

DUKE POWER COMPANY

POWER BUILDING

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

USNRC REGION II  
ATLANTA, GEORGIA

82 JAN 25 4 02

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

January 19, 1982

TELEPHONE: AREA 704  
373-4083

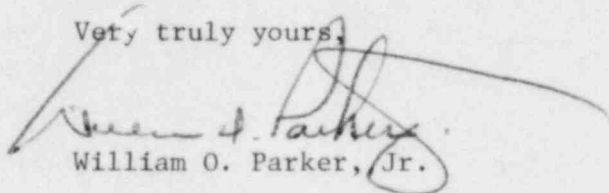
Mr. J. P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

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

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-369/81-181. This report concerns T.S.3.8.2.3, "The following D.C. channels shall be operable and energized:...b. Channel 2 consisting of 125 volt DC Bus No. EVDB, 125 volt DC Battery Bank No. EVCB and a full capacity charger...". 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  
Attachments

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

Records Center  
Institute of Nuclear Power Operations  
1820 Water Place  
Atlanta, Georgia 30339

Mr. P. R. Bemis  
Senior Resident Inspector-NRC  
McGuire Nuclear Station



OFFICIAL COPY

IE 22 5/1

DUKE POWER COMPANY  
MCGUIRE NUCLEAR STATION  
REPORTABLE OCCURRENCE REPORT NO. 81-181

REPORT DATE: January 19, 1981

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

IDENTIFICATION: Operation of a 125 Volt DC Vital Instrumentation and Control Power Battery with One Cell Outside Allowable Limits.

DISCUSSION: On November 12, cell #31 of 125 volt DC Vital Instrumentation and Control Power Battery EVCA was found to have a specific gravity value which was interpreted to be outside the allowable limits for a connected cell. Although the specific gravity of the cell was above the minimum value, it was more than 0.020 below the average of all the battery's cells. As a result, EVCA was isolated from its normal distribution center, EVDA, and an equalizer battery charge was initiated. During the battery charge EVDA was energized by distribution center EVDC through bus tie breakers.

On November 14, while EVCA was still inoperable and charging, battery bank EVCB was declared inoperable due to a low specific gravity on cell #16. The charge on EVCA was then discontinued, EVCA was returned to a normal line up, and battery EVCB was placed on an equalizer charge. EVDB, the associated DC distribution center, was subsequently energized by EVCD through distribution center EVDD and bus tie breakers, which is in accordance with Technical Specification 3.8.2.3. At the time of this occurrence, Unit 1 was conducting 50% power test requirements prior to commercial operation.

Battery EVCB was declared operable later that same day. On November 15, after an inadvertent reactor trip and subsequent return to mode 2 operation, Battery EVCB was again declared inoperable due to low specific gravity and placed on equalizer charge. Later that same day, the reactor was tripped during performance of the control rod drop test, and cooldown to mode 5 was initiated.

Battery EVCB was declared operable on November 16, but was again declared inoperable due to low specific gravity on November 17. The plant was placed in mode 5 November 17. Since the battery was able to meet the minimum voltage requirements without cell #16 connected, it was decided to return EVCB to operation after disconnecting cell #16 from the bank. On November 20, the equalizer charge was terminated; cell #15 was jumpered to cell #17, and cell #16 was disconnected from the battery and connected to a single cell charger. The 125 volt DC Vital Instrumentation and Control Power System (EPL) was restored to the normal line up and battery bank EVCB was declared operable.

EVALUATION: The initial determination that battery EVCA was inoperable was in error due to differences in the interpretation of the Battery Surveillance Requirements (Table 4.8-2). The presently accepted interpretation of the Category B requirements is that the "Allowable value for each connected cell" is not effective until the "Limits of each connect cell" are not met. In either case, the decision to charge EVCA is considered appropriate to restore a weaker cell, in this instance cell #31, to the strength of the bank.

Battery EVCB was determined to be inoperable concurrent with the inoperability of EVCA. Action to restore EVCA to operable status was initiated immediately as allowed by the provisions of Technical Specification 3.0.3.

After battery EVCB was declared inoperable, it was restored to operable status twice before the low cell was finally disconnected. In order for the battery to have been considered operable, the specific gravity for Cell #16 had to be greater than 1.195. Since the cell had a temperature corrected specific gravity of 1.191 on November 20, it appears doubtful that the cell parameters were within limits when the battery was declared operable on November 14 and 16. Therefore, battery EVCB should have been considered inoperable the entire period from November 14 until November 20. The failure to consider battery EVCB inoperable is attributed to a lack of full understanding of Table 4.8-2.

CORRECTIVE ACTION: On November 20, cell #16 of the battery was disconnected making EVCB a 58 cell battery. A replacement cell and spares have been requisitioned. Once these spare cells are received they will be used to replace cells that are continually low in specific gravity.

The procedure for battery testing will be revised by February 15, 1982 to specifically state what action is to be taken when individual battery cells are below Technical Specification limits. This procedure will clarify the requirements in Table 4.8-2 regarding operability of batteries.

SAFETY ANALYSIS: An analysis of battery loading calculations by Duke Power Co. has determined that one cell may be jumpered without adversely affecting the design capacity of the battery. Additionally, the 125 volt DC Vital Instrumentation and Control Power Batteries are sized to support the emergency requirements of both Unit 1 and Unit 2. Only Unit 1 is in operation and the capability of the reduced capacity battery was more than sufficient to meet all design safety functions. The health and safety of the public was not affected by this incident.