

DUKE POWER COMPANY

POWER BUILDING

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

August 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

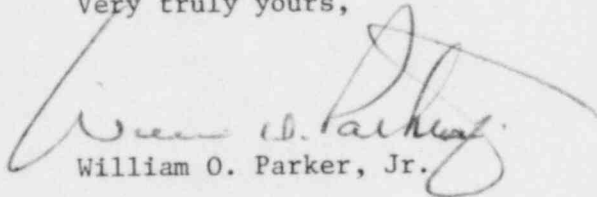


Re: McGuire Nuclear Station Unit 1
Docket No. 50-369

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-369/81-126. This report concerns T.S. 3.3.2, "The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 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.

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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
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McGuire Nuclear Station

Reportable Occurrence

REPORT NUMBER: 81-126

REPORT DATE: August 24, 1981

OCCURRENCE DATE: August 10, 1981

FACILITY: McGuire Unit 1, Cornelius, NC

IDENTIFICATION OF OCCURRENCE: Channel 1 of the Engineered Safety Features (ESF) instrumentation for Refueling Water Storage Tank (FWST) level failed due to a faulty transmitter. The channel was not placed in the tripped condition within one hour, as required by Technical Specification 3.3.2, because personnel on duty were unfamiliar with the system.

CONDITION PRIOR TO OCCURRENCE: Mode 2, Startup

DESCRIPTION OF OCCURRENCE: At 2038 hours on August 10, 1981, operators noticed that Channel 1 of the FWST level indication was acting erratically. They immediately declared the channel inoperable and requested that the technicians on shift place the channel in the tripped condition. The two technicians on shift had never worked on the Refueling Water (FW) System and were unfamiliar with the electrical logic. Efforts to find the appropriate logic drawings or contact personnel knowledgeable in the system logic within the hour were unsuccessful. Operations began shutting down the unit one hour after the FWST channel was declared inoperable. About the same time the technician located the electrical prints showing the FW logic, an engineer was reached by phone. Together the technicians and engineer decided what steps were necessary to trip the defective channel. Power was removed from the level transmitter, which tripped the low level actuated logic. Operations was notified that the transmitter was tripped at 2238 hours on August 10, 1981.

APPARENT CAUSE OF OCCURRENCE: Channel 1 of the FWST level was drifting due to a faulty transmitter. Although it was not determined what the exact cause of the transmitter's (Barton, Model 386) failure was, it was thought to either be in the electronics of it, or a sticking bellows. The personnel on duty at the time of the failure were unfamiliar with the FW System logic, resulting in an excessive amount of time for them to trip the channel.

ANALYSIS OF OCCURRENCE: Due to the pressures of station startup, cross training of the technicians has given way to specialization as technicians devote most of their time to a few systems. Only a few technicians, supervisors, and engineers were familiar with the FW instrumentation. Some time was lost researching the Process Control System 7300 cabinets, because Operations thought the FW logic was included in this system. When the knowledgeable engineer was reached it took only a few minutes to trip the FW channel. FWST level channels could be tripped by removing power from

the respective transmitter or placing the channel in the test mode using the test switch in the FWST panel and adjusting the test potentiometer to simulate a low FWST level. The first method was used because it seemed easier to explain over the phone. Later, the channel was placed in "test" and power was restored to the transmitter for testing.

SAFETY ANALYSIS: The defective transmitter was causing the FWST level signal which supplies the indication and safety logic, to drift from the proper valves. Had the signal dropped below the setpoint valves, channel 1 would have tripped, satisfying one out of two logic conditions necessary to sound alarms and provide the automatic swap over. If the signal had failed high, two operable channels of FWST level would have been available to provide the alarm and the interlock functions. During the time of the incident there were no accidents or significant changes in FWST level so the safe operation of the plant was not compromised. Therefore, the health and safety of the public were not endangered.

CORRECTIVE ACTION: The immediate action was to place the defective channel in the tripped condition as soon as was possible. The transmitter was replaced and the channel returned to service on 8/13/81. A method of insuring that technicians on shift have the necessary information and training to place any of the protective channels in the tripped condition is being developed.