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Form 7

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ENCLOSURE 2

10CFR Part 2  
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Docket Nos. 50-348  
50-364

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

Joseph M. Farley Nuclear Plant - Units 1 and 2  
NRC Inspection of November 7-14, 1986

RE: Report Number 50-348/86-25

This letter refers to the alleged violation cited in the subject inspection report which states:

"During the Nuclear Regulatory Commission (NRC) inspection conducted on November 7-14, 1986, on site and December 1-5, 1986, in the Region II Office, a violation of NRC requirements was identified. The violation involved the failure to determine the "as is" containment integrated leak rate of the Unit 1 primary containment. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10CFR Part 2, Appendix C (1986), the violation is listed below:

Paragraph III.A.1(a) of Appendix J to 10CFR50 and Paragraph 4.2 of ANSI-N45.4-1972, incorporated into the regulations by Paragraph III.A.3(a) of Appendix J to 10CFR50, require that the Type A test shall be performed prior to making any repairs or adjustments to the containment boundary so that the (also called "as found") containment integrated leak rate can be determined.

Where repairs or adjustments to the containment boundary prior to the Type A test are necessary, Paragraph III.A.1(a) in conjunction with Paragraph III.A.1(b) of Appendix J to 10CFR50 permit the repairs or adjustments provided: (1) the change in leakage rate resulting from such repairs or adjustments is

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determined using local leakage testing methods; and (2) the corrective action taken, the change in leakage rate determined from the local tests, and the "as is" containment integrated leakage rate determined from the local leakage and Type A test results are obtained, and the results are included in the report to the Commission.

Contrary to the above, during the 1986 Unit 1 refueling outage, repairs or adjustments were made to the fuel transfer tube blind flange and containment building equipment hatch prior to the Type A test. The change in leakage rate resulting from these repairs or adjustments was not measured using local leakage test methods. Failure to quantify the change in leakage rate resulting from these repairs or adjustments to the containment boundary renders the calculation of the "as is" containment integrated leakage rate indeterminate.

This is a Severity Level IV violation (Supplement I)."

#### Admission or Denial

The NRC Notice of Violation states that:

- a. Repairs or adjustments not permitted by Appendix J were made to various components prior to the Type A test;
- b. The change in leakage rate resulting from the repairs or adjustments was not measured; and
- c. Failure to determine the change in leakage rate renders the calculation of the "as is" containment integrated leakage rate indeterminate.

Alabama Power Company categorically denies that alleged violation 50-348/86-25-01 occurred. The basis of this denial is that while the events described in the alleged violation did occur, these actions, when viewed in the full context of the regulation, were not in violation of 10CFR50, Appendix J.

#### Event Description and 10CFR50 Appendix J Provisions

A description of the events which occurred and the provisions of 10CFR50, Appendix J, under which these actions are permitted is provided below:

10CFR50, Appendix J, paragraph III.A.1.(a) states "During the period between the completion of one Type A test and the initiation of the containment inspection for the subsequent Type A tests, repairs or adjustments shall be made to components whose leakage exceeds that specified in the Technical Specification as soon as practical after identification." The Unit 1 second periodic integrated leakage rate

test (ILRT) was completed on April 14, 1984 and the containment inspection for the third periodic ILRT was initiated on November 6, 1986. During this period, the fuel transfer tube and containment equipment hatch were opened in October 1986 to accommodate routine seventh refueling outage activities. Their opening and subsequent closing did not constitute "repairs or adjustments." Further, even if the openings and closings were construed to be "repairs or adjustments" they were performed during the period allowed by Appendix J prior to initiation of the containment inspection for the ILRT. Since the opening of these components is essential for refueling outage operations and in an effort to ensure that the integrity of these components was restored "as soon as practical after identification", local leakage rate tests were performed following reinstallation of the sealing components and prior to performance of the ILRT.

Provisions of paragraph III permit necessary repairs or adjustments as stated in III.A.1.(a); "If during a Type A test ... potentially excessive leakage paths are identified ... or which result in the Type A test not meeting the acceptance criteria ... the Type A test shall be terminated and the leakage through such paths shall be measured using local leakage testing methods. Repairs and/or adjustments to equipment shall be made and a Type A test performed. The corrective action taken and change in leakage rate determined from the ... local leak and Type A tests shall be included in the report to the Commission ..." As stated above, removal of the equipment hatch and fuel transfer tube covers occurred prior to the initiation of the containment inspection and were therefore not performed "during a Type A test." Since the work performed on these components did not occur "during the Type A test" and thus did not require termination of the Type A test for performing repairs or adjustments, no corrective actions were required and therefore there is no "change in leakage rate determined from the ... local leak test" to be reported. Performance of routine local leakage rate tests following cover installation is not considered corrective action. Paragraph III.A.1(b) states that "Repairs of malfunctioning or leaking valves shall be made as necessary. Information on any valve closure malfunction or valve leakage that requires corrective action before the test shall be included in the report submitted to the Commission." This paragraph specifically addresses valves which are subject to Type C testing and is therefore not applicable to the "repair or adjustment" of the equipment hatch or fuel transfer tube which are subject to Type B testing, since their design incorporates resilient seals.

