

JUL 12 1976

H. R. Goller, Assistant Director for Operating Reactors, DOR

PROPOSED TECHNICAL SPECIFICATION CHANGES (TAR ORB-4-50)

Plant Name: Three Mile Island, Unit 1  
Cocket No: 50-280  
Responsible Branch: ORB-4  
Project Manager: C. Nelson  
Reviewing Branch: Plant Systems Branch  
Review Status: Complete

POOR ORIGINAL

In R. W. Reid's memorandum to D. G. Eisenhower, dated March 30, 1976, the Plant Systems Branch was requested to review proposed modification to the Technical Specifications for Three Mile Island Unit 1 (TMI-1) and to provide the results and conclusions of the evaluation. We have completed our review of the TMI-1 submittal, dated December 12, 1975, and have concluded that the proposed changes to the TMI-1 Technical Specifications are acceptable.

The enclosed report provides the details of our evaluation and the basis for our conclusion.

D. G. Eisenhower, Assistant Director  
for Operational Technology  
Division of Operating Reactors

Enclosure:  
As stated

cc w/enclosure  
V. Stello  
W. Butler  
E. Buckley  
D. McDonald  
C. Nelson  
R. Reid

Distributions:  
-Central Files  
PSB Reading  
DMcDonald Reading  
DEisenhut  
Pam

1453 097

7910220 620

OFFICE →	DOR:PSB	DOR:SL/PSB	DOR:C/PSB	DOR:AE/OT	
SURNAME →	DMcDonald:tg <i>[Signature]</i>	BBuckley <i>[Signature]</i>	WButler <i>[Signature]</i>	DEisenhut <i>[Signature]</i>	<i>[Signature]</i>
DATE →	7/9/76	7/9/76	7/9/76	7/9/76	

EVALUATION REPORT  
PROPOSED TECHNICAL SPECIFICATION CHANGES  
THREE MILE ISLAND UNIT 1 (TMI)

1.0 INTRODUCTION

By letter dated December 12, 1975, the Metropolitan Edison Company (the licensee) requested certain changes to the TMI Technical Specifications in regard to: (1) the method for checking, and (2) the interval between calibrations for certain radiation monitors. Our evaluation of this request is described below.

2.0 BACKGROUND

2.1 Instrument Channel Check

The design of the licensee's radiation monitoring system provides the capability for verifying the operability of the sensing device and monitoring channel by use of low activity check sources. However, in certain locations the continuous background radiation level is such that the incremental increase in counts per minute (CPM) due to the insertion of the check source is minimal. The licensee states that, when the background reading exceeds twice the value which would result from the check source alone, the background reading is sufficient to meet the requirements of Specification 1.5.3 (Instrument Channel Check). The definition of "check" is: an instrument

1453 098

channel check is a verification of acceptable performance by observation of its behavior and/or state; this verification includes comparison of output and/or state of independent channels measuring the same variable.

The licensee states that the proposed approach satisfies the requirements of an instrument channel check, as defined above, and will verify that the monitor responds properly.

## 2.2 Calibration Interval

The licensee has stated that three area radiation monitors, RM-G6, RM-G7, and RM-G8 are located in high radiation areas of the reactor building and are inaccessible during power operation. The licensee proposes that the present requirements of quarterly calibration be modified to read as follows: "quarterly or at the next scheduled reactor shutdown following the quarter in which the calibration would normally be due, if a shutdown during the quarter does not occur."

The licensee states that the current requirement is contrary to the "as low as practicable" (ALAP) objective of minimal radiation exposure to plant personnel. The three monitors are located in areas where the radiation levels are in excess of 100 mr/hr during reactor operation.

## 3.0 EVALUATION

### 3.1 Instrument Channel Check

The licensee has stated that when the background reading is twice that of the check source alone, it meets the require-

1453 099

ments of an instrument channel check as defined in the Technical Specifications. The licensee has further stated that, until the background reaches this level, the insertion of the check source provides a noticeable increase in the output reading to verify instrument operability.

A comparative verification is made, where possible, for those instruments in locations where the background exceeds the level for which the check source provides a detectable increase. Where comparative readings are not possible, special procedures (e.g., inserting an external source of a higher value) will be used to verify instrument operability. We have verified that the definition of channel check in the licensee's Technical Specifications is comparable to the definition in our Standard Technical Specifications.

We have concluded, based on the information provided above, that the proposed change to the licensee's Technical Specifications relating to the instrument channel check meets the requirements of IEEE Std 279, "Criteria for Protection Systems for Nuclear Power Stations," Section 4.9, "Capability for Sensor Checks", and is, therefore, acceptable.

3.2

#### Calibration Interval

The licensee has stated that radiation monitors RM-G6, RM-G7 and RM-G8 are located inside the containment in areas where the radiation levels exceed 100 mr/hr during reactor

1453 100

operation. The current Technical Specifications require calibration every quarter. The licensee has requested that the calibration interval be changed to a period that could be as much as 18 months for the detectors identified above. We concur with the licensee that the existing requirement is contrary to the ALAP objective in regard to personnel exposure. The current requirements for calibration intervals in our Standard Technical Specifications are every 18 months for all instruments.

We requested the licensee to identify the manufacturer of the monitoring system and to identify the location and describe the safety related functions of the three radiation monitors. The licensee stated that the system is supplied by Victoreen, who has also supplied radiation monitoring systems to other nuclear power plant owners. Radiation monitors RM-G6, and RM-G7 are located near the reactor vessel head and are required during refueling operations. Radiation monitor RM-G8 is located in the dome area of the containment and is utilized to monitor gross failures such as a LOCA.

The licensee's current operating procedure, 1502-1, "Refueling Procedure - Refueling Operation," requires that

1453 101

the RM-G6 and RM-G7 setpoints be adjusted to a lower value during refueling operations. The licensee has committed to include, in this procedure, a requirement to calibrate RM-G6 and RM-G7 prior to proceeding with refueling operations.

We conclude, based on the information described above, that the change in the calibration interval for RM-G6, RM-G7 and RM-G8 meets our requirements for calibration intervals as delineated in our Standard Technical Specifications and is, therefore, acceptable.

4.0

CONCLUSION

On the basis of our evaluation of the information provided, we conclude that the licensee's proposed change, in regard to both the method of checking and the extension of the calibration interval for the above cited instruments, is acceptable.

1453 102