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DESCRIPTION:

Ltr Reporting Abnormal Occurrence #74-21 on 10-31-74 concerning Failure of High Pressure Injection Valve MU-V16A to open on a signal from the control room...
.....

ENCLOSURES:

[illegible] D
DO[illegible]REMOVE

PLANT NAME: Three Mile Island #1

### FOR ACTION/INFORMATION 11-15-74 JGB

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1481 256

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November 8, 1974
GQL 0461

Director
Directorate of Licensing
U.S. Atomic Energy Commission
Washington, D.C. 20545

Boyd Cy. File Cy.

Dear Sir:

Docket No. 50-289
Operating License DPR-50

In accordance with the Technical Specifications for our Three Mile Island Nuclear Generating Station, Unit 1, we are reporting the following abnormal occurrence:

(1) Report Number: AO 50-289/74-21

(2a) Report Date: November 8, 1974

(2b) Occurrence Date: October 31, 1974

(3) Facility: Three Mile Island Nuclear Station, Unit 1

(4) Identification of Occurrence:

Title: Failure of High Pressure Injection Valve MU-V16A to Open on a Signal from the Control Room

Type: An abnormal occurrence as defined by the Technical Specifications, paragraph 1.8d, in that the failure of High Pressure Injection Valve MU-V16A to open threatened to cause an Engineered Safeguard feature or system to be incapable of performing its intended function.

(5) Conditions Prior to Occurrence: The reactor was at steady state power with major plant parameters as follows:

Power: Core: 81%
Elec.: 675 MW (Gross)

RC Flow: 138 x $10^6$ lbs/hr

1481 257

11599

RC Pressure: 2155 psig

RC Temp.: 579°F

PRZR Level: 242 in

PRZR Temp.: 650°F

(6) Description of Occurrence:

At 1525 hours on October 31, 1974, High Pressure Injection Valve MU-V16A of the Makeup and Purification System failed to open on a signal initiated manually from the Control Room. This occurred as preparations were being made to troubleshoot a problem involving the Engineered Safeguards indicator light for this valve. After partially opening the valve with the local handwheel, the valve was fully opened electrically. The valve was then closed electrically, but again failed to open on a signal from the Control Room.

It was then determined that a limit switch was out of adjustment and should have been closed when the valve was completely closed. Instead, the switch was open and this condition prevented the valve operator motor from operating.

(7) Designation of Apparent Cause of Occurrence:

It has been determined that the misadjusted limit switch may have resulted from there not being sufficient procedural guidance regarding the adjustment of this type of switch.

(8) Analysis of Occurrence:

It is believed that the failure of High Pressure Injection Valve MU-V16A did not constitute a threat to either the health or safety of the public in that only one of two flow paths is required for high pressure injection during a Loss of Coolant Accident and only one operational valve is required to complete each flow path. In the present instance, both High Pressure Injection Valves in the "B" flow path and the remaining valve in the "A" flow path were tested and found to be operational; hence, both flow path "A" and "B" were available.

(9) Corrective Action:

Immediate actions were taken to ensure redundant components of the affected safeguard system were operable, and to determine the cause of the valve failure. Once it was determined that the cause of the failure was a misadjusted limit switch, the switch in question was properly adjusted; checks were made on the motor to ensure it was not damaged; and the valve was then tested satisfactorily and returned to service.

1481 258

At a meeting held shortly after the occurrence was reported, the Plant Operations Review Committee (PORC) reviewed and gave its approval of the above mentioned corrective actions.

Further, PORC recommended to the Station Superintendent that the following long-term actions be taken to prevent any recurrence of the incident:

a. Inspect the limit switches for the remaining valve along the "A" flow path and for the two valves along the "B" flow path to ensure that they are properly adjusted.

b. Prepare a maintenance procedure, giving additional guidance on adjusting limit switches.

The Station Superintendent concurred with these recommendations and has directed that steps be taken to implement these recommendations.

(10) Failure Data:

Not applicable.

Sincerely,

R. C. Arnold

R. C. Arnold
Vice President

RCA/cas
File: 20.1.1/7.7.3.5.1
cc: J. P. O'Reilly

1481 259