With regard to ANSI N45.4-1972, paragraph 4.2 states that "For retesting, an initial record proof test shall be conducted ... before any preparatory repairs are made." While these provisions are somewhat ambiguous, the implication is that an initial record proof test should be performed during construction to establish and document a baseline leakage rate value. Following this initial record proof test and establishment of the baseline leakage value, "local and integral tests

may be performed and any necessary work done to bring the leakage rate within the specified limits." Therefore, it seems that these requirements are applicable only to certain actions required as a part of the initial containment preoperational tests and are not intended to be applied to subsequent periodic leakage rate tests performed inservice.

#### Historical Review of Licensing Issues

A historical review of issues and policies is required to fully understand the Alabama Power Company position on the "as found" containment ILRT issue.

In 1971, a proposed Appendix J issued for public comment contained detailed reporting requirements and direction for leakage repair. The proposed rule stated that:

If leak repairs of testable components are performed prior to the conduct of the Type A test, the reduction in leakage shall be measured and added to the Type A test result. If this measured reduction in leakage exceeds the acceptance criteria of section III.A.7., this information shall be included in the report submitted to the Commission as required by section V.B. [36 Fed. Reg. 17053, 17054 (August 27, 1971)]

This proposed provision was deleted in the final rule. No explanation of this deletion was provided in any documents or transcripts associated with this rulemaking available in the public record. Nevertheless, it is fair to conclude that the Commission, in deleting the provision, rejected it as a binding part of the regulation.

In 1977, Farley Nuclear Plant, Unit 1 was licensed. The Safety Evaluation Report, Joseph M. Farley Nuclear Plant, Units 1 and 2, NUREG-75/034, states, in part, "The proposed reactor containment leakage testing program complies with the requirements of Appendix J to 10CFR Part 50... Based on our review of the applicant's proposed testing program described in the FSAR, we have concluded that it meets the requirements of Appendix J and General Design Criteria Nos. 52, 53, and 54 of Appendix A to 10CFR Part 50 and is acceptable." NUREG-0117, Supplement No. 4 to NUREG-75/034, states, in part,

#### 6.2.5 Containment Leakage Testing Program

We have reviewed the applicant's containment leak testing program as presented in Section 6.2 of the Final Safety Analysis Report, as amended through Amendment 72, for compliance with the containment leakage testing requirements specified in Appendix J to 10CFR Part 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Compliance with Appendix J provides adequate assurance that containment integrity can be verified throughout the service lifetime and that leakage rates will be periodically

checked during service on a timely basis to maintain leakage within the specified limits. Maintaining containment leakage within specified limits provides reasonable assurance that, in the event of a radioactivity release within the containment, the loss of containment atmosphere through leak paths will not be in excess of the limits specified for the site....

Additional staff effort on containment leak testing that will lead to a revision of Appendix J is being done in conjunction with the Office of Standards Development. The revised Appendix J will be applicable to all plants depending on their licensing status and design.

The containment ILRT program was developed during the final phases of plant construction. It has been utilized for ~~propositional tests~~ on both units and for the three inservice tests conducted on Unit 1 and the one inservice test conducted on Unit 2 to date. The results of these tests have been within the acceptance criteria and the program has been reviewed by the NRC Staff.

In a January 11, 1982 NRC memorandum, responding to a request for clarification of the provisions to 10CFR Part 50, Appendix J by J. H. Sniezak, R. Mattson indicated that if repairs or adjustments were made, as a result of Type B and C testing programs, or other reasons, to the primary containment boundary prior to the Type A test sequence, leakage rates before and after the repair and adjustments must be determined. The adjustments would then be added to the measured Type A test results to determine the "as found" Type A test results. This memorandum, in essence, imposed a new NRC Staff position interpretation of Appendix J from the Staff position when the Farley Nuclear Plant Safety Evaluations (SER) were written. Possibly, the new Staff position is the one alluded to in Supplement 4 to the SER.

