

DUKE POWER COMPANY

POWER BUILDING

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WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

July 24, 1981

TELEPHONE: AREA 704
373-4083

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-.../81-105. This report concerns Technical Specification 3.4.7.2; "Reactor coolant system leakage shall be limited to ...". 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.

PBN/pw
Attachment

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

Mr. Bill Lavalley
Nuclear Safety Analysis Center
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Ms. M. J. Graham
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McGUIRE NUCLEAR STATION
REPORTABLE OCCURRENCE

Report Number: 81-105

Report Date: July 24, 1981

Occurrence Date: July 10, 1981

Facility: McGuire Unit 1, Cornelius, N. C.

Identification of Occurrence: A reactor coolant leak was caused when technicians were placing the resistance temperature detector bypass manifold in service.

Conditions Prior to Occurrence: Mode 3, prior to initial criticality.

Description of Occurrence: On July 9, 1981 Operations isolated and drained the cold leg portion of the "A" loop resistance temperature detector (RTD) manifold. The inlet and outlet valves were closed and red tagged. The vent and drain valves were opened but not tagged. An R&R (removal and restoration) form was filled out by the operator detailing the isolation process and the required sequence of restoration. This work was done in preparation for the replacement of a defective RTD. Instrument and Electrical (IAE) technicians completed the installation of the RTD on the same day except that the wiring was temporarily connected for testing.

The following day, another IAE technician was assigned to complete the wiring. After he had finished, his supervisor instructed him to "get the red tags cleared." The supervisor meant for the technician to take the red tag stubs to Operations for clearance. The technician interpreted the instruction to mean that he personally should remove the tags and cut in the manifold. He entered containment, removed the tags from the inlet and outlet valves and attempted to open the inlet valve. The valve was difficult to move, so the technician requested assistance from his supervisor who assigned a second technician to assist him. Neither technician noticed the open vent and drain valves. When the inlet valve was cracked open, steam blew out through the open vent and drain valves, burning the second technician's leg. The technicians left the area immediately and another technician in the area called the control room and reported a leak on the "A" loop RTD manifold. Since the operators could not assess the amount of the leak, they started cooling down per Technical Specification 3.4.7.2 (1615, July 10, 1981). At 1713 hours, an Operations Engineer wearing a heat protection suit and an air pack managed to isolate the leak by closing the vent and drain valves on the manifold.

Apparent Cause of Occurrence: The IAE technicians misunderstood the instructions of the IAE supervisor and attempted to do work for which they were neither trained or qualified by station policy. They did not realize that a process pipe such as the cold leg RTD bypass manifold would have vent and drain valves that must be closed.

Analysis of Occurrence: IAE technicians are allowed to cycle only instrument valves and root valves. Process valves are controlled by Operations or Chemistry. Similarly, IAE technicians are allowed to tag and clear tags on instrument and root valves only, while Operations and Chemistry tag all other equipment. A more

experienced technician would have realized that IAE was not allowed to operate the RTD bypass manifold valves. He would also have recognized the red tags as belonging to Operations. Since instrument lines do not usually use valves on vents and drains, the technicians did not look for vent and drain valves on the manifold.

An operator, assigned to cut in the RTD bypass manifold, would have been guided by the R&R form. He would also have been familiar with the vents and drains used on process piping.

The IAE supervisor should have realized when the first technician called for assistance in opening the valves that a serious error was being made.

Safety Analysis: Although the amount of the leak could not be determined, the capacity of the positive displacement pump was never seriously challenged even during the cool down. All of the safety injection pumps were available to maintain pressure and volume of the reactor coolant system had they been needed. In addition, only new fuel was in the core at the time of the incident. For these reasons the incident had no effect on the health and safety of the public.

Corrective Action: The immediate corrective action was to isolate the leaks by closing the manifold vent and drain valves. IAE technicians will receive special instructions on which valves they are allowed to operate and the entire tagging procedure. IAE supervisors will be counseled to be more careful in giving instructions to less experienced technicians.