

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

TELEPHONE AREA 704  
373-4083

September 9, 1981

Mr. James 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-369/81-139. This report concerns T.S. 3.4.7.2, "Reactor coolant system leakage shall be limited to:...b. 1 GPM unidentified leakage,..." 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.*

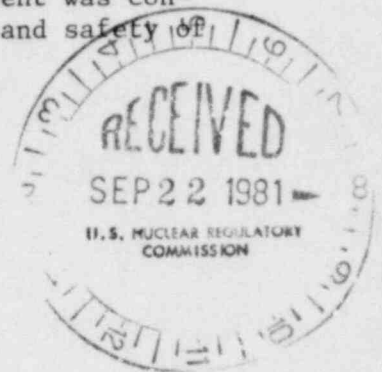
William O. Parker, Jr.

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Attachment

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

Mr. Bill Lavalley  
Nuclear Safety Analysis Center  
P. O. Box 10412  
Palo Alto, California 94303

Ms. M. J. Graham  
Resident Inspector-NRC  
McGuire Nuclear Station



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McGUIRE NUCLEAR STATION  
REPORTABLE OCCURRENCE

REPORT NUMBER: 81-139

REPORT DATE: September 9, 1981

OCCURRENCE DATE: August 12, 1981

FACILITY: McGuire Unit 1; Cornelius, N. C.

IDENTIFICATION OF OCCURRENCE: A loss of water from the reactor coolant (NC) inventory, in excess of one gpm, occurred without Operations' knowledge for about four hours.

CONDITIONS PRIOR TO OCCURRENCE: Mode 2, Start-up

DESCRIPTION OF OCCURRENCE: On August 12, 1981 maintenance personnel broke the flange on the outlet of the Reciprocating Charging Pump #1 Discharge Line Safety-Relief Valve to begin work on the valve. They expected to drain water from the line for an extended period of time and had assembled a funnel, hose, plastic sheet and clamps to direct the drainage to a floor drain in the Reciprocating Charging (PD) Pump Room. The outlet of this valve is connected directly to the Volume Control Tank (VCT) without any isolation valves in between. Maintenance personnel were unaware of the source of the drainage and thought they were draining an isolated volume. Operations personnel were unaware that water was being drained from the VCT, and the water was being replaced by the automatic makeup system. The drainage began between 0930 and 1000 hours. Maintenance left the area about 1230 for lunch. About 1300 hours, control room operators noticed the abnormally high makeup flow to the VCT, and began looking for leaks. Health Physics personnel, touring the auxiliary building, noticed the drain setup and called the control room to ask about it. Immediately after the call, the Shift Supervisor asked Maintenance if they were working on the valve. When they replied that they were, they were instructed to reconnect the outlet flange on the valve and stop the drainage. The flange was reconnected and the leak stopped at about 1400 hours.

APPARENT CAUSE OF OCCURRENCE: Operations failed to adequately isolate the valve before giving maintenance clearance to begin work.

ANALYSIS OF OCCURRENCE: In order to investigate loud noises associated with operation of the PD Pump, a work request was written to examine the Reciprocating Charging Pump Accumulator. Operations isolated and drained a section of the Chemical Volume and Control (NV) System around the pump to prepare for this work. The safety-relief valve was used as one of the isolation valves. Later, a second work request was written to disassemble and check the valve in case the improper cycling of this valve was contributing to the noise problem. When the second work request was brought to the attention of the duty engineer, he was distracted by other problems and only gave it a cursory glance.

He told the operators that the PD Pump was already isolated and tagged and no further action was necessary. The duty engineer failed to realize that the outlet of the valve was connected directly to the VCT and could only be isolated by a freeze seal.

SAFETY ANALYSIS: The drainage of water from the VCT never resulted in an unacceptable level of water in the tank and did not seriously challenge the capacity of automatic makeup system. At no time was the inventory of water in the NC System reduced or threatened. The water was sampled for radio-activity when the draining began and was completely contained by the hose setup and directed to the Nuclear Waste System. The flow rate was also controlled by the opening in the flange and the capacity of the hose. Operators were unable to determine actual leakage from the NC System during this time because VCT level and makeup are part of the NC System leakage calculations. Since no NC System water was lost the safe operation of the plant and the health and safety of the public were not affected by this incident.

CORRECTIVE ACTION: Operations personnel were cautioned to thoroughly review work requests for proper isolation and drainage action, and were reminded that outlet of relief valves cannot be isolated from their respective discharge tanks by isolation valves. Maintenance personnel were directed to stay at the location of any drainage work until it is complete. They were also told to contact Operations if a system continues to drain past a reasonable time, considering the volume involved