



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

50-249

WPW Ltr.#847-73

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
November 15, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



SUBJECT: LICENSE DPR-25, DRESDEN NUCLEAR POWER STATION, UNIT #3,
SECTION 6.6.B.2 OF THE TECHNICAL SPECIFICATIONS,
MALFUNCTION OF CORE SPRAY SYSTEM M.O. VALVE 1402-38A.

Reference: 1) Dwgs: P & ID M-358.

Dear Mr. Giambusso:

This letter is to report a condition relating to the operation of the unit at about 0300 hours on October 16, 1973. At this time, Core Spray System I bypass valve 1402-38A failed to open during a system test.

This malfunction is contrary to section 3.5.A.1 of the Technical Specifications which requires that core spray components shall be operable when irradiated fuel is in the reactor.

PROBLEM

Valve 1402-38A is in the minimum flow bypass piping for Core Spray System pump 2A. The function of the valve is to allow adequate pump flow, which prevent pump damage when the core spray system is operating at less than minimum pump flow. This valve is actuated by flow switch DP 1464A. The function of this switch is to monitor core spray flow, and provide an open signal to valve 1402-38A, if flow is less than 300 GPM. When flow is above this value, the flow switch provides a close signal to the valve. On October 16, 1973 during a test of the Unit 3 Core Spray System, bypass valve 1402-38A failed to open due to the failure of flow switch DP 1464A.

INVESTIGATION

Flow switch DP 1464A was tested and found to be inoperable. The switch was recalibrated and then found to operate properly. The switch is a Barton Model 288 and has a history of setpoint drift in both the increasing and decreasing direction.

9310200355 731115
PDR ADOCK 05000249
S PDR

COPY SENT REGION

8324

November 15, 1973

On November 1, 1973 the switch was inspected by a Barton field representative. The following observations were noted.

1. The plunger which actuates the micro switch was very loose.
2. The roller on the actuator arm would not roll freely.
3. The range of the switch is too large for the setpoint.

During the investigation it was also noted that a procedure revision is needed to provide more exact instructions when calibrating the flow switch.

CORRECTIVE ACTION

The immediate corrective action was to tighten the plunger screw, free the actuator arm roller, and reset the switch. Future corrective action will be to replace the switch with one having a smaller range, and to develop a program to inspect critical components on Barton switches on a regular schedule.

EVALUATIONS

The failure of valve 1402-38A in no way impaired the availability of the Core Spray System. Therefore, it is concluded that the safety of the station personnel and the general public was not compromised as a result of this switch failure.

Investigations into the drifting of instrument setpoints is continuing. Dresden has consulted with instrument manufacturers and is obtaining recommendations for corrective action. Critical instruments with a history of drifting setpoints are being checked on a more frequent interval. Setpoints have been moved to more conservative value where warranted. These actions have insured continued safe operation of the reactor.

Sincerely,

Fred L. Morris
for W. P. Worden
Superintendent

WPW: do



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to Post Office Box 767
Chicago, Illinois 60690

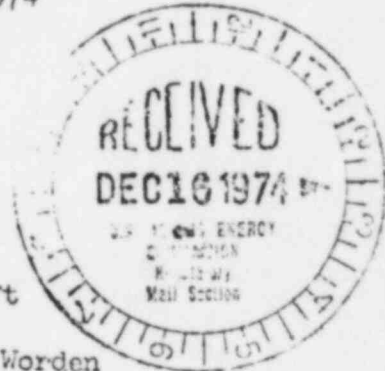
50-10/237/249

BBS Ltr. #886-74

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450

December 11, 1974

Mr. E. C. Case
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



SUBJECT: Corrective Action for Barton Instrument Setpoint Drift

References: Letter #65-74 to Mr. J. F. O'Leary from Mr. W. P. Worden
dated January 30, 1974

Incident D2-73-1 reported to Mr. Giambusso in letter #41-73
dated January 15, 1973

Dear Mr. Case:

The above referenced letter outlined a three step program to reduce setpoint drift in Barton differential pressure switches used at Dresden Station. This letter is to inform the commission of the progress of the program. Step #1: Analysis of pressure switches by Barton representative to determine any application problems on Mechanical defects.

