only seven of the outputs are necessary, so one relay on NSRL5520 (Train A) and NSRL5490 (Train B) is not used.

The alarm module (NSRL5390) was checked on 5/26/83 per the "Containment Pressure Control Functional Test". Both relay setpoints were found to be within tolerance and were left as found. 18 month periodic testing of loop 2MNSLP5390 per procedure "ET-1215 R.I.S. Alarm Module Calibration" was performed 7/18/83. No as found data was recorded. Following the Unit 2 outage, the required monthly testing of 2MNSLP5390 was resumed on 8/3/83, and relay K-1 was found out of calibration with a setpoint of 7.048 VDC. The K-1 relay was recalibrated, and the technicians marked the data sheet section for relay K-2 NA, thinking that it was not used in the system.

The reason for the alarm module being out of calibration might have been setpoint drift between settings on July 18 and August 3. However, the operating history before and after this time period indicates that the device was stable. The setpoints of both relays remained within tolerance between initial calibration (June - December 1982) and the periodic test on May 26, 1983. The K-1 relay remained within tolerance again from August 3 to August 11 (no data is available for K-2 during this time period). Another possibility for the out of calibration condition is that the module was improperly adjusted during the 18 month test on July 18, 1983. Even though correct setpoints of 0.13 psi and 7.28 ma were written in the comments section of the data sheet, the actual settings and as found data were not recorded. The modules (R.I.S. model ET-1215) have been fairly stable in the CPCS application and the monthly setpoint checks initiated in May 1983 will provide additional data to evaluate possible setpoint drift.

Data sheets in the monthly CPCS alarm module calibration procedure contain sections to record data for each alarm module and are marked with the instrument numbers. Spaces for the unused K-2 relays on NSRL5520 and NSRL5490 are usually marked NA by the technicians. The terminal strip on the front of the alarm modules are checked and only the relays on which wires are attached are calibrated. The technicians who calibrated the CPCS modules on August 3 missed seeing the wires connected to terminals 9 and 10 (output of K-2), and therefore marked the section of the data sheet for this relay NA. They did not check or calibrate it.

During the investigation of the August 3 incident it was discovered that the K-2 relay had not been calibrated. Both relays were checked and K-2 was found out of calibration at 7.040 VDC (K-1 was still in calibration). The relays were readjusted. Due to miscommunication the CPCS was not declared inoperable while the module was removed for service.

CORRECTIVE ACTION: When alarm module relay K-1 was found out of tolerance on August 3, it was readjusted. The module (including the K-2 relay) was recalibrated on August 11. Both relays on the alarm module worked correctly after the work was completed on August 11, 1983. The long term performance of the modules will be verified through monthly testing.

The data sheets in the monthly test procedure have been modified to eliminate unused sections. Technicians can now expect to calibrate all of the equipment listed on the data sheets.

This event will be covered with appropriate IAE and Operations personnel. The necessity of conveying critical information, such as when equipment will be removed from service during maintenance, will be emphasized.

SAFETY ANALYSIS: Due to another recent incident (Ref. RO-370/83-19) involving CPCS alarm modules that were found set too high, analyses were performed which indicated that such a deficiency would have minimal effect on the plant's response to an accident.

B train of CPCS was operable throughout this event and would have responded as designed if an accident had occurred.

The health and safety of the public were unaffected by this incident.