During an August 6, 1982 NRC Inspection Exit Conference, E. Brooks of the NRC requested that "before and after" leakage test results be included in future test reports in order to evaluate apparent potential containment degradation. In an August 12, 1982 telephone conversation, the Farley Nuclear Plant Staff agreed to report as-found leakages as part of the Type A Test Report.

On August 22, 1985, IE Information Notice No. 85-71, "Containment Integrated Leak Rate Tests," was issued. The IE Notice, in essence, promulgated the NRC Staff position contained in the January 11, 1982 NRC memorandum to all utilities. However, it should be noted that the IE Information Notice itself states that this is a suggestion and does not constitute an NRC requirement.

On October 29, 1986, the NRC proposed an amendment to 10CFR50 Appendix J which would update the criteria and clarify questions of interpretation in regards to leakage rate testing. Reporting of "as-found" and "as-left" leakage rates and an "as-found" acceptance criteria were included in the proposed amendment.

Based on a November 1986 site NRC inspection by W. L. Whitener and subsequent telephone conversations, Parley Nuclear Plant was cited with a Notice of Violation on January 26, 1987.

Based on this historical review, several important aspects of the leakage rate issue become evident.

- a) In 1971, the NRC proposed and then deleted a provision of Appendix J which would have required determination of "as-found" and "as-left" leakage rates if repairs were conducted prior to the Type A test. The Type A test results would have been adjusted based on these results.
- b) Between 1971 and 1982, the NRC reviewed the Parley Nuclear Plant leakage rate test program and stated it was acceptable on ~~existing~~ conditions.
- c) The NRC Staff position apparently changed in 1982 resulting in the issuance of IE Information Notice 85-71, subsequent NRC Inspector requests for "as-found" leakage rates, and, ultimately, a proposed amendment to 10CFR50, Appendix J.

#### Definition of Adjustments and Repairs

Finally, Alabama Power Company does not consider that the removal and subsequent reinstallation of the fuel transfer tube blind flange or equipment hatch cover constitutes a repair or adjustment. These activities are performed in accordance with procedures which delineate the steps required to properly install the covers and their bolting and to define the torque values necessary to ensure that the reinstallation is adequate to provide component integrity. In principle, these activities are similar to the use of motor operators to ensure the leak tightness of containment isolation valves which are typically required to open and reclose numerous times between scheduled local and/or integrated leak rate tests. Where adequate controls exist for either manual actions controlled by procedure, or automatic predetermined valve seating actions performed by motor operators, the assurance of leak tight integrity is provided without performing additional leak rate tests after each cycle.

It should be noted that the replacement of the seals on the fuel transfer tube blind flange was performed as a matter of routine good working practice and cannot be considered a repair or corrective action taken as the result of any identified or suspected excessive leakage. The original equipment hatch seals were reused and the resulting post-installation leak rate test results were well within the acceptance criteria. Additionally, there is no reason for the blind flange type penetrations to degrade due to the following.

- a) The penetrations are not under pressure during the cycle.

- b) The penetrations are not disturbed once they are leak tested.
- c) The seals for the equipment hatch are thoroughly inspected before re-use. If any signs of degradation due to wear are noted during the refueling outage, the seals are replaced.
- d) The seals for the fuel transfer tube blind flange are renewed each outage.
- e) The equipment hatch and the fuel transfer tube blind flange have double "O" ring type seals which would require both "O" rings to fail before leakage could occur through the penetration.

#### Summary

In summary, Alabama Power Company did perform the actions stated in the alleged violation but did so in complete compliance with the requirements of 10CFR50 Appendix J and NRC N45.4-1972 as referenced therein. The actions taken are not considered to constitute repairs or adjustments which are prohibited by the subject regulation and standard within the time frames defined therein. As a result, Alabama Power Company considers the ILRT report submitted to the NRC by letter dated February 9, 1987 to be complete with respect to the reporting of corrective actions. The leakage rate test results cited in this report were obtained by performing the tests in strict compliance with the regulations and standards and are well within the acceptance criteria. Based on the historical review of the leakage rate test data and a review of 10CFR50 Appendix J, Alabama Power Company maintains that there is currently no requirement to determine "as-found" leakage rates for repairs or adjustments made between a Type A test and the start of the containment inspection for the next Type A test. This determination is supported by the proposed amendment to 10CFR50 Appendix J which would include this requirement. Although a verbal commitment was made during the August 12, 1982 telephone conversation, it is not the basis of the Notice of Violation. Therefore Alabama Power Company denies that it violated the requirements of 10CFR50 Appendix J because the stated requirements are not part of 10CFR50, Appendix J, but are instead a new staff position developed in 1982. Therefore, in the absence of any regulation or standard which required the adjustment of integrated leakage rate test results using local leakage rate tests data (taken before the start of or following completion of the ILRT), the ILRT values stated are fully determinable and are considered accurate within the limits specified in the requirements and within the limits achievable using accepted industry practices and equipment.