Switch application evaluation was performed by Mr. Roger Smallwood of Stallings & Co. The following misapplications were identified.

Switch No.	Function	Problem
261-34 ABCD	Jet Pump Riser DP	High Oscillation High Range
DP 302-52	Drive Water Filter DP	High Oscillation
DP 261-35	Recirc Pump DP	High Range
1751 A & B	Offgas Pressure	High Range
1464 A & B	Core Spray High Flow	High Range
2352, 53	HPCI Steam Line High Flow	Low Range Zero Center

Dupe
~~8410060199~~

12687

September 11, 1974

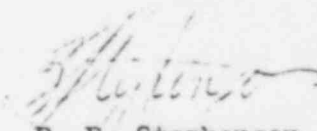
Step #2: Factory representative to conduct a maintenance training seminar to assure no problems are caused by improper maintenance.

Barton factory representative Mr. Peter Elderton conducted a one week Maintenance Seminar beginning September 1, 1974. All Barton differential pressure switches were inspected during September and October of 1974 using a checklist which was developed during the training seminar.

Step #3: Replacement or repair of all pressure switches when deemed necessary by the manufacturer.

Modifications have been initiated for the switches identified in Step #1. However, the original completion date of January 1, 1975 will not be met. The estimated completion date for Step #3 is June of 1975.

Respectfully,



B. B. Stephenson

BBS:WEH:smp

cc: WEH
ECC

File/AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

NOV 5 1973

*Ref
Action Ps.
File*

H. D. Thornburg, Chief
Field Support & Enforcement Branch, RO

BARTON 288 PRESSURE SWITCH

Attached are two abnormal occurrence reports concerning setpoint drift on the same basic instrument (Barton 288). The letter from Dresden states that the locking device they installed in February did not work. The letter from Browns Ferry says they are going to get and install a locking device, that, if the Dresden experience is correct, will not do them a bit of good. Since these come from different Regions, I suggest you might alert Region II to this possible waste of effort.

R. A. Hartfield

R. A. Hartfield
Office of Operations Evaluation

Attachment:
AOR reports

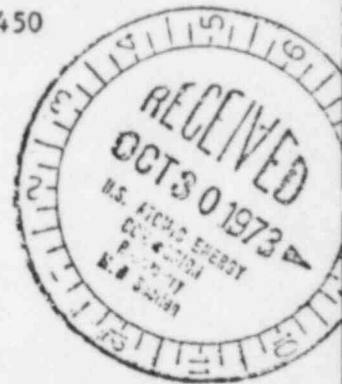
*Dupe
8308240342*

*50-249
Inquiry*



WPW Ltr. #797-73

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
October 24, 1973



Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

SUBJECT: LICENSE DPR-25, DRESDEN NUCLEAR POWER STATION, UNIT #3,
SECTION 6.6.C.1 OF THE TECHNICAL SPECIFICATIONS.
HPCI STEAM LINE HIGH FLOW SWITCH OUT OF CALIBRATION.

References: 1) Dwgs: P&ID M-51. S&L 12E2527

Dear Mr. Giambusso:

This letter is to report a condition relating to the operation of the unit at about 1600 hours on September 25, 1973. At this time high pressure coolant injection (HPCI) flow switch DPIS 3-2353 was found to have a trip setpoint of 152.0" H₂O. This setpoint is contrary to Table 3.2.1 of the Technical Specifications which require a setpoint of ≤ 150 " H₂O.

