

USNRC REGION II  
ATLANTA, GEORGIA  
DUKE POWER COMPANY  
POWER BUILDING

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

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

July 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-369/81-106. This report concerns Technical Specification 3.3.3.1, "The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be operable with their alarm/trip setpoints within the specified limits". 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. *By [Signature]*

PBN/krh  
Attachment

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

Mr. Bill Lavelee  
Nuclear Safety Analysis Center  
Post Office 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: 81-106

REPORT DATE: July 30, 1981

OCCURRENCE DATE: July 2, 1981

FACILITY: McGuire Nuclear Station; Unit 1, Cornelius, NC

IDENTIFICATION OF OCCURRENCE: The containment area radiation monitoring instrument (EMF 51-B) was declared inoperable.

CONDITIONS PRIOR TO OCCURRENCE: Mode 5, Cold Shutdown

DESCRIPTION OF OCCURRENCE: It was observed in the control room that the "Operating" light would not remain illuminated on the panel for EMF-51-B. The Shift Supervisor declared the system inoperable and requested that the instrument be repaired. This was a reportable incident pursuant to Technical Specification 3.3.3.1.

APPARENT CAUSE: The failure of the operating light appears to be the result of a design problem in the Amplifier/Readout Module (General Atomics Co., Model RP-2C) located in the control room. It is believed that a transistor within the input amplifier becomes saturated because a resistor is missing from the circuit. This results in a temperature dependent drift of the instrument off the zero end of the scale.

ANALYSIS OF OCCURRENCE: EMF-51-B is a high radiation monitor that was installed as part of a design package to comply with new regulations and requirements following the incident at TMI-2. It was initially calibrated and functionally tested on June 19, 1981. Approximately one week later, personnel in the control room began experiencing problems with keeping the "operating" light illuminated.

On July 1, a work request was initiated which included having EMF-51-B examined and calibrated. This EMF was subsequently declared inoperable at 1215 hours on July 2, and the necessary repairs made the same day. The light again failed and had to be adjusted on July 6th, 8th, and 9th. The system was put back into service and declared operable at 1800 hours on July 9.

On July 10, the instrument failed in the same manner as before, and another work request was initiated to make the necessary repairs.

It is anticipated that this will be an on-going problem until the vendor determines and authorizes a corrective modification to this instrument. In conversations with a vendor representative, it was learned that other utilities who had installed this same type of equipment were experiencing the same difficulty.

CORRECTIVE ACTION: The calibration of EMF-51-B was checked and the necessary repairs made. Later, another work request was initiated to make the necessary adjustments until a resolution from the vendor can be implemented. The vendor, General Atomics Co., was notified and are currently investigating this design problem.

SAFETY ANALYSIS: EMF-51-B is a high range radiation monitor ( $10^3$ - $10^8$ Rad/hr) to detect massive amounts of radiation in containment. The failure of the "operating" light to be illuminated has no affect on the actual operability of the instrument. Had an accident involving high doses of radiation occurred, its magnitude could have been determined. Thus, neither the safe operation of the plant or the health and safety of the public were affected by this incident.