

USNRC REGION II  
DUKE POWER COMPANY

POWER BUILDING

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WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

November 30, 1981

TELEPHONE: AREA 704  
373-4083

Mr. J. P. O'Reilly, Director  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

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

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-369/81-173. This report concerns T.S.3.6.3, "The Containment Isolation Valves Specified in Table 3.6-2 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,

  
William O. Parker, Jr.

PBN/smh

Attachment

cc: Director  
Office of Management and Program Analysis  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Records Center  
Institute of Nuclear Power Operations  
1820 Water Place  
Atlanta, Georgia 30339

Mr. P. R. Bemis  
Sr. Resident Inspector-NRC  
McGuire Nuclear Station



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DUKE POWER COMPANY  
McGUIRE NUCLEAR STATION  
REPORTABLE OCCURRENCE REPORT NO. 81-173

REPORT DATE: November 30, 1981

FACILITY: McGuire Unit 1, Cornelius, NC

IDENTIFICATION: The Inadvertant Opening of Steam Generator 1B Main Feedwater to Auxiliary Feedwater Nozzle Isolation Valve.

INTRODUCTION: On October 30, control room personnel tried to open S/G 1B main feedwater nozzle isolation valve but the valve failed to open and a ground fault indication was received. A check of the motor winding readings at the motor control center determined that the motor was burned-up. Since the actuator for this valve is a Rotork, the actuator had to be removed from the valve to replace the burned-up motor.

The valve was in its safety position, closed, when Technicians began removing the actuator from the valve. A gag was placed on the stem of the valve to prevent the valve from opening when the actuator was removed. The bolts on the actuator were loosened, and the Technicians began to screw the actuator off the stem using the handwheel. When the handwheel was first turned, it was turned in the wrong direction and lifted the disc off the seat enough to allow system pressure, approximately 1140 psig, to completely open the valve. The gag failed to prevent the valve from opening. Control room personnel were notified that the valve had opened at 0246 on October 31. Prior to the incident, Unit 1 was in mode 3, Hot Standby. Pursuant to Technical Specification 3.6.3, the plant entered into an action statement; therefore, this is a reportable incident. According to the action statement, plant personnel had four hours to close the valve. Mechanical maintenance personnel were notified to jack the valve closed. At 0431, maintenance personnel had successfully gagged the valve closed. The actuator was repaired, and the valve was returned to service on November 1, 1981.

EVALUATION: After the reactor trip on October 30, attempts to open the valve to obtain normal feedwater alignment failed. It was determined that the motor was burned-up, and thus the actuator (Rotork, Model 30 NAX1) would have to be removed from the valve. Since the valve was in its safety position, closed, it was necessary to keep the valve in this position when its actuator was removed, and thus a gag was placed on the stem. This gag consisted of a modified C-Clamp (pieces of angle iron are welded to the jaws of the clamp). When Technicians attempted to screw the actuator off the valve stem using the handwheel, they turned the wheel in the wrong direction which allowed the disc to lift off its seat. The system pressure of approximately 1140 psig easily caused the valve to open. Initially turning the valve the wrong way could have also caused the gag to loosen its hold on the stem. Once the valve began to open, the gag could not hold it in place. It is possible that the gag failed to hold due to being installed incorrectly or due to being disturbed while removing the actuator. When the handwheel is turned in the closed direction after the valve reaches its closed position, the actuator will come off the stem. It is possible that the gag may not have held the valve closed under this condition, but doubtful. Therefore it was the initial wrong directional turn of handwheel that caused the valve to open.

CORRECTIVE ACTION: In accordance with the action statement of Technical Specification 3.6.3, the valve had to be closed within four hours. After several unsuccessful attempts were made to close the valve by hand, the valve was jacked closed and gagged. While the valve was gagged in the closed position, the actuator was repaired and reinstalled.

VERIFICATION: The position of the gagged valve could be verified by the valve stem's position. After the actuator was repaired and returned to the valve, it was verified that the valve worked properly in accordance with Technical Specifications by the re-test program using the appropriate procedure.

SAFETY ANALYSIS: The plant was in hot standby at the time of the occurrence and the valve was returned to the closed position in one hour and forty-five minutes. During the time of this incident, nothing happened which required the closing of this valve. Station personnel acted quickly to return the valve to its safety position. The health and safety of the public were unaffected by this incident.