



Consumers
Power

**POWERING
MICHIGAN'S PROGRESS**

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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
RESPONSE TO NRC LETTER DATED NOVEMBER 2, 1989 ON VALIDITY OF PALISADES PLANT
HAFA TESTING AND REVISED RESPONSE TO NOTICE OF VIOLATION DATED DECEMBER 8, 1989

Consumers Power Company was informed by letter dated November 2, 1989 that tests performed using the Instrumented Inspection Technique (IIT) during the 1988 refueling outage are considered invalid. The hydrostatic test requirement was met by utilizing the Instrumented Inspection Technique, an NRC approved alternative to the ASME code specified method. As identified by this NRC letter Consumers Power Company was required to determine the basis for the validity of the Instrumented Inspection Technique (IIT) testing conducted at Palisades.

Consumers Power Company has reviewed HAFA Topical Report 135 (P) and evaluated the implementation of the IIT methodology at Palisades and has determined that this testing should be considered invalid. This determination is discussed in Attachment 1.

Also, as a result of this determination we have revised our response to NRC Inspection Report 255/89026 Notice of Violation. "Instrumented Inspection Technique" which was dated December 8, 1989. Our original response to this Notice of Violation was dated February 6, 1990. Attachment 2 provides our revised response.

The affected systems which were tested at Palisades using the IIT test methodology include the main steam system (ASME Class 2) which was tested under test number RO-108 and the auxiliary feedwater system (ASME Class 3) which was tested under tests RO-109, RO-110 and RO-111.

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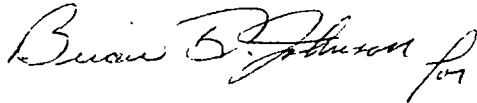
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Consumers Power Company previously judged these two systems functionally operable by our letter dated November 13, 1989 to the NRC.

Consumers Power Company will bring the affected systems into full compliance with the rules of Section XI of the ASME code during the upcoming refueling outage (presently scheduled to commence September 15, 1990) by performing the required system hydrostatic tests on these systems.



Kenneth W Berry
Director, Nuclear Licensing

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachments

Discussion of Determination of Validity

In an attempt to resolve the question of validity of the testing performed for these two systems, Consumers Power Company contracted the firm Dunegan Engineering Consultants Inc to perform an independent review of the entire scope of HAFA testing at Palisades. Mr Harold L Dunegan, PE performed the review.

The scope of Mr Dunegan's review was all inclusive in that he reviewed: HAFA Topical Report 135 (P); all completed test records at Palisades; NRC letters dated November 2, 1989 and December 8, 1989; and Palisades letter to the NRC dated February 6, 1990. Mr Dunegan also visited the HAFA offices in Riviera Beach, Florida to ask technical questions of the personnel who performed the testing at Palisades.

Results of his review indicate that the testing could be valid. Justification would have been based on the fact that if leaks were to develop from the pressure boundary they would have been detected and approximately located with test instrumentation which was utilized. A case in point being that the only leak detected during the RO-108 test was identified by 3 channels of the acoustic emission equipment.

However, Mr Dunegan concluded that test results and the technical information necessary for interpretation or evaluation of the results were not adequately reported. Additionally, problems with certification of test personnel were noted. Based on the results of Mr Dunegan's review, and our own evaluation we have come to the conclusion that the HAFA testing performed at Palisades should be considered invalid.

Palisades does not presently intend to use the Instrumented Inspection Technique in the future. However, if we were to consider using this technique the following would be required:

1. An approved topical report addressing testing of systems using leak monitoring devices and acoustic leak sensing equipment, and a separately approved topical report for testing steam filled systems utilizing acoustic sensors.
2. Attenuation measurements must be taken on pipes where more than 50 feet separate valves where sensors are located.
3. A relative calibration of the waveguide-sensor combination to an equivalent sensor calibration without a waveguide must be performed.
4. Technical data explaining acceptance and rejection criteria of acoustic emission data must be provided.
5. A data log must be kept of acoustic emission response from known leak rates measured in the field and leak rates measured in a test loop.

6. Criteria for data acquisition and evaluation of situations requiring multiple channels of information to be acquired simultaneously must be established.
7. An acceptable calibration scheme to assure that each channel from sensor-couplant through electronics output is operational and unchanged must be established.
8. Pressure-time and temperature-time curves for each test showing when and where acoustic emission data was taken must be provided.
9. An acoustic emission time curve must be taken for each channel, with at least 10 minutes of background baseline data with zero flow, and at constant pressure at 50% of proof test pressure.
10. Test data must be reported in a form that will allow an independent reviewer to evaluate the data.
11. Predetermined leak rate acceptance criteria must be included within the test procedure for measuring system leakage using leak monitoring devices.
12. Leak monitoring devices must be provided for all test boundary valves.
13. Strict compliance to ANSI N45.2.6 regarding certification of test personnel, must be required.

Revised Response to Inspection Report 255/89026
Notice of Violation, "Instrumented Inspection Technique"

Consumers Power Company previously submitted a response on February 6, 1990 to respond to Inspection Report 255/89026 Notice of Violation, "Instrumented Inspection Technique" dated December 8, 1989. This response is provided as revision to our previous response.

Notice of Violation 255/89026-1A

Interim and post verification of channel sensitivity, considered a prerequisite for acoustic testing was neither performed nor required by the procedures.

Consumers Power Company previous response to this item is retracted and our revised response is that we agree with the NRC's position and accept the violation as written.

Notice of Violation 255/89026-1B

The lack of qualified, well designed relationship between background noise level and leak detection sensitivity did not permit evaluation of the suitability of environmental conditions encountered during the test.

Consumers Power Company previous response to this item is retracted and our revised response is that we agree with the NRC's position and accept the violation as written.

Notice of Violation 255/89026-1C

The test procedures did not define the acceptance criteria and insufficient instrumentation was used.

Consumers Power Company response to this item is retracted and our revised response is that we agree with the NRC's position and accept the violation as written.

Corrective Steps Taken and Results Achieved

An interim operability evaluation of the affected systems (main steam and auxiliary feedwater) was prepared and submitted to the NRC on November 13, 1990. This evaluation determined that the affected systems are operable and fully capable of performing their intended safety functions.

Corrective Steps to Avoid Further Violations

Consumers Power Company has determined that the instrumented inspection technique as implemented at Palisades is invalid and will not utilize the technique in the future unless the issues identified in Attachment 1 to this letter are suitably addressed. Additionally, the affected systems will be retested to ASME code requirements during the upcoming refueling outage. Also, HAFA has been removed from the Consumers Power Company Nuclear Operations Department Approved Suppliers List.

Date When Full Compliance Will Be Achieved

Consumers Power Company will bring the main steam system and the auxiliary feedwater system into full compliance with the rules of ASME Section XI during the upcoming refueling outage by performing the required system hydrostatic tests on these two systems prior to completion of this scheduled outage.