Even though Alabama Power Company does not believe that 10CFR50 Appendix J requires "as-found" testing as stated in the Notice of Violation, we understand the Commission's position on this issue and the plant staff

has made substantial efforts to perform local leakage rate testing in accordance with verbal requests from the NRC Staff. Alabama Power Company will continue a good faith effort to cooperate with the Commission in obtaining the test data in accordance with requests from the Staff. As stated in the Commission's Report Numbers 50-348/82-21 and 50-364/82-20 dated 8/30/82, Alabama Power Company agreed to report as-found leakage as part of the required Type A Test Report. No commitment was made to adjust the Type A Integrated Leak Rate using "as-found" and "as-built" Type B and C local leakage rate test results. This is consistent with the requirements of 10CFR50 Appendix J paragraph V.B.3.

Reason for Violation

Please refer to the discussion under "Admission or Denial"

Corrective Action Taken and Results Achieved

Due to the reasons stated above it is believed that the penetrations in question had not degraded and that no corrective action is required.

Corrective Steps Taken to Avoid Further Violation

Not applicable.

Date of Full Compliance

Not applicable.

Affirmation

I affirm that this response is true and complete to the best of my knowledge, information, and belief. The information furnished in this letter is not considered to be of a proprietary nature.

The submittal due date for this letter was verbally deferred until Thursday, February 26, 1987 by Mr. Luis Reyes in a telephone conversation with Mr. R. P. McDonald on February 24, 1987.

If there are any questions, please advise.

Respectfully submitted,

ALABAMA POWER COMPANY



R. P. McDonald

RPM/BDM:dst-T.S.7

Attachments

cc: Mr. L. B. Long  
~~Mr. E. A. Reeves~~  
Mr. E. A. Reeves  
Mr. W. H. Bradford

### ENCLOSURE 3

#### NRC POSITION STATEMENT

The proposed rule as issued in Federal Register, Volume 36, No. 167 - August 27, 1971; the statement of consideration and the rule as issued in Federal Register, Volume 38, No. 30 - February 14, 1973; and, ANSI-N45.4 - 1972 require the "as is" (also called "as found") overall containment leak rate measurement. This position is further amplified by the statements in paragraph III.A.1.(a) of Appendix J and paragraph 4.2 of ANSI-N45.4. Paragraph III.A.1.(a) requires that "during the period between the initiation of the containment inspection and performance of the Type A test, no repairs or adjustments shall be made so that the containment can be tested in as close to the "as is" condition as practical." The requirement stated that in this sentence is to determine the leak rate for the "as is" containment condition. The fact that no repairs or adjustments shall be allowed during the time from the containment inspection until the Type A test is performed, which is that period of time when the containment is pressurized and air leakage paths can be identified, supports this requirements. This limitation in no way implies that at any time before the containment inspection, changes to the "as is" containment leakage condition can be made without determining the effect of these changes on the "as is" containment leak rate. If repairs or adjustments are made without the "as-is" measurement, containment integrity cannot be accurately assessed.

ANSI-N45.4 requires that no repairs shall be made prior to the Type A test. The position is also reiterated in the Statement of Consideration issued with the rule which identifies that the proposed rule was modified to specifically require reporting of reduction in leakage to enable to AEC to determine if the allowable leakage would have been exceeded in the event of an accident.

Our position is also consistent with the NRR clarification of the regulation issued in a memorandum, Mattson to Sniezek, dated January 11, 1982, and in IE Notice 85-71, issued to all licensees August 22, 1985, to inform them that they may be incorrectly interpreting the regulation.

The violation was issued for the failure to demonstrate the leakage change as a result of manipulating components prior to the Type A test which have the potential for leakage through large sealing surfaces (see paragraph II.E. and II.F of Appendix J).

The licensee implies that there is a functional difference in the equipment hatch and fuel transfer tube flange penetrations from a normal valve penetration, and suggests that manipulation of these components is not rightly considered as repairs and adjustments. A five point argument as to why no leakage through these barriers would be expected is presented. RII believes that a potential for leakage always exists when large sealing surfaces are disturbed. Knowledge of leakage conditions by actual measurement is preferable. Assumed leakage values based on engineering evaluations, may be an acceptable alternate where significant considerations such as high radiation exposure or excessive costs are involved. In this case neither was submitted.

RII, therefore, concludes that the violation as issued is valid and we request your support in this position.