

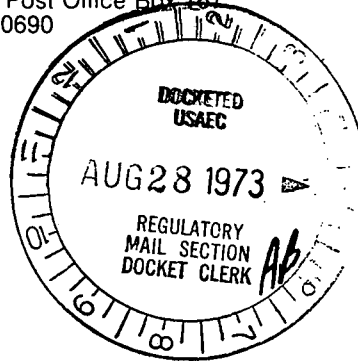


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Regulatory

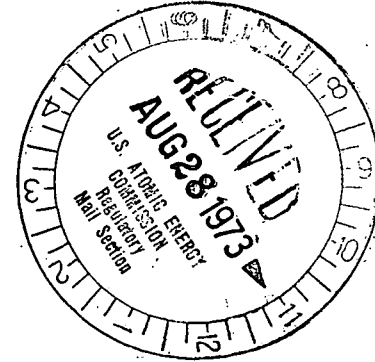
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Dresden Nuclear Power Station
 R. R. #1
 Morris, IL 60450

August 24, 1973



WPW Ltr. #641-73

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

SUBJECT: LICENSE DPR-19, DRESDEN NUCLEAR POWER STATION, UNIT #2, SECTION 6.6.B.3 OF THE TECHNICAL SPECIFICATIONS FAILURE OF HIGH PRESSURE COOLANT INJECTION VALVE MO-2-2301-3 TO OPEN

- References:
- 1) Letter from W. P. Worden to A. Giambusso dated June 14, 1973 concerning a bent stem on Unit #3 valve MO-3-2301-3
 - 2) Notification of Region III of AEC Regulatory Operations
 Telephone: Fred Maura, 1145 hours on 8/16/73
 Telegram: Boyce Grier, 1300 hours on 8/16/73
 - 3) Drawing: P&ID M-51

Dear Mr. Giambusso:

This letter is to report a condition relating to the operation of the unit at about 2015 hours on August 15, 1973. At this time the High Pressure Coolant Injection (HPCI) pump operability check was in progress. The procedure calls for HPCI valve MO-2-2301-3 (steam supply to the HPCI turbine) valve to be opened. It was then discovered that the valve would only open half way. This malfunction is contrary to section 3.5.C.1 of the Technical Specifications which requires that the HPCI system be operable whenever reactor pressure is greater than 90 psig and irradiated fuel is in the reactor vessel.

PROBLEM

HPCI pump operability checks are routinely conducted on a monthly basis. The station was in the process of conducting this check at the time of this deviation. The unit was at 1904 Mwt, and 605 MWe with a reactor pressure of 1000 psig. The mode control switch was in the "run" position.

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As required by the procedure, the operator was to open MO-2-2301-3 from the control room. It was immediately observed that both the "open" and "closed" indicating lights remained on. An attempt was immediately made to open the valve manually, but without success. An attempt was also made to reset the thermal overloads, This did not correct the situation either.

The HPCI system was then declared inoperable at 2305 hours on August 15, 1973. To satisfy the requirements of 4.5.C.2 of the Technical Specifications, the LPCI system, both core spray subsystems, the automatic pressure relief system, and the motor operated isolation valves and shell side make-up system for the isolation condenser system were immediately demonstrated to be operable.

INVESTIGATION

Electrical and mechanical maintenance personnel were on site at the time of the incident. The inspection revealed that the breaker overloads had tripped. Attempts to manually open the valve were unsuccessful. At that time, it was thought that the problem was in the valve gear box.

Further investigation, conducted on August 16, 1973, showed that the stem was bent. A similar occurrence happened on June 8, 1973 to Unit 3 valve MO-3-2301-3. It also had a bent stem.

To make the HPCI system operable, the valve was manually opened by using tools. A successful HPCI quarterly surveillance was conducted at 2015 hours on August 16, 1973 and the system was declared operable.

It was decided to order a new stem and replace the bent stem as soon as possible. In order to replace the valve stem, it will be necessary to completely disassemble the valve. At that time, the valve internals will be inspected to determine the cause of stem bending.

At present, the steam supply valve MO-2-2301-3 to the HPCI turbine had a bent stem and is in the open position. MO-2-2301-4 and 5 are also open and operable. Due to the above valve line up, the HPCI system will function as designed and is therefore operable.

CORRECTIVE ACTION

The immediate corrective action was to conduct the required surveillances with the HPCI system out of service. The valve was then manually opened and the system declared operable. Final corrective action will be determined after the valve has been completely disassembled and inspected. Future corrective action will be based on the outcome of that inspection. The result of the inspection will be reported after the valve disassembly and repair is completed.

EVALUATION

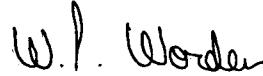
Had a loss of coolant accident occurred while the MO-2-2301-3 valve was partially open, there would have been some injection by the HPCI system. However, had the coolant injected by the system not been

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adequate to handle the situation, then the Auto Blowdown System would have operated. Operation of Auto Blowdown would have reduced reactor pressure, to allow LPCI and core spray systems to function.

After the valves have been disassembled and repaired, the mode of failure will be evaluated. This is to be done to reduce the probability of future failures of similar equipment. Also past cumulative experience had shown that the HPCI system can be operable with the 2301-3 valve open permanently.

Sincerely,



W. P. Worden
Superintendent
Dresden Nuclear Power Station

WPW:sib

cc: File/AEC Corr Cat I

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