PROBLEM

At the time of the occurrence, Unit 3 was operating in a steady state condition with a thermal load of 2295 MWe. Routine surveillance was being performed by the Instrument Department when HPCI flow switch DPIS3-2353 was found to have a setpoint of 152" H₂O. The switch was immediately reset to 148" H₂O. The function of DPIS-3-2353 is to isolate the HPCI steam supply line in the event of a break in the steam piping.

INVESTIGATION

The subject flow switch is a Barton model 288 differential pressure sensor. This switch has had a tendency to drift in both the increasing and decreasing direction. A locking device was installed on the switch in February of 1973 in an attempt to eliminate the drift tendency. At the present time, the data from previous surveillances reveals that the locking device has not solved the drift problem. The overall problem of instrument setpoint drift is presently under investigation. The problem has plagued the station since its beginning, and no adequate corrective action has been determined at this time.

DK
8310200253

October 24, 1973

The most recent approach to the problem has been to solicit aid from the manufacturers of the various drifting sensors. In the case of the Barton model 288, the factory representative has recommended that a field service engineer visit the station and analyse Barton switches with regard to application, factory adjustments, and calibration technique. The Barton representative has visited the Station and we are now awaiting his recommendations.

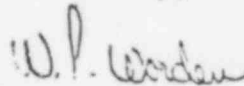
CORRECTIVE ACTION

The immediate corrective action was to change the setpoint of DPIS-3-2353 to bring it within the Technical Specifications. The calibration frequency for this switch will be increased to once per month until such time as this switch has demonstrated its reliability. Additional corrective action will be based on recommendations made by the Barton field service engineer.

EVALUATION

Flow switch DPIS-3-2353 is one of two flow switches that isolate the HPCI steam line in the event of a break in the steam piping. The second switch is DPIS-3-2352, and its setpoint at the time of the occurrence was 146" H₂O. Therefore, it is concluded that in the event of a break in the HPCI steam line piping, isolation would have occurred well within the Technical Specifications, and thus the safety of the station personnel and the general public was in no way compromised. The continued operation of the unit was considered safe.

Sincerely,



W. P. Worden
Superintendent

WPW:do

October 26, 1973



Mr. John F. O'Leary
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, DC 20545

Dear Mr. O'Leary:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL
OCCURRENCE REPORT BFAO-7327W

The purpose of this report is to provide details concerning the malfunction of recirculation jet pump riser d/p switch PdIS-68-24 in unit 1 at Browns Ferry Nuclear Plant on October 16, 1973. This occurrence was reported by telegram on October 17 to the Region II Directorate of Regulatory Operations, Atlanta, Georgia.

Description of the Incident

During routine surveillance testing on October 16, recirculation jet pump riser d/p switch PdIS-68-24 was found to operate outside the technical specification setpoint of greater than 0.5 but less than 1.5 psid as specified in table 3.2.B. The as-found setpoint was 1.8 psid.

Investigation and Corrective Action

Each of the four differential pressure switches operate relays whose contacts are arranged in a one out of two taken twice logic in the RHR injection circuit. The minimum number of channels required for each trip system is two. The other two channels were tested, found to operate satisfactorily, and, if required, would have performed their intended function. The reactor was in the hot standby condition.

These switches are Barton model 288 differential pressure switches. The switch mechanisms were inspected for binding misalignment of other irregularities. None was found. The switches were recalibrated and then functionally tested several times to ensure repeatability. A functional testing frequency of once every 2 weeks has been initiated

Doc
4308240371

7898


Mr. John F. O'Leary
October 26, 1973

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL
OCCURRENCE BFAO-7327W

for all four switches and will be continued until three consecutive tests prove satisfactory performance. At that time, the original test schedule of once a month will be resumed. We intend to install, as soon as possible upon receipt, new locking switchplate assemblies recently made available by the vendor to prevent setpoint drift.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



for E. F. Thomas
Director of Power Production

CC: Mr. Norman C. Moseley, Director
Region II Regulatory Operations Office, USAEC
230 Peachtree Street, NW.
Atlanta, Georgia 30303