

DUKE POWER COMPANY

POWER BUILDING

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

USNRC REGION II
ATLANTA, GEORGIA

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WILLIAM O. PARKER, JR.
VIC- PRESIDENT
STEAM PRODUCTION

February 1, 1982

TELEPHONE: AREA 704
373-4083

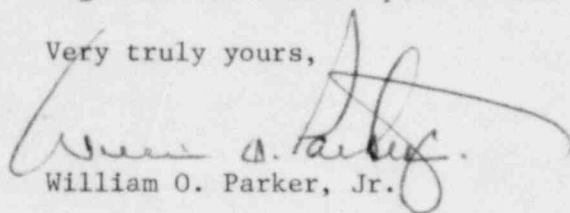
Mr. J. P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

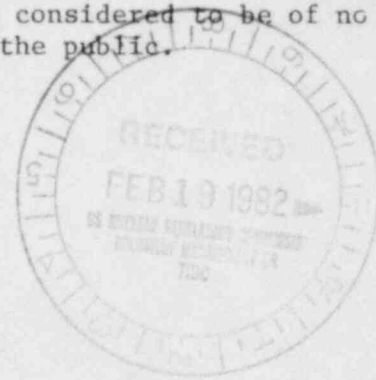
Re: McGuire Nuclear Station Unit 1
Docket No. 50-369

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-369/82-02. This report concerns T.S.3.3.3.6, "The accident monitoring instrumentation channels shown in Table 3.3-10 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/jfw
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
Senior Resident Inspector-NRC
McGuire Nuclear Station

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DUKE POWER COMPANY
McGUIRE NUCLEAR STATION
REPORTABLE OCCURRENCE REPORT NO. 82-02

REPORT DATE: February 1, 1982

FACILITY: McGuire Unit 1, Cornelius, NC

IDENTIFICATION: Unexplained Safety Relief Valve and PORV High Discharge Temperature Indication

DESCRIPTION: On January 1, 1982 during a Unit 1 start-up and heat-up after a month long shutdown for repairs on the Unit 1 main generator, performance of the Monthly Surveillance Items periodic test determined that the temperature sensing valve position indication was in disagreement with the alternate position indications. The temperature sensing portion of the pressurizer relief valves position monitors was subsequently declared inoperable. This is reportable pursuant to Technical Specification 3.3.3.6 as a partial loss of accident monitoring instrumentation.

On January 2, the relief valve discharge temperatures returned to their normal operating ranges after Unit 1 had achieved mode 1 operation. The valve position indication was then declared operable.

EVALUATION: Inquiry into the instances of relief valve high temperature alarms showed that they have been recurrent since initial criticality. Efforts to find the trouble have led to a determination that environmental conditions at the locations of the temperature sensors are probably responsible for the anomalies.

The relief valves and associated piping are all located in a cluster over the pressurizer within the pressurizer cavity. Although this location is a small volume, the configuration of piping and components is such that large temperature gradients exist. This is verified by the temperatures measured by trend recordings in September.

The relief valve discharge temperature alarms were set in accordance with the guidance of the Westinghouse source document (Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Precautions, Limitations and Setpoints), which specifies "20° above ambient". Since the highest expected temperature in the vicinity was 100°F, the alarms were originally set at 120°F. During September, all of the alarm setpoints were reset to 140°F to conform with both the Westinghouse guidance and the 120° lower containment average temperature limit stipulated by Technical Specification 3.6.1.5. Later, the setpoints were changed again to 20°F above the high limits measured on the prior mentioned individual trend recordings.

The main purpose of the relief valve temperature alarms is to alert operators to an open relief valve, which should receive immediate attention. The alarms on relief valve discharge temperatures are overly conservative and should be set at higher temperatures to provide a more positive indication of relief valve actuation. The secondary function of the system, to provide a method of leak detection, would not be lost, if the temperature gages are routinely monitored.

CORRECTIVE ACTION: During September 9-17, 1981, the RTD loop for pressurizer safety relief valve NC-1 was checked. All of the instrumentation and circuitry was functioning properly. The high temperature alarm setpoints for NC-1, 2, and 3 were also adjusted. In November, all three RTD loops, one each for NC-1, 2 and 3, were checked and no discrepancies were discovered. RTD 5970 (NC-1) was also replaced in December when Unit 1 was shut down for maintenance. The high temperature problem on NC-1 still exists, however. It is possible that the NC-1 temperature readings are affected by the different lower containment ventilation fans in service. Therefore, a formal investigation will be conducted to correlate this. Westinghouse is going to determine the basis for the pressurizer safety alarm setpoints being twenty degrees above ambient.

SAFETY ANALYSIS: The PORV and pressurizer safety valve position indication was verified operable. In addition, the valve discharge line acoustic flow monitor is provided as a diverse means of valve position indication. Thus, safe plant operation and the health and safety of the public were not affected.