NRC FORM 366 (12-81)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

APPROVED BY OMB 3150-0011 EXPIRES 4-30-82

CONTROL BLOCK: (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 LICENSEE CODE: N C M G S 1 (2) LICENSE NUMBER: 0 0 - 0 0 0 0 0 - 0 0 (3) LICENSE TYPE: 4 1 1 1 1 (4) CAT (5)

CON'T

01 REPORT SOURCE: L (6) DOCKET NUMBER: 0 5 0 0 0 3 6 9 (7) EVENT DATE: 0 5 2 6 8 3 (8) REPORT DATE: 0 6 2 7 8 3 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 While in Mode 3, during a procedure review it was discovered that the monthly
03 test of the Containment Pressure Control System (CPCS) failed to satisfy the
04 surveillance requirements to check permissive/termination setpoint accuracy.
05 This violates T.S.4.3.2.1 (Table 4.3-2, Item 6) which is reportable per T.S.6.
06 9.1.10(f) and similar to RO's 369/83-36, 370/83-19 and 83-22. An evaluation of
07 the effects of the alarm module calibration errors concluded that they would
08 have had no significant adverse impact on systems operation. Health and safety of the public were unaffected.

09 SYSTEM CODE: I B (11) CAUSE CODE: X (12) CAUSE SUBCODE: Z (13) COMPONENT CODE: Z Z Z Z Z Z (14) COMP SUBCODE: Z (15) VALVE SUBCODE: Z (16)

(17) LER/RO REPORT NUMBER: EVENT YEAR: 8 3 — SEQUENTIAL REPORT NO.: 0 3 0 / OCCURRENCE CODE: 0 1 REPORT TYPE: T — REVISION NO.: 0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER (26)
E (18)	X (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	Z (25)	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 This incident resulted from a failure to identify a significant change in the
11 testing requirements in the newly issued McGuire Units 1 and 2 combined Tech.
12 Specs. The out-of-tolerance instruments are attributed to design deficiencies
13 and lack of monthly checks/adjustments. All CPCS alarm modules were recalibra-
14 ted. Procedures will be reviewed/revised, and modifications made to reduce effects of alarm module drift on setpoints.

15 FACILITY STATUS: X (28) % POWER: 0 0 0 (29) OTHER STATUS (30): Mode 3 METHOD OF DISCOVERY: C (31) DISCOVERY DESCRIPTION (32): Procedure Review

16 ACTIVITY RELEASED: Z (33) CONTENT OF RELEASE: Z (34) AMOUNT OF ACTIVITY (35): N/A LOCATION OF RELEASE (36): N/A

PERSONNEL EXPOSURES

17 NUMBER: 0 0 0 (37) TYPE: Z (38) DESCRIPTION (39): N/A

PERSONNEL INJURIES

18 NUMBER: 0 0 0 (40) DESCRIPTION (41): N/A

LOSS OF OR DAMAGE TO FACILITY (43)

19 TYPE: Z (42) DESCRIPTION: N/A

PUBLICITY

20 ISSUED: N (44) DESCRIPTION (45): N/A NRC USE ONLY

NAME OF PREPARER Phillip B. Nardoci PHONE (704) 373-7432

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June 27, 1983

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

Re: McGuire Nuclear Station Unit 1
Docket No. 50-369

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-369/83-30. This report concerns T.S. 4.3.2.1, "Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated operable by the performance of the ESFAS instrumentation surveillance requirements specified in Table 4.3-2". This incident was considered to be of no significance with respect to the health and safety of the public.

Due to administrative delay this report is being submitted 1 working day late. We regret any inconvenience this may have caused.

Very truly yours,

H.B. Tucker /BU

Hal B. Tucker

PBN:jfw
Attachments (2)

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

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

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

Attachment 1

DUKE POWER COMPANY
MCGUIRE NUCLEAR STATION
REPORTABLE OCCURRENCE REPORT NO. 369/83-30

REPORT DATE: June 27, 1983

FACILITY: McGuire Unit 1, Cornelius, NC

IDENTIFICATION: Inadequate Surveillance Performed on Containment Pressure Control System

DESCRIPTION: During a procedure review on May 26, 1983, it was discovered that the monthly test of the Containment Pressure Control System (CPCS) was being performed inadequately. The test failed to satisfy the surveillance requirements of McGuire Technical Specification 4.3.2.1, Table 4.3-2, Item 6. A pertinent change in monthly testing requirements in the newly issued combined Units 1 and 2 Technical Specifications was not identified and incorporated into the monthly test procedure to check permissive/termination setpoint accuracy. This incident is attributed to Administrative Deficiency. Unit 1 was in Mode 3 at the time of discovery.

