

- DUKE POWER COMPANY

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

July 8, 1988

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

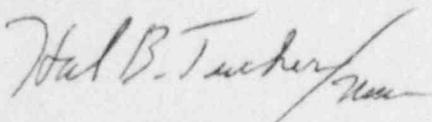
Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370
NRC/OIE Inspection Report Nos. 50-369,-370/88-13
Reply to a Notice of Violation

Gentlemen:

Pursuant to 10 CFR 2.201, please find attached Duke Power Company's response to the violation identified in the subject inspection report.

Should there be any questions concerning this matter, contact S. E. LeRoy at (704)373-6233.

Very truly yours,



Hal B. Tucker

SEL/83/abn

Attachment

xc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
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Mr. Darl Hood
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
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Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

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Duke Power Company
McGuire Nuclear Station
Reply to Notice of Violation
Inspection Report Nos. 50-369/88-13 and 50-370/88-13

Violation 369,370/88-13-01

Technical Specification 4.0.5 requires inservice testing in accordance with ASME Section XI. The testing specified by Section XI includes periodic stroke timing of power operated valves and comparisons of stroke times obtained with previously obtained values. Based on the extent of stroke time change observed for a valve, Section XI requires actions - such as increased test frequency - to aid in assuring that the valve remains operable. By implication, stroke time tests must be performed in a manner which assures that the times obtained and compared are not unduly effected by changes in measurement method or accuracy.

Contrary to the above, in October 1987, the licensee was found to permit Section XI stroke time tests to be performed in a manner that could be unduly affected by changes in measurement method and instruments:

- (1) Procedures (e.g., Procedure P₁/1 and 2/A/4403/02 for testing nuclear service water valves) permitted the use of computer or (when the computer was unavailable) stopwatches for stroke timing valves. The computer and stopwatch times may differ by up to approximately 10% because, for some valves (e.g. 2RN-279), the computer and stopwatch measurements are terminated at indications from different limit switches. These switch locations may differ by up to 10 % of valve travel. The licensee did not account for errors due to timing to different limit switches in making required stroke time comparisons.
- (2) Stopwatches were not calibrated or otherwise checked or maintained to assure that the times they provided were accurate.

This is Severity Level IV violation (Supplement I).

Response to Item No. 1:

- (1) Admission or denial of violation:

The violation is admitted as stated.

- (2) Reason for the violation if admitted:

This violation occurred due to:

- (a) Necessity to use the stopwatch method when the OAC is unavailable to avoid missed surveillances.
- (b) A technical oversight in the IWV program execution.
- (c) Inadequacy of previous technical reviews of the program to reveal this aspect.

(3) Corrective steps which have been taken and the results achieved:

Currently, both OAC and stopwatch data is being recorded to develop a representative comparison between the two methods. Since both types of data are currently available, the non-conservative analysis will not reoccur, i.e. OAC and stopwatch data are not compared or used interchangeably without proper review. The staff engineering review which occurs prior to PT closure is designed to monitor this situation. Technical and staff personnel have been trained in recognizing this situation.

(4) Corrective steps planned to avoid further violations:

(a) Personnel training/orientation at crew meetings.

(b) Future short term PT revisions will delete the stopwatch as a data source option for meeting ASME Section XI requirements where both OAC and stopwatch are available. The stopwatch data will be recorded to continue the ongoing OAC/stopwatch time comparison study. In cases where the OAC is not available in the time frame needed to meet surveillance requirements, the stopwatch time will be used. However, this will require a RESTRICTED procedure change which will create both a formal documentation of the event and notification to station management. Using past OAC vs current stopwatch data, an additional analysis will be conducted and documented to verify operability.

(c) Regarding the long term, Valve Stroke Timing (VST) PTs are undergoing conversion to OM-10 techniques employing baseline VSTs (similar to IWP analysis). Valve operability (from a Technical Specification viewpoint) will continue to be based on design basis accident times provided by Design Engineering. However, the application of OM-10 baseline techniques will result in more increased test frequencies or analyses.

(5) The date when full compliance will be achieved:

Full compliance will be achieved by January 1, 1989 for items 4a and 4b, and by June 1, 1989 for item 4c.

Response to Item No. 2:

(1) Admission or denial of violation:

The violation is admitted as stated.

(2) Reason for the violation if admitted:

Stopwatches historically have not been calibrated based on input from Duke Power's Standard/Testing Facility. The justification for this position was based on the effect of human error on the stopwatch measurement. The error due to the human element was judged to be both unpredictable in magnitude and significantly larger than the error due to the stopwatch accuracy. For instance, a 2% human uncertainty combined with a 0.25% stopwatch uncertainty results in a 2.02% total (RSQ) uncertainty. To increase this total RSQ uncertainty by 5% to 2.12% (1.05×2.02), the stopwatch uncertainty would need to increase by 276.8% to 0.69%. Typically, stopwatch drift which would

create these concerns does not occur. Instead, they fail to work entirely due to depletion of their battery power.

(3) Corrective steps which have been taken and the results achieved:

Corrective action already taken consists of construction of a stopwatch calibrator. Presently, the technique involves using a calibrated frequency counter to calibrate the electronic output of the stopwatch circuitry. The calibration is repeated three times to reduce the ever present human error component. The acceptable tolerance has been established as ± 0.02 seconds. Each of the three calibrations must meet this tolerance or the calibration is repeated. A procedure was created to document this calibration.

(4) Corrective steps planned to avoid further violations:

No additional corrective actions are planned.

(5) Date when full compliance will be achieved:

McGuire is in full compliance at this time.