The appropriate setpoint devices were subsequently checked for accuracy, revealing that six of eight channels (4/train) exceeded the Technical Specifications Allowable Value. The CPCS was immediately declared inoperable and the NRC was notified via the Emergency Notification System that Unit 1 had been placed in Limiting Condition for Operation (LCO) 3.0.3, on May 26, 1983.

The cause of the out-of-tolerance instruments is attributed to Design and Procedural Deficiencies for reasons given in the Evaluation section of this report.

This event is reportable pursuant to Technical Specifications 6.9.1.10.f.

EVALUATION: The CPCS monthly test procedure had been developed to satisfy the surveillance requirements of McGuire Unit 1 Technical Specifications (issued January 28, 1981; now superceded) based upon the stated definition of "Channel Functional Test":

> 1.5 A CHANNEL FUNCTIONAL TEST shall be:
>
> a. Analog channels - injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

Procedure "Containment Pressure Control Functional Test" was written to satisfy this requirement by checking the operation of the CPCS alarm modules permissive actuation. The setpoints were not verified.

In the current McGuire Units 1 and 2 combined Technical Specifications (issued March 3, 1983; in effect for Unit 1 on March 29) the Term "Channel Functional Test" was replaced by "Analog Channel Operational Test" and thus defined:

Attachment 1

1.3 An ANALOG CHANNEL OPERATIONAL TEST shall be the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY of alarm, interlock and/or Trip Setpoints such that the setpoints are within the required range and accuracy.

The new term and definition represent a change in testing activities since the setpoints must be verified. The significance of the change was not realized during reviews performed in January and February of draft copies of the new Technical Specifications and the subsequent review of the approved document. The impact upon the CPCS monthly test procedure was discovered during a procedure review on May 26, 1983.

This incident resulted from a failure to identify the significant change in the McGuire Units 1 and 2 Technical Specification during the Technical Specification review.

The immediate corrective action was to perform calibration checks on all CPCS alarm modules (R.I.S. model ET-1215). Six of the eight modules exceeded the Technical Specification (Table 3.3-4 Item 6) Allowable Value of $\leq$ 0.25 psid. The CPCS was subsequently declared inoperable and the NRC notified via the Emergency Notification System. The alarm modules were then recalibrated and the CPCS declared operable.

The maximum error found on the alarm modules was an "As Found" setpoint of 0.625 psid. The excessive setpoint drifts and resulting T. S. violations are due to three reasons:

(A) The "required" setpoint was 0.25 psid. With the alarm modules set at this value, any upward drift results in a T.S. Allowable Value violation.

(B) The accuracy of the R.I.S. ET-1215 is ±0.5%. The input range of the pressure transmitter is from -5 to 20 psid, producing an output of 4-20 mA that is sent to the R.I.S. module. This gives an effective accuracy of ±0.125 psid for the R.I.S. module, due to the wide range of the transmitter. The wide range of the transmitter therefore appears unsuitable for the setpoint application.

(C) Failure to check and adjust setpoints on a monthly basis resulted in larger drifts.

The cause of the excessive setpoint drift is attributed to Design Deficiency (due to A & B), and Procedural Deficiency (due to C).

CORRECTIVE ACTION: All CPCS alarm modules were recalibrated to a setpoint of 0.13 psid. The CPCS setpoints are being reviewed to determine optimum "required" setpoints (0.13 psid will be used in the interim).

Attachment 1

A procedure change will be made to the "Containment Pressure Control Functional Test", prior to the next monthly test scheduled for June, 1983, which will require that setpoints be checked for accuracy.

The Unit 1 and 2 instrumentation surveillance procedures are being reviewed to ensure they include setpoint verification, where required, and that the procedures meet all other Technical Specification surveillance requirements. This review will be completed by July 1, 1983.

A planned modification will reduce the range of the CPCS pressure transmitters of Unit 1. This will reduce the effects of alarm module drift on the CPCS pressure setpoints. This will also be accomplished on Unit 2.

SAFETY ANALYSIS: An evaluation of the effects of the Unit 1 alarm module calibration errors on system operation was performed. The evaluation concluded that the errors would have had no significant adverse impact on the performance of the Containment Spray System or the Containment Air Return and Hydrogen Skimmer System.

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